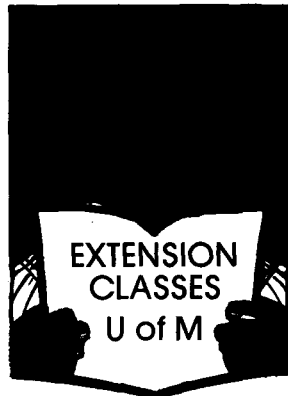
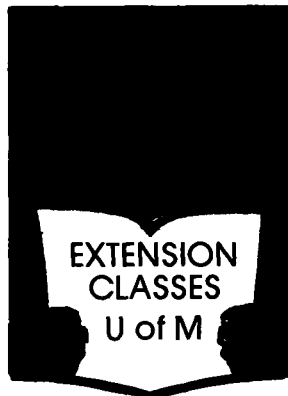
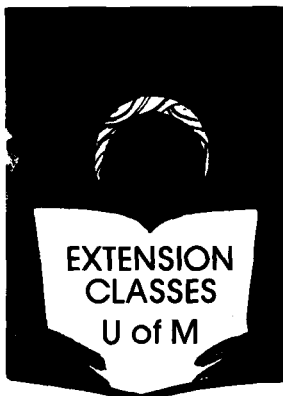
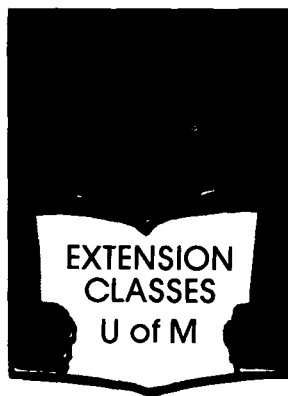
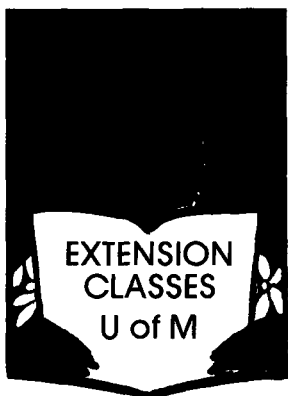
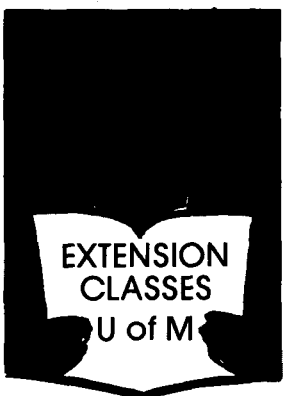
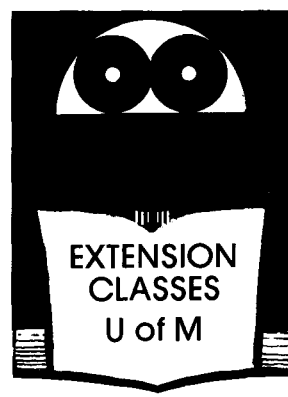
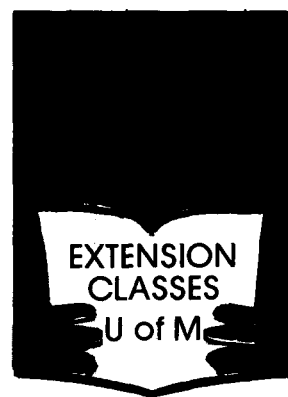
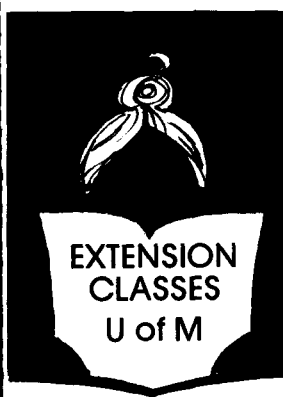


extension classes · twin cities · 1972-1973



UNIVERSITY OF MINNESOTA BULLETIN



continuing education and extension

August 3, 1972

NOTE:

Effective September, 1972, Extension classes will be offered in Harding High School, 1540 E. Sixth Street, St. Paul. Classes will no longer be offered at the downtown St. Paul Extension Center (9th and Exchange) or the downtown Minneapolis MacPhail Center (1128 LaSalle).

REGISTRATIONS

MacPhail Center will continue to accept registrations for all extension classes at all locations.

The St. Paul Extension Center office will continue to accept registrations for all extension classes at all locations through December, 1972. The St. Paul Extension Center will be closed effective January 12, 1973.

Registration information for campus and all other centers is on page 25.

Cover art: J. MacInnes
Inside art: Evonne Lindberg

Volume LXXV

Number 17

August 3, 1972

UNIVERSITY OF MINNESOTA BULLETIN

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The contents of this bulletin and of other University bulletins, publications, or announcements are subject to change without notice.

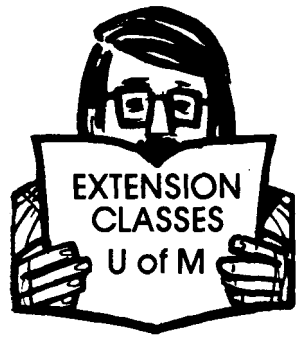


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To Continuing Education and Extension, the whole State is the campus. It permeates the educational life of the metropolitan area and, at the same time, carries the resources of the University to Minnesotans throughout the State. We are proud of our Extension students and their accomplishments, and pleased that, through Extension, the University can serve a larger constituency.

Malcolm Moos

Malcolm Moos,
President, University of Minnesota

The Continuing Education and Extension student is actively participating in the reality of "Education as a lifelong process."

In a society which changes as rapidly as ours does, the citizen of the last third of this century must consider his education not just a pre-service once-for-all preparation, but a continuing series of activities to meet specific educational objectives.

As the open door of the University of Minnesota, CEE provides opportunities for employed persons to join with full-time students and University faculty in achieving those objectives. We welcome your participation in the activities listed in this bulletin and trust that they will help make lifelong learning a reality for you.

Harold A. Miller

Harold A. Miller,
Acting Dean, Continuing Education and Extension





Welcome to *University Extension classes*. Described in this bulletin are many ways to continue your education—not only in courses scheduled on campus and around the Twin Cities area, and on radio and television, but also by various forms of independent study.

You'll also learn from the bulletin about counseling and study skills services, financial aid, registration procedures, and even such things as educational tax deductions and a "rent-an-original" picture-lending service.

So read the bulletin. The information is essential.

If you have recommendations, questions or complaints about the Extension Classes program, let us hear from you, for we are constantly looking for ways to improve.

Your instructors, of course, are central to a *University* experience. Get to know them. They are available before and/or after classes, and most are available during the day for telephone discussions.

Be sure to register during the designated periods. Sometimes we cancel a class because of low enrollment, only to find later that the class could have been saved if students had registered on time.

The University of Minnesota is a big place, which means a lot of good things for you—a large number of subjects to study (and ways of studying them), and a chance to get acquainted with many kinds of people. Getting to know your fellow students is educational in itself.

Theodore L. Campbell
Director, Extension Classes

UNIVERSITY OF MINNESOTA

Board of Regents

The Honorable Elmer L. Andersen, St. Paul, Chairman; The Honorable Neil C. Sherburne, Lakeland Township, Vice Chairman; The Honorable Lyman A. Brink, Hallock; The Honorable Fred A. Cina, Aurora; The Honorable Daniel C. Gainey, Owatonna; The Honorable Herb L. Huffington, M.D., Waterville; The Honorable Fred J. Hughes, St. Cloud; The Honorable Josie R. Johnson (Mrs. Charles W.), Bloomington; The Honorable Lester A. Malkerson, Minneapolis; The Honorable George W. Rauenhorst, Olivia; The Honorable Loanne R. Thrane (Mrs. Ralph), Chanhassen; The Honorable John A. Yngve, Plymouth.

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Counseling, Vera M. Schletzer, 314 Nolte Center for Continuing Education
Extension Classes, Theodore L. Campbell, 170 Wesbrook Hall
Independent Study, Roger G. Young, 33 Wesbrook Hall
Radio and Television, Burton Paulu, 1 Eddy Hall
Duluth Continuing Education and Extension Center, James J. Kafka, 431 Administration Building, Duluth Campus

Morris Continuing Education and Extension Center, Arnold E. Henjum, 220D Education,
Morris Campus
Rochester Continuing Education and Extension Center, Wilbur L. Wakefield, 2120 East
Center Street, Building 4, Rochester

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Continuing Business Education, John J. Mauriel, Jr., 334 Business Administration
Continuing Education in Dentistry, Robert D. Jeronimus, 4 Owre Hall
Continuing Education in Education, Reynold Willie, 101 Burton Hall
Continuing Education in Engineering and Science, James E. Holte, 210 Nolte Center for
Continuing Education
Continuing General College Education, to be appointed, 106 Nicholson Hall
Continuing Education in the Health Sciences, William J. Hodapp, 118 Appleby Hall
Continuing Legal Education, John B. Wirt, 338 Nolte Center for Continuing Education
Continuing Medical Education, to be appointed, Box 193, Mayo Memorial Auditorium
Continuing Pharmacy Education, to be appointed, 118 Appleby Hall
Continuing Education in Social Work, William Hoffman, 321 Nolte Center for Continuing
Education

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Audio-Visual Extension, Willard D. Philipson, 2037 University Ave. S.E.
Civil Defense Education, Robert J. Elliott, 1633 Eustis Street, St. Paul
Community Programs, Carol L. Olson, Acting Director, 138 Westbrook Hall
Delinquency Control Program, Richard J. Clendenen, 323 Walter Library
Fire-Service Information, Research, Education, Frank E. Oberg, 3300 University Ave. S.E.
Labor Education Service, John J. Flagler, 417 Business Administration
Municipal Reference Bureau, Dean A. Lund, 3300 University Ave. S.E.
State Organization Service, William C. Rogers, 3300 University Ave. S.E.
Women's Programs, Gertrude B. Roff, 200 Westbrook Hall
World Affairs Center, William C. Rogers, 3300 University Ave. S.E.

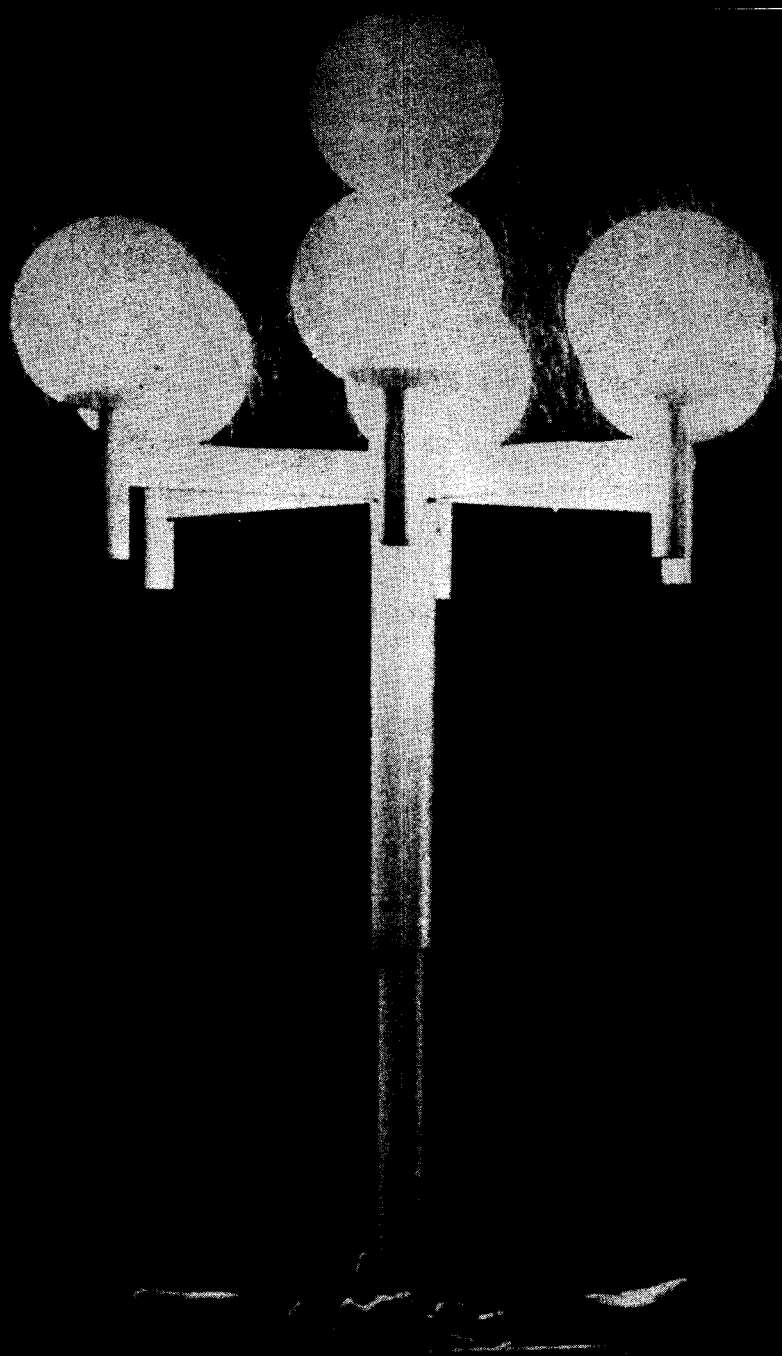
The Board of Regents has committed itself and the University of Minnesota to the policy that there shall be no discrimination in the treatment of persons because of race, creed, color, sex or national origin. This is a guiding policy in the admission of students in all colleges and in their academic pursuits. It is also to be a governing principle in University-owned and University-approved housing, in food services, student unions, extracurricular activities, and all other student and staff services. This policy must also be adhered to in the employment of students either by the University or by outsiders through the University and in the employment of faculty and civil service staff.

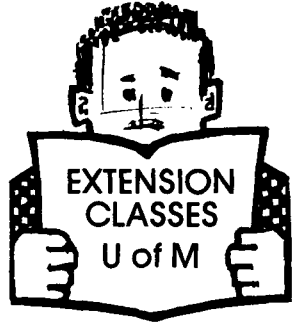
12 Ways to Earn University of Minnesota Credits Through Continuing Education and Extension

Below are listed various means by which individuals may continue their education and receive credit for knowledge skills gained in appropriate non-university or college experiences. The CEE Counseling Department and the Living-Learning Center, as well as the various University college and departmental counselors and advisers, will provide further information.

1. Register for an extension class. Select from over 1,000 courses, offered at major locations throughout the metropolitan area. See pages 15 and 16.
2. If you find it difficult to attend classes, you may earn credits by taking University correspondence courses, in which you work at your own speed. See page 30.
3. Radio-Television. Credits may be earned via radio and television. See page 29.
4. Women's Programs offers daytime liberal arts seminars and courses both on and off-campus for credit. See page 257.
5. You may earn credits by taking examinations for credit in fields in which you have gained knowledge elsewhere. See page 29.
6. You may earn credits by taking the College Level Examination Program (CLEP) examinations offered by the College Entrance Examination Board. See page 30.
7. You may register for "independent study"—a Y registration—and earn credits without attending class. Courses available under a Y registration are not limited to those listed in the Extension Classes bulletin. See page 29.
8. You may register for and earn extra credits—an X registration—in extension courses if you are willing to do extra course work. See page 29.
9. You may earn up to 15 credits for an independent project by registering for University College 3-075 (old UC 75). See page 30.
10. The Living-Learning Center offers off-campus community service learning projects. Credit may be earned for these projects through independent study—Y registration. See page 28.
11. You may receive up to 45 "blanket" credits toward a general College degree for technical courses taken and completed at approved institutions. See page 53.
12. You may have the opportunity to earn credit by designing study projects around your job activities, involvement in the community, and the like according to your own time schedule. For additional information call 373-3919. See page 30.

You can get more information about these various options from the Department of Counseling, 314 Nolte Center, telephone 373-3905.





1972-73

Registration Dates Registration Hours Calendar of Extension Classes

Registration can be made during the official registration periods only. 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, except when classes are scheduled by individual instructors.

NOTE:

Extension classes are rarely canceled for any reason. However, in the event that extension classes are to be canceled because of some emergency (such as a severe blizzard), the University of Minnesota radio station, KUOM (770 on the dial), will make such an announcement at 4 p.m. on the day in question. Other local radio stations will usually carry the announcement about the same time. Listen for the announcement; it is the quickest and easiest method of obtaining the information.

SCHEDULE OF TERMS

(See pages 10-14)

Fall Quarter—September 25-December 13

Fall Semester—September 25-January 27

Winter Quarter—January 3-March 21

Spring Semester—February 12-June 16

Spring Quarter—March 28-June 16

Fall Quarter

Classes—September 25-December 13 Registration—September 7-15

August 21	Monday	Limited class reservation card —First day for receipt in Extension Classes Office of mailed post card requesting limited class reservation card. See page 20.
September 1	Friday	Non-limited class registration forms available. Call 373-3195. Last day for students to return limited class cards, registration forms, and tuition and fees by mail.
September 7	Thursday	In-person registration for Fall Quarter begins.

REGISTRATION DATES AND HOURS

Campus Office (211 Nicholson Hall), MacPhail, and St. Paul Office:
September 7-15 12 noon to 8 p.m.
Closed Saturday

Roseville District Office, Roseville (see page 16); Richfield District Office;
Sandburg Junior High School, Golden Valley; Harding High School, St. Paul. (Registrations accepted **only** for classes taught at each location):
September 7-13 8:30 a.m. to 4 p.m.
September 14-15 8:30 a.m. to 8 p.m.
Closed Saturday

(See page 17 for information on book sales.)

September 15	Friday	Registration and tuition deadline —Last day for registration and payment of tuition without a late fee. Mail registrations postmarked after midnight must include late fee (see Mail Registrations, page 20). ATTENTION MAIL REGISTRANTS: If you are mailing your registration following the close of official registration, please see Late Registrations, page 34.
September 18-19		Late Registration Dates (\$5 late fee) Campus, MacPhail, and St. Paul Offices: 12 noon to 8 p.m.; Suburban locations: 8:30 a.m. to 4 p.m.
September 20-23		All offices closed to process registrations.
September 25	Monday	Fall Quarter classes begin. All offices resume regular office hours, listed on page 15. Late registration resumes with late fees. Late registrations made September 25 or after, for all classes at all locations, must be made at the Campus, MacPhail, or St. Paul Offices at regular office hours, listed on page 15.
November 3	Friday	Last day for official cancellation of classes with automatic "W".
November 23	Thursday	Thanksgiving Day, holiday. All offices closed.
November 24-25		Classes dismissed; all offices closed.
December 7-13		Final examination period.
December 13	Wednesday	Last day of Fall Quarter.

Fall Semester

Classes—September 25-January 27 Registration—September 7-15

August 21	Monday	Limited class reservation card—First day for receipt in Extension Classes Office of mailed post card requesting limited class reservation card. See page 20.
September 1	Friday	Non-limited class registration forms available. Call 373-3195. Last day for students to return limited class cards, registration forms, and tuition and fees by mail.
September 7	Thursday	In-person registration for Fall Semester begins.

REGISTRATION DATES AND HOURS

Campus Office (211 Nicholson Hall), MacPhail, and St. Paul Office:	
September 7-15	12 noon to 8 p.m.
Closed Saturday	
Roseville District Office, Roseville (see page 16); Richfield District Office; Sandburg Junior High School, Golden Valley; Harding High School, St. Paul. (Registrations accepted only for classes taught at each location):	
September 7-13	8:30 a.m. to 4 p.m.
September 14-15	8:30 a.m. to 8 p.m.
Closed Saturday	

(See page 17 for information on book sales.)

September 15	Friday	Registration and tuition deadline—Last day for registration and payment of tuition without a late fee. Mail registrations postmarked after midnight must include late fee (see Mail Registrations, page 20). ATTENTION MAIL REGISTRANTS: If you are mailing your registration following the close of official registration, please see Late Registrations, page 34.
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September 20-23		All offices closed to process registrations.
September 25	Monday	Fall Semester classes begin. All offices resume regular office hours, listed on page 15. Late registration resumes with late fees. Late registrations made September 25 or after, for all classes at all locations, must be made at the Campus, MacPhail, or St. Paul Offices at regular office hours, listed on page 15.
November 22	Wednesday	Last day for official cancellation of classes with automatic "W".
November 23	Thursday	Thanksgiving Day, holiday. All offices closed.
November 24-25		Classes dismissed; all offices closed.
December 15	Friday	Christmas recess begins; classes dismissed until January 3.
December 25	Monday	Christmas Day, holiday. All offices closed.
December 26	Tuesday	Holiday. All offices closed.
December 29-January 2		All offices closed to process Winter Quarter Registrations.
January 3	Wednesday	Fall Semester classes resume.
January 22-27		Final examination period.
January 27	Saturday	Last day of Fall Semester.

Winter Quarter

Classes—January 3-March 21 Registration—December 14-28

November 20	Monday	Limited class reservation card —First day for receipt in Extension classes Office of mailed post card requesting limited class reservation card. See page 20.
December 5	Tuesday	Non-limited class reservation forms available. Call 373-3195. Last day for students to return limited class cards, registration forms, and tuition and fees by mail.
December 14	Thursday	In-person registration for Winter Quarter begins.

REGISTRATION DATES AND HOURS

Office	Dec. 14	Dec. 15	Dec. 18-22	Dec. 27-28
Campus (57 NH)	7:45 a.m.- 8 p.m.	7:45 a.m.- 4:30 p.m.	7:45 a.m.- 4:30 p.m.	7:45 a.m.- 8 p.m.
St. Paul	8 a.m.- 8 p.m.	8 a.m.- 4:30 p.m.	8 a.m.- 4:30 p.m.	8 a.m.-8 p.m.
MacPhail	8:30 a.m.- 8 p.m.	8:30 a.m.- 4:30 p.m.	8:30 a.m. - 4:30 p.m.	8:30 a.m.- 8 p.m.

Closed Saturday

Roseville District Office, Roseville (see page 16); Richfield District Office; Sandburg Junior High School, Golden Valley; Harding High School, St. Paul; (Registrations accepted **only** for classes taught at each location):

Dec. 14-22 8:30 a.m. to 4 p.m.

Dec. 27-28 8:30 a.m. to 8 p.m.

Closed Saturday

(See page 17 for information on book sales.)

December 25-26		All offices closed.
December 28	Thursday	Registration and tuition deadline —Last day for registration and payment of tuition without a late fee. Mail registrations postmarked after midnight must include late fee (see Mail Registrations, page 20). ATTENTION MAIL REGISTRANTS: If you are mailing your registration following the close of official registration, please see Late Registrations, page 34.
December 29-January 2		All offices closed to process registrations.
January 3	Wednesday	Winter Quarter classes begin. All offices resume regular office hours, listed on page 15. Late registration resumes with late fees. Late registrations made January 3 or after, for all classes at all locations, must be made at the Campus, MacPhail, or St. Paul Offices at regular office hours, listed on page 15. (No registrations will be accepted at the St. Paul Extension Center after January 12.)
February 8-10		All offices closed to process Spring Semester registrations.
February 12	Monday	Last day for official cancellation of classes with automatic "W".
March 15-21		Final examination period.
March 21	Wednesday	Last day of Winter Quarter.

Spring Semester

Classes—February 12-June 16 Registration—January 29-February 7

January 8	Monday	Limited class reservation card —First day for receipt in Extension Classes Office of mailed post card requesting limited class reservation card. See page 21.
January 23	Tuesday	Non-limited class registration forms available. Call 373-3195. Last day for students to return limited class cards, registration forms, and tuition and fees by mail.
January 29	Monday	In-person registration for Spring Semester.

REGISTRATION DATES AND HOURS

Campus Office (57 Nicholson Hall), MacPhail Office:

January 29-February 1	12 noon to 8 p.m.
February 2	12 noon to 4:30 p.m.
February 5-7	12 noon to 8 p.m.
Closed Saturday	

Roseville District Office, Roseville (see page 16); Richfield District Office; Sandburg Junior High School, Golden Valley; Harding High School, St. Paul; (Registration accepted **only** for classes taught at each location):

January 29	12 noon to 4 p.m.
January 30-February 7	8:30 a.m. to 4 p.m.
Closed Saturday	

(See page 17 for information on book sales.)

February 7	Wednesday	Registration and tuition deadline —Last day for registration and payment of tuition without a late fee. Mail registrations postmarked after midnight must include late fee (see Mail Registrations, page 20). ATTENTION MAIL REGISTRANTS: If you are mailing your registration following the close of official registration, please see Late Registration, page 34.
February 8-10		All offices closed to process registrations.
February 12	Monday	Spring Semester classes begin. All offices resume regular office hours, listed on page 15. Late registration resumes with late fees. Late registrations made February 12 or after, for all classes at all locations, must be made at the Campus or MacPhail Offices at regular office hours, listed on page 15.
March 21	Wednesday	Spring Semester recess begins.
March 26-27		All offices closed to process Spring Quarter registrations.
March 28	Wednesday	Spring Semester classes resume.
April 23	Monday	Easter Monday, holiday. All offices closed.
April 27	Friday	Last day for official cancellation of classes with automatic "W".
May 28	Monday	Memorial Day, holiday. All offices closed.
June 9-15		Final examination period.
June 16	Saturday	Last day of Spring Semester.

Spring Quarter

Classes—March 28-June 16 Registration—March 14-March 23

February 19	Monday	Limited class reservation card —First day for receipt in Extension Classes Office of mailed post card requesting limited class reservation card. See page 21.
March 6	Tuesday	Non-limited class registration forms available. Call 373-3195. Last day for students to return limited class cards, registration forms, and tuition and fees by mail.
March 14	Wednesday	In-person registration for Spring Quarter begins.

REGISTRATION DATES AND HOURS

Office	March 14-15	March 16	March 19-22	March 23
Campus (57 NH)	7:45 a.m.- 8 p.m.	7:45 a.m.- 4:30 p.m.	7:45 a.m.- 8 p.m.	7:45 a.m.- 4:30 p.m.
MacPhail	8 a.m.-8 p.m.	8 a.m.- 4:30 p.m.	8 a.m.-8 p.m.	8 a.m.- 4:30 p.m.

Closed Saturday

Roseville District Office, Roseville (see page 16); Richfield District Office; Sandburg Junior High School, Golden Valley; Harding High School, St. Paul; (Registrations accepted only for classes taught at each location):

March 14-20, 23	8:30 a.m. to 4 p.m.
March 21-22	8:30 a.m. to 8 p.m.

Closed Saturday

(See page 17 for information on book sales.)

March 23	Wednesday	Registration and tuition deadline —Last day for registration and payment of tuition without a late fee. Mail registrations postmarked after midnight must include late fee (see Mail Registrations, page 20). ATTENTION MAIL REGISTRANTS: If you are mailing your registration following the close of official registration, please see Late Registrations, page 34.
March 26-27		All offices closed to process registrations.
March 28	Wednesday	Spring Quarter classes begin. All offices resume regular office hours, listed on page 15. Late registration resumes with late fees. Late registrations made March 28 or after, for all classes at all locations, must be made at the Campus or MacPhail Offices at regular office hours, listed on page 15.
April 23	Monday	Easter Monday, holiday. All offices closed.
May 4	Friday	Last day for official cancellation of classes with automatic "W".
May 28	Monday	Memorial Day, holiday. All offices closed.
June 9-15		Final examination period.
June 16	Saturday	Last day of Spring Quarter.

Offices* and Office Hours Extension Classes

NOTE: For conducting non-registration business, consult the office hours below. Registration hours differ from the office hours listed below. For registration hours see pages 10-14.

CAMPUS OFFICE (Minneapolis Campus):

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

OFFICE HOURS

Monday through Thursday 7:45 a.m. to 8 p.m.
Friday 7:45 a.m. to 4:30 p.m.
Monday through Friday
June 18-29, 1973 7:45 a.m. to 6 p.m.
July 2-September 5, 1973 7:45 a.m. to 4:30 p.m.
Saturday CLOSED

MacPHAIL OFFICE (downtown Minneapolis):

1128 LaSalle Avenue, Minneapolis, Minnesota 55403; telephone 373-1925.

OFFICE HOURS

Monday through Friday 8:30 a.m. to 5:15 p.m.**
Saturday 8:30 a.m. to 4:30 p.m.
Saturday (July, August) CLOSED

ST. PAUL OFFICE (downtown St. Paul):

192 West Ninth Street, St. Paul, Minnesota 55102; telephone 222-7355.

OFFICE HOURS

Monday through Friday 8 a.m. to 4:30 p.m.
Monday through Thursday, the first week of Fall Quarter,
Fall Semester, and Winter Quarter 8 a.m. to 6:00 p.m.
Saturday CLOSED

COUNSELING DEPARTMENT (Minneapolis Campus):

314 Nolte Center; telephone 373-3905 (see page 24)

OFFICE HOURS

Monday through Friday 8:00 a.m. to 12:00 noon
1:00 p.m. to 4:00 p.m.
Evenings By appointment

*See maps showing locations of Twin Cities offices in back of bulletin.

**For information after 5:15 p.m., Monday through Thursday, call 373-3195.

The Offices below are open for registration during registration hours only. See registration hours, pages 9-14.

RICHFIELD DISTRICT OFFICE:

Richfield District office, 7001 Harriet Avenue, Minneapolis, Minnesota 55423; telephone 869-2451, ext. 44.

Registrations will be taken at the Richfield Senior High School only for classes being taught there.

ROBBINSDALE NORTHWEST EXTENSION CENTER OFFICE:

Carl Sandburg Junior High School, 2400 Sandburg Lane, Golden Valley, Minnesota 55427; telephone 545-2571.

Registrations will be taken at the Carl Sandburg Junior High School only for classes being taught there.

ROSEVILLE OFFICE:

Alexander Ramsey High School, 1261 W. Highway 36, St. Paul, Minnesota 55117; telephone 633-8150, ext. 45.

Registrations will be taken at Alexander Ramsey High School (second floor of the west wing) for classes being taught at Kellogg Senior High School, 15 East County Road B2, Roseville. On evenings when registration is open, students should register at the District Office, 1251 West County Road B2.

ST. PAUL HARDING HIGH SCHOOL OFFICE:

Harding High School, 1540 E. 6th Street, St. Paul, Minnesota 55106; telephone 774-6622. Registrations will be taken at the Harding High School only for classes being taught there.

Out-State Offices ●

DULUTH OFFICE:

James Kafka, Director, 431 Administration Building, University of Minnesota, Duluth, Minnesota 55812; telephone 724-8966. (Courses offered in Duluth are listed in separate bulletin, which may be obtained from the Duluth Office.)

MORRIS OFFICE:

Arnold Henjum, Director, University of Minnesota, Morris, Morris, Minnesota 56268; telephone 589-2211. (Courses offered in Morris are listed in separate bulletin, which may be obtained from the Morris Office.)

ROCHESTER OFFICE:

Wilbur Wakefield, Director, Continuing Education and Extension, 2120 East Center Street, Building 4, Rochester, Minnesota 55901; telephone 288-4584. (Courses offered in Rochester are listed in separate bulletin, which may be obtained from the Rochester Office.)

Bookstores

For the convenience of Continuing Education and Extension students in securing textbooks and supplies, the evening schedule listed below has been established by University Bookstores. Students should note that not all bookstores are open every night.

Pick Up Books Before Class—Textbooks may be purchased before the first night of class at Campus bookstores. There are lists of course offerings and required books in the bookstores.

Special Arrangements for Book Pick-up—If a student needs a book from the West Bank Bookstore but cannot come to campus until Saturday, he can call the West Bank Bookstore (which does not have Saturday hours), and ask to have the book sent to the Nicholson Bookstore, where he can pick it up Saturday morning. The same procedure can be used in having books sent from the Nicholson and/or Engineering Bookstore to the West Bank Bookstore, if students prefer to pick up their books on the West Bank.

If a Course is Canceled—Books for canceled courses may be returned for full refund through the second week of classes if the student has a sales receipt for the books.

Resale of Books—Students may sell books for courses scheduled in the following term. Bookstores will be open one evening at the end of each quarter to facilitate book resale. (Dates will be listed in the Extension students' newsletter, *Info*.)

NICHOLSON BOOKSTORE

(The Nicholson Hall Bookstore sells books for courses in the Colleges of Liberal Arts, Education, and General College.)

Telephone: 373-3688

REGISTRATION HOURS:

8:00 a.m. to 7:30 p.m., Monday through Thursday, for the first week of Fall Quarter and Fall Semester.

8:00 a.m. to 6:30 p.m. for the second week of Fall Quarter and Fall Semester.

8:00 a.m. to 7:30 p.m., Monday through Thursday, for the first week of Winter and Spring Quarters and Spring Semester.

REGULAR HOURS:

8:00 a.m. to 4:30 p.m., Monday through Friday, throughout the year.

10:00 a.m. to 2:00 p.m., Saturday, throughout the school year.

MAIN ENGINEERING BOOKSTORE

(The Main Engineering Bookstore sells books for courses in the Institute of Technology.)

Telephone: 373-3244

REGISTRATION HOURS:

8:00 a.m. to 7:30 p.m., Monday through Thursday, for the first week of each quarter and semester.

REGULAR HOURS:

8:00 a.m.-4:30 p.m., Monday through Friday, throughout the school year.

HAROLD D. SMITH BOOKSTORE (WEST BANK)

(The West Bank Bookstore sells books for courses in the College of Business Administration, as well as for Social Science, Political Science, and History courses.)

Telephone: 373-4550

REGISTRATION HOURS:

8:00 a.m. to 7:30 p.m., Monday through Thursday, for the first week of each quarter and semester.

REGULAR HOURS:

8:00 a.m.-6:15 p.m., Monday through Thursday, throughout the school year.

8:00 a.m.-4:30 p.m., Friday, throughout the school year.

Books from other bookstores can be delivered to the Harold D. Smith Bookstore for pick-up in the evening.

Off-Campus Centers ●

Textbooks and limited supplies are sold at each center for *only those classes held at each location.*

ST. PAUL HARDING HIGH SCHOOL

Fall Quarter and Semester—5:30 p.m. to 7:30 p.m., Thursday and Friday, September 14 and 15.

Winter Quarter—5:30 p.m. to 7:30 p.m., Tuesday and Wednesday, December 26 and 27.

Spring Semester—6:00 p.m. to 7:00 p.m., Tuesday, February 13.

Spring Quarter—5:30 p.m. to 7:30 p.m., Tuesday and Wednesday, March 20 and 21.

ROBBINSDALE NORTHWEST EXTENSION CENTER OFFICE

Fall Quarter and Semester—5:30 p.m. to 7:30 p.m., Thursday and Friday, September 14 and 15.

Winter Quarter—5:30 p.m. to 7:30 p.m., Tuesday and Wednesday, December 26 and 27.

Spring Semester—6:00 p.m., to 7:00 p.m., Tuesday, February 13.

Spring Quarter—5:30 p.m. to 7:30 p.m., Tuesday and Wednesday, March 20 and 21.

RICHFIELD EXTENSION CENTER OFFICE

Fall Quarter and Semester—5:30 p.m., to 7:30 p.m., Thursday and Friday, September 14 and 15.

Winter Quarter—5:30 p.m. to 7:30 p.m., Tuesday and Wednesday, December 26 and 27.

Spring Semester—6:30 to 7:30 p.m., Monday, February 12.

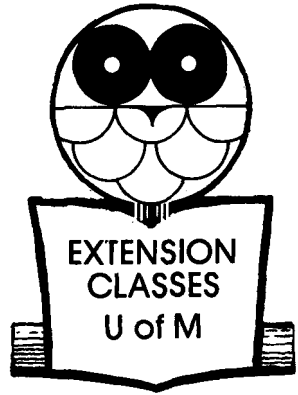
Spring Quarter—5:30 p.m. to 7:30 p.m., Tuesday and Wednesday, March 20 and 21.

ROSEVILLE EXTENSION CENTER OFFICE

Fall Quarter and Semester—5:30 p.m. to 7:30 p.m., Thursday and Friday, September 14 and 15.

Winter Quarter—5:30 p.m. to 7:30 p.m., Tuesday and Wednesday, December 26 and 27.

Spring Quarter—5:30 p.m. to 7:30 p.m., Tuesday and Wednesday, March 20 and 21.



Registration Procedures

Following is information on how to register by mail or in person. Be sure to read the Registration Information and General Information sections before you register. Each student is responsible for all information pertaining to his registration. (Experience of the Extension Classes office shows that most of the questions asked by students are answered on these pages in the Bulletin.) Please note that registration procedures differ for limited and nonlimited classes. After reading the information on Registration Procedures, if you have further questions call 373-3195.

PROCEDURES FOR REGISTERING BY MAIL

• For Nonlimited Enrollment Classes

1. Registration forms may be obtained for nonlimited enrollment classes (classes which have no limit on number of registrations) by completing the **Nonlimited Class** section and mailing the postcard in the back of the Bulletin. Postcard requests for registration forms will be accepted two weeks prior to each registration period.
2. Registration must be made on appropriate, official registration forms (semester, quarter, special term, special class) with attached check or money order covering full amount of tuition and fees, payable to the University of Minnesota. (**Note:** To fill in registration forms, students should use a ball point pen on a hard surface. If all copies are not clearly legible, forms will be returned to the sender.)
3. Checks or money orders for late registrations (postmarked after midnight of the last day of official registration) must include the late fee specified on page 34.
4. 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 Extension Classes, 56 Nicholson Hall, Minneapolis Campus, telephone 373-4871. Normally, such registrations must be made in person.

• For Limited Enrollment Classes

Registration is limited in those courses marked with an asterisk(*). Students may register in such classes only after they have obtained limited class reservation cards.

Students may obtain limited class reservation cards in two ways:

- I. **By mail in advance.** Complete the Limited Class section of the request post-card in the back of the Bulletin and mail according to the dates listed on page

 1. Request cards received during the three day pre-registration period will be processed first[‡] on the Thursday following the 3-day pre-registration.
 2. Request cards received on the Friday preceding the three day pre-registration period will be processed second[‡].
 3. All request cards received up to Friday noon following the three day pre-registration period will be processed last[‡].
 4. All other request cards for limited classes received on days other than those mentioned above will be sent back to the sender with a note giving in-person registration dates.

Limited cards will be available again during regular registration periods for classes which have not been filled during the pre-registration period.

- II. **In person, during registration periods only.** For registration calendar, see pages 10-14.

Closed Classes—Registrations for a closed class will depend entirely upon availability of space. *All and only* people on waiting lists will be taken in the order in which they are placed on the lists. Names will *not* be taken for waiting lists for any class after the second class meeting. Permission from an instructor to register for a closed class is *not* valid.

LIMITED ENROLLMENT CLASS REGISTRATION DATES

Fall Quarter and Semester (August 21-September 1)

August 21-23	Initial 3-day period for receipt of limited class card requests in the Extension Classes Campus Office.
August 24	Office will begin mailing reservation cards and registration forms to students whose requests are honored; students whose requests cannot be honored will be notified by mail.
September 1	Last day for students to return limited class cards, registration forms, and tuition and fees by mail. (Other mail registration continues.)

Winter Quarter (November 20-December 5)

November 20-22	Initial 3-day period for receipt of limited class card requests in the Extension Classes Campus Office.
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[‡]If the class requested is filled when the request card is drawn (selection is random), the name will be placed on a waiting list for the class and **ONLY** for that registration period. Students are notified when space becomes available. If the class is not filled, a reservation card and registration forms will be sent. Cards, forms, tuition and fees must be returned by dates indicated below. The due date will also be stamped on the limited reservation card. Mail registrations must be postmarked on or before the due date. If fees are not paid by the date indicated, the reserved place will be released. (A student whose tuition and fees are to be billed to a company, scholarship, or the military, **MUST COMPLETE HIS REGISTRATION IN PERSON** and present an authorization, along with the limited class reservation card, not later than the third day of the official registration period for the term in which he is registering. See registration dates on pages 10-14.)

- | | |
|-------------|--|
| November 27 | Office will begin mailing reservation cards and registration forms to students whose requests are honored; students whose requests cannot be honored will be notified by mail. |
| December 5 | Last day for students to return limited class cards, registration forms, and tuition and fees by mail. (Other mail registration continues.) |

Spring Semester (January 8-23)

- | | |
|--------------|--|
| January 8-10 | Initial 3-day period for receipt of limited class card requests in the Extension Classes Campus Office. |
| January 11 | Office will begin mailing reservation cards and registration forms to students whose requests are honored; students whose requests cannot be honored will be notified by mail. |
| January 23 | Last day for students to return limited class cards, registration forms, and tuition and fees by mail. (Other mail registration continues.) |

Spring Quarter (February 19-March 6)

- | | |
|----------------|--|
| February 19-21 | Initial 3-day period for receipt of limited class card requests in the Extension Classes Campus Office. |
| February 22 | Office will begin mailing reservation cards and registration forms to students whose requests are honored; students whose requests cannot be honored will be notified by mail. |
| March 6 | Last day for students to return limited class cards, registration forms, and tuition and fees by mail. (Other mail registration continues.) |

PROCEDURES FOR REGISTERING IN PERSON

• For Limited Enrollment Classes

1. If the pre-registration by mail period is missed, limited class reservation cards may be picked up **only** during in-person registration periods. (For registration dates, see pages 10-14.) Reservation cards may be picked up at the Campus, MacPhail, or St. Paul Extension Center offices for limited classes offered at **any** location. (The St. Paul Extension Center Office will be closed after January 12 and no reservation cards may be obtained at that location for Spring Semester and Spring Quarter classes.) Reservation cards may be picked up at Richfield, Kellogg, Sandburg, and Harding **only** for classes being offered at those locations.

Note: Students who apply by mail during the initial 3-day advance registration period (see above) have a better chance of getting into a limited class than those who wait until the regular in-person registration period because many classes fill and are closed during the advance mail registration period.

2. Follow procedures listed below for nonlimited classes.

• For Nonlimited Enrollment Classes

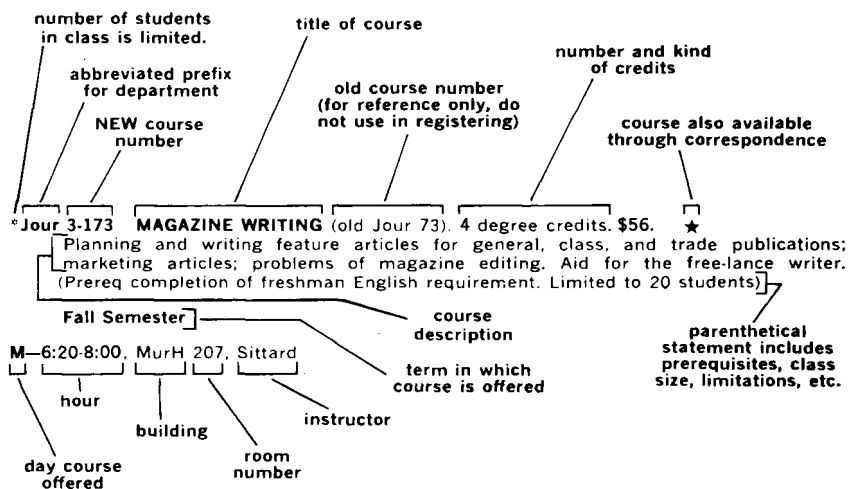
1. Obtain the correct registration and grade report forms from the Campus, MacPhail, or St. Paul Extension Center office (listed on page 15), no sooner than two weeks prior to the official opening of the registration period. (The St. Paul Extension Center will be closed after January 12 and no registration forms may be obtained at that location for Spring Semester and Spring Quarter classes.) During the registration period, registration and grade report forms may be picked up at any of the Extension Classes offices.

Forms are different colors for semester courses, quarter courses, special term courses, or special class courses (semester-white; quarter-green; special term-

salmon; and special class-blue). (Check the course description for the type of course.)

Each course listing in this bulletin provides information necessary for completion of the registration forms. Courses are listed under departmental or subject heading (alphabetically arranged); where several classifications are possible, cross references are given. An index at the back of the book will also help to locate courses.

SEE SAMPLE 



2. Fill in all information requested. All forms are multiple forms. Please use a ball-point pen and press hard. **Be sure to fill in your social security number, which is your identification number.**
3. Obtain and fill out one class card (blue) for each class (except those designated **special class**), and one tally and addressograph card (pink in fall, yellow in winter and spring).
4. Have all forms tallied.
5. Pay the cashier. You are not registered until your tuition and fees are paid.

Be sure to obtain the correct registration and grade report form. Up to four courses may be listed on the semester (white) form and the quarter (green) form. A salmon form is required for each special term course and a blue form is required for each special class course.

Semester courses: Use WHITE form marked SEMESTER
 Quarter courses: Use GREEN form marked QUARTER
 Special term courses: Use SALMON form marked SPECIAL TERM
 Special class courses: Use BLUE form marked SPECIAL CLASS

23

DEPARTMENT OF EXTENSION CLASSES
 UNIVERSITY OF MINNESOTA—CONTINUING EDUCATION AND EXTENSION
 REGISTRATION AND GRADE REPORT

DEPARTMENT	COURSE NO.	NAME OF COURSE	CR*	SEC. NO.	DAY	HOUR	BLOG. & ROOM NO.	GRADE
Jour	3173	Magazine Writing	4	—	M	6:20	Mur 4207	

TOTAL FEES: Tuition #56. Spec. Mtl. or Lab. Late Grand Total Fees #56.

ENROLLMENT PERIOD - Semester: Fall Spring 19 72

PRINT NAME: MARY JANE JONES
 STREET ADDRESS: 1234 CEDAR AVE.
 CITY: MINNEAPOLIS STATE: MINN. ZIP CODE: 55455

Business Phone 698-8153 Ext. 49 Residence Phone 372-0115

Employer ACME SUPPLY Co. Social Security No. 277-45-3084

IDENTIFICATION

*REQUIRED FOR OFFICE OF ADMISSIONS AND RECORDS:

1. Birthdate: 3/17/44
2. Birthplace: Baxter, Minn.
CITY STATE
3. High School: Baxter, Minn.
CITY STATE
 YEAR LAST ATTENDED OR YEAR GRADUATED: 1962
4. Have you attended the University of Minnesota before?
 Yes No

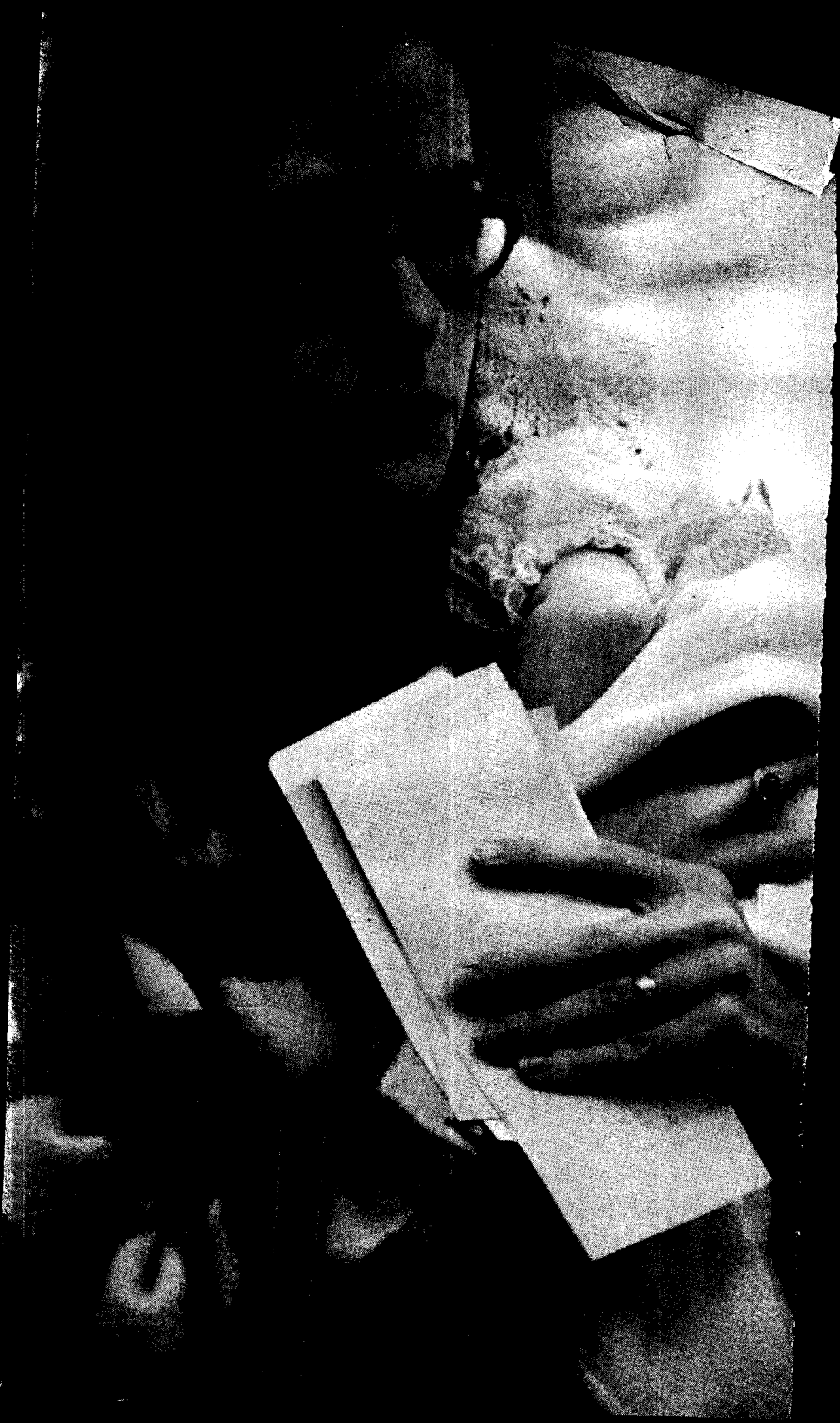
If so, check where registered:

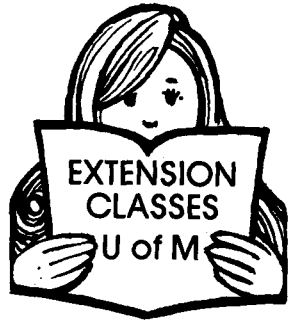
- Day Classes
- Extension Classes
- Independent Study

5. If you are presently attending day classes, indicate college in which you are enrolled.

*ALLOWED UPON MATRICULATION SUBJECT TO REGULATIONS OF COLLEGE CONCERNED. THIS STATEMENT SHOULD NOT BE ACCEPTED IN LIEU OF TRANSCRIPT OF RECORD.

SEMESTER





Registration Information

CONTENTS OF THIS SECTION

- Admission Requirements
- Advising and Counseling
- Auditors
- Cancellation of, or Change in, Scheduled Classes (Made by Department of Extension Classes)
- Cancellations (how to cancel or drop a course)
- Changes in Course Information
- Course Numbering
- Credits
- Credits Obtainable Without Required Class Attendance
- Financial Aids and Loans
- Financing Tuition for Extension Classes
- Grade Reports and Transcripts
- Grades—A-N and S-N
- Graduate Credit
- Late Registrations and Additions
- Military Personnel
- Prerequisites
- Probation
- Refunds
- Symbols
- Transferring Classes
- Tuition and Fees

Admission Requirements

There are no entrance requirements for admission to extension classes. Registrants need not possess a high school diploma.

Registration in specific programs or classes may require prerequisite courses or experience. (See Prerequisites, page 35)

Students wishing to register for graduate credit, refer to page 33.

Advising and Counseling

The Counseling Department of Continuing Education and Extension offers both counseling and program advising services, without fee, to Extension students and others anticipating registering for extension classes. The office is in 314 Nolte center; telephone 373-3905.

Counseling—Professional counseling and testing services are available to extension classes students who seek help with personal problems, who want

to learn more about their own abilities, interests, and personalities, and who wish help in educational and vocational planning or choosing a major field of study. A fee of \$15 is charged for students (\$25 for nonstudents) wishing to take a battery of tests. Appointments must be made in advance.

Advising—Program advising is available to help students select programs of study, determine prerequisites and standing, evaluate transcripts of previous college work, choose the kinds and number of courses to take and the order in which they should be taken, arrange for examinations for credit or advanced standing, and to handle other academic matters (for regular office hours see page 15).

During the Fall Quarter, Fall Semester, and Spring Semester registration periods, advisers will be available without appointment during registration hours (pages 9-14), in the Counseling office, 314 Nolte Center and will be available Fall Quarter and Fall Semester at the downtown St. Paul Extension Center Office. During Winter and Spring Quarter registration periods, regular office hours will be in effect (page 15).

Special evening meetings are arranged at the beginning of Fall Semester registration for students who may be candidates for degrees in the College of Liberal Arts and the College of Business Administration. All students who have questions about degree programs in these colleges are urged to attend one of the meetings.

Program advisers from the General College, the College of Education, the College of Business Administration, and the Institute of Technology will be available in their offices on the campus during specific evening hours during the fall registration period. A student wishing to see such an adviser should telephone the Counseling Department, 373-3905, for an appointment.

Auditors

A student who wishes to attend, but does not plan 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 placing an "X" in the appropriate box on the class card. An auditor is expected to attend class; if he does not attend, he may be given a grade of incomplete by the instructor. Auditor's status carries no credit. One may not later take for credit a course which has been audited; exceptions to this rule may be allowed upon consultation with an adviser in the college or school concerned. Auditors pay the same tuition and fees as other students.

Requests for change from credit registration to audit registration are made in person or by writing to the Department of Extension Classes, 57 Nicholson Hall, University of Minnesota, Minneapolis, Minnesota 55455. After the sixth week of a quarter class or the ninth week of a semester class, requests for change must be approved by the instructor; approval is granted only if the student is doing passing work at the time of the request. No changes can be made during the last two weeks of any term. No student whose tuition and fees are paid in whole or in part by military, Veterans Administration, company, or scholarship funds may register as an auditor. Changes from audit to credit will not be allowed after the second week of the quarter or third week of the semester.

Cancellation of Classes Because of Weather

(See page 42)

Cancellation of, or Change in, Scheduled Classes (made by Department of Extension Classes)

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

Cancellations (how to cancel or drop a course)

Any student who wishes to cancel a class or classes must do so officially, either in person or by writing to the Department of Extension Classes, 57 Nicholson Hall, University of Minnesota, Minneapolis, Minnesota 55455. By so doing, he will receive a refund, if eligible (see Refunds), and will likewise insure the appropriate symbol 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 mid-point of any special term, he will automatically receive a "W" on his grade report. This symbol means "official cancellation without grade". If a student cancels after the above-stated period, the instructor may give him a "W" (withdrawal) if the student is doing passing work. It is advisable that the student inform his instructor of the reason for canceling.

No student is permitted to cancel during the last 2 weeks of any quarter, semester, or special term (this includes final examination week). **Telephone cancellation calls are not acceptable.**

No instructor is authorized to accept cancellation of any registration.

The effective date of cancellation will be the day on which the cancellation is received in an Extension Classes office, regardless of the date of the student's last attendance. (Cancellations by mail are effective the date of postmark.) It is important, therefore, that a student officially cancel by filling out the appropriate forms at any Extension office whenever he stops attending a class.

Changes in Course Information

All changes occurring after the publication of the Bulletin are posted in the desk copy bulletin at each of the registration locations. Students registered in the previous two years receive current, updated information in *Info*, a newsletter for extension classes students.

Course Numbering

All University courses for 1972-73 will carry course numbers of four-digit numerals. **Only the new numbers are to be written on the registration form.** The old numbers are listed only for reference. The first digit indicates the credit level of the course. See sample below:

0-XXXX	Certificate course
0-XXX	No credit course
1-XXX	Degree credit course primarily for freshmen and sophomores (Lower Division)
3-XXX	Degree credit course, primarily for juniors and seniors (Upper Division) Also open to other students with at least C averages overall and in all prerequisite work
5-XXX	Degree credit course primarily for juniors, seniors, and graduate level students
8-XXX	Degree credit course open only to students registering for graduate credit

If you wish to take a course beginning with the numeral 5 or 8 (degree credit

course primarily for juniors, seniors, and graduate level students) for graduate credit, please refer to Graduate Credit, page 33. Graduate students in Part I of the MBA program should read pages 121-122.

Credits

All credits listed in the class descriptions are **QUARTER** credits even though many classes meet on a semester-length schedule. All credits are clearly labeled as to use:

1. **"Degree credit"** means that a course so designated may be used on a degree program. A student who seeks a degree should be aware that **all degree credits attempted in extension classes must be submitted at a time of admission to the college from which the degree is sought.**
Credits—New modules. Most extension classes are now offered in expanded credit modules, many without increased class time. The increase in credit value of courses will enable extension students to obtain more credits per registration, and to make faster progress toward the completion of certificates and degrees.
A few courses carry a different number of degree credits in extension classes than in day classes. If a course carries the same course number as a day course, it will satisfy the same prerequisite, distribution and minor and major requirements met by the day course.
Residence—Credits earned in undergraduate extension classes are residence credits; however, until a student has been formally admitted to the college from which he expects to obtain a degree, these credits are not considered to meet the residence requirements of individual colleges of the University. See University Degree Programs, page 51.
2. **"Certificate credit"** means that the course so marked may be used in appropriate Extension certificate programs. Certificate credit courses are University-level courses but do not carry degree credit and have no counterpart in day classes.
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.

Use at Other Institutions—The applicability of credits earned in Extension toward a degree at another institution is determined by that institution.

Work Load—The average person employed full time usually carries four to eight credits.

Credits Obtainable Without Required Class Attendance

If through personal experience or occupation a student has gained knowledge which he believes should qualify him for University credit, or, if a person wishes independently to earn credit for a project, he should consult the Continuing Education and Extension Counseling Department, 314 Nolte Center, telephone 373-3905.

• LIVING AND LEARNING CENTER

The "living-learning" center is an inter-disciplinary educational service unit, under University College, designed to assist students (and faculty and

community members), individually or as small study groups, to develop and accomplish self-directed off-campus field study projects. It offers advice in planning projects, in arranging for credit, and in finding community resources necessary for carrying out the project. For information telephone 373-9906 or write to: Living-Learning Center, 1425 University Ave. S.E., Minneapolis, Minnesota 55455.

• INDEPENDENT STUDY REGISTRATION

Many degree credit courses have been identified by academic departments as courses in which students may study independently (designated as a "Y" registration) without attending class sessions. In some instances, written instructions are available; in others, direct consultation with the instructor is necessary for planning the student's work. Regular fees are charged for independent study (Y) registrations.

Independent study can be arranged for any course so identified by an academic department, whether it is offered in day or evening hours. Registration is indicated by adding a capital "Y" after the course number. Those students wishing to receive credit for independent study projects should contact a faculty member in the particular areas in which they are interested, determine if the department lists a specific course numbered and titled for such registration, and obtain departmental approval for such registration. For further assistance in making a Y registration, consult the Counseling Department, 314 Nolte Center, telephone 373-3905.

• RADIO AND TELEVISION COURSES

Continuing Education and Extension periodically offers courses via University Radio KUOM (770 k.c.) or over local television stations. Students may register for them through the Department of Extension Classes. For additional information, telephone 373-3195.

• EXTRA CREDIT REGISTRATION

Students may register in a degree credit course for 1, 2, or 3 extra credits (beyond those a course carries) provided the course instructor approves. Fees are charged on the basis of number of credits for which a student is registered. The student works independently, meeting requirements set by the instructor. Extra credit study allows for more intensive study of a course topic or study in a related topic in which no regular course is offered. Those students wishing to receive credit for independent study projects should contact a faculty member in the particular areas in which they are interested, determine if the department lists a specific course numbered and titled for such registration and obtain departmental approval for such registration. Registration is indicated by adding a capital "X" after the course number. For further assistance in making an X registration, consult the Counseling Department, 314 Nolte Center, telephone 373-3905.

• SPECIAL EXAMINATION

A student who, through independent study, experience, or study at a non-collegiate institution, has gained knowledge which is equivalent to that covered by a particular University course, may earn credit for it by passing a special examination on the subject matter covered by the course. He must be a University extension student at the time he takes the examination and must obtain approval from the department offering the course. There is a \$20 fee. Please contact the Counseling Department for assistance, 314 Nolte Center, telephone 373-3905.

• COLLEGE-LEVEL EXAMINATION PROGRAM (CLEP)

The College-Level Examination Program has been established by the College Entrance Examination Board to enable individuals who have acquired their education in nontraditional ways to demonstrate their academic achievement. CLEP examinations in four areas—mathematics, natural sciences, social science-history, and humanities—are available for a small fee to extension classes students who may be considering entering certain degree programs. A student will receive credit upon passing one or more tests, provided he has a satisfactory score and has not yet completed requirements in the appropriate area. The examinations are given only once per quarter. Since the various colleges use different criteria in accepting CLEP test results, for detailed information and referral contact the Counseling Department, 314 Nolte Center, telephone 373-3905.

• UNIVERSITY COLLEGE INDEPENDENT STUDY (UC 3-075 [old UC 75])

University College can grant up to 15 credits to any one student for an independent undergraduate study project done outside the confines of formal course work. The student need not be a University College registrant; however, he must have permission from his college office to pursue a program of independent study in University College. He must also have an appropriate faculty member supervise his project. Ordinarily, projects that can be done through departmental readings courses or directed studies projects are not acceptable for UC 3-075. Further information may be obtained from the Counseling Department, 314 Nolte Center, telephone 373-3905; or from the University College Office, 105 Walter Library, telephone 373-4638.

• INDEPENDENT STUDY COURSES

The Independent Study Department offers a wide variety of courses. Courses marked in this bulletin with a ★ are also taught through the Independent Study Department. Most University undergraduate degree programs accept Independent Study department credits as partial fulfillment of requirements; all Extension certificate programs accept such credits. The *Independent Study Bulletin* is available from the Extension Classes offices on campus, and the downtown St. Paul Extension Center, or from the Department of Independent Study, 45 Westbrook Hall, University of Minnesota, Minneapolis, Minnesota 55455, telephone 373-3256.

• SPECIAL PROJECTS

Opportunities for students to design study projects around their job activities, involvements in the community, and the like, according to their own time schedules, are available through Continuing Education and Extension in conjunction with other units of the University. Short or longer term projects are possible. Staff members are available to facilitate the development of project ideas, identification of needed faculty, and arranging for academic credit. Further information and assistance may be obtained by calling 373-3919.

Financial Aids and Loans

All students who plan to register under the authority or with the assistance of any federal, state, or foreign agency, military service, institution, company, scholarship, or loan fund, must register in person in 56 Nicholson Hall on the Minneapolis Campus.

Military personnel should read the listing on Military Personnel, page 35.

Students registering under the authority of the Cold War Veterans Bill (Chapter 34, Title 38, U.S. Code), should refer to page 48.

Business Firms—Many business firms are willing to help subsidize the education of their employees. Before registering, students are urged to talk with a company personnel officer about possible tuition payment that may be available for extension classes.

When requesting registration material, specify whether for semester, quarter, or special term classes; telephone 373-3195.

Handicapped Students Financial Aid—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, telephone 221-2891.

Low-Income Adults Scholarships—A limited number of tuition scholarships is available for low-income adults who wish to attend extension classes. For information, call 376-7401.

Extension Loan Fund—Extension students who require financial assistance to pay tuition may be eligible for a loan not to exceed \$50 in any semester, quarter, or special term. Such loans 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. No loan applications will be accepted after the second week of the term. Applications taken after the close of official registration periods will be subject to late fees.

Federally Insured Loans—Under the Federally Insured Loan Program, a student registered for at least 8 credits in day or extension classes may borrow from a bank or other financial institution. A graduate or an undergraduate student may borrow as much as \$1,500 a year. A student from a family with an adjusted income of less than \$15,000 a year pays no interest while he is in an eligible college, university, or technical school. Repayment of principal and interest begins in the 10th month after the student has ceased his course of study. At that time, the student pays 7 percent interest. A student from a family with an adjusted income higher than \$15,000 a year pays the entire interest on the loan—7 percent beginning when the loan is issued (simple interest).

For further information, contact the Office of Student Financial Aid, 107 Armory, telephone 373-4021.

Financing Tuition for Extension Classes

Although many employers offer tuition reimbursement plans (payment at the end of a course), students frequently have problems paying tuition when it is due. Students should be aware that most banks in the Twin Cities area offer a "line of credit" service to handle small, intermittent loan needs.

The plans vary among banks, but in all cases the lender must have a checking account with the bank, and a line of credit for a fixed dollar amount. The lender can then write checks which would normally overdraw his account. The loan is repaid through automatic deductions from the checking account, with finance charges typically running slightly over 12% on an annual percentage rate. Students should contact a bank for further information.

Grade Reports and Transcripts

Extension students can secure transcripts showing all credits earned in extension classes by calling or writing the Office of Admissions and Records, Window 17, University of Minnesota, Minneapolis, Minnesota 55455, telephone 373-2149.

Reports of students' grades are sent by the University's 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 Admissions and Records to get grades to them. A student who needs a grade sooner may leave a self-addressed postcard with his instructor, who will mail a grade to the student when it is determined.

Grades—A-N and S-N

New Grading System Established—The A-F and P-N grading systems have been replaced with A-N and S-N grading.

A-N Grading System—Four permanent grades, A (highest), B, C, and D (lowest), indicate acceptable completion of a course. The permanent grade of N (no credit) is assigned when the student does not earn a D or higher and is not assigned an incomplete. A student who cancels officially or drops out of class after the midpoint of any semester, quarter, or special term and is not doing passing work at the time, will receive an N.

A registration symbol of I (incomplete) will be assigned when, in the opinion of the instructor, there is a reasonable expectation that the student can complete successfully the work of the course. An I that is not made up by the end of one year becomes an N. When an I is changed to a permanent grade, the I is removed from the student's record.

The symbol X (not to be confused with registration for extra credit) may be reported in continuation courses in which a grade cannot be determined until the sequence is completed. Upon completion, a separate grade is substituted for each X.

The symbol W indicates official cancellation without grade. It is assigned in all cases of official cancellation through the ninth week of any semester, or the sixth week of any quarter, or the midpoint of any special term, regardless of the student's standing. After that time, the symbol W is assigned only if the student is doing passing work at the time of cancellation. If he is not doing passing work, the instructor will assign the grade of N (no credit). 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 midpoint of any special term, discuss the matter with his instructor.

The registration symbol V (visitor) indicates registration as an auditor or visitor.

S-N Grading System—The S-N system represents an alternative to the A-N system. S represents achievement that is satisfactory to the instructor for the class in which the student is registered. (The standards for S may vary from one class to another.) The symbol N, which stands for no credit, is assigned when the student does not earn an S and is not assigned an I.

A student wishing to take courses under the S-N grading system should be aware of the limitations placed on the system by the college in which he intends to take his degree. Each college determines to what extent and under what conditions each system may be available to its students. Any college may specify what course or what proportion of courses taken by its students or by its prospective students must be on a particular grading system.

The A-N and S-N grading systems cannot be combined by a student in a particular course. Students may receive grades only from the system under which they are registered.

Choice of A-N or S-N grading system must be indicated for a particular course on the class card at the time of registration, and may not be changed after the second week of a quarter or the third week of a semester (there is no fee for changing). Changes must be made in person or by writing to the Department of Extension Classes, 57 Nicholson Hall, University of Minnesota, Minneapolis, Minnesota 55455.

Graduate Credit

Only courses numbered with first digits of "5" or "8" may be taken for graduate credit. In addition, courses so numbered must carry in the course description a statement indicating the availability of graduate credit to qualified students, in order to be usable on a graduate program.

Students intending to pursue graduate work through Continuing Education and Extension (CEE) should be familiar with the instructions in this bulletin and in the *Graduate School Bulletin* (write to Graduate School, 322 Johnston Hall, University of Minnesota, Minneapolis, Minnesota 55455; or telephone 373-5817).

Planning a University of Minnesota Graduate Program—The student intending to use courses taken through CEE toward a graduate degree is responsible for planning a coherent and relevant program. He is encouraged to review his plans with a qualified faculty adviser in the field of his choice.

Joint Registration Discontinued—The system whereby students wishing graduate credit would register jointly in CEE and the Graduate School was discontinued on June 15, 1972. All graduate credit registration must be completed during the official registration periods as listed in the calendar. Registrations made after those dates will be subject to the late fees listed below.

New Procedures—At the time of registration, the student wishing graduate credit must ask the tally clerk in the Extension Classes office to mark the appropriate class card with the "graduate credit requested" stamp. The course instructor is thereby notified and, on the student's completion of the course, the instructor indicates on the grade report whether or not the work was done at the graduate level. The entry is then made on the student's CEE transcript. When and if the student applies for and is admitted to the Graduate School and submits his graduate program, he also submits his CEE transcript, which constitutes petition to use the courses he selects from that transcript. The inclusion on a CEE transcript of courses taken at the graduate level does not guarantee either admission to the Graduate School or acceptance of courses on a graduate program.

The Graduate School will accept up to 12 applicable credits of courses taken through CEE on any advanced degree program once the student is admitted to the Graduate School. However, a department (or an adviser) may set a maximum below this level for its majors. The student may take more than 12 credits through CEE, but he will be able to use no more than 12 credits on his program. Although he may select the 12 credits he wishes to use, only courses taken within seven years of the time he is admitted to the Graduate School may be considered usable; thereafter, the seven-year limit on completion of a graduate degree program may further limit his use of courses.

Use of Graduate Level Work Elsewhere—A student intending to use CEE course work at the graduate level for other than a University of Minnesota graduate

degree should, at the time of registration, ask the tally clerk in the Extension Classes office to mark the appropriate class card with the "graduate credit requested" stamp. His CEE transcript will show whether or not he took a course for graduate credit. The use of a course so marked is the prerogative of the student and the institution to which he then submits his transcript and is not the responsibility of either CEE or the Graduate School of the University of Minnesota.

Fees—A student who concurrently takes day courses and CEE courses must register on separate forms and pay both day and CEE fees.

Late Registrations and Additions

All registrations, whether initial or added, received either in person or by mail after the close of the official registration period as designated in the "Registration and Hours," calendar in the front of this *Extension Classes Bulletin* will be considered late registrations and will be subject to a late fee:

Through the first week of classes \$5
During or after the second week of classes \$10 (if accepted)

No registration will be accepted during the last two weeks of the term. Beyond this point any registration accepted will be subject to a \$20 late fee.

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

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

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

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

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

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 post mark.

These late 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.

Limited Class Registration

(See pages 20 and 21)

CLOSED CLASSES

(See page 20)

DATES FOR REGISTERING BY MAIL IN LIMITED CLASSES

(See page 20)

Military Personnel

(See also Veterans Information, page 48)

All military personnel are urged to familiarize themselves with the General Information section and the Registration Procedures and Information section 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 Department of Extension Classes. Under these programs, eligible military personnel may be entitled to tuition assistance of 75% per quarter credit hour for approved classes. (All classes in this *Extension Classes 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 must be made. Military personnel who do not have the necessary authorization at the time of registration will be required to pay in full for their registration. When the government authorization is received, a refund for the authorized amount will be made. Registration must be made in person at 56 Nicholson Hall, Minneapolis Campus.

Nonlimited Class Registration

(See pages 19 and 21)

Prerequisites

A prerequisite indicates competence needed to enter a course. It may be a preliminary course, experience, or required approval necessary before a course may be taken. You will find a course prerequisite (if any) listed at the end of the course description. Usually there is no prerequisite for beginning courses. However, courses with two or more parts must be taken in sequence unless otherwise indicated. Most advanced courses do have prerequisites and cannot usually 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. Students who are in doubt as to their qualifications for a course, but believe they are qualified, should register for the course and consult the instructor at the first class session. If the instructor decides that a student is not qualified, his class card properly endorsed to this effect on the back, by the instructor, will permit him 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 36). A prerequisite course may not usually be taken for credit after the advanced course has been satisfactorily completed.

Probation

A student who has been dropped from any unit of the University or placed on probation should clear with his college before registering for extension classes. If this is not done, there is no assurance that the credits will be accepted by the college from which he wishes to earn a degree.

Refunds

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

1. Full refund of all tuition and special fees will be made: when a class is canceled by Extension Classes; when the hour or day of the class is changed by Extension Classes after a student has registered in it; or when, in the opinion of the instructor, the student does not have the necessary prerequisites, or the student has already had the equivalent material in another class. In the last two cases, the student must, before the end of the second week of classes:
 - a. Ask the instructor for his copy of the 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 the student's responsibility to obtain and present his class card as designated in a and b above.
2. Full refund of all tuition and special fees will also be made to any student who has been recalled, who has enlisted, or has been drafted into military service upon presentation of military orders, provided the student would not be entitled to an appropriate grade at such time.
3. Students who have been ill or hospitalized and wish consideration for a full refund should obtain a doctor's statement indicating that in the opinion of the doctor the student was unable to continue for medical reasons.
4. A \$3 registration fee will be charged for cancellation of classes before the first class meeting in any semester, quarter, or special term. The balance of the tuition and special fees will be refunded.
5. Late fees and/or transfer fees are not refundable.
6. Refunds for cancellation of classes after the opening date of each semester, quarter, or special term (except as indicated in item 4 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

Cancellations by mail are effective the date of postmark. For refund purposes, the week starts on Monday. Saturday and Sunday postmarks are considered part of the previous week.

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

Refunds for special term courses are based on above percentages in relation to the length of the term.

Refunds are paid by check only and are mailed to the student. A minimum of four weeks are required for processing a refund.

Symbols

The following symbols are used throughout this bulletin:

/ A diagonal between numbers indicates a sequence course, the units of which must be taken in order, unless otherwise indicated.

* Enrollment space limited. See instructions on Registration in Limited Classes, page 20.

- † 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.
- ★ Course also available through Department of Independent Study.

Transferring Classes

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

Prior to and during the first week of classes	None
During the second week of classes	\$5 (if accepted)
During or after the third week of classes	\$10 (if accepted)

Students who wish to transfer after the first week of classes must meet the following conditions:

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

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

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

There will be no transferring between class sections without special permission from the Department of Extension Classes.

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

Tuition and Fees

The 1972-73 tuition for Extension Classes is:

\$14 per credit	For 1-XXX and 3-XXX level courses Certificate courses Entrance credit courses Non-credit courses
\$15 per credit	For 5-XXX level courses
\$16 per credit	For 8-XXX level courses

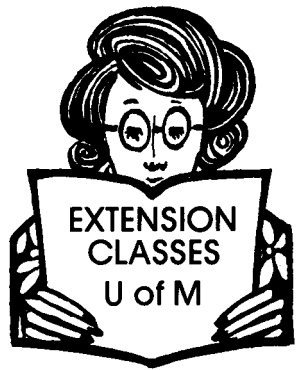
A student who concurrently takes day courses and CEE courses must register on separate forms and pay both day and CEE fees.

The full amount of the tuition and other fees is payable at the time of registration. Special fees may be for use of a laboratory, extra materials, or audio-visual equipment. Tuition charges and fees do not cover books. Checks or money orders must be drawn for the exact amount due and made payable to the University of Minnesota. A \$3.00 handling fee is charged for all checks returned by a bank. No arrangements for partial payment can be made. Students in need of financial assistance should see Financial Aids and Loans, pages 30-31. Students who are not residents of the state of Minnesota pay the same fees in extension classes as do residents of the state.

Students are not registered until tuition and fees are paid. After fees are paid, retain pink copy of registration. It serves as official identification as an extension student and must be presented in order to vote in student elections, obtain books from University libraries, or purchase student athletic and symphony tickets.

For information on tax deductions for extension classes, see page 47.





General Information

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Amount of Work

The "amount of work" for an extension class is expressed in credits. Each credit usually requires, on the average, a total of three hours a week of a student's time, both inside and outside of class.

Art Rentals

The University Art Gallery maintains a rental collection of framed original prints, watercolors, and drawings. An extension student may rent compositions for use in the home or current place of residence. Rental times are the first two weeks of each quarter, 9-11 a.m. and 2-4 p.m., Monday through Friday, and 5:30-7:30 p.m. on the first Monday of each quarter and semester. The Rental Office is M-16 Northrop Auditorium (one flight up from the northwest corner of Northrop). The cost is \$1.00 per composition per quarter, plus sales tax. After the first two weeks of the quarter, students may rent compositions by appointment only (telephone 373-5685).

Athletic Facilities

A Continuing Education and Extension student may use the athletic facilities of the University during scheduled recreation hours by paying a fee equivalent to that paid by day school students. The current fee is \$4.72 per quarter or \$7.00 per semester, which can be paid at the time of registration.

The athletic facilities include pools, gymnasiums, skating rink, tennis courts, fields, diamonds, track, and golf courses. However, there is a separate user charge for the ice rink, tennis courts and golf courses. A separate locker towel rental is also available.

Payment of the fee entitles the student to use the facilities during the term for which the student is registered, except that students registered for Spring Quarter or Spring Semester may use the facilities during the summer until the opening date of Welcome Week. Since facilities are heavily used, often to capacity, their use occasionally may not be possible.

The fee is paid in Extension Classes and will be entered on a receipt separate from the fee statement. Students must present this receipt when they wish to use the facilities. If the student cancels classes during the refund period he must surrender his facility fee receipt at the time of cancellation. Regular refund policies will apply.

Athletic Tickets

Any student enrolled for at least 3 credits in extension classes which carry credit (except television, radio, and independent study courses) may purchase one student athletic ticket under any or all of the following plans:

Plan No. 1—\$14.00 FOOTBALL TICKET. Admits to all home varsity football games (six games; reserved seat). Also admits to all baseball, gymnastics, swimming, track and wrestling home intercollegiate events—general admission seating.

Plan No. 2—\$6.00 BASKETBALL TICKET. Admits to all home, regularly scheduled intercollegiate basketball games. Seating is non-reserved in a designated student-staff area.

Plan No. 3—\$6.00 HOCKEY TICKET. Admits to all home, regularly scheduled intercollegiate hockey games. Seating is non-reserved in a designated student-staff area.

Plan No. 4—\$6.00 SWIMMING, GYMNASICS, TRACK, WRESTLING AND BASEBALL TICKET. Admits to all home, regularly scheduled intercollegiate games in these five sports. Seating is non-reserved in a general admission area. (Note: Not applicable if Plan No. 1 has been purchased.)

Married students may purchase a second athletic ticket, for use by spouse only, through any or all of the above four plans. Note that spouse ticket need not be the same plan(s) as the student's own ticket.

All tickets purchased are nontransferable. If classes are canceled by either the University or the student, athletic tickets must be returned to the Athletic

Ticket Office. Partial refund, if ticket is canceled, will be made, based on the refund schedule noted on the ticket.

When and Where to Purchase Football (Plan No. 1) Ticket in the Fall: At Williams Arena lobby on University Avenue across from the Stadium from Monday, September 18 through Saturday, September 23.

Hours—9:00 a.m. to 4:00 p.m., daily, except Saturday, September 23, from 9:00 a.m. to noon.

Athletic ticket sales will continue at Bierman Field Athletic Building after September 25.

Sale of Plans No. 2, No. 3 and No. 4: The \$6.00 plans will be on sale beginning October 16, 1972, with the application and purchase in person.

Regulations governing purchase, transfer, and cancellation of the above tickets are available on request to the Athletic Ticket Office, Room 108 Cooke Hall (Bierman Field Athletic Building after June 1, 1972). Telephone: 373-3181.

1972 HOME FOOTBALL SCHEDULE

Sept. 23	Colorado	Oct. 21	Iowa (Homecoming)
Oct. 7	Kansas	Nov. 11	Northwestern
Oct. 14	Purdue	Nov. 18	Michigan State

Advance Spring Sale, 1973: Each spring an advance sale is conducted whereby students may apply for athletic tickets under Plan No. 1, to be picked up at Williams Arena during Welcome Week in September. No proof of enrollment is required to order in the spring. A paid fee statement must be presented, however, to claim ticket in the fall. If the adjacent seat is purchased for the spouse, proof of marriage is required. Application may be made by mail in the Spring Sale. For an application, call the Athletic Ticket Office, 373-3181.

Auditors

(See page 26)

Bookstores

(See page 17)

Campus Activities and Facilities Open to Extension Students

Extension students are encouraged to take advantage of the wide variety of cultural, entertainment, and athletic events and facilities available to them. (Students should save the pink copy of their registration after fees are paid. It serves as identification for extension students and must be presented when purchasing books from University libraries.) Consult the following alphabetical listings in this section of the bulletin:

Art Rentals

Athletic Facilities

Athletic Tickets

Minnesota Orchestra

Theatre, Artists Course, and Special Lectures

A Twin Cities Campus Calendar of Events is available to all extension students. The monthly calendar lists University theatre offerings, lectures, art exhibits, music performances, convocations, KUOM broadcasts, University Hour on Channel 2, athletic events, and other recreational and cultural activities. To receive this calendar, call University Relations, 373-2126.

A University student-staff directory is available at any Twin Cities campus bookstore (except the Medical Bookstore) to extension students with a current fee statement. The directory contains phone numbers and addresses of all University offices, faculty and staff members, and day students.

Info, a monthly newsletter for University extension students, is mailed automatically to students who have registered for extension classes within the past three years. To place a name on the Info mailing list call 376-7500.

The University of Minnesota student newspaper, the *Minnesota Daily*, is also available on a subscription basis. The *Daily* covers campus activities and also includes a weekly "Happenings" calendar in the Friday issue. Telephone the *Daily* at 373-3385.

Cancellation of Class Meetings Because of Severe Weather Conditions

Extension classes are rarely canceled for any reason. However, in the event that extension classes are to be canceled, the University of Minnesota radio station, KUOM (770 on the dial), will make such an announcement at 4:00 p.m. on the day in question. Other local radio stations will usually carry the announcement about the same time. Listen for the announcement; it is the quickest and easiest method of obtaining the information.

Certificate Programs

(See page 65)

Class Attendance

Students (including auditors) are responsible for attending classes in which they are registered. (See also "Credits Obtainable Without Required Class Attendance, page 28). A student who cannot attend a class session should arrange with his instructor—in advance, if possible—to make up the work.

Committee on Student Relations and Academic Standing

There is a committee concerned with academic standing in each college and school of the University, including Continuing Education and Extension. It is a committee of the faculty, chaired by an administrative officer. Its purpose is to make, interpret, and enforce regulations, and to make exceptions to those regulations when they may do an educational disservice to the student. For procedure information, call the Counseling Department, 373-3905.

Correspondence Study

(See Independent Study Courses, page 30)

Counseling

(See Advising and Counseling, page 25)

Course Numbering

(See page 27)

Credits

(See page 28)

Credits Obtainable Without Required Class Attendance

(See page 28)

Day School Students

Students regularly registered in day school classes in any unit of the University who wish to register for extension classes are urged to clear such registration with their day school adviser or college office. Day school students must also pay extension classes tuition to attend class.

Faculty

The teaching staff in Extension Classes consists primarily of University of Minnesota faculty. In some instances faculty members from other educational institutions and specialists in professional and business fields may teach courses. All extension class instructors are approved by the academic departments through which classes are offered.

Additional Staff—Faculty other than those listed under each department may be assigned to teach certain courses.

Fee Statements

Students are urged to save and carry their fee statements (pink slips), which are required as identification for a number of university activities and services. A duplicate fee statement may be obtained for 50 cents at 57 Nicholson Hall in the event that the first one is lost.

Grades

(See page 32)

Grade Reports

(See page 32)

Graduate Credit

(See page 33)

Health Service

Extension Classes students registered for six or more extension credits (or extension and day credits) may enroll for University Health Service benefits. The cost of the service (\$26 per quarter or \$39 per semester) entitles students to use the University Health Service during regular hours for medical care and counseling.

(Health Service hours are Monday to Saturday, 7:45 a.m. to 4:30 p.m.)

Medical care, except for surgery, is provided to a hospitalized student without charge. Other services include: allergy testing and treatment, eye examinations, and laboratory services. Physical therapy and x-ray therapy are provided up to

a cost limit of \$50 per quarter. Charges are made at cost for prescriptions, eyeglasses and dental work.

Students interested in enrolling in the Health Service Plan must request that the appropriate fee be added to their fee statements at the time of registration. The fee statement must be presented when using the Health Service.

For information on these and other benefits, call 373-3195 and request the booklet, "Your Health Service," or pick it up at 57 Nicholson Hall.

Info

Info, a newsletter for University extension students, is published monthly (except for June and August).

It contains information important to extension students, faculty, and persons interested in learning more about University extension classes. Issues include articles on new courses, activities and facilities open to extension students, registration information, faculty, and timely University policy decisions which affect extension students.

Info is mailed automatically to all extension students who have registered for classes within the past two years. To place someone's name on the mailing list, call 376-7500.

Library

The library resources of the University of Minnesota are housed in 35 library units located on the Minneapolis and St. Paul campuses. The library units which are generally open in the evening and on weekends are the St. Paul Campus Library, Walter Library (East Bank) and Wilson Library (West Bank). The central reference services are located in Wilson Library. **For information about the materials of each library unit call 373-9985.** For information on Wilson Library hours call 373-0066 or 373-3082.

Continuing Education and Extension students are entitled to borrow books from the University of Minnesota Libraries. Extension students are subject to all library regulations including those covering loan periods, fines on overdue books, and recalls of books needed by other patrons or for course reserves. **Presentation of a current fee statement is required when borrowing books.**

Lounges and Study Areas

There are many lounges, libraries, and classrooms open during the evening to extension students who want to study, relax, or talk with classmates and friends. To receive a flyer containing information on all of the East and West Bank and St. Paul campus lounge and study areas, call 373-3195, or pick one up at 57 Nicholson Hall.

The CEE Nolte Center Lounge will be made available for extension students Monday through Thursday, 5:00-8:30 p.m. The lounge has a color television, piano, and comfortable seating.

Military Deferments

Military deferments are granted by local draft boards and **not** by the Department of Extension Classes. Therefore, students wishing information about deferment requirements should contact their local boards. Students wishing to have their extension class registrations certified to their local boards may do

so by going to 57 Nicholson Hall (Minneapolis campus) and filling out "Request for Deferment" forms.

Minnesota Orchestra

Special rates for season tickets to the regular concert season are available to students registered for at least 5 credits in extension classes. For further information, call the Orchestra Ticket Office, 373-2331. Students should save their fee statements; it is their identification as extension students, and enables them to purchase symphony tickets.

Off-Campus and Special Courses

An existing credit course may be scheduled anywhere off campus (in a school, church, business, or other neighborhood meeting place) for a sufficiently large group. Also, special noncredit classes can be developed upon request. (Courses of both kinds must be self-supporting.) For further information, call 373-5166.

Parking Facilities

Ample parking is available for extension students. (See maps in back of bulletin.) On concert nights students are advised to arrive on campus early, to insure finding a parking space. Weekday concerts beginning at 8 p.m. are scheduled in 1972-73 for October 18, 24, November 20, 28, 29, January 17, 31, February 28, March 6, April 4, May 1.

Parking for Handicapped Students—Handicapped students can purchase quarterly or daily parking permits for several on-campus locations, enabling them to move from class to class by car. For information on costs and parking locations, call 373-4190.

Police Assistance

The University Police will provide assistance to extension students—whether the problem is a lost article, or a locked car or closed University garage. Students should make note of the University Police and Lost and Found number, 373-3550.

In addition, University Police and the Department of Extension Classes will help locate students on campus for an emergency message.

Prerequisites

(See page 35)

Registration

(See Registration Procedures, page 19; and Registration Information, page 25)

Student Advisory Board

The Extension Classes Student Advisory Board was formed to serve extension students, faculty, and the administration in the exchange of ideas and information pertaining to the Department of Extension Classes.

It is composed of the student senators and alternates elected by extension students, appointed extension students, the dean of Continuing Education and Extension (or his representative) and an extension classes faculty member.

All students are urged to communicate their ideas, suggestions, and concerns to their Student Advisory Board. Students interested in joining the Student Advisory Board, or in talking with members about a particular concern, should call 376-7500.

Student Representation, University of Minnesota Senate

University of Minnesota students, including extension class students, are entitled to serve in the University Senate. The University of Minnesota is one of the few universities in the country in which students may be elected to the academic governing body. So far as is known, it is the only university whose extension students also serve in that body.

The University Senate considers matters of importance to the academic governance of the University, including the internal affairs of the institution as well as the role of the University in the community. Student representatives are elected from 19 colleges, schools, or other academic units within the University, including Continuing Education and Extension which, in 1972-73, is entitled to elect eight senators and eight alternates to the Senate.

Election of Extension Classes senators and alternates will be held May 7-12. Please read the following carefully.

Eligibility for voting—To be eligible to vote in the election, a student must be registered in Extension Classes and present a current fee statement when voting.

Polling places—Students may vote by mail or via ballot information distributed in the classroom.

Students voting by mail must send paid fee statement with ballot. Fee statement will be returned by mail immediately. For ballot or information call 373-0115.

Eligibility for candidacy—A candidate for election from Continuing Education and Extension must have earned a minimum of 12 University of Minnesota credits in the last 5 years and be carrying, at the time of election, 5 credits in Extension Classes (semester, quarter and special term registrations count equally). (Recommendations have been made to reduce the number of credits to 3. Students should check at the time of filing. Telephone 376-7500.) Students wishing to become candidates may file for candidacy at 57 Nicholson Hall, or 180 Westbrook Hall, Minneapolis Campus; or call 376-7500 to have filing forms mailed.

Dates for filing are March 28-April 8.

Upon application for candidacy, the candidate must provide proof of his eligibility: transcripts indicating he is in good standing and meets the credits-earned requirement, and fee statement showing credit load. Once certified as a candidate, the student is free to campaign in a manner in harmony with the guidelines (available at time of filing) established by the Assembly Committee on Student Affairs.

Extension classes students will be provided with a brief sketch of each candidate's qualifications.

The eight candidates receiving the greatest number of votes will be elected senators. Alternates will be the group of eight candidates receiving the next highest number of votes.

All students who meet the eligibility requirements for candidacy are urged to consider filing.

Study Areas and Lounges

(See page 44)

Symbols

(See page 36)

Tax Deductible Educational Expenses

University extension classes may be tax deductible if taken: (1) to maintain or improve the skills required in a trade or business or required in performing a present job; or (2) to meet the specific requirements of an employer or the requirements of law for maintaining present employment, salary, or status. Students *cannot* deduct expenses for education if courses are taken: (1) to get a new position; (2) to get a general education; or (3) to meet the minimum requirements to qualify for or to establish a trade or business.

In addition to the education exemption for taking an extension class, students may be able to obtain a commuter's exemption, and in some cases, a *double commuter's exemption*. For instance, if a student works in Bloomington and attends a class on the Minneapolis campus, he is eligible for the double exemption because he works outside the city limits. Or if a student works in Minneapolis and attends class at one of the suburban university locations, he would also qualify for the double exemption. But if he works and attends classes within city limits, he only qualifies for a one-way exemption. **Check with the local office of the Internal Revenue Service.**

Theatre, Artists Course, and Special Lectures

Educational and cultural events are continually offered on the University campuses. Many are open to the student body and to the public without charge. For information, telephone the University Theatre office (373-2337), Artists Course office (373-2345), or Department of Concerts and Lectures (373-2345). A Twin Cities Campus Calendar of Events is available to all extension students. The monthly calendar lists University theatre offerings, lectures, art exhibits, music performances, convocations, KUOM broadcasts, University Hour on Channel 2, athletic events, and other recreational and cultural activities. To receive this calendar, call University Relations, 373-2126.

The University of Minnesota student newspaper, *The Minnesota Daily*, is also available on a subscription basis. The Daily covers campus activities and also includes a weekly "Happenings" calendar in the Friday issue. Telephone the Daily at 373-3885.

Transferring Credits Earned in Extension

Credits earned in Extension are entered initially only on an Extension record. A College of Liberal Arts, College of Business Administration, College of Education, or Institute of Technology student wishing to have degree credits earned in extension classes 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. A General College student must first show his extension class transcript to his college office for approval before asking the record clerk to transfer the credits.

A student wishing to have credits earned in Extension transferred to another institution should ask the Office of Admissions and Records, telephone 373-2149, to forward a transcript to that institution.

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 in Extension, should submit a transcript of his record to the Counseling Department, 314 Nolte Center, Minneapolis Campus; telephone 373-3905. A student wishing help in planning a program is urged to bring his transcript with him when he sees an Extension adviser. (See Advising and Counseling, page 25.) Transcripts may be obtained from the registrar of the institution previously attended.

Transfers Within the University

A student who wishes to transfer from day school classes to extension classes may do so without going through formal transfer procedures. However, if the student plans to complete a degree program through the Department of Extension Classes, he should consult the Counseling Department, 314 Nolte Center, telephone 373-3905. Please read the section on Day School Students, page 43, Degree Programs, page 51, and Graduate Credit, page 33.

Transportation Between Campuses

Bus transportation between the Minneapolis and St. Paul Campuses is available on special buses labeled "Intercampus" and numbered 13. The Minneapolis Campus terminal is at Jones Hall, intersection of 15th Avenue and Pillsbury Drive. The St. Paul terminal is at the St. Paul Student Center on Buford at Eckles. Buses leave these terminals at 10-minute intervals until 6:25 p.m. and at 20-minute intervals from 6:25 to 7:25 p.m. Service after 7:25 p.m. is as follows:

Leave Minneapolis: 7:45 p.m. and every half hour until 10:45 p.m.

Leave St. Paul: 8 p.m. and every half hour until 11 p.m.

There is no charge for riding the bus unless a student enters or exits at bus stops other than those on campus.

Buses stop at 28th and Como and at Carter and Eckles for students using parking lots near those locations. (Parking is free at the 28th and Como lot, although there is a charge to board the bus. Bus fare discount cards can be obtained at the Bursar's Office, 115 Morrill Hall, for \$3. One card allows 18 rides.)

The West Bank Bus runs Monday through Friday from 7:30 a.m. to 6:00 p.m. The West Bank terminal is in front of Blegen Hall. On the East Bank the bus terminal is on the corner of Pillsbury Drive and 15th Avenue (across from Nicholson Hall).

University Senate Representatives

(See Student Representation, page 46)

Veterans Information

Cold War Veterans (Chapter 34, Title 38, U.S. Code)—A G.I. bill providing educational benefits for eligible veterans became effective June 1, 1966. Eligibility

is based on active military service on or after February 1, 1955, with veterans receiving 1½ months of eligibility for each month or part of a month of active service after that date. Maximum period of training is 36 months, but this period is reduced by training taken under other Veterans Administration programs.

Application for training under this bill may be made by requesting VA Form 21E-1990 from the Veterans Office, 54 Nicholson Hall, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-5777. The application form must be completed and submitted to the Veterans Administration, Fort Snelling, St. Paul, Minnesota, with other specified materials. Eligible veterans will then receive two copies of a Certificate of Eligibility from the Veterans Administration. Both copies must be presented to the Veterans Office in 54 Nicholson Hall after registering for extension classes. If not available at the time of registration, the certificates must, when received from the Veterans Administration, be promptly forwarded to the Veterans Office, 54 Nicholson Hall, in order to insure veteran benefits.

Each time a veteran registers for extension classes and wishes certification to the Veterans Administration, he must complete the Cold War Veterans Information Sheet, which is available at all registration centers or by mail. Check the appropriate box on the return request card at the back of this bulletin.

The following table shows how monthly payments are determined by the Veterans Administration:

		DEPENDENTS			
		None	One	Two	Each Dependent Over Two
MINIMUM CREDITS					
Full Time	12	\$175	\$205	\$230	\$13
¾ time	9	128	152	177	10
½ time	6	81	100	114	7

Note: Changes in the monthly payments were being considered at the time of printing. Call 373-5777 for current information.

Less than ½ time—Reimbursement of tuition and fees only, prorated over the length of the course.

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

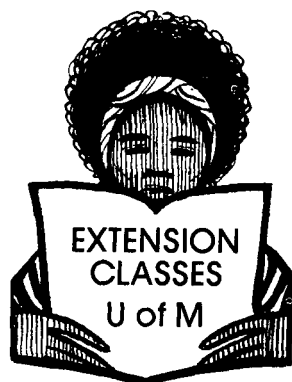
For further information on the Cold War Veterans Bill, call or write the Veterans Office, 54 Nicholson Hall, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-5777.

State of Minnesota Department of Veterans Affairs—Under some circumstances World War II and Korean Veterans whose educational benefits under Public Law 346 and 550 have been used and exhausted (not interrupted) may be eligible for tuition assistance from the 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.

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.





University Degree Programs

UNDERGRADUATE DEGREES

Associate in Arts (A.A.)

The General College of the University offers a two year program of liberal and general studies leading to the Associate in Arts degree. The academic requirements for the A.A. degree are: (1) 90 passing credits and (2) passing the General College Degree Comprehensive Examination.

Of the 90 credits required for the degree, 45 must be taken at the University of Minnesota; 30 of these resident credits must be taken in General College courses, including those offered through the Department of Extension Classes, (A list of General College courses offered through Extension Classes is found on page 175.)

There are no required courses in the program of the college, nor are there requirements for broad groups of courses. Instead, two kinds of comprehensive examinations are used. A student may take the Entrance Comprehensive Exam at any time he decides to work toward completion of an Associate in Arts degree. Results of this testing (which includes, for example, measures of arithmetic and language skills, and of organizational and abstract reasoning abilities) help him identify strengths and weaknesses in his preparation for college work. In the light of the test results, a student may plan his courses with a General College adviser.

The Degree Comprehensive Examination is to be taken when the student nears completion of the required 90 credits. This exam, which is a degree requirement, covers the main curriculum areas of the college—natural sciences, social sciences, humanities, and communication skills. It centers on the relationships that exist among these areas and is designed to measure the extent to which a student has strengthened his weaknesses and broadened his perspectives in demonstrating a general knowledge in the liberal arts. Arrangements for taking the tests, test interpretation, and program planning can be made in the General College office, 106 Nicholson Hall; telephone 373-4104.

General College Occupational Programs

(For more information on the following programs call the Department of Counseling, 373-3905)

Occupational programs in the General College provide for a variety of arrangements toward their completion. In a few of them acceptance by a supervisor or advisory committee is necessary before the occupational specialty courses may be taken. In some, the specialty courses are available only in day classes but much of the general education course work is available in extension classes. Some of the programs leading to an AA degree are combinations of course work in another post-high school institution and the General College; in most of these cases the General College component can be taken exclusively through Extension. Further information about any of the following programs may be obtained by making an appointment with a counselor in the General College Student Personnel Office, NH 10, 373-4400, or in the Extension Counseling Office, 314 Nolte Center, 373-3905.

DENTAL ASSISTING: This one-year sequence of General College, School of Dentistry courses and supervised experience in the University of Minnesota Dental Clinic is available in the day classes only. However, students wishing to complete an AA degree in addition to the Certificate in Dental Assisting may take General College courses in Extension prior to admission to the sequence or after completion of the sequence. Approximately 40 additional credits are required for the AA.

ELECTRONICS TECHNOLOGY: Students planning to enter programs at Northwestern Electronics Institute, Control Data Institute, or Brown Institute, or who have completed one of the programs recently, can be granted up to 45 credits toward the AA degree. The remainder of the credits, to a total of 90, 30 of which must be in General College courses, may be taken in Extension.

FLIGHT TRAINING: General College will grant 19 credits upon completion of the Commercial Pilot Program at University of Minnesota Flight Facilities. The remainder of the credits necessary for the AA, including 4 credits in the Ground School course, may be taken in Extension.

HEALTH AND RELATED OCCUPATIONS: Students planning to enter or who have completed programs in health-related occupations may receive up to 45 credits in General College toward a two-year associate in arts degree or up to 90 credits toward a bachelor of applied studies degree. Eligible students are those who are licensed, registered, or certified in a health occupation, and who have completed hospital-based education programs accredited by either the Minnesota Board of Nursing or the American Medical Association's Council on Medical Education. Such health workers include registered or licensed practical nurses, certified laboratory assistants, cytology technologists, histologic technicians, medical office assistants, medical records technicians, radiation therapy technologists, radiologic technologists, and others.

HUMAN SERVICES TRAINING: Most of the General College AA degree program, including 15 credits for field work, is available in Extension.

LAW ENFORCEMENT: General College will grant up to 12 credits for completion of an approved police academy training program. Additional credits to complete the requirement for the AA may be taken in Extension.

LEGAL ADMINISTRATOR: If a student is admissible to a four-year Extended Program in the General College, most or all of this program will be available in extension classes. (See page 53.)

LEGAL ASSISTANT: With the addition of 7 new extension classes this year and next, this AA degree can be completed entirely in Extension.

LEGAL SECRETARY: 30 credits of this one-year program are available; at present, the legal secretarial specialized courses can be taken only in day classes.

MARKETING: With the addition of supervised work experience to the sequence, the certificate in Marketing will again become available to extension students.

MEDICAL LABORATORY ASSISTANT: Students planning to enter this program at the Medical Institute of Minnesota or the St. Paul Technical-Vocational Institute, or who have completed one of these programs recently, can be granted elective credits toward an AA degree. The remaining credits to a total of 90, can be taken in extension classes; 30 of these credits must be in General College course work.

RADIOLOGIC TECHNOLOGY: Students accepted by the University of Minnesota Hospital School of Radiologic Technology may use General College credits taken in day or extension classes to complete requirements for an AA degree.

RECREATION FOR SPECIAL GROUPS: Much of the course work for this program can be taken in extension classes. Specialty courses in recreation programming and in field work are not yet available through Extension.

VETERINARY MEDICAL TECHNICIAN: This training is available at the Medical Institute of Minnesota, and elective credits are granted toward an AA. Extension classes can provide at least one-half of the credits.

VOCATIONAL TEACHER EDUCATION: All of the College of Education credits in the Department of Industrial Education and the General College credits necessary for completion of an AA degree are available in extension classes.

VOCATIONAL-TECHNICAL COOPERATIVE PROGRAMS: In order to provide a wide range of opportunities in occupational programs, the General College grants blanket credit toward its degree programs for courses of study completed at all Minnesota public vocational technical schools. The purpose of these arrangements is to combine college courses in general education with specific vocational preparatory programs. Fifty-three major job classifications, some including as many as 20 occupations, are available in the vocational technical schools, and the number of credits which can be accepted varies according to the length of the program. For any completed program, the remaining credits necessary for an AA degree, including a minimum of 30 credits in General College course work, are available in Extension.

General College Extended Programs

Students admitted to Extended Programs in General College work toward certificate programs and/or toward the bachelor of general studies (B.G.S.) or bachelor of applied studies (B.A.S.) degrees. The basic requirement for admission is an associate in arts (A.A.) degree or its equivalent. Prospective students prepare their own curriculum in consultation with an adviser or with the Coordinator for Extended Programs Advising. They may be asked to defend and justify their proposals before a faculty-student admissions committee.

Both the B.A.S. and B.G.S. degree programs are highly individualized. In addition to taking course work in subject matter areas, students may earn credit for supervised work experience related to their programs, for non-collegiate post-high school education, for independent study, for participation in community projects, and for other unconventional learning experiences.

A minimum of 180 credits, including the 90 credits necessary for an AA degree, is required for both the B.A.S. and B.G.S. degrees. Of the final 90 credits in both baccalaureate degree programs, 45 credits must be taken in General College courses.

The B.G.S. degree requires a minimum of 36 credits in a "concentration" chosen by the student. The "concentration" may best be described as a group of related interdisciplinary courses or credits which provides for in-depth study. Also required are 80 credits from the four main instructional categories defined by the University of Minnesota Council on Liberal Education. The B.A.S. degree requires at least 60 credits in a "concentration" and a minimum of 45 credits in the Council on Liberal Education categories. Both degrees require a minimum of 8 credits of writing.

It is anticipated that most, if not all, of the credits required for both of these new baccalaureate degrees in the General College can be completed through Extension. Persons holding A.A. degrees or nearing completion of A.A. degrees may learn more about General College Extended Programs by making an appointment with the Coordinator of Extended Programs Advising, Nicholson Hall 10, 373-4400.

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

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

1. 90 credits, 45 of which must carry grades of A, B, or C.
2. At least 45 of which must be earned following admission to the College of Liberal Arts.
3. CLA English composition requirement.
4. Four of the following five areas: (a) Foreign language through the college 3rd-quarter level or 3 years or more of high school work (one language only); (b) 8 to 10 credits in Group A of the BA Group Distribution Requirements (see page 57); (c) 12 to 15 credits in Group B; (d) 16 to 20 credits in Group C; (e) 12 to 15 credits in Group D.

Candidates for the A.L.A. who began their work before 1972 may find it convenient to complete requirements under the degree plan in use at the time they started (1957, 1967, or 1970). Details of all of these plans are described in the 1971-72 Extension Bulletin, which may be obtained by calling Extension Classes, 373-3195. A copy of *Procedures for Obtaining the Associate in Liberal Arts Degree through Extension* may be obtained from the Department of Extension Classes, Minneapolis Campus Office, 57 Nicholson Hall; the St. Paul Extension Center, 9th and Exchange Streets (open until January 12, 1973); or the Counseling Department, 314 Nolte Center for Continuing Education, Minneapolis Campus. The CLA Bulletin may be obtained by calling the Bulletin Bureau, 373-2153. Extension students may call 373-3905 for a copy of CLA courses meeting Group Distribution Requirements offered through Continuing Education and Extension.

Bachelor of Arts (B.A.)

The Bachelor of Arts degree from the College of Liberal Arts may be earned in certain major fields through extension classes. Part of the degree program may also be met through Department of Independent Study 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 Committee on Student Relations and Academic Standing as soon as he has made his decision.

A candidate for the B.A. degree must complete 180 credits with grades of A, B, C, or S, 75 of them in Upper Division courses (3-000 and 5-000 level courses). He must also satisfy the English Composition, Foreign Language, and Group Distribution requirements. These are defined in statements of graduation requirements, see below. Finally, a B.A. candidate must complete a major sequence in the field of his choice and complete at least 30 credits in Upper Division courses from areas outside his major.

Most students prefer to concentrate on the English Composition, Foreign Language, and Group Distribution requirements in their first two years, leaving the last two years free for concentration on their major field and Upper Division electives. Though it is usually desirable to work on these requirements as early as possible, it is *not* necessary to complete them before applying for CLA's Upper Division. The requirement for admission to Upper Division is at least 84 acceptable credits.

The majors that may be completed entirely in extension classes are:

American Studies	History
Art History	Humanities
Art, Studio	Interdepartmental
Child Psychology	Philosophy
Economics	Psychology — B Sequence
English	Sociology

The following majors may be nearly completed in extension classes; a few courses must be taken in day classes. In some cases the department concerned may be willing to allow substitutions.

Political Science	Social Welfare
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A copy of the *College of Liberal Arts Bulletin* is essential for the B.A. degree candidate. The bulletin may be obtained by calling the Bulletin Bureau, 373-2153. In addition, a copy of *Procedures for Obtaining the Bachelor of Arts Degree through Extension* should be obtained from the Department of Extension Classes, Minneapolis Campus Office, 57 Nicholson Hall; the St. Paul Extension Center, 9th and Exchange Street (open until January 12, 1973); or the Counseling Office, 314 Nolte Center for Continuing Education, Minneapolis Campus.

CHANGES IN GRADUATION PLANS

CLA graduation requirements have changed several times since 1957; Extension B.A. candidates usually follow the requirements in use at the time of their admission to CLA. Those entering degree programs in Fall 1972 or afterward must meet the requirements stated above, which differ from 1970 requirements principally in specifying A, B, C, or S grade records instead of C averages. Details of other requirements (for both 1970 and 1972 plans) are shown here. A student may usually follow a requirement plan more recent than that under which he became a degree candidate, but the reverse is not permitted.

(Students admitted to CLA and registered in classes before Summer Session 1967 follow the 1957 requirements, unless they choose a later plan, as do those

with 39 previously earned credits who were thus admitted and registered before Summer Session 1969. The 1967 requirements apply to those admitted and registered between Summer Session 1967 and Summer Session 1970.)

1970-1972 English, Language and Distribution Requirements

English—Composition 1-001/1-002 or Comm 1-001/1-002 or equivalent or exemption

Foreign Language—Route I or Route II

Route I: Complete a minimum of 23 credits or be validated at that level by the appropriate language department. Background from high school usually related to this requirement as follows:

High school study	Additional study in college
4 years	at least 3 cr at higher level in same language
3 years	at least 8 cr at higher level in same language
2 years	at least 13 cr at higher level in same language
1 year	at least 18 cr at higher level in same language

Students with two or more years of Latin in high school may satisfy this requirement by continuing in Latin on the above schedule to the 23 credit minimum or by taking 15 credits in another language; high school study in the other language may also count, in accordance with the schedule in II A below.

Route II: Complete a minimum of 27 credits in the following combination:

A. At least 15 credits in a single foreign language or be validated at that level by the appropriate language department. Background from high school usually related to this requirement as follows:

High school study	Additional study in college
3 years	none in college
2 years	5 credits at higher level in same language
1 year	10 credits at higher level in same language

B. At least 12 credits in courses which are concerned with the country or countries which use the language in which the student completes 15 credits. (Further study in the language beyond the 15 credit level counts as part of the 12 credit requirement.) A list of eligible courses is available in CLA offices and in the Counseling Department, 314 Nolte Center. Courses elected for this purpose may not be used to satisfy the group distribution requirements.

Group Distribution Requirement

At least 48 credits in four groups, distributed as follows:

Group A—Communication, Language, Symbolic Systems
8-10 credits (normally 2 courses)

Group B—Physical and Biological Sciences
12-15 credits (normally 3 courses)

Group C—Man and Society
16-20 credits (normally 4 courses)

Group D—Artistic Expression
12-15 credits (normally 3 courses)

Special notes on Group Distribution Requirements.

1. A maximum of 12 credits from any one department may be used for group distribution requirements, even though courses from some departments may be used in more than one group.
2. Courses used for Freshman English and for language requirements (including courses used for Route II, part B) may not be used for group distribution requirements.
3. The College will offer opportunities to meet distribution requirements by examination. (The CLEP examinations may be used for partial fulfillment.) Extension students may call the Counseling Department, 373-3905, for this information.
4. Honors courses or sections may be substituted for regular courses or sections (unless otherwise specified).
5. Extension students may call 373-3905 for a copy of CLA courses meeting Group Distribution requirements offered through the Department of Extension Classes.

Details of the 1957 and 1967 requirements are described in the 1971-72 Extension Bulletin, a copy of which may be obtained by calling Extension Classes, 373-3195.

A copy of *Procedures for Obtaining the Bachelor of Arts Degree through Extension* may be obtained from the Department of Extension Classes, 57 Nicholson Hall, Minneapolis Campus; the St. Paul Extension Center, 9th and Exchange Streets (open until January 12, 1973); or the Counseling Department, 314 Nolte Center for Continuing Education, Minneapolis Campus.

Bachelor of Science (B.S.)

The new Bachelor of Science degree is now offered in CLA by the Department of Economics and the Urban Studies program. Its requirements are those of the B.A program except that the foreign language requirement is not included and the major is more extensive and concentrated. For further information call the Counseling Office, 373-3905.

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

The Bachelor of Science in Business degree from the College of Business Administration may be earned through the Department of Extension Classes. A limited portion may also be met through courses in the Department of Independent Study, if desired. A student wishing to complete the B.S.B. degree through Extension should talk with a member of the Extension Committee on Student Relations and Academic Standing as soon as he has made this decision.

A candidate for the degree completes a minimum of 180 credits, part of which may be earned in other accredited colleges or universities. Usually the first 90 credits involve the completion of certain prebusiness requirements through Extension courses or while registered in the College of Liberal Arts of the University of Minnesota. After completion of the requirements, it is necessary that formal application be made to the College of Business Administration for admission. Under any circumstances, a minimum of 40 credits must be earned after such application and admission.

NOTE—Acct 1-024/1-025, 1-026; Econ 1-001, 1-002; Math 1-141, 1-142; Psy 1-001; Soc 1-001; the core requirement for the B.S.B.; and the 20 credits of C.B.A. elective courses cannot be taken on S-N grading.

Students are referred to the *College of Business Administration Bulletin* for full information on lower division prebusiness requirements and upper division B.S.B. requirements. The bulletin may be obtained by calling 373-2153.

A copy of *Procedures for Obtaining the Bachelor of Science in Business Degree through Extension* should be obtained from the Extension Classes Minneapolis Campus Office, 57 Nicholson Hall; the St. Paul Extension Center, 9th and Exchange Streets (open until January 12, 1973); or the Counseling Department, 314 Nolte Center for Continuing Education, Minneapolis Campus.

For Students Who Enter the College of Business Administration Summer Session, 1972, or Later

PRE-BUSINESS REQUIREMENTS**

I. Communication, Language, Symbolic Systems

A. Freshman English—8 credits

Comp 1-001/1-002

Comm 1-001/1-002

Exemption from the requirement

B. Mathematics—10 or more credits

Math 1-141 or 1-131 or 1-201—College Algebra

Math 1-142 or 1-211 and 1-221—Calculus

Students with inadequate preparation may be required to take Math 0-009 before taking Math 1-141 or 1-131. High school trigonometry or Math 1-008 is a prerequisite for Math 1-201. Students who plan to take course work in mathematics beyond the level of elementary calculus should take Math 1-211 and 1-221 rather than Math 1-142.

** / a series linked by diagonals must be taken in the order shown.

; separates courses and series of courses.

† all courses preceding dagger must be completed before credit is given for either course.

II. The Physical and Biological Sciences—9 credits

In one or more natural sciences to be selected from the following courses:

Anat 1-004

Ast 1-008; 1-009; 1-011; 1-012; 1-013

Biol 1-001/1-002†; 1-011

Biol 1-103; 1-009; 1-012; 3-003; 3-109; 5-103; 5-105

Biol 1-104; 3-001; 1-101; 3-022

Biol 1-102

Biol 1-106

Chem 1-004/1-005†; 1-006; 1-301; 3-100 with 3-101; 1-031/1-032/1-033

Geo 1-001; 1-002; 1-007; 1-008; 1-111; 1-112; 1-601; 3-101; 3-401; 5-004

Geog 1-425

NSci 1-004/1-005†; 1-006

Phys 1-014/1-024 with labs 1-015/1-025; 1-031/1-032; 1-041/1-042; 1-104/1-105/1-106;

1-121/1-122; 1-271/1-281/1-291 with labs 1-275/1-285/1-295; 3-801

IT 3-101; 3-201; 3-301; 3-401

III. Man and Society—15-17 credits

Econ 1-001, 1-002 (6-8)

Psy 1-001 (5)

Soc 1-001 (4)

IV. Artistic Expression—8 credits

Students must fulfill the requirement of 8 credits in artistic expression before entering the College of Business Administration. Only the following courses may be used to meet this requirement:

Afro-American Studies (all courses)

American Indian Studies (all courses)

AmSt 1-101 through 3-970

Arch 1-021, 5-051, 5-052, 5-053, 5-054, 5-055, 5-056

Art History (all courses)

Art, Studio (all courses)

Clas 1-001 through 1-042

English Literature (all courses)

Foreign Literature (Note: Any foreign literature will be accepted towards the fulfillment of artistic expression)

Humanities (all courses)

Music (all courses)

Spch 1-104, 3-201, 3-202, 3-203, 3-204, 5-201

Theatre (all courses)

V. Business Courses—12-13 credits

Acct 1-050, 1-051—Principles of Accounting (8) or Acct 1-024/1-025, 1-026—Principles of Accounting (9)

QA 1-050—Elementary Managerial Statistics (4)

VI. Students planning to enter the B.S.B.-Accounting Program are required to complete Comp 1-027—Advanced Writing (4) in addition to the above.

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

University College

The name University College means many things to many people because under this single rubric are several degree-granting units, each of which has its own particular set of goals and procedures. This unusual situation of "colleges within a college" is the result of University College's unique mission within the larger University of Minnesota: to house undergraduate experimental programs of collegiate scope. By their nature, all of University College's specific programs are, therefore, experimental and are not permanent features in the college. From year to year new programs can be added and programs which have completed their experimental phase will go under some other auspices. Presently, University College has three actual or potential degree-granting programs: The Inter-College Program, the Experimental College, and University Without Walls. Extension students interested in working toward a degree through the Inter-College Program or Experimental College should contact the Continuing Education and Extension Counseling Department, 314 Nolte Center, 373-3905, for additional information.

The Inter-College Program draws from the entire University for its courses and has no fixed curriculum. An applicant for admission arranges a study program, including suitable amounts of work in two or more colleges of the University, which fits his individual needs. He should be at least a third-quarter sophomore who has completed one full quarter or its equivalent at the University of Minnesota before he is eligible for admission, and if he is accepted into a degree program, he may work toward either a B.S. or a B.A. degree.

The Experimental College (1507 University Avenue S.E.) is a learning community of students and staff which admits both freshmen and more advanced undergraduates. Student programs are individually designed and negotiated by means of guidance committees and quarterly learning contracts; there are no formal courses as such, but the student may include in his program formal courses from other colleges of the University. The Experimental College strives primarily to maximize the individual student's freedom, while also expecting a student to participate in the governance of the college and in the attempt to create an interdepending-learning atmosphere in the college.

University Without Walls is an experimental program, under University College, which allows students to obtain a baccalaureate degree through individually tailored and self-directed study projects, usually outside of regular courses and according to the student's own time schedules. UWW is intended for the student who has clear educational goals but who because of assorted barriers cannot take advantage of other University offerings. It features the use of faculty both from the University and the non-academic community in addition to the main UWW staff, and bases the student's readiness for graduation on the demonstration of knowledge and competency as judged by a "Graduation Committee". Further information may be obtained from the University Without Walls, 331 Nolte Center, telephone 373-3919.

Information about University College is available in 105 Walter Library, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-4638.

MASTER'S DEGREES

Business Administration

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 Graduate Secretary of the Associate Dean, Programs and Administration, College of Business Administration, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-5505 (see page 121).

Master of Arts (M.A.)

As this bulletin goes to press, plans are in progress for offering the Master of Arts in English through Extension. The proposal is subject to approval by the Graduate School. If the proposal is approved, all courses basic to the degree will be offered through Extension. For further information on requirements for the Master of Arts in English, and on the status of the program in Continuing Education and Extension, call 376-7212.

ORIENTATION FOR EXTENSION STUDENTS

*Problems in your present extension class?
Need a little support and confidence to return to school?
Thinking about a new career and don't know where to start?
Need study help?
Planning further education and need guidelines?*

COME TO AN ORIENTATION FOR EXTENSION STUDENTS:

Fall September 7 and 12, 1972
Winter December 14, 1972
Spring March 14, 1973

HOURS: 5:00-8:00 p.m., Nolte Center

Call us. Our telephone number is 376-7500.
More orientation information on following page.

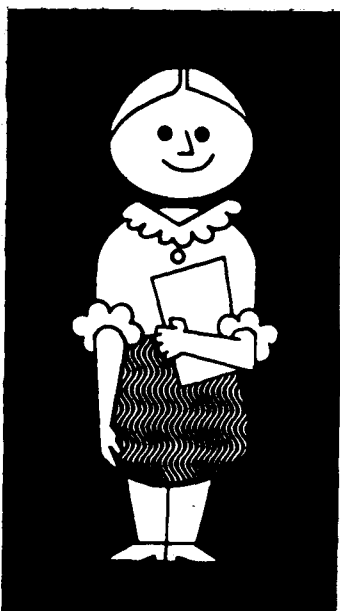


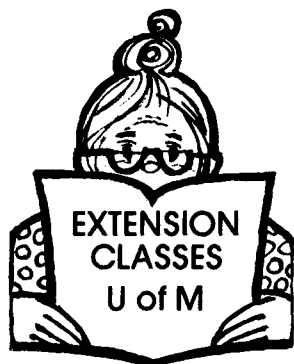
- **COME IN AND TALK** to a counselor, instructors, study skills expert, program adviser, extension Student Advisory Board members, Extension Classes staff, college advisers, editor of student newsletter—INFO.

- **JOIN A CAMPUS TOUR AND A WILSON LIBRARY TOUR.**

- **ASK ABOUT** new Extension Classes programs . . . plus 4 other degrees and 25 certificates.

- **GET "PICK-UP" SHEETS ON:**
 1. study places and library hours
 2. bookstore hours and book resale
 3. University services
 4. health service
 5. student newsletter INFO
 6. drop-in study skills center
 7. all college bulletins





Extension Certificate Programs

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

Twenty-five intensive certificate programs are conducted by Continuing Education and Extension. The curricula are described in detail in the following pages. Certificate programs are organized at the collegiate level; students entering them should have adequate educational preparation or other experience to work effectively with college materials. Certificate programs consist of degree credit classes or a combination of degree and certificate credit classes. Certificate credit classes are college level in quality and represent an accelerated and specialized approach to subject matter in the areas represented. They are not, however, transferable to a degree program.

Work on a certificate may be done in extension classes, independent study, day school, summer session, or any combination of these. (Certificate programs marked with the symbol ★ are available entirely through the Independent Study Department.) Except where noted, a student may also transfer credit from other accredited institutions of higher education, although a minimum of 25 percent of credits required for any certificate must be earned at the University of Minnesota. Core requirements must be completed by all applicants; the courses need not, however, be taken in order, except as prerequisites make it necessary.

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

A student interested in pursuing a certificate program is urged to secure a copy of *Procedures for Obtaining a Continuing Education and Extension Certificate* and to complete an *Application for Admission to Certificate Programs* at the

earliest possible time so proper counseling can be given. Both forms are available at the Minneapolis Campus Office, 57 Nicholson Hall; the St. Paul Extension Center, 9th and Exchange Streets (open until January 12, 1973); or the Extension Counseling Department, 314 Nolte Center. Advice and information about the various programs, including transfer of credits, may be secured from the Extension Counseling Office.

A student nearing completion of the required work and expecting to receive a certificate must file a *Certificate Completion* form at the beginning of the term in which the certificate is to be awarded.

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

DISCONTINUED CERTIFICATES

Public Administration Certificate

The old Public Administration certificate has been discontinued. Students in the process of completing the certificate will be helped by the School of Public Affairs to complete their course work. Students should contact Professor Victor Arnold, 331 Social Science Building, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-7572. Students who have been admitted to a graduate program in the School of Public Affairs may register through the Department of Extension Classes into appropriate department daytime offerings. Students wishing to register for these classes must have written approval from Professor Victor Arnold in the School of Public Affairs. Students wishing to enroll through Extension in day classes in Public Affairs should obtain a copy of the day class schedule and a copy of the bulletin of the School of Public Affairs.

Consult the School of Public Affairs, 373-7572 or 373-2685 or the day class schedule for further information. Enrollment through Extension in Public Affairs classes is limited. See instructions for registering in limited classes, page 20.

World Affairs Certificate

The old World Affairs Certificate has been discontinued. Students in the process of completing the certificate will be able to do so. Students should contact the Counseling Office, 314 Nolte Center, telephone 373-3905 for assistance.

Fire-service Information, Research and Education Center (FIRE)

FIRE PROTECTION CERTIFICATE

A certificate program has been approved by Continuing Education and Extension and its FIRE Center in response to requests from municipal fire departments and persons interested in allied fire protection fields: institutional and industrial fire protection; insurance protection rating bureaus; manufacturers of protective equipment; safety organizations and government.

Inquiries should be addressed to: Mr. Frank Oberg, Director
Fire-service Information
Research and Education Center
University of Minnesota
3300 University Avenue S.E.
Minneapolis, Minnesota 55455

General Studies Certificate

(45 credits)

The General Studies Certificate program is designed to recognize students' achievement after the completion of the equivalent of one year of college course work. There are no required courses in the program but students are encouraged to take advantage of courses in most of the general education curriculum areas of the General College—natural sciences, social sciences, business studies, humanities, and communications. Of the 45 credits required for the Certificate, a minimum of 30 credits must be taken in General College courses. (A list of General College courses offered through Extension is found on page 175.)

Students wishing to continue their education toward the Associate in Arts degree from the General College will find that all credits from this program will be accepted. For AA degree requirements, see University Degree Programs; Associate in Arts (A.A.) on page 51.

Human Services Certificate

(46 credits)

The Human Services Certificate was developed in response to the increasing demand for specialized certificates for paraprofessional staff in community service. Paraprofessionals engaged in the human services and in community development efforts in agencies such as public and private schools, nursery school, neighborhood health clinics, poverty agencies, housing authorities, social agencies, and community libraries may find the certificate useful for their personal development as well as their certification needs for advancing employment opportunities.

The certificate provides both background knowledge and career-related course work. Students have 22-27 credits of core requirements, generic to all fields of human services and 3-8 credits of elective choices within the basic social sciences. The remaining 16 credits are approved supervised work experience and/or related credits planned by the student and the counselor, depending upon student interest and job requirements. The certificate is flexible and should provide a variety of educational opportunities for the paraprofessional staffs.

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

Each student, upon entering the program, is asked to talk with a counselor. Appointments may be arranged by calling 373-3905.

Core Requirements (22-27 credits):

- | | |
|---|--|
| GC 1-421—Writing Lab: Personal Writing; or Comp 1-001—Introductory Composition; or Comm 1-001—Communication | GC 1-283—Psychology of Human Development; or Psy 1-003—Application of Psychology to Living |
| GC 1-461—Oral Communication: Basic Principles; or Spch 1-101—Fundamentals of Speech | GC 1-221—Man in Society: His Personal Role; or Soc 1-001—Introduction to Sociology |
| GC 1-471—Creative Problem Solving | PubH 3-001—Personal and Community Health |
| GC 1-628—Human Services: Special Topics | |

Concentration Requirement in one of the following fields (16 credits):

- | | | |
|---------------------|------------------|-------------------|
| Education | Welfare | Minority Studies— |
| Urban Problems | Family Nutrition | American Indian |
| Community Library | Community Health | Minority Studies— |
| Community Organizer | Day Care | Afro-American |
| Family Work | Youth Care | |

Electives: Additional courses from the following areas to make a minimum of 46 credits total for the certificate.

- | | |
|---|--|
| GC 1-285—Cultural Anthropology; or Anth 1-002—Introduction to Anthropology: Cultural Anthropology | GC 1-281—Psychology of Modern Society; or Psy 1-001—General Psychology |
| GC 1-295—Economic Perspectives—General View | CPsy 3-301—Child Psychology |
| GC 1-722—Parent-Child Relationships; or FSoS 1-025—Parenthood | SSci 3-203—Structure and Dynamics of Poverty |
| Geog 1-301—Human Geography | Rhet 1-147—Efficient Reading |
| GC 1-233—United States: Problems of Government; or, Pol 1-001—American Government and Politics | Up to 6 credits in art, music, literature, humanities, in either General College or Liberal Arts courses |

Interior Design Certificate

(60 credits)

The Interior Design Certificate is awarded upon successful completion of a program of courses in interior design and related fields. The interior design courses have been approved by the American Institute of Interior Designers. Completion of the certificate should indicate a background of proficiency in the field of home furnishings and decorating.

Students transferring credits to this program from other institutions accredited by the University of Minnesota must take a minimum of 15 credits at the University of Minnesota, including the first four courses in interior design (listed under the Core Requirement).

Core Requirement (44-46 credits):

- | | |
|--|--|
| ArtS 3-131—Interior Design I | ArtS 1-119—Drafting—Basic Drafting Techniques |
| ArtS 3-132—Interior Design II | Comp 1-001—Introductory Composition; or Comm 1-001—Communication; or Comp 0-004C—Business Correspondence |
| ArtS 5-111—Seminar in Interior Design | Psy 1-003—Application of Psychology to Living |
| ArtS 5-112—Seminar in Interior Design | Spch 0-001C—Beginning Speech; Communication; or Spch 1-102—Communication in the Modern World |
| ArtS 1-111—Use of Color | |
| ArtS 1-112—Layout for Interior Design, or ArtS 0-003C—Home Design and Planning | |
| ArtS 3-133—Contract Design Seminar | |
| ArtH 1-001—Introduction to the Visual Arts | |

Spread Requirement: Additional courses selected from the following groups to make a minimum of 60 credits total for the certificate.

- | | |
|--|--|
| 1. History of Art, French, Humanities, Literature | ArtS 3-137—History of Traditional Furniture |
| 2. Ceramics, Drawing and Painting, Sculpture, Printmaking, Photography | Arts 5-113/5-114—Interior Design Clinic |
| 3. ArtS 1-113—Layout for Interior Design | 4. MIS 0-001C—Introduction to Computers |
| ArtS 1-121—Perspective and Presentation Sketches | Sal 0-001C—Salesmanship |
| Arts 3-134—Contract Design Seminar | GC 1-513—Principles of Small Business Operations |
| ArtS 3-135—Interior Design: Housing, Dynamics and Policy | GC 1-551—Marketing: Retailing and Sales |
| ArtS 3-136—Interior Design: Housing and the Urban Environment | GC 1-552—Marketing: Sales Promotion |
| | Comp 0-004C—Business Correspondence |

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 program from other institutions accredited by the University of Minnesota must take a minimum of 12 credits at the University of Minnesota.

English Requirement (8 credits):

Comp 1-001/1-002—Introductory Composition; or Comm 1-001/1-002—Communication; or equivalent

Spread Requirement (32 credits): 8 credits in each of the following fields:

Communication, Language, Symbolic Systems: composition (other than freshman English requirement, journalism, language, philosophy, mathematics, speech

Artistic Expression: art, architecture, classics, humanities, literature, music, theatre arts

Physical and Biological Sciences: astronomy, biology, chemistry, ecology, geology, physics

Man and Society: anthropology, economics, family studies, geography, history, political science, psychology, social science, sociology

Electives: Additional liberal arts courses to make a minimum of 45 credits total for the certificate. For a listing of courses under the spread requirement, students may call 373-3905 for a copy of CLA courses meeting the above Group Distribution requirements offered through Extension.

Mathematics and Science Certificate*

(45 credits)

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

Prerequisite: 2 years of algebra and 2 years of geometry including trigonometry.

Core Requirement (23-24 credits):

Engl 0-006C—Basic Technical Writing I; or
Comp 1-001—Introductory Composition
Math 1-211—Analysis I

Math 1-221—Analysis II
Math 1-231—Analysis III
Math 1-240—Calculus IV

Electives: Additional courses to make a minimum total of 45 credits, selected from the following areas:

Astronomy
Chemistry
Engineering

Geology
Mechanics and Materials
Physics

Police Administration Certificate*

(46 credits)

The Police Administration Certificate program was planned by departments of Continuing Education and Extension in cooperation 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 Department of Independent Study 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 (8 credits):

Comp 1-001/1-002; or Comm 1-001/1-002; or Comp 1-001/ and 4 additional credits selected from Engl 1-002, Engl 0-008C**, Hum 1-001, Hum 1-002, Hum 1-003, Hum 1-004, Comp 0-006C.

Core Requirement (16 credits):

Soc 3-101—Elements of Criminology

PoAd 0-015C**—Methods in Police Supervision

PoAd 0-016C**—Methods of Criminal Procedure

PoAd 0-017C**—Methods of Police Planning, Management and Organization

PoAd 0-018C**—Methods of Criminal Investigation

Spread Requirement (22 credits):

Pol 1-001—American Government and Politics

Psy 1-001—General Psychology

Soc 1-001—Introduction to Sociology

8 additional credits selected from:

Pol 1-025—World Politics

Soc 5-141—Delinquent Behavior

Hist 1-301, 1-302—American History

Physician's Assistant in Ophthalmology Certificate

As this bulletin goes to press, a Physician's Assistant in Ophthalmology Certificate is planned by the Department of Ophthalmology and Continuing Education and Extension. The objective of the certificate program will be to provide individuals with technical and mechanical skills and knowledge required in the treatment and diagnosis of eye diseases so that they may qualify for employment under the supervision of physicians as physician's assistants in ophthalmology. Requirements for the certificate will include completion of four special ophthalmology courses (totaling 30 credits) and will require one year of full-time day attendance at St. Paul Ramsey Hospital. In addition, a one-year externship will be required. The certificate is subject to the approval of the Board of Regents. Interested students wishing to receive more information about the program, and information on the action of the Board of Regents, should write: Program Director, Educational Study Association, 1575 University Avenue, St. Paul, Minnesota 55104.

Alcoholism and Other Drug Abuse Counselor Certificate

(9 credits and completion of internship)

The basic courses for this program are offered by the School of Public Health, in cooperation with the School of Social Work and the Department of Pharmacology, through Continuing Education and Extension. Requirements for the certificate include completion of the basic courses taken consecutively, plus a successful internship program. Courses are described under Public Health.

The courses are designed to train individuals to assist professional counselors working with drug abuse and similar problems, including alcoholism and use of narcotics, hypnotics, tranquilizers, stimulants, and hallucinogens. While planned specifically for lay persons interested in lay counseling careers, the courses are also offered on a limited basis to educators, clergymen, nurses, law enforcement personnel, social workers, psychologists, and other professional persons who feel this additional special training would help them in dealing with or disseminating information about alcoholism and other drug abuses. The sequence is not to be considered in lieu of a professional degree in counseling, nor does successful completion guarantee employment.

A separate rotating internship experience in approved and affiliated institutions under professional supervision will be provided on the basis of the availability of placements for selected applicants who have successfully completed the basic courses. Successful completion of the internship program will lead to the certificate. Prior or concurrent institutional experience may be substituted in part by petition to the Internship Review Committee. Details of the internship program will be provided to students applying for enrollment in the courses.

Persons wishing to apply for admission to the program should write to Professor Robert W. Schwanke, Assistant Director, School of Public Health, 1325 Mayo Memorial, University of Minnesota, Minneapolis, Minnesota 55455. An application blank will be sent to the applicant. The formal application must be completed and returned postmarked no later than August 30, 1972.

No credits may be transferred to this program from other institutions, except for possible experience substitution on the internship, outlined in the paragraph above.

Requirements (9 credits and internship):

PubH 3-030—Fundamental Aspects of Drug Abuse and Dependency

PubH 3-031—The Disease Process and Social Implications of Drug Dependency

PubH 3-032—Counseling the Alcoholic and Other Drug Dependent Persons

PubH 3-035—Internship in Alcohol and Drug Abuse

Social Work Post-Baccalaureate Certificate

(25 credits—in addition to baccalaureate degree)

This Post-Baccalaureate Certificate Program is offered by the Graduate School of Social Work through Continuing Education and Extension and the Department of Continuing Education in Social Work. Director of this program is Professor William Hoffman, 373-5831.

The Program is offered over a two-year span and courses have been designed in consultation with social welfare agency directors, practitioners and educators to meet the expressed needs of individuals employed in social welfare positions who may not intend to enter the two-year graduate program in social work.

The prerequisite baccalaureate degree may be in any field from any accredited institution of higher education. The requirement of 25 credits must be taken in its entirety at the University of Minnesota. Some of the courses may become available in other parts of the State, in addition to the Twin Cities.

Prerequisite: Bachelor's degree.

Core Requirement (21 credits):

- | | |
|--|--|
| SW 5-010—Special Topic: Consumer Research—Interpretation of Published Material | SW 5-315—Introduction to Current Problems in Community Organization and Administration |
| SW 5-101—Social Policy Analysis | SW 5-402/5-403—Working with Individuals and Families; and SW 5-412—Working with Small Groups; or |
| SW 5-105—Individual Human Rights and Social Work Practice | SW 5-412/5-413—Working with Small Groups; and SW 5-402—Working with Individuals and Families |
| SW 5-201/5-202/5-203—Normal Social Functioning | |

Electives (4 credits):

- | | |
|--|--|
| SW 5-010—Special Topic: Intervention with Children | SW 5-010—Special Topic: Legal Issues in Social Work Practice |
|--|--|

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

(53 credits)

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

Requirements:

- | | |
|---|--|
| Comp 1-001/1-002—Introductory Composition; or Comm 1-001/1-002 Communication; or equivalent | Acct 1-024/1-025, 1-026—Principles of Accounting |
| Econ 1-001, 1-002—Principles of Economics | Acct 3-105/3-106/3-107—Intermediate Accounting |
| Math 1-141—Algebra, Probability and Pre-Calculus; or equivalent | Acct 3-220/3-221—Cost Accounting |
| QA 1-050—Elementary Managerial Statistics | BFin 3-000—Finance Fundamentals |

SENIOR ACCOUNTING

(94 credits)

Students transferring credits to this program from other institutions accredited by the University of Minnesota must take a minimum of 24 credits in accounting courses at the University of Minnesota.

Requirements:

- | | |
|---|---|
| Comp 1-001/1-002—Introductory Composition; or Comm 1-001/1-002—Communication; or equivalent | BFin 3-000—Finance Fundamentals |
| Comp 1-027—Advanced Writing | BLaw 3-058—Business Law |
| Econ 1-001, 1-002—Principles of Economics | Four courses from the following: |
| Math 1-141—Algebra, Probability and Pre-Calculus; or equivalent | BA 3-001—Business Economics |
| Math 1-142—Introduction to Calculus of One and Several Variables | BA 3-002—Business and Society |
| QA 1-050—Elementary Managerial Statistics | IR 3-002—Industrial Relations Systems |
| Acct 1-024/1-025, 1-026—Principles of Accounting | Ins 3-100—Risk Management and Insurance |
| Acct 3-105/3-106/3-107—Intermediate Accounting | OAM 3-055—Introduction to Management Science |
| Acct 3-220/3-221—Cost Accounting | Trans 3-054—Fundamentals of Transportation |
| Three additional accounting courses numbered 5-000 or above | Mktg 3-000—Principles of Marketing |
| | Mgmt 3-001—Fundamentals of Management |
| | Mgmt 3-004—Business Policy: Strategy Formulation and Implementation |
| | MIS 3-099—Elementary Fortran |

Business Administration Certificates

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

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

JUNIOR BUSINESS ADMINISTRATION CERTIFICATE*

(46 credits)

This certificate, requiring the satisfactory completion of 46 credits of course work, is the equivalent of one 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 to this program from other institutions accredited by the University of Minnesota must take a minimum of 12 credits in business administration courses at the University of Minnesota.

Prebusiness Requirement (34 credits):

Comp 1-001/1-002—Introductory Composition; or Comm 1-001/1-002—Communication; or equivalent

Econ 1-001, 1-002—Principles of Economics

QA 1-050—Elementary Managerial Statistics

Acct 1-024/1-025, 1-026—Principles of Accounting

Math 1-141—Algebra, Probability, and Pre-Calculus; or equivalent

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

BA 3-001—Business Economics

BA 3-002—Business and Society

OAM 3-055—Introduction to Management Science

MIS 3-100—Basic Computer Systems

IR 3-002—Industrial Relations Systems

Ins 3-100—Risk Management and Insurance

Tran 3-054—Fundamentals of Transportation

BFin 3-000—Finance Fundamentals

Mktg 3-000—Principles of Marketing

BLaw 3-058—Business Law

Mgmt 3-001—Fundamentals of Management

Mgmt 3-004—Business Policy: Strategy Formulation and Implementation

Math 1-142—Introduction to Calculus of One and Several Variables

MIS 3-099—Elementary Fortran

SENIOR BUSINESS ADMINISTRATION CERTIFICATE

(91 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 91 credit-hours represents the equivalent of two 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 four-year degree program with particular emphasis on the basic principles and theories of business administration.

Students transferring credits to this program from other institutions accredited by the University of Minnesota must take a minimum of 24 credits, including 20 credits in business administration courses, at the University of Minnesota.

Prebusiness Requirement (39 credits):

Comp 1-001/1-002—Introductory Composition; Comm 1-001/1-002—Communication; or equivalent

Econ 1-001, 1-002—Principles of Economics

Acct 1-024/1-025, 1-026—Principles of Accounting

Math 1-141—Algebra, Probability, and Pre-Calculus; or equivalent

Math 1-142—Introduction to Calculus of One and Several Variables

QA 1-050—Elementary Managerial Statistics

Core Requirement (24 credits): Six courses selected from the following:

OAM 3-055—Introduction to Management Science

MIS 3-100—Basic Computer Systems

IR 3-002—Industrial Relations Systems

Ins 3-100—Risk Management and Insurance

Tran 3-054—Fundamentals of Transportation

BFin 3-000—Finance Fundamentals

Mktg 3-000—Principles of Marketing

BLaw 3-058—Business Law

Mgmt 3-001—Fundamentals of Management

Mgmt 3-004—Business Policy: Strategy Formulation and Implementation

MIS 3-099—Elementary Fortran

Electives in the College of Business Administration: At least 16 additional credits in courses in business administration. These may be selected from the core group above or from other courses.

Other Electives: Non-business courses from areas such as physical and biological science, man and society, and artistic expression to make a minimum of 90 credits for the certificate.

Note: Students contemplating continuing toward a degree from the College of Business Administration should select electives which could become part of the degree program. These students are therefore urged to complete the pre-business degree requirements (on page 59).

Credit and Financial Management Certificate

(62 credits)

The Credit and Financial Management Certificate program was developed cooperatively by Continuing Education and Extension and the College of Business Administration of the University of Minnesota and the North Central Credit and Financial Management Association. The program is directed to students seeking careers in trade credit management, commercial bank and finance company loan management, and ultimate senior executive positions in financial management.

Specialized training and skills are necessary in the administration of accounts receivable in today's business. The Trade Credit Manager must often function as adviser to his customers. Analyzing lines of credit requires that he be familiar with all financial and marketing aspects of his customer's business. He must also be able to communicate and work with top management of his company toward the integration of sales and financial goals, and thus is in a unique position to advance to senior management positions.

Students transferring credits to this program from other institutions accredited by the University of Minnesota must take a minimum of 14 credits at the University of Minnesota.

Completion of the Certificate qualifies the student for the Associate and Fellow Awards of the National Institute of Credit. Persons interested should telephone or write Mr. E. Norman Eck, 330 Plymouth Building, Minneapolis, Minnesota 55402; telephone 336-8356.

Core Requirement (54 credits):

Acct 1-024—Principles of Accounting—
General

Acct 1-025—Principles of Accounting—
Financial

Acct 3-160—Analysis of Financial
Statements

BLaw 3-058, 3-078, 3-088—Business Law

Econ 1-001, 1-002—Principles of Economics

BFin 3-000—Finance Fundamentals

BFin 0-002C—Credit and Financial
Management Problems

Mgmt 3-001—Fundamentals of Management

Mktg 3-000—Principles of Marketing

Mktg 0-087C—Credits and Collections

Comp 0-004C—Business Correspondence

Spch 0-001C—Beginning Speech—
Communication

Electives (any two courses from the following):

Acct 3-105—Intermediate Accounting

Acct 3-220—Cost Accounting

Econ 3-751—Money and Banking

BFin 3-100—Financial Management

Ins 3-100—Risk Management and Insurance

Mgmt 3-002—Psychology in Management

Mgmt 3-003—Interpersonal Management
Problems

Mktg 3-080—Industrial and Governmental
Procurement

Tran 3-054—Fundamentals of
Transportation

Comp 0-003C—Review of Business English

Industrial Relations Certificate

(45 credits)

This program of study is arranged and coordinated by the Department of Industrial Relations of the College 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 to this program from other institutions accredited by the University of Minnesota must take a minimum of 15 credits at the University of Minnesota.

Core Requirement (33 credits):

Econ 1-001, 1-002—Principles of Economics	IR 3-010—Human Relations and Applied Organization Theory
IR 3-002—Industrial Relations Systems: Labor Markets and the Management of Human Resources	Psy 1-001—General Psychology
IR 3-007—Collective Bargaining Negotiations and Modern Labor Relations	Psy 3-801—Introduction to Statistical Methods
	Soc 1-001—Introduction to Sociology

Electives (any three courses from the following):

Econ 5-541—Contemporary Labor Issues	Psy 3-124—Psychology of Individual Differences
Econ 5-531—Economic History of Labor	Psy 5-044—Psychology of Motivation and Conflict
Econ 5-537—Labor Market Behavior and Regulation	Psy 5-604/5-605—Abnormal Psychology
Econ 5-534—Economic Security	Soc 5-201—Introduction to Social Psychology
Econ 5-561—Economics of Collective Bargaining	Soc 5-411—Formal Organization
IR 0-006C—Organized Labor and the Political Process	IR 0-001C, 0-002C, 0-003C—Supervision I, II, III
IR 0-007C—Occupational Safety and Health	IEOR 0-100C—Industrial Engineering and Management
IR 3-017—Settlement of Industrial Relations Disputes	IEOR 0-210C—Motion and Time Study
IR 5-027—Union Government and Policies	IEOR 0-360C—Inventory and Production Control
IR 5-003—The Employment Interview	IEOR 0-408C, 0-409C—Corporate Standard Data I, II
MIS 3-100—Basic Computer Systems	IEOR 0-410C—Introduction to Operations Research
OAM 3-055—Introduction to Management Science	IEOR 0-510C—Statistical Quality Control
Psy 3-011—Introduction to Psychology Learning	

Information Systems Analysis and Design Certificate

(59 credits)

The Information Systems Analysis and Design Certificate program was developed by Continuing Education and Extension and the College of Business Administration working cooperatively with Minnesota firms. The program is directed toward students, either seeking careers in computer data processing or those already working in the field who wish to improve their skills. The course sequence is arranged so that it is applicable to individuals entering with a high school or vocational-technical school diploma, or to students who have already completed a Bachelor's Degree.

Starting with introductory computer programming courses, the certificate program works toward the development of sophisticated skills useful in the design of large scale computer-based management information systems. The Information Systems Analysis and Design certificate program is structured to provide education and training that will open the way for advancement to a more responsible position in computer data processing.

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

Core Requirement (12 credits):

MIS 3-100—Basic Computer Systems
Acct 1-024/1-025, 1-026—Principles of Accounting

Concentration Requirement (39 credits):

MIS 0-120C—Introduction to Systems Analysis I	MIS 0-141C—Statistical Techniques for Systems Analysis II
MIS 0-121C—Introduction to Systems Analysis II	MIS 0-142C—Applied Decision Theory for Systems Analysis III
MIS 0-124C—Management Information Systems Design	MIS 0-150C—Management and Organization Concepts; or Mgmt 3-001—Fundamentals of Management
MIS 0-130C—Data Structures and File Processing	MIS 0-151C—Administration and Control of Management Information Systems
MIS 0-132C—Data Communication Systems	MIS 0-152C—Management of Change in Organizations
MIS 0-140C—Mathematical Foundations of Systems Analysis I	

Programming Requirement (8 credits):

MIS 3-098—Elementary Cobol	MIS 5-098—Intermediate Cobol
MIS 3-099—Elementary Fortran	MIS 5-099—Intermediate Fortran

Management of Administrative Services Certificates

The Management of Administrative Services Certificate program has been developed by Continuing Education and Extension in cooperation with the College of Business Administration and the Administrative Management Society.

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

In addition to the certificates granted by Continuing Education and Extension on completion of the prescribed programs, the student may be entitled to certificates of the Administrative Management Society. Persons interested in the latter certificates may telephone or write Education Director, Administration Management Society, 218 South 10th Street, Minneapolis, Minnesota 55403; telephone 339-0544.

ASSOCIATE IN MANAGEMENT OF ADMINISTRATIVE SERVICES CERTIFICATE

(46 credits)

Students transferring credits to this program from other institutions accredited by the University of Minnesota must take a minimum of 12 credits, including 8 credits in business administration courses, at the University of Minnesota.

Core Requirement (41-43 credits):

Comp 0-003C—Review of Business English; or Comp 0-004C—Business Correspondence; or Comp 1-001—Introductory Composition; or Comm 1-001—Communication; or equivalent

Econ 1-001, 1-002—Principles of Economics

Acct 1-024/1-025, 1-026—Principles of Accounting

BLaw 3-058—Business Law

MIS 3-100—Basic Computer Systems

Math 1-141—Algebra, Probability, and Pre-Calculus; or equivalent

Psy 1-001—General Psychology

Psy 3-801—Introduction to Statistical Methods

Electives: Additional courses to be selected from the list of requirements for the senior certificate to make a minimum of 46 credits total for the certificate.

FELLOW IN MANAGEMENT OF ADMINISTRATIVE SERVICES CERTIFICATE

(91 credits)

Students transferring credits to this program from other institutions accredited by the University of Minnesota must take a minimum of 24 credits, including at least 12 credits in business administration courses, at the University of Minnesota.

Core Requirement (44-47 credits):

Comp 0-003C—Review of Business English and Comp 0-004C—Business Correspondence; or Comp 1-001/1-002—Introductory Composition; or Comm 1-001/1-002—Communication; or equivalent

Econ 1-001, 1-002—Principles of Economics

Acct 1-024/1-025, 1-026—Principles of Accounting

BLaw 3-058—Business Law

MIS 3-100—Basic Computer Systems

Math 1-141—Algebra, Probability, and Pre-Calculus; or equivalent

Psy 1-001—General Psychology

Psy 3-801—Introduction to Statistical Methods

Group Requirements (36 credits):

Group I—At least four courses from the following (16 credits):

IR 3-002—Industrial Relations Systems

Mgmt 3-002—Psychology in Management

BFin 3-000—Finance Fundamentals

Ins 3-100—Risk Management and Insurance

Mktg 3-000—Principles of Marketing

Group II—At least five courses from the following (20 credits):

Fin 3-100—Financial Management

Tran 3-054—Fundamentals of Transportation

Acct 3-255—Managerial Costs; or Acct 3-220—Cost Accounting

Acct 3-160—Analysis of Financial Statements

IR 3-010—Human Relations and Applied Organization Theory

IR 3-012—Systems of Industrial Relations: Manpower Management

Mgmt 3-001—Fundamentals of Management

BLaw 3-088—Business Law

Electives: Additional courses from the following list of courses or areas to make a minimum of 91 credits total for the certificate.

IR 0-001C, 0-002C, 0-003C—Supervision I, II, III

Psy 5-751—Psychology of Advertising

Accounting

Economics

Finance

Production

Management

Industrial Relations

Insurance

Marketing

Office Management

Real Estate

Transportation

English

Humanities

Social Science

Speech

Undergraduate Development Certificates

(UDC Series in Engineering and Science)

(formerly 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 Extension Classes of Continuing Education and Extension 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 engineer and engineering technician level. Interested students should study these certificate programs carefully and select the program best suited to their interests, abilities, present and future employment, and ultimate educational goal.

The UDC Series in Engineering and Science, first offered in the 1971-1972 Extension Classes Bulletin, represents a unification and expansion of previous Continuing Education and Extension Certificate programs offered in cooperation with the Institute of Technology of the University of Minnesota. Students already pursuing programs in this area should have no difficulty in identifying the new title of their certificate objective. Any questions may be directed to the Continuing Education and Extension Counseling Department, Room 314 Nolte Center for Continuing Education, University of Minnesota.

The UDC is intended to provide a focus to the planning of continuing education activities in particular disciplines, and recognition of completion of clearly identified segments of an educational program indicative of increasing levels of technical capability. Degree credit courses offered in certificate programs may be applied toward a subsequent baccalaureate degree with departmental approval. If a later degree is anticipated, early contact with the academic department and application for admission to the Institute of Technology is important.

In general, 45 credit certificates indicate familiarity with the topical area equivalent to that of a first year in a collegiate program. An important feature of the UDC Series is that the credit content, i.e., 45, 90, 135, will be included as a part of the title of the certificate. (For example, UDC in Electrical Engineering—90 Credits). This feature will be of considerable value when the certificate is later presented by the individual to an employer or agency for consideration.

An application for admission to Certificate programs should be completed by the student so that advisers can give effective counseling. This blank is available at any Continuing Education and Extension office.

UNDERGRADUATE DEVELOPMENT CERTIFICATE IN ENGINEERING AND SCIENCE—45 CREDITS

(formerly Basic Engineering Science Certificate)

The UDC in Engineering and Science—45 Credits is designed to provide the student with the fundamentals of mathematics, physics, and broad technical communications skills which will enable him to handle certain engineering support 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 UDC in Engineering and Science—45 Credits program carry degree credit, representing the first year of required course work for an engineering degree, and applicable to a baccalaureate degree upon admission of the student to the Institute of Technology. Refer to the introductory statement of the UDC at the beginning of this section.

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

Prerequisite: High school graduate or equivalent; 2 years of algebra and 2 years of geometry, including trigonometry.

Core Requirement (37 credits):

Math 1-211—Analysis I

Math 1-221—Analysis II

Math 1-231—Analysis III

EG 1-025—Engineering Graphics; or CICS

1-105—Introduction to Algorithm
Languages, I, II

Phys 1-271/1-275/1-281/1-285—General
Physics and Lab

Comp 1-001/1-002—Introductory
Composition or equivalent

Electives: Courses from nontechnical electives^{††} to make a minimum of 45 credits for the certificate.

^{††}Institute of Technology nontechnical electives may be chosen from the following fields: anthropology, art, biological sciences, botany, classics, economics, geography, history, humanities, languages (except scientific language courses), literature, music theory, philosophy, political science, psychology, religion, social science, sociology, speech, zoology and others (see 1971-1973 IT bulletin).

UNDERGRADUATE DEVELOPMENT CERTIFICATE IN ENGINEERING AND SCIENCE—90 CREDITS

(formerly Senior Engineering Science Certificate)

(Includes 45 credits from Undergraduate Development Certificate in Engineering and Science)

This certificate is designed for students who have an engineering degree objective and who wish to continue working toward one of the engineering curriculums of the Institute of Technology. It will also be of value to the technician who desires to widen and deepen his technical role.

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 two 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 to perspective.

All classes in the UDC in Engineering and Science—90 Credits—carry degree credit and are transferrable to the Institute of Technology when admission requirements are satisfied. Refer to the introductory statement on the UDC at the beginning of this section.

Students transferring credits to this program from other institutions accredited by the University of Minnesota must take a minimum of 24 credits, with at least 12 credits in the Core Requirement courses listed below, at the University of Minnesota, including those taken for the UDC in Engineering and Science—45 Credits.

Prerequisite: Completion of the UDC in Engineering and Science—45 Credits.

Core Requirement (25 credits):

Math 1-240—Calculus IV
Math 1-250—Calculus V

Phys 1-291/1-295—General Physics and
Laboratory

Chem 1-004/1-005—General Principles of
Chemistry

Spread Requirement: A minimum of 8 credits from the following courses:

Math 1-260—Calculus VI
AEM 1-015—Statics
AEM 3-016—Deformable Body Mechanics
AEM 3-036—Dynamics
EE 1-500/1-501—Circuit Analysis

CE 3-400—Fluid Mechanics
Math 3-091—Elementary Probability and
Statistics with Application
ME 3-900—Introduction to Engineering
Statistics

Electives: Courses from nontechnical or biological science electives^{††}, or mathematics or chemistry or physics or Engl 3-085 (IT) or additional courses from the spread requirement to make a minimum of 90 credits total for the certificate.

^{††}Institute of Technology nontechnical electives may be chosen from the following fields: anthropology, art, biological sciences, botany, classics, economics, geography, history, humanities, languages (except scientific language courses), literature, music theory, philosophy, political science, psychology, religion, social science, sociology, speech, zoology and others (see 1971-1973 IT bulletin).

UNDERGRADUATE DEVELOPMENT CERTIFICATE IN CIVIL ENGINEERING—90 CREDITS

(formerly Civil Engineering Technician Certificate)

(Includes 45 credits from Undergraduate Development Certificate in Engineering and Science)

The Undergraduate Development Certificate in Civil Engineering—90 Credits—enables a student to continue the Undergraduate Development Certificate work in courses normally required in Civil Engineering degree programs and establishes the prerequisite work needed to pursue courses at the third year level. Elective credits may be chosen from third year offerings in civil engineering. It is designed to help engineering technicians assume a role of increased responsibility in working with civil engineers. It also represents a coherent body of study in helping determine whether further work toward a civil engineering degree should be pursued. Upon acceptance by the Institute of Technology, a student may transfer appropriate work completed in a certificate program to a bachelor's degree program.

Students transferring credits to this program from other institutions accredited by the University of Minnesota must take a minimum of 24 credits, with a minimum of 12 credits in the Concentration Requirement courses listed below, at the University of Minnesota, including those taken for the UDC in Engineering and Science—45 Credits.

Prerequisite: Completion of the UDC in Engineering and Science—45 Credits.

Core Requirement (25 credits selected from the following):

Math 1-240—Calculus IV	AEM 3-016—Deformable Body Mechanics
Math 1-250—Calculus V	AEM 3-036—Dynamics
Chem 1-004/1-005—General Principles of Chemistry	CE 3-010—Data Analysis and Optimization in Civil Engineering
Phys 1-291/1-295—General Physics and Laboratory	CE 3-400—Fluid Mechanics
AEM 1-015—Statics	CE 3-605—Introduction to Structural Analysis

Concentration Requirement (20 credits): Select courses from the list below in the fields desired.

- CE 3-010—Data Analysis and Optimization in Civil Engineering (if not taken in core requirement)
- CE 3-100—Surveying
- CE 3-101—Photogrammetry
- CE 3-102—Survey Design and Analysis
- CE 3-200—Introduction to Transportation Engineering
- CE 3-300—Elements of Soil Mechanics
- CE 3-400—Fluid Mechanics (if not taken in core requirement)
- CE 3-500—Introduction to Environmental Engineering
- CE 3-605—Introduction to Structural Analysis (if not taken in core requirement)
- CE 5-310—Foundation Engineering
- CE 5-405—Hydrology

UNDERGRADUATE DEVELOPMENT CERTIFICATE IN ELECTRICAL ENGINEERING—90 CREDITS

(formerly Senior Electrical Engineering Technician Certificate)

(Includes 45 credits from Undergraduate Development Certificate in Engineering and Science)

The Undergraduate Development Certificate in Electrical Engineering—90 Credits—enables a student to continue the Undergraduate Development Certificate work in mathematics and physics with an opportunity to choose technical elective courses at the third year level of an electrical engineering curriculum. It is designed to help engineering technicians assume a role of increased responsibility in working with electrical engineers. It also represents a coherent body of study in helping determine whether further work toward an electrical engineering degree should be pursued. Upon acceptance by the Institute of Technology, a student may transfer appropriate work completed in a certificate program to a bachelor's degree program.

Students transferring credits to this program from other institutions accredited by the University of Minnesota must take a minimum of 24 credits, with a minimum of 12 credits in the Core Requirement courses listed below, at the University of Minnesota, including those taken for the UDC in Engineering and Science—45 Credits.

Prerequisite: Completion of the UDC in Engineering and Science—45 Credits.

Core Requirement (minimum of 36 credits selected from the following):

Math 1-240—Calculus IV

Math 1-250—Calculus V

Math 1-260—Calculus VI

EE 1-500/1-501—Circuit Analysis

Phys 1-291/1-295—General Physics and Laboratory

Third Year Electrical Engineering Courses (3-XXX—5-XXX) (See Core Requirement courses on page 89)

Electives: Courses from nontechnical or biological science electives^{††}, to make a minimum of 90 credits, including those from the UDC in Engineering and Science—45 Credits.

^{††}Institute of Technology nontechnical electives may be chosen from the following fields: anthropology, art, biological sciences, botany, classics, economics, geography, history, humanities, languages (except scientific language courses), literature, music theory, philosophy, political science, psychology, religion, social science, sociology, speech, zoology and others (see 1971-1973 IT bulletin).

UNDERGRADUATE DEVELOPMENT CERTIFICATE IN ELECTRICAL ENGINEERING—135 CREDITS

(Includes 90 credits from Undergraduate Development Certificate in Electrical Engineering)

An increasing number of employers are recognizing the value of an individual who has completed the course work that is central to the third year of an electrical engineering bachelor's program together with supporting topics. The objective may either be demonstration of ability to participate more actively in the engineering team or in some cases arrangements may be made upon completion of this certificate for the individual to pursue the remainder of the work toward a Bachelor of Electrical Engineering Degree on an accelerated basis.

Course sequences at the fourth year level may also serve either of the above two purposes.

Students transferring credits to this program from other institutions accredited by the University of Minnesota must take a minimum of 36 credits, with at least 24 credits in the Core Requirement courses listed below, at the University of Minnesota, including those taken for the UDC in Electrical Engineering—90 Credits.

Prerequisite: Completion of the UDC in Electrical Engineering—90 Credits.

Core Requirement (minimum of 30 credits selected from the following):

EE 3-050—Electronics I	EE 5-001—Linear System Analysis
EE 3-051—Electronics II	EE 3-400/3-401/3-402—Junior Electrical Engineering Laboratory
EE 5-050—Nonlinear Electronic Circuits	Engl 3-085—Technical Writing for Engineers
EE 3-100—Electromagnetic Field I	Math 3-061—Operation Methods for Linear Systems
EE 3-101—Electromagnetic Field II	
EE 5-000—Linear System Analysis	

NOTE: Students working toward a degree should check with an I.T. adviser before choosing electives.

Electives: Courses from nontechnical (maximum 6 credits)^{††} or technical electives (including fourth year courses in electrical engineering) to make a minimum of 135 credits for the Certificate.

^{††}Institute of Technology nontechnical electives may be chosen from the following fields: anthropology, art, biological sciences, botany, classics, economics, geography, history, humanities, languages (except scientific language courses), literature, music theory, philosophy, political science, psychology, religion, social science, sociology, speech, zoology and others (see 1971-1973 IT bulletin).

UNDERGRADUATE DEVELOPMENT CERTIFICATE IN INDUSTRIAL ENGINEERING—90 CREDITS

(formerly Senior Industrial Engineering Technician Certificate)

(Includes 45 credits from Undergraduate Development Certificate in Engineering and Science)

The Undergraduate Development Certificate in Industrial Engineering—90 Credits—enables a student to continue the Undergraduate Development Certificate work in courses normally required in Industrial Engineering degree programs and establishes the prerequisite work needed to pursue courses at the third-year level. It is designed to help engineering technicians assume a role of increased responsibility in working with industrial engineers. It also represents a coherent body of study in helping determine whether further work toward an industrial engineering degree should be pursued. Upon acceptance by the Institute of Technology a student may transfer appropriate work completed in a certificate program to a bachelor's degree program.

Students transferring credits to this program from other institutions accredited by the University of Minnesota must take a minimum of 24 credits, with at least 12 credits in the Core Requirement courses listed below, at the University of Minnesota, including those taken for the UDC in Engineering and Science—45 Credits.

Prerequisite: Completion of the UDC in Engineering and Science—45 Credits.

Core Requirement (26 credits):

Math 1-240—Calculus IV

Math 1-250—Calculus V

Math 3-091—Elementary Probability and Statistics with Application

ME 3-900—Introduction to Engineering Statistics

IEOR 0-100C—Industrial Engineering and Management

Engl 3-085—Technical Writing for Engineers

Phys 1-291/1-295—General Physics and Laboratory

Concentration Program: Select at least four courses from those listed below:

IEOR 0-210C—Motion & Time Study

IEOR 0-360C—Inventory & Production Control

IEOR 0-408C, 0-409C—Corporate Standard Data I & II

IEOR 0-410C—Introduction to Operations Research

IEOR 0-510C—Statistical Quality Control

IEOR 0-511C—Advanced Statistical Quality Control

UNDERGRADUATE DEVELOPMENT CERTIFICATE IN MECHANICAL ENGINEERING—90 CREDITS

(formerly Senior Mechanical Engineering Technician Certificate)

(Includes 45 credits from Undergraduate Development Certificate in Engineering and Science)

The Undergraduate Development Certificate in Mechanical Engineering—90 Credits—enables a student to continue the Undergraduate Development Certificate work in courses normally required in Mechanical Engineering degree programs and establishes the prerequisite work needed to pursue courses at the third-year level. It is designed to help engineering technicians assume a role of increased responsibility in working with mechanical engineers. It also represents a coherent body of study in helping determine whether further work toward a mechanical engineering degree should be pursued. Upon acceptance by the Institute of Technology a student may transfer appropriate work completed in a certificate program to a bachelor's degree program.

Students transferring credits to this program from other institutions accredited by the University of Minnesota must take a minimum of 24 credits, with a minimum of 12 credits in the Core Requirement courses listed below, at the University of Minnesota, including those taken for the UDC in Engineering and Science—45 Credits.

Prerequisite: Completion of the UDC in Engineering and Science—45 Credits.

Core Requirement (39 credits):

Math 1-240—Calculus IV	ME 3-201—Mechanical Engineering Systems Analysis
Math 1-250—Calculus V	ME 3-203—Analysis of Mechanism Systems
AEM 3-016—Deformable Body Mechanics	ME 3-301—Thermodynamics
AEM 3-036—Dynamics	ME 3-303—Applied Thermodynamics
Phys 1-291/1-295—General Physics and Laboratory	

Electives: Technical electives to make a minimum of 90 credits including credits from UDC in Engineering and Science—45 Credits.

Note: EG 1-025, Engineering Graphics or CICS 1-105—Introduction to Algorithms Languages I, II is required if not already taken in the UDC Engineering and Science—45 Credits.

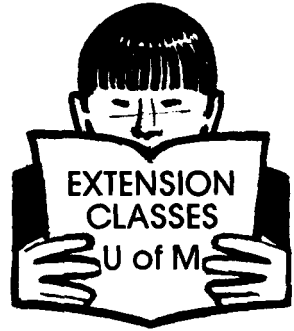
Building Abbreviations

- A Annex, Armory Annex
Aero, Aeronautical Engineering
AgEng, Agricultural Engineering (St. Paul Campus)
AndH, Anderson Hall
Arch, Architecture
ArtB, Art Building (2020 Washington Ave South)
BA, Business Administration Building
BlegH, Blegen Hall
Bu, Burton Hall
Cen HS, Central High School (E. 34th Street and 4th Avenue South, Minneapolis)
CD, Child Development
ChRC, Children's Rehabilitation Center
CH, Cooke Hall
CMU, Coffman Memorial Union
CofH, Coffey Hall (St. Paul Campus)
DinC, Dining Center (St. Paul Campus)
EdH, Eddy Hall
Elth, Elliott Hall
EntFW, Entomology, Fisheries, and Wildlife Building (St. Paul Campus)
Ex, Experimental Engineering
FolH, Folwell Hall
ForH, Ford Hall
Harding HS, Harding High School (1540 E. 6th Street, St. Paul)
HckrH, Haecker Hall (St. Paul Campus)
HolB, Holman Building (2035 University Avenue)
Hop HS, Hopkins High School (101 Highway 7, Hopkins)
HSci, Horticultural Science (St. Paul Campus)
Hr, Horticulture (St. Paul Campus)
HrGr, Horticulture Greenhouse (St. Paul Campus)
HS, Health Service
JacH, Jackson Hall
Jones, Jones Hall
JohH, Johnston Hall
Kel HS, Kellogg High School (15 E. County Road B2, Roseville)
Kolth, Kolthoff Hall
MacP, MacPhail Center (1128 LaSalle Avenue, Minneapolis)
MainE, Main Engineering
Mayo, Mayo Memorial
McNH, McNeal Hall (St. Paul Campus)
MechE, Mechanical Engineering
MinMet, Mines and Metallurgy
MlrdH, Millard Hall
MMA, Mayo Memorial Auditorium
MNH, Museum of Natural History
MurH, Murphy Hall
MusEd, Music Education
NCCE, Nolte Center for Continuing Education
NGW, Norris Gymnasium for Women
NH, Nicholson Hall
NMA, Northrop Memorial Auditorium
OMWL, O. Meredith Wilson Library
Owre, Owre Hall
PeikG, Peik Gymnasium (across street from Peik Hall)
PeikH, Peik Hall
Ph, Tate Laboratory of Physics
PillsH, Pillsbury Hall
PoH, Powell Hall
Pt, Pattee Hall
Rich HS, Richfield High School (7001 Harriet Avenue, Richfield)
Sand JHS, Sandburg Junior High School (2400 Sandburg Lane, Golden Valley)
ScH, Scott Hall
SciCB, Science Classroom Building
SmithH, Chemistry
SocSci, Social Sciences Building
StP Ext, St. Paul Extension Center (9th and Exchange)
TSF, Temporary South of Folwell
VetC, Veterinary Clinic (St. Paul Campus)
VH, Vincent Hall
WaLib, Walter Library
WeH, Westbrook Hall
WuH, Wulling Hall
Z, Zoology

Department Abbreviations

Accounting	Acct	Industrial Engineering/Operations	
Adult Psychiatry	AdPsy	Research	IEOR
Aerospace Engineering and Mechanics	AEM	Industrial Relations	IR
Afro-American Studies	Afro	Insurance	Ins
American Indian Studies	AmIn	Insurance Institute of America	IIA
American Studies	AmSt	American College of Life Underwriters	CLU
Anatomy	Anat	Italian	Ital
Anthropology	Anth	Japanese	Jpn
Arabic	Arab	Journalism and Mass Communication	Jour
Architecture	Arch	Latin	Lat
Art Education	ArEd	Library Science	Lib
Art History	ArH	Management	Mgmt
Art, Studio	ArtS	Management Information Systems	MIS
Astronomy	Ast	Marketing	Mktg
Biology	Biol	Mathematics	Math
Business Administration	BA	Mechanical Engineering	ME
Business Law	BLaw	Metallurgical Engineering	MetE
Chemistry	Chem	Music	Mus
Child Psychology	CPsy	Music Education	MuEd
Chinese	Chin	Norwegian	Nor
Civil and Mineral Engineering	CE	Nursing	Nurs
Classics	Clas	Operations Analysis and Management	OAM
Communication	Comm	Oriental	Ortl
Composition	Comp	Personal Orientation	PO
Computer, Information, and Control Sciences	CICS	Philosophy	Phil
Counseling and Student Personnel Psychology	CSPP	Physical Education and Recreation	PE
Criminal Justice Studies	CJS	Physics	Phys
Ecology	Ecol	Polish	Pish
Economics	Econ	Political Science	Pol
Educational Administration	EdAd	Portuguese	Port
Educational Psychology	EPsy	Production	Prod
Efficient Reading	Rhet	Psychological Foundations	PsyF
Electrical Engineering	EE	Psychology	Psy
Elementary Education	Elem	Public Health	PubH
Engineering Graphics	EG	Quantitative Analysis	QA
English	Engl	Real Estate	RE
Family Social Science	FSoS	Rhetoric	Rhet
Finance	BFin	Russian	Russ
Finnish	Finn	Salesmanship	Sal
Forestry Resource Development	FRD	School Health Education	Hlth
French	Fren	Secondary Education	SeEd
General College	GC	Social Science	SSci
Geography	Geog	Social Work	SW
Geology and Geophysics	Geo	Sociology	Soc
German	Ger	Spanish	Span
Hebrew	Heb	Special Education	SpEd
History	Hist	Speech-Communication	Spch
Home Economics	HE	Study Skills	SSk
Horticultural Science	Hort	Swedish	Swed
Humanities	Hum	Theatre Arts	Th
		Transportation	Tran
		Veterinary Medicine	VM





Extension Classes Course Offerings

NOTE: New classes may be added at any time during the year. All bulletin changes and additions are posted in 57 Nicholson Hall, downtown Minneapolis MacPhail Center, and downtown St. Paul Extension Center (open until January 12, 1973). In addition, students can call 373-3195 for current changes, and they will also be listed in each monthly issue of *Info*, a newsletter for Extension students.

SCHEDULE OF TERMS

(See pages 10-14)

Fall Quarter—September 25-December 13

Fall Semester—September 25-January 27

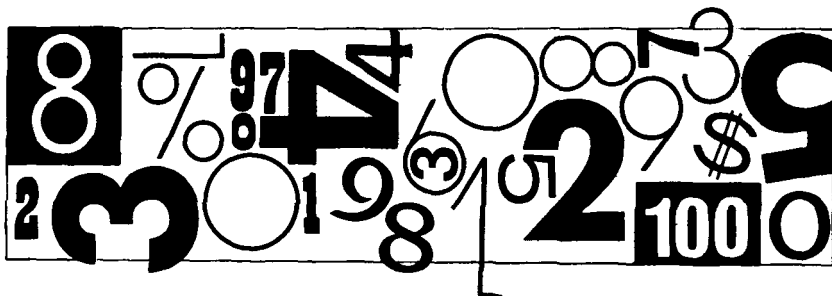
Winter Quarter—January 3-March 21

Spring Semester—February 12-June 16

Spring Quarter—March 28-June 16

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.



Accounting

Your attention is called to the Accounting Certificate programs; see page 76.

David Abramson, Lecturer in Accounting
Michael Barrett, Assistant Professor of Accounting
David Beckley, Lecturer in Accounting
William Cummings, Lecturer in Accounting
Will Dombrowske, Lecturer in Accounting
William J. Duma, Lecturer in Accounting
Edmund Gottlieb, Lecturer in Accounting
Jack Gray, Professor of Accounting
Herbert Ihle, Lecturer in Accounting
Thomas Kaliher, Lecturer in Accounting
Robert Katz, Lecturer in Accounting
Willis A. Kerns, Lecturer in Accounting
Joseph Kimmel, Lecturer in Accounting
Charles R. Purdy, Associate Professor of Accounting
Leonard A. Rapoport, Lecturer in Accounting
Donald Ricketts, Assistant Professor of Accounting
Floyd Romslo, Lecturer in Accounting
John K. Simmons, Associate Professor of Accounting
Dale Skurdahl, Lecturer in Accounting
Joe Toone, Lecturer in Accounting
Gary Witzman, Lecturer in Accounting
Robert K. Zimmer, Associate Professor of Accounting

FIRST-YEAR ACCOUNTING COURSES

- Acct 1-024 PRINCIPLES OF ACCOUNTING—GENERAL** (old Acct 24). 3 degree credits.
 \$42. ★
 Basic introductory accounting concepts and their use in evaluating economic activities. (No prereq)
- Acct 1-025 PRINCIPLES OF ACCOUNTING—FINANCIAL** (old Acct 25). 3 degree credits.
 \$42. ★
 Elaborates on the recording, reporting, and interpreting of business events for investors and creditors. (Prereq 1-024)
- Acct 1-026 PRINCIPLES OF ACCOUNTING—MANAGERIAL** (old Acct 26). 3 degree credits.
 \$42. ★
 Covers the use of accounting as a tool for management decision-making. (Prereq 1-024)

The first-year accounting courses are designed to meet the needs of three groups of students: (a) those who plan to use accounting information for busi-

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

ness 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. These courses are not for professional bookkeepers. Students may not transfer credits to regular day programs unless the entire sequence is completed in extension classes.

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 642 Business Administration Building (West Bank):

Acct 1-024 Wednesday, September 6, 7:00 p.m.
Wednesday, September 13, 7:00 p.m.
Wednesday, December 13, 7:00 p.m.
Wednesday, January 24, 7:00 p.m.

Acct 1-025 Thursday, September 7, 7:00 p.m.
Thursday, September 14, 7:00 p.m.
Thursday, December 14, 7:00 p.m.
Thursday, January 25, 7:00 p.m.

Acct 1-026 Friday, September 8, 7:00 p.m.
Friday, September 15, 7:00 p.m.
Friday, December 15, 7:00 p.m.
Friday, January 26, 7:00 p.m.

Please call the Accounting Department (373-3599) to register your name at least three days prior to the examination.

The three courses are scheduled on three plans:

1. Regular semester class schedule for 3 credits each of three semesters for full first-year course. For students who wish regular class periods in order to take two classes the same evening or who do not wish to spend the time necessary for the more concentrated scheduling.
2. Quarter basis, two 75-minute classes or one 2½-hour class each week, 3 credits each quarter, course completed in one year. For students who wish to complete the entire sequence in one year of three quarters of 11 weeks each. Students who find this schedule too rapid may change to the semester basis at the end of the quarter. However, students may not transfer to the semester basis during the middle of a quarter.
3. Combined course, meeting twice weekly in 2½-hour sessions, Spring Semester only, one-year course covered in one semester. For those who wish to concentrate on completion of the course Spring Semester in order to begin advanced courses in the following term.

Acct 0-130C/0-131C **INCOME TAX ACCOUNTING** (old Acct 135A-135B). 3 certificate credits each semester (4 degree credits on completion of both courses consecutively). \$42 each semester. ★

Principles involved in determining taxable net income and computation of federal and state income taxes for individuals, partnerships, and corporations. (Prereq 1-026 for 0-130C; 0-130C for 0-131C)

Fall Semester

0-130C M—8:15-9:55, BlegH 250,
Rapoport

Spring Semester

0-131C M—8:15-9:55, BlegH 250,
Rapoport

Acct 1-024/1-025, 1-026 **PRINCIPLES OF ACCOUNTING** (old Acct 24-25, 26). 3 degree credits each term. \$42 each term. ★

Methods of recording, reporting, and interpreting business events. Use of accounting as a tool of business management. (No prereq for 1-024; 1-024 for 1-025 and 1-026)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

MINNEAPOLIS CAMPUS, WEST BANK

Fall Semester

1-024 T—6:20-8:00, BlegH 420
1-024 T—8:15-9:55, BlegH 420
1-025 W—6:20-8:00, BlegH 220
1-025 W—8:15-9:55, BlegH 220
1-026 M—6:20-8:00, BlegH 155
1-026 M—8:15-9:55, BlegH 155

Spring Semester

1-024 M—6:20-8:00, BlegH 120
1-024 M—8:15-9:55, BlegH 120
1-025 W—6:20-8:00, BlegH 230
1-025 W—8:15-9:55, BlegH 230
1-026 M—6:20-8:00, BlegH 225
1-026 M—8:15-9:55, BlegH 225

Fall Quarter

1-024 TTh—5:30-6:45,
BlegH 250
1-024 TTh—6:55-8:10,
BlegH 250
1-024 S—9:00-11:30 a.m.,
BlegH 250

Winter Quarter

1-025 TTh—5:30-6:45,
BlegH 250
1-025 S—9:00-11:30 a.m.,
BlegH 250

Spring Quarter

1-024 TTh—5:30-6:45,
BlegH 250
1-024 TTh—6:55-8:10,
BlegH 250
1-026 TTh—6:30-7:45,
BlegH 420
1-026 S—9:00-11:30 a.m.,
BlegH 250

HARDING HIGH SCHOOL

Fall Quarter

1-024 M—6:30-9:00,
Harding HS
110

Winter Quarter

1-025 M—6:30-9:00,
Harding HS
110

Spring Quarter

1-026 M—6:30-9:00,
Harding HS
110

SANDBURG JUNIOR HIGH SCHOOL

Fall Quarter

1-024 Th—7:00-9:30,
Sand JHS 204

Winter Quarter

1-025 Th—7:00-9:30,
Sand JHS 204

Spring Quarter

1-026 Th—7:00-9:30,
Sand JHS 204

RICHFIELD SENIOR HIGH SCHOOL

Fall Quarter

1-024 M—7:00-9:30,
Rich HS 207

Winter Quarter

1-025 M—7:00-9:30,
Rich HS 207

Spring Quarter

1-026 M—7:00-9:30,
Rich HS 207

KELLOGG HIGH SCHOOL

Fall Quarter

1-024 W—7:00-9:30,
Kel HS
167-169

Winter Quarter

1-025 W—7:00-9:30,
Kel HS
167-169

Spring Quarter

1-026 W—7:00-9:30,
Kel HS
167-169

*Acct 1-024/1-025, 1-026 PRINCIPLES OF ACCOUNTING (COMBINED) (old Acct 24-25, 26).
9 degree credits. \$126.

This course covers Acct 1-024/1-025, 1-026 complete in one semester. (No prereq.
Registrations will be accepted for the entire course only. Not recommended for
people without accounting experience. Limited to 35 students)

Spring Semester

MTh—6:00-8:30, BlegH 220

Acct 3-105/3-106, 3-107 INTERMEDIATE ACCOUNTING (old Acct 105A-105B-105C). 3
degree credits each term, \$3-160 for 3-107. \$42 each term.

Second-year accounting for students intending to specialize in accounting or in
business finance. 3-105: Historical review of search for accounting principles,
present value analysis and price level indices, nature and measurement of income
and funds flow. 3-106: Accounting for acquisition and subsequent measurement of
business assets. 3-107: Accounting for equities, including creditors' equity and
owners' equity for corporations, proprietorships, nonprofit organizations and con-

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

solidated entities. Analysis and interpretation of financial statements. (Prereq 1-026 and Econ 1-001 and 1-002 for 3-105 [see page 96 for advanced standing examinations]; 3-105 and Math 1-141 or § for 3-106; 3-105 for 3-107)

Fall Semester

3-105 W—6:20-8:00, BlegH 230
(Limited to 35 students*)

3-105 W—8:15-9:55, BlegH 230
(Limited to 35 students*)

3-107 W—6:20-8:00, BlegH 415

Spring Semester

3-106 W—6:20-8:00, BlegH 420

Fall Quarter

3-105 T—6:30-9:00,
Sand JHS 212
(Limited to 35
students*)

3-105 M—6:30-9:00,
Kel HS 237
(Limited to 35
students*)

Winter Quarter

3-106 W—6:30-9:00,
BlegH 435
(Limited to 35
students*)

Spring Quarter

3-107 T—6:30-9:00,
BlegH 210

Acct 3-160 ANALYSIS OF FINANCIAL STATEMENTS (old Acct 55D). 4 degree credits, \$3-107. \$56.

Interpretation and analysis of financial statements for credit, investment, and managerial purposes. (Prereq 1-026 or §)

Spring Semester

M—6:20-8:50, BlegH 420

Acct 3-220/3-221 COST ACCOUNTING (old Acct 115A-115B). 3 degree credits each semester, \$3-255. \$42 each semester.

3-220: Practices, principles and procedures of handling production costs for use in inventory valuations and income determination. Job order, process, and standard cost systems. A brief introduction to standard cost as a tool of cost control.

3-221: Use of cost information in managerial decision-making. (Prereq 1-026, Econ 1-001 and 1-002 and Math 1-141 or § for 3-220 [see page 96 for advanced standing examinations]; 3-220 for 3-221)

Fall Semester

3-220 M—6:20-8:00, BlegH 250
(Limited to 35 students*)

3-220 M—8:15-9:55, BlegH 220
(Limited to 35 students*)

Spring Semester

3-221 M—6:20-8:00, BlegH 340

Acct 5-125 AUDITING PRINCIPLES AND PROCEDURES (old Acct 125). 4 degree credits. \$60. ★

Verification of financial data, including consideration of auditing procedures and their application. Preparation of working papers and audit reports is emphasized. (Prereq 3-107. May not be taken for graduate credit)

Fall Semester

W—6:20-8:50, BlegH 430

Acct 5-180 ADVANCED ACCOUNTING (old Acct 185A). 4 degree credits. \$60.

Consolidated statements, fiduciary and fund accounting, partnership accounting, foreign exchange. (Prereq 3-107 or §3-107. May not be taken for graduate credit)

Spring Semester

M—6:20-8:50, BlegH 145

***Acct 5-300 CURRENT TOPICS IN MANAGERIAL ACCOUNTING**. 4 degree credits. \$60.

Selected topics in managerial accounting of current interest. Specific coverage varies from semester to semester. (Prereq 3-221. Limited to 30 students. May not be taken for graduate credit)

Fall Semester

M—6:20-8:50, BlegH 340

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Adult Psychiatry

(See also Psychology and Social Work)

TRAINING PROGRAM FOR MENTAL HEALTH WORKERS (AdPsy 0-101C, 0-102C, and 0-103C)—9 certificate credits; 3 credits per quarter for three quarters. Sponsored by the Department of Continuing Education in Social Work and The Metropolitan Medical Center.

This program is designed for persons with an established interest and involvement in the field of mental health, particularly those working in or interested in working in the following areas: 1.) Psychiatrist assistants or psychiatric nursing team workers; 2.) Group therapy assistants; and 3.) Community mental health liaison workers.

Course content deals with individual behavior, groups, family and current modes of treatment. Opportunity for students to develop and improve their skills in their selected area of skill concentration during the second and third quarter practicum.

The program is limited to 50 students. Preference will be given to those currently employed in the field or upon special permission from the program coordinator. **Faculty:** Minneapolis Clinic of Psychiatry and Neurology and the Metropolitan Medical Center.

Program coordinators: Mary Jones, Metropolitan Medical Center, 900 South 8th St., Minneapolis, telephone 338-7744, ext. 424; or Shirley Zimmerman, 325 Nolte Center, University of Minnesota, telephone 373-5831.

Requests for admission to the program should be made to Mary Jones (see paragraph above for address).

***AdPsy 0-101C TRAINING PROGRAM FOR MENTAL HEALTH WORKERS.** 3 certificate credits. \$60.

Designed to provide students with an understanding of human growth and behavior in a continuum that ranges from normal to abnormal. Formal presentations will be followed by small group discussions. (Prereq $\$$. Limited to 50 students)

Fall Quarter

T—3:00-6:00, Metropolitan
Medical Center, Lower Level
Conference Room, 900 S 8th
St, Minneapolis

***AdPsy 0-102C TRAINING PROGRAM FOR MENTAL HEALTH WORKERS.** 3 certificate credits. \$60.

Opportunity for students to explore in greater depth the learning acquired during the first quarter, and to integrate knowledge of human behavior with skills needed for selected mental health roles and in selected contexts. Lecture and small group discussion. Practicum: Average 2 hours per week in a variety of hospitals and other mental health settings (hours arranged). (Prereq 0-101C. Limited to 50 students)

Winter Quarter

T—3:30-4:30, Metropolitan
Medical Center, Lower Level
Conference Room, 900 S 8th
St, Minneapolis

***AdPsy 0-103C TRAINING PROGRAM FOR MENTAL HEALTH WORKERS.** 3 certificate credits. \$60.

Designed to further develop students' knowledge and skill in working with people in selected mental health roles and contexts, building on learning experiences acquired from first and second quarters. Lecture and small group discussion.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Practicum: Average 2 hours per week in a variety of hospitals and other mental health settings (hours arranged). (Prereq 0-102C. Limited to 50 students)

Spring Quarter

T—3:30-4:30, Metropolitan
Medical Center, Lower
Level Conference Room

Aerospace Engineering and Mechanics

(Formerly Aeronautics and formerly Mechanics and Materials)

(See also new Professional Recognition Program in Engineering and Science, page 157)

(For application of Commercial Pilot Program to AA degree see page 51)

(See also IT 0-001, REFRESHER COURSE IN ENGINEERING FUNDAMENTALS, page 156)

Stewart E. Almleaf, Ground School Director, Commercial Pilot—Single and Multi-Engine Land, Single Engine Sea, Instrument Rating, Flight Instructor—Airplanes and Instrument, and Advanced Ground Instructor

Gordon S. Beavers, Associate Professor of Aeronautical Engineering

Anders Christenson, Commercial Pilot—Single and Multi-Engine Land, Single Engine Sea, Instrument Rating, Flight Instructor—Airplanes and Instrument, F.A.A. Designated Pilot Examiner, and Advanced Ground Instructor

John P. Moran, Associate Professor of Aeronautical Engineering

GROUND SCHOOL COURSES FOR AIR PILOTS— GENERAL INFORMATION

The University's ground school courses are designed to prepare pilots or prospective pilots for the Federal Aviation Agency's written and oral examinations for certification as private pilots or commercial pilots.

The Ground School meets all requirements of, and is certified by, the F.A.A. as an Approved Basic and Advanced Ground School, and offers to its students all of the privileges extended by the F.A.A. to such approved schools.

It is to the flight student's advantage to complete the Ground School studies and F.A.A. written examinations as early as possible in his or her flight-training program, as there is a two-year time limit, following the completion of an F.A.A. written examination, within which the related flight instruction and flight test must be completed.

AEM 0-001C COMMERCIAL RATING GROUND SCHOOL. 2½ certificate credits. \$165.

To provide ground instruction for Private Pilots seeking F.A.A. certification as Commercial Pilots under the provisions of the Veterans Pension and Readjustment Assistance Act of 1967 (Public Law 90-77), Continuing Education and Extension offers this ground school program consisting of three terms, each of which comprises 25 hours of instruction over a 4-week period, thus providing a total of 75 hours of instruction over a 12-week period.

Objectives of the course are to cooperate with pilot trainees' flight instructors and flight-school operators in synchronizing, as nearly as possible, the trainees' flight instruction with their required related ground instruction; to promote trainees' safe, proficient and economical operation of aircraft; and to prepare trainees for successful accomplishment of the F.A.A. written and oral examinations prerequisite to their flight tests.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Students enroll for the full 75-hour program of ground instruction upon entering, but may enter at the beginning of any one of the three 4-week terms and complete their instruction in the series of terms listed below.

Staff: Stewart Almleaf, coordinator for program, and instructor
Anders Christenson, instructor of commercial pilot phase

Persons desiring further information regarding this course are advised to contact Extension Classes; telephone 373-3195.

Special Term

September 7 to December 14
TTh—7:00, Aero 209, 227, Christenson

AEM 3-009 BASIC GROUND SCHOOL FOR PRIVATE PILOTS (old Aero 9). 3 degree credits or 4 certificate credits. \$56.

The course covers air navigation, radio aids, meteorology, flight theory, analysis of flight maneuvers, aircraft and engine operation. Federal Aviation regulations, aircraft flight instruments, and other subjects pertaining to safe, efficient, and economical operation of aircraft.

Open to all pilots and prospective pilots, regardless of their educational or flight-experience background. Designed primarily to prepare for the Federal Aviation Agency's written and oral examinations for certification as a Private Pilot.

The Aerospace Engineering and Mechanics Department awards 3 degree credits to students who have satisfactorily completed the course, and who have also received 3 hours of certified dual flight instruction from any certified flight instructor at any airport and at any time. Evidence to substantiate this flight instruction should be submitted to the ground school instructor in the form of a pilot's log book or flight school invoices.

Registration can be accomplished at any University Extension Classes office.

Persons desiring further information regarding this course are advised to contact Extension Classes; telephone 373-3195. (No prereq)

NOTE: This class meets on Tuesday evenings by special scheduling only.

Fall Quarter

TTh—7:00-9:40, Aero 209,
Almleaf

TTh—7:00-9:40, University
Flight Facilities,
Anoka County Airport,
2209 County Rd J

Winter Quarter

TTh—7:00-9:40, Aero 209,
Almleaf

TTh—7:00-9:40, University
Flight Facilities,
Anoka County Airport,
2209 County Rd J

Spring Quarter

TTh—7:00-9:40, Aero 209,
Almleaf

TTh—7:00-9:40,
University Flight
Facilities, Anoka
County Airport,
2209 County Rd J

AEM 1-015 STATICS (old MM 35). 4 degree credits. \$56. ★

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. (Prereq Math 1-240 and Phys 1-271 or old 1-210, or #; AEM 1-015 may be substituted for AEM 1-092)

Fall Semester

Th—6:20-8:40, Aero 225, Beavers

AEM 3-016 DEFORMABLE BODY MECHANICS (old MM 37). 4 degree credits. \$56.

Introduction 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. (Prereq AEM 1-015 and Math 1-240 and #. AEM 3-016 may be substituted for AEM 1-093)

Spring Semester

T—6:30-8:35, Aero 225, Moran

AEM 3-036 DYNAMICS (old MM 36). 4 degree credits, \$Phys 5-010 or 5-020. \$56. ★

Introduction to vector calculus. Kinematics. Application of principles of particle motion. Conservation principles. Dynamics of particle systems and plane rigid bodies. Technical applications. (Prereq Math 1-250 and Phys 1-271 or old 1-210, or 2)

Fall Semester

T—6:20-8:40, Aero 327

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Afro-American Studies

(For complete list of Human Relations and Minority Issues courses, see page 265)

George King, Professor of Afro-American Studies
Darrell Shreve, Teaching Associate in Afro-American Studies
Geneva Southall, Professor of Afro-American Studies
Anita Tucker, Assistant Professor of Afro-American Studies
John P. Ward, Professor of Afro-American Studies

Afro 1-015 BLACK PROTEST FROM COLONIAL TIMES TO PRESENT. 5 degree credits. \$70.
A critical analysis of chronological events and history of Black protest movements.
(No prereq)

Fall Quarter

T—5:30-9:40, BlegH 430,
Ward

Afro 1-025 PERSONALITY OF BLACK PEOPLES (old Afro 25). 4 degree credits. \$56.

This course will begin to give in-depth use to the development of the Black psyche, the Black person, and his culture. (No prereq)

Fall Quarter

Th—5:30-8:00, BlegH 245

Winter Quarter

Th—5:30-8:00, BlegH 245

Spring Quarter

T—5:30-8:00, BlegH 125

Afro 1-101 LANGUAGE ARTS FROM A BLACK PERSPECTIVE. 4 degree credits. \$56.

Personal consciousness in Black literature. (No prereq)

Spring Quarter

W—6:20-8:50, BlegH 430,
Shreve

Afro 1-441, 1-442 AFRO-AMERICAN HISTORY AND CULTURE. 5 degree credits each
quarter. \$70 each quarter.

1-441: To 1865. 1-442: Since 1865. (No prereq)

Fall Quarter

1-441 W—6:20-8:50,
BlegH 225, King

Winter Quarter

1-442 W—6:20-8:50,
BlegH 225, King

***Afro 3-061/3-062 BLACK FAMILY** (old Afro 60-61). 4 degree credits each quarter. \$56 each
quarter.

This course will deal with the basic fabric of family life. The class will attempt to
arrive at a fuller understanding of the Black family, both as a unit within Black
society and within society as a whole. (No prereq for 3-061; 3-061 for 3-062. Limited
to 50 students)

Fall Quarter

3-061 M—5:30-8:50,
BlegH 135, Tucker

Winter Quarter

3-062 M—5:30-8:50,
BlegH 135, Tucker

***Afro 3-105 BLACK MUSIC PRIOR TO WORLD WAR I.** 5 degree credits, \$Mus 3-708. \$70.

Musical contributions and achievements of Black Americans in the United States
during the 19th and early 20th centuries. (No prereq. Limited to 40 students)

Winter Quarter

M—5:30-9:40, BlegH 130,
Southall

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

*Afro 5-001 **LAW AND SOCIETY—A MINORITY POINT OF VIEW** (old Afro 101). 3 degree credits (students wishing additional credits, see page 29). \$45.

A look at Afro-American history from the point of view of American Constitutional development as it relates particularly to the American Black minority. (No prereq. Limited to 30 students. Qualified students interested in graduate credit should inquire at time of registration)

Winter Quarter

T—7:30-10:00, Cen HS 216,
Ward

Air Pollution

(See page 238)

American Indian Studies

(For complete list of Human Relations and Minority Issues courses, see page 265)

Roger Buffalohead, Assistant Professor of American Indian Studies
Elizabeth Gonier, Lecturer in American Indian Studies

Amln 1-021 BEGINNING CONVERSATIONAL OJIBWE (old Amln 21). 5 degree credits. \$70.

An informal class introducing the basic patterns of the Ojibwe (Chippewa in English) language. Culture is studied in relation to the language. Especially designed for students who intend to take only one quarter of Ojibwe. (No prereq)

Spring Quarter

W—6:20-8:50, BlegH 115,
Gonier

Amin 1-022 CONVERSATIONAL OJIBWE (old Amin 22). 5 degree credits.
To be offered 1973-74.

Amln 1-023 ADVANCED OJIBWE (old Amln 23). 5 degree credits.
To be offered 1973-74.

Amln 3-061 AMERICAN INDIANS IN THE MODERN WORLD (old Amln 60). 4 degree credits. \$56.

Brief review of the history of Indian-White contacts. Impact of federal policy on American Indians. Adaptation of American Indian cultures to contemporary social conditions. (Prereq Anth 1-002 or Amln 1-101, 1-102 or 2)

Fall Quarter

T—6:20-8:50, BlegH 360
(Limited to 50 students*)

Winter Quarter

W—6:20-8:50, BlegH 360

Spring Quarter

W—6:20-8:50, BlegH 360

American Studies

(Courses meet same distribution requirements as College of Liberal Arts, Humanities)

(See also Humanities [CLA]; Humanities [GC]; History; and Continuing Education for Women [page 257])

William H. Agee, Lecturer in American Studies

AmSt 1-101 AMERICAN LIFE (old Hum 21). 4 degree credits, \$3-111. \$56.

Individualism and the American Dream. Readings of varying length from a variety of authors, including Franklin, Tocqueville, Emerson, Thoreau, Whitman, Lewis,

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Farrell, and Fitzgerald. Industrial and union folk songs. Social obligations and the problem of conformity. (No prereq. For Upper Division credit register in 3-111)

Fall Quarter	Winter Quarter	Spring Quarter
W—6:30-9:00, Harding HS 123, Agee	T—7:00-9:30, Rich HS 207, Agee (Limited to 45 students*)	M—6:20-8:50, Ph 145, Agee
Th—6:20-8:50, Ph 145, Agee		

AmSt 1-102 AMERICAN LIFE (old Hum 22). 4 degree credits, \$3-112. \$56.

Religion in an increasingly secular American society, from Puritanism to the present. Readings of varying length from Edwards, Hawthorne, Paine, Jefferson, Melville, William James, Eliot, Niebuhr, Tillich, and others. Studies of American religious utopias; the conflict between science and religion; the social gospel; the "Honest to God" and "Death of God" controversies; the "new morality". (No prereq. For Upper Division credit register in 3-112)

Fall Quarter	Winter Quarter	Spring Quarter
M—6:20-8:50, Ph 145, Agee	W—6:30-9:00, Harding HS 123, Agee	T—7:00-9:30, Rich HS 207, Agee
	Th—6:20-8:50, Ph 145, Agee	(Limited to 45 students*)

(For complete list of courses relating to religion, see page 264)

AmSt 1-103 AMERICAN LIFE (old Hum 23). 4 degree credits, \$3-113. \$56.

Two topics are investigated: (a) American attitudes toward the environment (nature, the city, and the machine). Readings from Jefferson, Crèvecoeur, Mark Twain, and Poole. The natural and urban-technological landscapes in painting. The rise of the skyscraper. The architecture of Frank Lloyd Wright. (b) The image of himself and his society held by the modern Afro-American. Readings from Washington, Ellison, King, Carmichael, and Cleaver. The development of jazz. Folk songs and the humor of protest. (No prereq. For Upper Division credit register in 3-113)

Fall Quarter	Winter Quarter	Spring Quarter
T—7:00-9:30, Rich HS 207, Agee (Limited to 45 students*)	M—6:20-8:50, Ph 145, Agee	W—6:30-9:00, Harding HS 123, Agee
		Th—6:20-8:50, Ph 145, Agee

(For complete list of Human Relations and Minority Issues courses, as well as all Ecology courses, see pages 262 and 265)

AmSt 3-111 INTRODUCTION TO AMERICAN CIVILIZATION (old Hum 71). 4 degree credits, \$1-101. \$56.

See course description for AmSt 1-101. (Additional work required for 3-111.) (No prereq. Upper Division credit)

Fall Quarter	Winter Quarter	Spring Quarter
W—6:30-9:30, Harding HS 123, Agee	T—7:00-9:30, Rich HS 207, Agee (Limited to 45 students*)	M—6:20-8:50, Ph 145, Agee
Th—6:20-8:50, Ph 145, Agee		

AmSt 3-112 INTRODUCTION TO AMERICAN CIVILIZATION (old Hum 72). 4 degree credits, \$1-102. \$56.

See description for AmSt 1-102. (Additional work required for 3-112.) (No prereq. Upper Division credit)

Fall Quarter	Winter Quarter	Spring Quarter
M—6:20-8:50, Ph 145, Agee	W—6:30-9:00, Harding HS 123, Agee	T—7:00-9:30, Rich HS 207, Agee
	Th—6:20-8:50, Ph 145, Agee	(Limited to 45 students*)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

AmSt 3-113 INTRODUCTION TO AMERICAN CIVILIZATION (old Hum 73). 4 degree credits, \$1-103, \$56.

See course description for AmSt 1-103. (Additional work required for 3-113.) (No prereq. Upper Division credit)

Fall Quarter

T—7:00-9:30, Rich
HS 207, Agee
(Limited to 45
students*)

Winter Quarter

M—6:20-8:50, Ph 145,
Agee

Spring Quarter

W—6:30-9:00, Harding
HS 123, Agee
Th—6:20-8:50, Ph 145,
Agee

AmSt 3-301/3-302/3-303 PROSEMINAR: AMERICAN STUDIES (old AmSt 90-91-92). 4 degree credits each quarter.

To be offered 1973-74.

Anatomy

James F. Pohilla, Associate Professor of Physical Medicine and Rehabilitation

***Anat 0-058 ANATOMY OF THE EXTREMITIES.** No credit. \$42 plus \$8 laboratory fee.

A review of the gross anatomy of the joint structures, muscular, peripheral nervous and circulatory systems. Lecture and laboratory will include demonstration and review of the dissected human body. (Prereq registered physical therapist or occupational therapist. Limited to 30 students)

Fall Quarter

W—6:20-9:00, ChRC 220,
Pohilla

Anthropology

William L. Rowe, Professor of Anthropology

Joseph W. Frees, Instructor in Anthropology

Betty Katz, Instructor in Anthropology

Michael G. Trend, Instructor in Anthropology

Anth 1-002 INTRODUCTION TO ANTHROPOLOGY: CULTURAL ANTHROPOLOGY (old Anth 2A). 5 degree credits. \$70. ★

Origin of man and development of human cultures from earliest times to present. Varieties and range of human behavior as revealed through comparative study of cultures in all parts of the world. (No prereq)

Fall Semester

Th—6:20-8:50, ForH 155, Trend

Spring Semester

Th—6:20-8:50, ForH 155, Trend

Anth 5-121 ANTHROPOLOGY OF LAW (replaces Anth 5-331 and old Anth 160). 5 degree credits. \$75.

Theory and method of comparative legal systems. Law: cultural background and relation to society. Functions and evolution of law as revealed in analysis of cultures ranging from primitive to complex. (Prereq 1-002 [waived for majors in other social sciences]. Qualified students may register for graduate credit at the University of Minnesota)

Spring Semester

W—6:20-8:50, ForH 120, Frees

Anth 5-141 CULTURE AND PERSONALITY (replaces Anth 5-361 and old Anth 165). 5 degree credits. \$75. ★

Role of culture in formation of personality. Problems of individual adjustments to demands of culture. Psychological approach to culture. (Prereq 1-002 or § [waived for majors in public health, nursing, psychology, sociology, and social work]. Qualified students may register for graduate credit at the University of Minnesota)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Spring Semester
T—6:20-8:50, ForH 285, Rowe

(See also Hum 5-030, PROSEMINAR: APPROACHES TO THE HUMAN SELF I)

Anth 5-181 PRIMATE AND HUMAN EVOLUTION. 5 degree credits. \$75.

Origins and relationships of extinct forms of nonhuman primates and man. (Prereq 1-002. May not be taken for graduate credit)

Fall Semester

W—6:20-8:50, ForH 130, Katz

Arabic

(See Middle Eastern Languages)

Archaeology

(See Anthropology and Classics)

Architecture

(See also Art History; and GC 1-311, GENERAL ARTS [Humanities])

George Winterowd, Professor of Architecture

Arch 1-021 ARCHITECTURAL THEORY AND HISTORY (old Arch 21). 4 degree credits. \$56.

An introduction to architecture, the philosophy and principles of architecture as an art, a survey of architectural history with emphasis upon the development of contemporary architecture from its roots in the 19th century until the present time. (No prereq. 1-021 is a prereq for the architectural history sequence, 3-051 through 3-056. May be used as a refresher course for the State Board Examinations)

Winter Quarter

W—6:20-9:40, Arch 130,
Winterowd

Spring Quarter

W—6:20-9:40, Arch 130,
Winterowd

Arch 5-056 MODERN ARCHITECTURE. 4 degree credits. \$60.

History of development of architecture and urban design from early 19th century sources in Europe and America until the present time. (Prereq 1-021. Qualified students interested in graduate credit should inquire at time of registration)

Fall Quarter

M—6:20-8:50, Arch 130,
Winterowd

Art Education

(See page 141)

Art History

Frederick Asher, Assistant Professor of Art History

Frederick Cooper, Assistant Professor of Art History

Robert Poor, Associate Professor of Art History

Michael Stoughton, Assistant Professor of Art History

Donald R. Torbert, Professor of Art History

Melvin Waldfoegel, Professor of Art History

SUNRISE SEMESTER

At the time of printing the Bulletin, credit approval was being sought for a New York University television course, TWENTIETH CENTURY AMERICAN ART, to be broadcast on Sunrise Semester (WCCO-TV), 6:30-7:00 a.m., Monday, Wednesday

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

day, and Friday, September 25 - January 12. For the current credit status of this course, call 376-7500.

Arth 1-001 INTRODUCTION TO THE VISUAL ARTS (old Arth 1). 4 degree credits, \$3-001. \$56 plus \$3 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 prereq. For Upper Division credit register in 3-001)

Fall Quarter

T—6:20-8:50, Arch 25,
Torbert

Winter Quarter

T—6:20-8:50, Jones 207B,
Torbert

Spring Quarter

T—6:20-8:50, Arch 25,
Torbert

(See page 270 for further information)

(See also Architecture; GC 1-311, GENERAL ARTS [Humanities]; and History)

Arth 1-015 INTRODUCTION TO WESTERN ART. 4 degree credits. \$56 plus \$3 laboratory fee.

Selected major themes within the broad context of Western culture. Introduction to arts of the Western world but not an inclusive historical survey. Course includes Sir Kenneth Clark's series of 13 hour-length films entitled *Civilisation*. (No prereq)

Fall Semester

Th—6:20-8:00, Arch 25, Waldfoegel

Arth 1-016 INTRODUCTION TO ASIAN ART. 4 degree credits. \$56 plus \$3 laboratory fee.

Selected major themes of Indian and Far Eastern art. Introduction, not an inclusive historical survey. (No prereq)

Spring Quarter

M—6:20-8:50, Jones 207B,
Asher

Arth 3-001 INTRODUCTION TO THE VISUAL ARTS (old Arth 50). 4 degree credits, \$1-001. \$56 plus \$3 laboratory fee.

See course description for Arth 1-001. (No prereq. Upper Division credit)

Fall Quarter

T—6:20-8:50, Arch 25,
Torbert

Winter Quarter

T—6:20-8:50, Jones 207B,
Torbert

Spring Quarter

T—6:20-8:50, Arch 25,
Torbert

Arth 3-008 HISTORY OF ANCIENT ART. 4 degree credits, \$1-008. \$56 plus \$3 laboratory fee.

The architecture, sculpture, and painting of selected early cultures, with particular stress on those contributing to the development of Western art. (No prereq)

Winter Quarter

M—6:20-8:50, Jones 207A, Cooper

Arth 3-011 HISTORY OF RENAISSANCE AND BAROQUE ART. 4 degree credits, \$1-011. \$56 plus \$3 laboratory fee.

A historical survey of the major monuments in architecture, sculpture, and painting from the early 14th century through the Baroque. (No prereq)

Spring Quarter

M—6:20-8:50, Jones 207A,
Stoughton

Arth 3-012 HISTORY OF NINETEENTH AND TWENTIETH CENTURY ART. 4 degree credits, \$1-012. \$56 plus \$3 laboratory fee.

Major monuments and concepts of the Modern period: sculpture, architecture, painting, and prints. (No prereq)

Fall Quarter

W—6:20-8:50, Jones 207B, Cooper

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Arth 3-014 ART OF INDIA. 4 degree credits, \$1-014. \$56 plus \$3 laboratory fee.

Indian sculpture and architecture from the pre-historic Indus Valley civilization through the major historical periods. Emphasis will be on the Hindu and Buddhist art from 300 B.C. to 1200 A.D. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57])

Fall Quarter

Th—6:20-8:50, Jones 207B, Asher

Arth 3-053 LANDSCAPE PAINTING (old Arth 53). 4 degree credits. \$56 plus \$3 laboratory fee.

The development of Western landscape sensibility and painting from ancient times to the modern period. (No prereq)

Winter Quarter

**Th—6:20-8:50, Jones 207A,
Waldfoegel**

Arth 3-303 BAROQUE AND ROCOCO PAINTING IN FRANCE. 4 degree credits. \$56 plus \$3 laboratory fee.

A survey of French painting of the 17th and first half of the 18th centuries. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57])

Fall Quarter

**M—6:20-8:50, Jones 207A,
Stoughton**

Arth 3-467 MODERN ART. 4 degree credits. \$56 plus \$3 laboratory fee.

Major directions in late 19th and 20th century art in all media. Includes the influence of advertising mass media and advanced technology on the development of modern art. (No prereq)

Spring Quarter

**W—6:20-8:50, Jones 207B,
Cooper**

Arth 3-769 CONNOISSEURSHIP IN ORIENTAL ART. 4 degree credits, \$5-769. \$56 plus \$3 laboratory fee.

Course dealing with the direct examination of Oriental art objects in local collections. (Prereq \$. For graduate credit register in 5-769)

Spring Quarter

**W—6:20-8:50, Jones 207A,
Poor**

Arth 5-346 BAROQUE ART IN ITALY AND SPAIN (old Arth 116). 4 degree credits. \$60 plus \$3 laboratory fee.

Survey of Italian sculpture, painting and architecture and Spanish painting of the seventeenth century. (Prereq Arth 1-011 or 3-011, or \$. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

**M—6:20-8:50, Jones 207B,
Stoughton**

Arth 5-766 CHINESE PAINTING (old Arth 166). 4 degree credits. \$60 plus \$3 laboratory fee.

Survey: Major works from the fourth to seventeenth centuries. Primary emphasis on the development of landscape tradition and literary genre of later Chinese painting. (Prereq 9 or Arth or \$. May be applied toward the CLA foreign language requirement, Route II [see page 57]. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

**W—6:20-8:50, Jones 207A,
Poor**

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Arth 5-767 JAPANESE PAINTING (old Arth 167). 4 degree credits. \$60 plus \$3 laboratory fee.

Survey: Japanese pictorial arts from earliest to modern times. Focus on those works that best exemplify development of indigenous traditions. (Prereq 9 cr Arth or 2. May be applied toward the CLA foreign language requirement, Route II [see page 57]. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

W—6:20-8:50, Jones 207A,
Poor

Arth 5-769 CONNOISSEURSHIP IN ORIENTAL ART. 4 degree credits, \$3-769. \$60 plus \$3 laboratory fee.

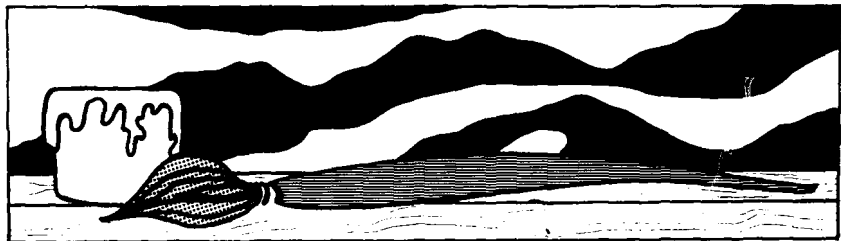
See course description for Arth 3-769. (Prereq 2. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

W—6:20-8:50, Jones 207A,
Poor

Art Statewide

A variety of credit and non-credit courses and workshops in art are offered throughout the state. Examples are Advanced Painting, Painting for Amateurs, Sculpture in Wax and Clay, 20th Century Art, Survey of Oriental Arts, Weaving with a Backstrap Loom, Macrame, Stage Set Design, Good Design for Inexpensive Publications, and Woodblock Printmaking. Courses and workshops can be set up for an interested group on request. For further information call or write Huldah Curl, Director, Continuing Education in Art, 317 Nolte Center for Continuing Education, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-5147.



Art, Studio

Guy Baldwin, Instructor in Art

Karl Bethke, Assistant Professor of Art

Ralph Brown, Lecturer in Art

Peter Busa, Professor of Art

Victor Caglioti, Instructor in Art

Alexander Dekker, Lecturer in Interior Design

Allen Downs, Professor of Art

David L. Feinberg, Assistant Professor of Studio Art

Benjamin A. Gingold, Jr., Lecturer in Art

Alice Goacher, Associate Professor of Art

Maria Haapala, Lecturer in Interior Design

Gary Hallman, Instructor in Art

Raymond Hendler, Associate Professor of Art

Michael J. Hopkins, Color Consultant

David H. Hozza, Lecturer in Art

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

David Husom, Instructor in Art
Donald Jardine, Assistant Professor of Art
John Morrison, Professor of Art
Wayne Potratz, Instructor in Art
Zigmunds Priede, Associate Professor of Art
Eleanor Quirt, Instructor in Art
William Roode, Assistant Professor of Art
David F. Routon, Assistant Professor of Art
Herman Rowan, Associate Professor of Art
Herman Somberg, Instructor in Art
William Warehall, Instructor in Art
Saul Warkov, Instructor in Art
Harry C. Webb, Lecturer in Photography
Phyllis Ames Wiener, Instructor in Art

All Studio Arts classes will meet for the time period scheduled. Each credit demands, on the average, three hours a week of the students' time. Those students who wish to receive degree credits in these courses are required to do work outside of class commensurate with the class work. Unless otherwise indicated, students may register for any unit number of these sequences in any quarter or semester, provided units are satisfactorily completed in the order listed or the instructor's consent is obtained for registration in an advanced unit on the basis of background and ability.

NOTE: Students who find sections closed should examine the possibility of another course which may serve the same purpose. The Department of Studio Arts may be able to accommodate those students who place their names on a list requesting the opening of an additional section. Telephone: 373-3663. Advanced standing credit will be granted in special cases for work done elsewhere—consult the chairman of the department; telephone 373-3663.

All Interior Design courses are basically lecture, demonstration, presentation, critiques, with emphasis on problems outside of class to meet the total credit hours involvement necessary for Studio Art courses.

***Phot 0-001C COLOR PHOTOGRAPHY I.** 3 certificate credits. \$42 plus \$10 materials 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 prereq. Limited to 30 students)

Fall Semester

T—6:00-7:40, AgEng 315, Webb
 T—8:15-9:55, AgEng 315, Webb

Spring Semester

T—6:00-7:40, AgEng 315, Webb

***Phot 0-002C COLOR PHOTOGRAPHY II.** 3 certificate credits. \$42 plus \$10 materials fee.

A workshop course in which the student participates in supervised photographic projects. Course includes lecture demonstrations, field trips, and attention to such subjects as color portraiture, color experiments, color printing, and special problems. (Prereq 0-001C or \$. Limited to 30 students)

Spring Semester

T—8:15-9:55, AgEng 315, Webb

(For complete list of Mass Communications and related courses, see page 267)

Arts 0-003C HOME DESIGN AND PLANNING. 3 certificate credits. \$42 plus \$1 materials fee.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

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

Fall Quarter

Th—6:20-8:50, Arch 40,
Gingold

***Arts 1-101 BASIC DRAWING** (old ArtS 20). 4 degree credits. \$56 plus \$5 materials fee.

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

Fall Quarter

M—6:00-9:45, ArtB
140, Hendler

M—6:00-9:45, Sand
JHS 118, Quirt

T—6:00-9:45, ArtB
150, Caglioti

T—6:00-9:45, Kel
HS 200, Quirt

W—6:00-9:45, ArtB
140, Priede

S—8:30 a.m.-12:15,
ArtB 151, Rowan

Winter Quarter

M—6:00-9:45, ArtB
140, Somberg

M—6:00-9:45, Sand
JHS 118, Quirt

T—6:00-9:45, ArtB
150, Caglioti

S—8:30 a.m.-12:15,
ArtB 151, Rowan

Spring Quarter

T—6:00-9:45, ArtB 150,
Caglioti

W—6:00-9:45, ArtB 140,
Priede

S—8:30 a.m.-12:15, ArtB
151, Rowan

***Arts 1-102 DRAWING** (old ArtS 23). 4 degree credits. \$56 plus \$5 laboratory fee.

Work from life and nature. Introduction to color and pictorial structure. (Prereq 1-101. Limited to 25 students)

Fall Quarter

T—6:00-9:45, ArtB 160,
Somberg

Winter Quarter

M—6:00-9:45, ArtB 150,
Feinberg

W—6:00-9:45, ArtB 141,
Hendler

Spring Quarter

M—6:00-9:45, ArtB 150,
Hendler

T—6:00-9:45, ArtB 160,
Somberg

***Arts 1-103 INTRODUCTION TO STUDIO ARTS.** 4 degree credits. \$56.

A lecture/discussion course. A general introduction to visual art making. Provides the basic context of visual art making. Familiarizes the beginning student with the fundamentals of visual art making and the varied manifestations throughout history. Strongly recommended for all beginning students in studio arts. (No prereq. Limited to 212 students)

Fall Quarter

Th—6:00-8:30, AndH
270, Hendler

Winter Quarter

Th—6:00-8:30, AndH
270, Hendler

Spring Quarter

Th—6:00-8:30, AndH
270, Hendler

***Arts 1-104 COLOR** (old ArtS 25). 4 degree credits. \$56 plus \$5 laboratory fee.

Introduction to color and pictorial organization. This will provide students with training in basic techniques preparatory to Upper Division painting and print-making. (Prereq 1-102. Limited to 25 students)

Fall Quarter

Th—6:00-9:45, ArtB 141,
Rowan

Winter Quarter

Th—6:00-9:45, ArtB 141,
Rowan

Spring Quarter

Th—6:00-9:45, ArtB 141,
Rowan

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

***Arts 1-111 USE OF COLOR** (old ArtS 37). 4 degree credits. \$56.

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

Fall Semester

W—8:15-9:55, WuH 240, Hopkins

Spring Semester

W—6:20-8:00, WuH 240, Hopkins

***Arts 1-112 LAYOUT FOR INTERIOR DESIGN** (old ArtS 48). 4 degree credits. \$56.

Organization and content of layouts for interior design. Experience in handling tools and materials of drafting, and the use of design principles. Plan view, simple perspective, elevation, etc., as helps in presenting ideas used in interior design. (No prereq. Limited to 35 students)

Fall Semester

W—6:20-8:00, WuH 240, Hopkins

Spring Semester

W—8:15-9:55, WuH 240, Hopkins

***Arts 1-113 LAYOUT FOR INTERIOR DESIGN** (old ArtS 49). 4 degree credits. \$56.

Advanced problems as continuation of 1-111. Emphasis on application and discussion of design principles to the interior design situation. (Prereq 1-112 or \$. Limited to 35 students)

Spring Semester

M—8:15-9:55, WuH 220, Hopkins

ArtS 1-119 DRAFTING—BASIC DRAFTING TECHNIQUES. 4 degree credits. \$56 plus \$1 special fee.

Instruction in use of drafting instruments. Emphasis on plans, elevations, etc., as related to interior design. (No prereq)

Fall Semester

M—6:20-8:50, Arch 40, Dekker

Spring Semester

W—6:20-8:50, Arch 40, Dekker

ArtS 1-121 PERSPECTIVE AND PRESENTATION SKETCHES. 4 degree credits. \$56.

Instruction in the various methods of perspective. Free-hand sketches of details. Finished renderings in perspective for final presentation as related to interior design. (No prereq)

Spring Semester

M—6:20-8:50, Arch 40, Dekker

***Arts 1-301/1-302 BASIC SCULPTURE** (old ArtS 40/41). 4 degree credits each quarter. \$56 each quarter plus \$15 laboratory fee.

1-301: Beginning course. Intensive study of structure with emphasis on form and space. Construction in metal and plaster. 1-302: Integrates basic principles examined in ArtS 1-301. Natural form is studied for sculptural concepts. Imaginative approaches are encouraged. (No prereq for 1-301; 1-301 for 1-302. Limited to 20 students)

Fall Quarter

1-301 T—6:00-10:00, ArtB
Basement

W—6:00-10:00, ArtB
Basement,
Potratz

1-302 T—6:00-10:00, ArtB
Basement

W—6:00-10:00, ArtB
Basement,
Potratz

Winter Quarter

1-301 T—6:00-10:00, ArtB
Basement,
Baldwin

W—6:00-10:00, ArtB
Basement,
Potratz

1-302 T—6:00-10:00, ArtB
Basement,
Baldwin

W—6:00-10:00, ArtB
Basement,
Potratz

Spring Quarter

1-301 T—6:00-10:00, ArtB
Basement

W—6:00-10:00, ArtB
Basement,
Baldwin

1-302 T—6:00-10:00, ArtB
Basement

W—6:00-10:00, ArtB
Basement,
Baldwin

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

***ArtS 1-510 INTAGLIO** (replaces ArtS 1-501/1-502 and old 32-33). 4 degree credits each quarter [maximum of 8 credits]. \$56 plus \$10 laboratory fee each quarter.
Introduction to various techniques of etching and engraving employed in working on metal plates, as well as collagraphy. (No prereq. Limited to 25 students)

Fall Quarter
T—6:00-9:45, ArtB
170, Bethke

Winter Quarter
T—6:00-9:45, ArtB
170, Bethke

Spring Quarter
T—6:00-9:45, ArtB
170, Bethke

(For complete list of Mass Communications and related courses, see page 267)

***ArtS 1-701 PHOTOGRAPHY** (old ArtS 10). 4 degree credits. \$56 plus \$10 materials fee.
A course in black and white photography for beginners with little or no experience. The course will cover techniques in the use of the camera, light-meter, film development and enlargements. Much time will be spent in the darkroom. Emphasis will be placed on personal expression through the photographic medium. (No prereq. Limited to 20 students)

Fall Quarter
M—6:00-9:45, ArtB
120, Warkov
W—6:00-9:45, ArtB
120, Warkov
S—8:30 a.m.-12:15,
ArtB 131, Husom
S—1:30-4:00, ArtB
120, Downs

Winter Quarter
M—6:00-9:45, ArtB
120, Warkov
W—6:00-9:45, ArtB
120, Warkov
S—8:30 a.m.-12:15,
ArtB 131, Husom
S—1:30-4:00, ArtB
120

Spring Quarter
M—6:00-9:45, ArtB
120, Warkov
W—6:00-9:45, ArtB
120, Warkov
S—1:30-4:00, ArtB
120, Downs

(For complete list of Mass Communications and related courses, see page 267)

ArtS 1-702 PHOTOGRAPHY (old ArtS 11).
No longer offered. See ArtS 3-704, 3-705, 3-706.

***ArtS 1-801 CERAMIC PROCESSES** (old ArtS 45). 4 degree credits. \$56 plus \$15 laboratory fee.
An introduction to fired clay as a creative medium. Emphasis placed on exploration of ideas and not on production of a product, but course includes technical considerations of clay, glazes, kiln, etc. (No prereq. Limited to 24 students)

Fall Quarter
T—6:00-9:45, ArtB
Basement, Warehall
Th—6:00-9:45, ArtB
Basement
S—8:30 a.m.-12:15,
ArtB Basement

Winter Quarter
T—6:00-9:45, ArtB
Basement, Warehall
S—8:30 a.m.-12:15, ArtB
Basement

Spring Quarter
T—6:00-9:45, ArtB
Basement, Warehall
S—8:30 a.m.-12:15, ArtB
Basement

***ArtS 3-100 WATER COLOR** (replaces ArtS 3-111/3-112/3-113 and old 60B-61B-62B). 4 degree credits each quarter [maximum of 12 credits]. \$56 plus \$5 laboratory fee each quarter.

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. (Prereq 1-101 or \$. Limited to 25 students)

Fall Quarter
M—6:00-9:45, ArtB
141, Caglioti
S—8:30 a.m.-12:15,
ArtB 161, Brown

Winter Quarter
M—6:00-9:45, ArtB
141, Caglioti
S—8:30 a.m.-12:15,
ArtB 161, Brown

Spring Quarter
M—6:00-9:45, ArtB
141, Caglioti
S—8:30 a.m.-12:15,
ArtB 161, Brown

***ArtS 3-110 DRAWING** (replaces ArtS 3-101/3-102/3-103 and old 53-54-55). 4 degree credits each quarter [maximum of 12 credits]. \$56 plus \$8 laboratory fee each quarter.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Portraiture and life drawing from the model, still life, and nature. Principles of anatomy. (Prereq 1-102. Limited to 25 students)

Fall Quarter

W—6:00-9:45, ArtB
151, Busa

Th—6:00-9:45, ArtB
140, Morrison

Winter Quarter

W—6:00-9:45, ArtB
151, Busa

Th—6:00-9:45, ArtB
140, Morrison

Spring Quarter

W—6:00-9:45, ArtB
151, Busa

Th—6:00-9:45, ArtB
140, Morrison

***Arts 3-114 COMMERCIAL DRAWING I** (old ArtS 63). 3 degree credits. \$42 plus \$5 laboratory fee.

Basic drawing techniques; emphasis on the study of visual relationships in objects and the figure and their interpretation on the two-dimensional plane. (No prereq. Limited to 25 students)

Fall Semester

Th—6:15-8:45, ArtB
150, Bethke

Spring Semester

Th—6:15-8:45, ArtB
150, Bethke

(For complete list of Mass Communications and related courses, see page 267)

***Arts 3-115 COMMERCIAL DRAWING II** (old ArtS 64). 3 degree credits. \$42 plus \$5 laboratory fee.

Applied commercial drawing; emphasis on current techniques and media and the implications of their use in the studio context. (Prereq 3-114 or \$. Limited to 25 students)

Fall Semester

Th—6:15-8:45, ArtB 160,
Jardine

(For complete list of Mass Communications and related courses, see page 267)

***Arts 3-116 COMMERCIAL ART MEDIA** (old ArtS 65). 3 degree credits. \$42 plus \$5 laboratory fee.

Transparent and opaque washes; ink line, dry brush, etc. Keyline, art techniques. Color relationships and systems. (Prereq 3-115 or \$. Limited to 25 students)

Spring Semester

M—6:15-8:45, ArtB 160, Jardine

(For complete list of Mass Communications and related courses, see page 267)

***Arts 3-120 PAINTING** (replaces ArtS 3-121/3-122/3-123 and old 70-71-72). 4 degree credits each quarter [maximum of 12 credits]. \$56 plus \$8 laboratory fee each quarter.

Introduction to medium of oil; individual projects and instruction. (Prereq 1-104 and 3-103 or \$. Limited to 25 students)

Fall Quarter

Th—6:00-9:45, ArtB
151, Roode

Winter Quarter

Th—6:00-9:45, ArtB
151, Roode

Spring Quarter

Th—6:00-9:45, ArtB
151, Roode

***Arts 3-131 INTERIOR DESIGN I** (old ArtS 83A). 3 degree credits. \$42 plus \$2 special fee. ★

Trends in resources for both residential and commercial use are studied. Basic design principles are applied to projects done by students. The subject matter includes floors and floor coverings, walls and wall coverings, lighting, 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 extensively. Demonstrations on how to build a color scheme show the student the importance of texture and color harmony. (No prereq. Limited to 50 students)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Fall Semester

M—6:40-8:20, JohH 114, Goacher
T—6:20-8:00, McNH 227, StP Campus,
 Goacher
W—6:20-8:00, Jones 11, Haapala
Th—6:20-8:00, JohH 114, Goacher

Spring Semester

W—6:20-8:00, JohH 114, Haapala
Th—6:20-8:00, JohH 114, Goacher

***Arts 3-132 INTERIOR DESIGN II** (old ArtS 84A). 3 degree credits. \$42 plus \$2 special fee. ★

Emphasis on the study of decorative fabrics; texture, design, and fiber content; historical background; displays of current fabrics and new wall coverings; studies of the work of designers; major accessories, including the use of fine arts; selection of lamps and hardware; how to display collections and add interior touches which add personality; window treatment and how to estimate yardage; work with color schemes; demonstration of elevation and perspective drawing; one field trip and several talks by practicing designers. (Prereq 3-131. Limited to 50 students)

Fall Semester

W—6:40-8:20, JohH 114, Goacher

Spring Semester

T—6:20-8:00, McNH 227, StP Campus,
 Goacher

***Arts 3-133/3-134 CONTRACT DESIGN SEMINAR** (old ArtS 96-97). 4 degree credits each semester. \$56 each semester.

Problems in designing of contract and institutional interiors, planning the arrangements, materials, furniture, and colors. The study of planning requirements and an analysis of approach to this type of design. (Prereq 3-132 and 1-112 or § for 3-133; 3-133 for 3-134. Limited to 25 students)

Fall Semester

3-133 M—6:15-8:00, WuH 240, Hopkins

Spring Semester

3-134 M—6:15-8:00, WuH 240, Hopkins

Arts 3-135 INTERIOR DESIGN: HOUSING, DYNAMICS AND POLICY. 4 degree credits. \$56.

Introduction to the supply and demand characteristics of the housing market, both rented and owned. Elements comprising the market will be studied as well as the interaction among the elements and the effect of various public and private policies and programs. Current issues and emerging strategies of housing will be examined in the context of local, metropolitan, state, and national settings. (No prereq)

Fall Semester

M—6:20-8:00, Arch 25, Hozza

(See Special Issues courses, pages 268-269)

Arts 3-136 INTERIOR DESIGN: HOUSING AND THE URBAN ENVIRONMENT. 4 degree credits. \$56.

Housing and its relationship to human interaction, both individual and group, will be studied. Topics in perception of the environment, interior and exterior planning and design, socio-economic patterns (income, poverty, racial distribution, etc.), community organization and community values and how all this relates to housing will be studied. (No prereq)

Spring Semester

M—6:20-8:00, Arch 25, Hozza

(See Special Issues courses, pages 268-269)

Arts 3-137 HISTORY OF TRADITIONAL FURNITURE. 3 degree credits. \$42 plus \$5 laboratory fee.

Furniture from its earliest forms to the present with emphasis on the 17th through 19th centuries in France, England, and the United States. Includes study of Shaker, Southwest Pueblo, and American Indians; antiquity; Middle Ages; Renaissance; and the Germanic nations. The course will conclude with a study of the modern period

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

and current trends. Availability of forms and use in contemporary interiors discussed. (No prereq)

Spring Semester

Th—6:20-8:00, Jones 11, Haapala

***ArtS 3-150 PAINTING** (replaces ArtS 3-127/3-128/3-129 and old ArtS 70B-71B-72B). 4 degree credits each quarter [maximum 12 credits]. \$56 plus \$8 laboratory fee each quarter.

Oil and acrylic painting. (Prereq 1-101 or 1-102 or #. Open to both majors and non-majors. Limited to 25 students)

Fall Quarter

Th—6:00-9:45, ArtB
161, Feinberg

Spring Quarter

Th—6:00-9:45, ArtB
161, Feinberg

***ArtS 3-510 INTAGLIO** (replaces ArtS 3-501/3-502/3-503 and old 90-91-92). 4 degree credits each quarter [maximum 12 credits]. \$56 plus \$10 laboratory fee each quarter.

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 engraving and etching. (Prereq 8 cr of 1-510 or 1-502 or #. Limited to 25 students)

Fall Quarter

T—6:00-9:45, ArtB
170, Bethke

Winter Quarter

T—6:00-9:45, ArtB
170, Bethke

Spring Quarter

T—6:00-9:45, ArtB
170, Bethke

(For complete list of Mass Communications and related courses, see page 267)

***ArtS 3-701 INTRODUCTION TO ART OF FILMMAKING** (replaces 3-701/3-702/3-703 and old ArtS 66-67-68). 4 degree credits. \$56 plus \$10 laboratory fee.

Lectures and practical aspects of making films. Production limited to descriptive and experimental work. (Prereq 1-701. Limited to 20 students)

Fall Quarter

M—6:00-9:45, ArtB
131, Downs

Winter Quarter

M—6:00-9:45, ArtB 131
T—6:00-9:45, ArtB 120

Spring Quarter

M—6:00-9:45, ArtB
131, Downs

T—6:00-9:45, ArtB
120, Downs

T—6:00-9:45, ArtB
120, Downs

(For complete list of Mass Communications and related courses, see page 267)

***ArtS 3-710 INTERMEDIATE PHOTOGRAPHY** (replaces ArtS 3-704/3-705 and old ArtS 83). 4 degree credits each quarter [maximum 8 credits]. \$56 plus \$10 materials fee each quarter.

A course for students with some experience and familiarity with special photographic equipment and techniques. Work will include an assigned project, lectures, and demonstrations, with special attention given to individual interests and requirements. (Prereq 1-701 or #. Limited to 20 students)

Fall Quarter

T—6:00-9:45, ArtB
131, Hallman

Winter Quarter

T—6:00-9:45, ArtB
131, Hallman

Spring Quarter

T—6:00-9:45, ArtB
131, Hallman

Th—6:00-9:45, ArtB
131, Hallman

Th—6:00-9:45, ArtB
131, Hallman

Th—6:00-9:45, ArtB
131, Hallman

(For complete list of Mass Communications and related courses, see page 267)

***ArtS 3-810 CERAMIC DESIGN** (replaces ArtS 3-801/3-802 and old 93-94). 4 degree credits each quarter [maximum 8 credits]. \$56 plus \$15 laboratory fee each quarter.

Greater emphasis on wheel throwing. Advanced design problems and introduction to glaze and clay experimentation. Emphasis on development of personal expression in ceramic medium. (Prereq 1-801 or #. Limited to 20 students)

Winter Quarter

Th—6:00-9:45, ArtB
Basement

Spring Quarter

Th—6:00-9:45, ArtB
Basement

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

***ArtS 5-111 SEMINAR IN INTERIOR DESIGN** (old ArtS 103A). 4 degree credits. \$60 plus \$4 special fee.

Advanced study of the elements and principles of design and their direct functional and aesthetic relationships to color, lighting, fabric coordination, and kitchen planning. Class content will include lectures, discussions, visual aids, and field trips. (Prereq 1-119 and 3-132. Limited to 25 students. No auditors. May not be taken for graduate credit)

Fall Semester

T—6:20-8:00, JohH 114, Haapala

***ArtS 5-112 SEMINAR IN INTERIOR DESIGN** (old ArtS 104A). 4 degree credits. \$60 plus \$4 special fee.

An intensive application, for advanced Interior Design projects, of the information and skills acquired in ArtS 3-131, 3-132, and 5-111. Class time will be used to study architectural symbols and their usage in Interior Design construction; professional project presentation; discussions in class with professional Interior Designers of experience; field trips to studios. The student will also have the opportunity to participate in an out-of-town trip to the Merchandise Mart in Chicago [not a course requirement]. (Prereq 5-111. Limited to 25 students. No auditors. May not be taken for graduate credit)

Spring Semester

M—6:20-8:00, JohH 114, Goacher

ArtS 5-113, 5-114 INTERIOR DESIGN CLINIC (old ArtS 105, 106). 4, 5, or 6 degree credits. \$60, \$75, or \$90.

Individual and collaborative effort involving the advanced interior design students directly with the community and with other disciplines related to all areas of residential and contract design through University sponsored seminar/clinic projects. Special emphasis on the designer's responsibility to this environment and his ability to communicate within this framework. Experimental internship program on an individual basis with design studios; or individual problems related to individual students' needs in design. (Prereq \$. May not be taken for graduate credit)

Fall Semester

5-113—Hours as. First meeting of class,
Monday, September 25,
8:15-9:55, WuH 220,
Hopkins

Spring Semester

5-114—Hours as. First meeting of class,
Monday, February 12, 6:20-8:00,
WuH 220, Hopkins

***ArtS 5-120 PROBLEMS IN PAINTING** (replaces ArtS 5-104/5-105/5-106 and old ArtS 150-151-152). 4 degree credits each quarter [maximum 12 credits]. \$60 plus \$8 laboratory fee each quarter.

An advanced course in oil and acrylic painting with emphasis on color theories as they apply to current trends in art. (Prereq 12 cr of 3-120. Limited to 25 students. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

M—6:00-9:45, ArtB
151, Busa

Winter Quarter

M—6:00-9:45, ArtB
151, Busa

Spring Quarter

M—6:00-9:45, ArtB
151, Busa

ArtS 5-130 ADVANCED DRAWING. 4 degree credits [maximum of 12 credits]. \$60 plus \$8 laboratory fee.

Primarily for painting majors. Drawing in all mediums from life and from imagination; history of drawing. (Prereq 12 cr of 3-110. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

W—6:15-9:45, ArtB 161,
Somberg

***ArtS 5-510 ADVANCED INTAGLIO** (replaces ArtS 5-501/5-502/5-503 and old ArtS 190-191-192). 4 degree credits each quarter [maximum 12 credits]. \$60 plus \$10 laboratory fee each quarter.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

An advanced course in etching, aquatint, mezzatint, and all related techniques in the execution of intaglio prints. Color printing will be taught in conjunction with the above material. (Prereq 12 cr of 3-510 or †. Limited to 25 students. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

T—6:00-9:45, ArtB
170, Bethke

Winter Quarter

T—6:00-9:45, ArtB
170, Bethke

Spring Quarter

T—6:00-9:45, ArtB
170, Bethke

"WINTER QUARTER IN MEXICO"

Tlaxiaco, Oaxaco, Mexico is the site for a unique University program sponsored by Continuing Education and Extension. Under the guidance of experienced teachers, and with the aid of local craftsmen, students will learn, first hand, both the specific art and craft techniques and the cultural context in which those arts are nourished. In Tlaxiaco, craftsmen practice traditional methods in ceramic work, weaving, and metal work, within a cultural framework that is little affected by most aspects of contemporary urban culture. In addition, several famous archaeological sites—Teotihuacan, Tula, Mitla, Monte Alban and Cholula—are all within a day's drive.

Students will register for 12 credits of off-campus work. 8 of these credits will be from among the following Studio Art courses:

ArtS 1-701	Photography
3-704	
3-705	
5-704	
5-705	
5-706	
ArtS 3-701	Film (Motion Picture Photography)
5-707	
5-708	
5-709	
ArtS 1-801	Ceramic Design
3-801	
ArtS 3-120	Painting

Other courses may be drawn from such fields as Linguistics, Anthropology, Spanish, and Related Arts (College of Agriculture).

"Winter Quarter in Mexico" is limited to 45 students. Interested students should apply Fall Quarter (no later than October 16th) to Professor Allen Downs, Department of Studio Art, 1946 Tatum, St. Paul 55113; telephone 645-9568. Applications may be in the form of a letter and should state the applicant's interest in studying in Mexico. Both the preferred art courses and the type of study contemplated in the related field should be listed together with the applicant's reason for wanting the course. Knowledge of Spanish is recommended but not required.

If accepted, the applicant will be expected to work out a program of studies under the guidance of an adviser in both the Department of Studio Art and the department in which the related studies are planned, during the Fall Quarter prior to the Winter study in Mexico.

Astronomy

Karlis Kaufmanis, Professor of Astronomy
Ivan Policoff, Associate Professor of Astronomy

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Ast 1-008 SOLAR SYSTEM (old Ast 12). 3 degree credits. \$42.

Survey of what is known about the properties and motions of the planets and their satellites, comets, and meteors, illustrated by slides and telescopic observations. Nonmathematical course. (No prereq)

Fall Semester

T—6:20-8:00, Ph 131, Kaufmanis

Winter Quarter

M—6:30-9:00, Harding HS
182, Policoff

Spring Quarter

W—7:00-9:30, Ph 131,
Kaufmanis

Ast 1-009 STARS AND GALAXIES (old Ast 13). 3 degree credits. \$42.

Discussion of constellations, properties and motions of stars, and the structure of the universe. Extended opportunity for the use of the telescope. Nonmathematical course. (No prereq)

Spring Semester

T—6:20-8:00, Ph 131, Kaufmanis

Fall Quarter

M—7:00-9:30, Kel HS 167-169,
Policoff

Biology

(See Special Issues courses, pages 268-269)

Eville Gorham, Professor of Botany

Robert G. McKinnell, Professor of Zoology

Biol 1-011 GENERAL BIOLOGY (replaces Biol 1-001/1-002). 5 degree credits. \$70 plus \$10 laboratory fee.

An introduction to biology, its importance and relationships to the life of man. Course content includes: ecology, criteria for life, metabolism, cells, organisms, heredity, and evolution. Lectures will be presented over closed-circuit TV. Students must attend both lectures on Tuesday and Thursday and both laboratory sessions on Tuesday and Thursday. (No prereq)

Fall Quarter

Lect T—6:00-7:30,
Aero 215, 313, 317,
319, 321
Lab T—7:30-9:30,
KoltH S160, S167, S170,
S177, S179, S183
Lect Th—6:00-7:00,
Aero 215, 313, 317,
319, 321
Lab Th—7:00-9:00,
KoltH S160, S167, S170,
S177, S179, S183

Winter Quarter

Lect T—6:00-7:30,
Aero 215, 313, 317,
319, 321
Lab T—7:30-9:30,
KoltH S160, S167, S170,
S177, S179
Lect Th—6:00-7:00,
Aero 215, 313, 317,
319, 321
Lab Th—7:00-9:00,
KoltH S160, S167, S170,
S177, S179

Spring Quarter

Lect T—6:00-7:30,
Aero 215, 313, 317,
319, 321
Lab T—7:30-9:30,
KoltH S160, S167, S170,
S177, S179
Lect Th—6:00-7:00,
Aero 215, 313, 317,
319, 321
Lab Th—7:00-9:00,
KoltH S160, S167, S170,
S177, S179

Biol 1-104 ECOLOGY AND MAN (replaces Ecol 1-004 and old Ecol 10). 4 degree credits. \$56.

The basic concepts of ecology with special reference to man's increasing impact and exploitation of the environment, stressing the biosphere's limits with respect to energy, resources, and space. After an initial organizational meeting on the first night of class, students will, in subsequent meetings, view video-taped lectures, followed by small group discussions and/or demonstration sessions. Discussion of selected readings from the two required texts (Kormondy's *Concepts of Ecology* and his *Readings in Ecology*) will form the basis of some of the small group sessions.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

A mid-quarter examination and book reviews on two paperbacks dealing with problems of man and his environment will be required. The final examination will be essay, based on the synthesis of the basic concepts of ecology. (No prereq. For Upper Division credit register in Econ 3-001)

Winter Quarter

Th—6:20-8:50, Brook
Lect—NH 45
Dis—Arch 15, 30, 45,
and 60

Biol 3-051 BIOLOGY AND THE FUTURE OF MAN (old Biol 57). 4 degree credits. \$56.

A nontechnical discussion of biological factors affecting the quality of life, e.g., population growth, genetics and eugenics, aging, biochemistry of behavior, biological aspects of social systems, chemical and biological warfare, food supply, environmental change, space biology, biological aspects of ethics and morals. (No prereq)

Spring Semester

W—6:20-8:40, Aero 327,
Gorham, Pratt

Business Administration

Your attention is called to the Business Administration Certificate programs, page 77.

Please see the following alphabetical departmental listings for course offerings:

ACCOUNTING

BUSINESS ADMINISTRATION COURSES

FINANCE AND INSURANCE

INDUSTRIAL RELATIONS

MANAGEMENT AND TRANSPORTATION

MANAGEMENT SCIENCE

Management Information Systems

Operations Analysis and Management (formerly Production)

Quantitative Analysis

MARKETING AND BUSINESS LAW

REAL ESTATE

SALESMANSHIP

(See also Economics and Business English)

For non-credit conferences or seminars in business administration, write or call Professor John J. Mauriel, Director, Continuing Business Education, 334C Business Administration; telephone 373-3680.

MASTER'S PROGRAM: BUSINESS ADMINISTRATION

The following courses will be offered in 1972-73 as part of the evening Master of Business Administration degree program. These courses are open only to students who have been admitted to the Graduate School and to the evening Master of Business Administration program. They are not open to other graduate students. Other courses in Part I of the evening Master of Business Administration program are offered as undergraduate or condensed undergraduate-graduate courses in Extension Classes. Inquiries should be directed to the Director of Graduate Study, Room 334H, School of Business Administration, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-5505

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

1972-73 Schedule for Required Courses in Evening Master of Business Administration:

PART I OF THE PROGRAM

Fall Quarter

Ins 8-100 RISK MANAGEMENT AND INSURANCE I. 4 degree credits, \$64.
Th—5:30-8:00, BlegH 125, Williams

Mktg 8-000 PRINCIPLES OF MARKETING. 4 degree credits, \$64.
T—5:30-8:00, BlegH 105, Sauter

Mgmt 8-001 FUNDAMENTALS OF MANAGEMENT. 4 degree credits, \$64.
M—5:30-8:00, BlegH 225, Mauriel

Winter Quarter

Acct 8-050 PRINCIPLES OF ACCOUNTING I. 4 degree credits, \$64.
W—5:30-8:00, BlegH 145

BLaw 8-158 INTRODUCTION TO LAW AND THE LAW OF CONTRACTS AND AGENCY. 4 degree credits, \$64.
Th—6:20-8:50, BlegH 205, Wright

Tran 8-154 FUNDAMENTALS OF TRANSPORTATION. 4 degree credits, \$64.
T—5:30-8:00, AndH 230, Harper

Spring Quarter

IR 8-002 INDUSTRIAL RELATIONS SYSTEMS: LABOR MARKETS AND THE MANAGEMENT OF HUMAN RESOURCES. 5 degree credits, \$80.
T—5:30-8:00, BlegH 335, Smythe

Acct 8-051 PRINCIPLES OF ACCOUNTING II. 4 degree credits, \$64.
W—5:30-8:00, BlegH 135

Fin 8-000 FOUNDATIONS OF FINANCE. 4 degree credits, \$64.
Th—5:30-8:00, BlegH 125, Upson

Business Administration (BA) Courses

Bruce Erickson, Associate Professor of Management and Transportation

Robert J. Holloway, Professor of Marketing and Business Law

Orville Walker, Assistant Professor of Marketing and Business Law

(For a complete list of Human Relations and Minority Issues courses, see page 265)

BA 3-002 BUSINESS AND SOCIETY. 4 degree credits, \$56.

Examines the strategic and dynamic relations of business and society in a goal-oriented and problem-solving context. Focuses on the interfaces of business institutions with the physical environment, the social milieu, the political process and economic activity. Gives specific attention to the on-going debate regarding national priorities and the respective roles of the private and public sectors concerning the challenges confronting U.S. society. Includes assessment of the concept, determinants, and indicators of the "quality of life" and the social responsibilities of business. (No prereq)

Fall Quarter

T—5:30-8:00, BA 632,
Walker

Winter Quarter

W—5:30-8:00, BA 933,
Erickson

(See Special Issues courses, pages 268-269)

BA 3-100 SOCIAL CONCERNS OF BUSINESS. 4 degree credits, \$56.

Topics selected each time course is offered. Focuses on current social-business issues: e.g., pollution, consumerism, minority employment, etc. Emphasis on discussion, selected readings, and individual projects. (No prereq)

Spring Semester

T—8:15-9:55, BlegH 105,
Holloway

(See page 272 for further information)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

BA 3-200 BUSINESS AND THE NATURAL ENVIRONMENT. 4 degree credits. \$56.

Business and its relationship to the natural environment (air, land, water, plants, and animals). The use by industry of renewable and nonrenewable resources. Environmental deterioration caused by business to air, land, and water. Solutions to environmental problems. (No prereq)

Fall Semester

T—8:15-9:55, BlegH 145,
Holloway

(For complete list of Ecology courses, see pages 262-263)

Business Finance

(See Finance and Insurance)

Business Law

(See Marketing and Business Law)

Business Studies

(General College)

Bernice Folz, Instructor in Business Studies

Dennis Hower, Assistant Professor of Business Studies

Patrick Kroll, Assistant Professor of Business Studies

Ruth Larson, Assistant Professor of Business Studies

Mark Ludlow, Instructor in Business Studies

Margaret J. MacInnes, Associate Professor of General Arts

Mary Michels, Instructor in Business Studies

(See General College Occupational Programs, page 52)

***GC 1-235 THE LAW IN SOCIETY** (old GC 20B). 4 degree credits. \$56.

Introduction to major principles and functioning of our legal system. Students participate in organization and emphasis of the course. Guest lecturers, tours and films lend practical knowledge to theoretical problems. Topics to be selected by students include: drug problems; pollution; the draft; racism; the war; Minnesota correctional system, etc. (No prereq. Limited to 40 students)

Fall Quarter

Th—6:20-8:50, NH
216, Hower

Winter Quarter

Th—6:20-8:50, Rich HS
218, Hower

(See Special Issues courses, page 268-269)

***GC 1-511 INTRODUCTION TO MODERN BUSINESS** (old GC 15). 4 degree credits. \$56. ★

This course provides an overview of the economic environment in which business operates. The major functions of a business organization are surveyed including production, finance, personnel and marketing. A useful introductory course for students planning to do more work in business; also is recommended for those who want to survey the field without study in detail. (No prereq. Limited to 35 students)

Fall Quarter

M—6:00-8:30, NH 207,
Larson

(See also Econ 1-001, 1-002, PRINCIPLES OF ECONOMICS)

***GC 1-513 PRINCIPLES OF SMALL BUSINESS OPERATIONS** (old GC 17B). 3 degree credits. \$42. ★

Designed specifically for those who plan to own or operate some form of small business, this course deals with the following topics: environment and manage-

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

ment of the small business; problems of initiating the business; financial and administrative control; marketing program and policies, and legal and governmental relationship. (No prereq. Limited to 30 students)

Fall Quarter

W—6:20-8:50, NH 107,
Ludlow

Spring Quarter

T—6:20-8:50, Kel HS
229, Ludlow

***GC 1-535 INTRODUCTION TO DATA PROCESSING (old GC 14D). 3 degree credits. \$42. ★**

Designed to provide an introduction to data processing for students wishing to acquaint themselves with basic aspects of this important and rapidly evolving technology. Useful as well to those considering the possibility of entering a course of training for work in the world of tabulation equipment, programming computers, and related areas. The course defines data processing and explores its history, summarizes some of its basic applications, and assesses its social and economic effects. Students study terminology; basic steps in the processing of data; and kinds of machines used to accomplish these steps, such as keypunches, sorters, interpreters, reproducers, collators, accounting machines, calculators, and computers, with an elementary introduction about their operation. Career opportunities are explained and suggestions for further study are outlined. (No prereq. Limited to 35 students)

Fall Quarter

W—6:20-8:50, Bu 123,
Folz

Winter Quarter

W—6:20-8:50, Kel HS
237, Folz

(For complete list of computer-related courses, see page 266)

GC 1-536 INTRODUCTION TO COMMERCIAL ART (old 23B). 3 degree credits [may be repeated for maximum of 9 credits]. \$42.

Emphasis is on design, lettering, graphic expression, and commercial processes which are fundamental to commercial art. (No prereq)

Spring Quarter

M—6:20-8:50, NH 102,
MacInnes

(For complete list of Mass Communications and related courses, see page 267)

***GC 1-544 BEGINNING TYPEWRITING (old GC 14A). 3 degree credits. \$42 plus \$4 special fee.**

A beginning course for students with no previous typewriting training, introducing the keyboard and stressing touch method of typing. Student should attain a proficiency of approximately 30 wpm with accuracy and be able to apply this skill to preparation of business letters, tabulation problems, manuscripts, and reports. Designed to assist student in personal correspondence and preparation of term papers and reports as well as to provide foundation for possible vocational uses of typewriting. (No prereq. Limited to 30 students)

Fall Quarter

TTh—6:20-8:35,
PeikH 265, Michels

***GC 1-572 INTRODUCTION TO BLOCK DIAGRAMMING AND PROGRAMMING. 4 degree credits. \$56. ★**

Designed to provide an orientation to problem solving in data processing. Typically this involves formulating a block diagram (graphic sequence of steps needed to solve problem) and using block diagram as guide for writing a program. Useful not only to prospective data-processing personnel, but to others working in or interested in business and to those interested in improving logical-thinking skills. Emphasizes concepts such as computer number systems; languages, various storage devices, and techniques for recording information. Attention also given to programming techniques such as switches, branching, use of input/output devices, editing fields for printing, and defining working storage areas and constants. Actual use of computer whenever possible. (Prereq 1-535 or ♯. Limited to 35 students)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Spring Quarter
W—6:20-8:50, Bu 125,
Foiz

(For complete list of computer-related courses, see page 266)

GC 1-581 LEGAL STUDIES: BUSINESS ORGANIZATION. 4 degree credits. \$56 plus \$4 special fee.

The study of the legal organization of business entities is the primary focus of this course. Emphasis is on the role of the lawyer and the legal assistant in the formation of various business organizations. This includes a survey of the fundamental principles of law applicable to each type of business organization and preparation of the related documents. (Prereq Acct 1-024, Blaw 3-058/3-078, 3-088 or #)

Fall Quarter

M—6:20-8:50,
NH 122

GC 1-582 LEGAL STUDIES: REAL ESTATE. 4 degree credits. \$56 plus \$4 special fee.

The laws relating to real property and the common types of real estate transactions and conveyances are the primary topics treated in this course. Various instruments such as deeds, contracts, leases, deeds of trust, etc. are studied, with emphasis on how these instruments are drafted. Study activities include research projects relating to the subject matter and practice in retrieving and recording information. (Prereq Acct 1-024, Blaw 3-058/3-078, 3-088 or #)

Winter Quarter

T—6:20-8:50,
NH 207

GC 1-583 LEGAL STUDIES: ESTATE PLANNING AND ADMINISTRATION. 4 degree credits. To be offered 1973-74.

This course introduces the student to problems associated with planning for efficient use of financial resources during working life, retirement and after the death of the principal income producer. Included are techniques for fact gathering, income and death tax principles, use of trusts, will drafting and probate procedures. Emphasis is on the standard procedures used by legal assistants to assist attorneys in these matters. (Prereq Acct 1-024, Blaw 3-058/3-078, 3-088 or #)

GC 1-584 LEGAL STUDIES: LITIGATION AND TRIAL PRACTICE. 4 degree credits. \$56 plus \$4 special fee.

This course of study will include an analysis and discussion of the following: common types of litigation, premises of litigation, sources of law, the court systems, attorneys, types of lawsuits, usual defenses, Minnesota civil procedures, discovery procedures, court procedures, trial, post-trial motion procedures, appeal, enforcement of judgment, various types of litigation, and good investigation of facts basic to adequate preparation for litigation. Particular attention is given to the role of the legal assistants in assisting the attorneys in these matters. (Prereq Acct 1-024, Blaw 3-058/3-078, 3-088 or #)

Spring Quarter

M—6:20-8:50,
NH 209

GC 1-585 LEGAL STUDIES: INCOME TAXATION. 4 degree credits. To be offered 1973-74.

This course would provide a detailed study of the law of income taxation—state, federal and local—including preparation of income tax returns and related materials and a survey of the various administrative and judicial tribunals, and their jurisdiction, involved in the determination of income tax controversies. (Prereq Acct 1-024, Blaw 3-058/3-078, 3-088)

GC 1-586 LEGAL STUDIES: LEGAL RESEARCH. 4 degree credits. To be offered 1973-74.

The course will examine in depth the law library, survey the various reference sources available to lawyers in determining applicable law, and study the processes of legal research and writing of memoranda presenting results of that legal

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

research. The course will include numerous practice problems requiring legal research and memoranda writing, utilizing the statutes, case reports, encyclopedias, treatises, and other legal research sources. (Prereq Acct 1-024, Blaw 3-058/3-078, 3-088)

MARKETING SEQUENCE

Patrick Kroll, Instructor

GC 1-551, 1-552, and 1-553 are specifically designed for the individual interested in mid-management positions in retailing and sales. These courses are aimed at developing knowledge and skills relating to positions in retail departmental management, sales, wholesale distribution, credit management, and buying.

The content for the courses has been developed with the aid of an advisory committee of Minneapolis and St. Paul businessmen. Topics selected are: introduction to marketing, wholesaling salesmanship, credit, customer services, advertising, retail display, buying and merchandising, training and supervision of personnel, organizational management, and government relations.

These topics have been put in context as they apply to the mid-manager's job. The courses may be taken individually and need not be taken in sequence. Upon successful completion of all three courses, and 3 credits of GC 1-557, a certificate in Marketing is granted the student by the General College of the University.

***GC 1-551 MARKETING: RETAILING AND SALES** (old GC 18A). 4 degree credits. \$56.

This course introduces the student to mid-management marketing. After an exploration into the career opportunities in mid-management and a study of the field of distribution, wholesale and retail marketing are explored from customer related activities. Topics: salesmanship, credit, and customer services. (No prereq. Limited to 30 students)

Fall Quarter

T—6:20-8:50, PeikH 275,
Kroll

***GC 1-552 MARKETING: SALES PROMOTION** (old GC 18B). 4 degree credits. \$56.

Topics of study include: the psychology of advertising, advertising media selection, store interior layout and display, and public relations. The emphasis is on learning to develop coordinated promotional plans for marketing operations. (No prereq. Limited to 30 students)

Winter Quarter

T—6:20-8:50, PeikH 275,
Kroll

(For complete list of Mass Communications and related courses, see page 267)

***GC 1-553 MARKETING: PRINCIPLES OF MANAGEMENT** (old GC 18C). 4 degree credits. \$56.

This course investigates the marketing firm from the mid-manager's viewpoint. Topics of study include: management organizations, personnel selection and training, supervision techniques, employee evaluation, buying and merchandising, government relations, and computer applications in marketing. (No prereq. Limited to 30 students)

Spring Quarter

T—6:20-8:50, PeikH
275, Kroll

(See also Marketing and Business Law)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

GC 1-557 MARKETING: SUPERVISED WORK EXPERIENCE. 1-3 degree credits. \$14 per credit.

Students will prepare reports about their work activities, duties, and responsibilities for evaluation by their job supervisor and/or the program instructor. Usual registration is for 1 credit per quarter taken concurrently with GC 1-551, 1-552, 1-553. Other credit arrangements should be made with the instructor. (Prereq concurrent or previous registration in GC 1-551, 1-552, 1-553)

Fall Quarter

Hours arranged,
Kroll

Winter Quarter

Hours arranged,
Kroll

Spring Quarter

Hours arranged,
Kroll

Chemistry

(See also new Professional Recognition Program in Engineering and Science, page 157)

(See also GC 1-181, MODERN PHYSICAL SCIENCE [Natural Science])

Robert Brasted, Professor of Chemistry

Keith Coad, Lecturer in Chemistry

A \$10 chemistry deposit card is required for all 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, less charges for breakage, will be returned to the student at the end of the semester.

GENERAL CHEMISTRY

Chem 1-004/1-005† GENERAL PRINCIPLES OF CHEMISTRY (old Chem 4-5). 5 degree credits each semester. \$70 plus \$5 special fee and \$6 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; introduction to chemistry of carbon compounds. (Prereq elementary algebra. Higher algebra, trigonometry, H.S. chemistry, H.S. physics strongly recommended. Students attend twice a week)

Fall Semester

1-004 Lab T—6:00-9:30, SciCB 375
Lect Th—6:20-8:30, SciCB 375

Spring Semester

1-005 Lab T—6:00-9:30, SciCB 375
Lect Th—6:20-8:30, SciCB 375

Chem 1-006 PRINCIPLES OF SOLUTION CHEMISTRY (old Chem 6). 4 degree credits. \$56 plus \$5 special fee and \$6 laboratory fee.

The lecture and laboratory work are concerned primarily with the descriptive chemistry of the elements, especially with the properties (including stereochemistry) of transition metal complex ions, their preparation, absorption spectrometry and some applications to physiological systems. Selected cations and anions are studied in the laboratory with regard to properties in aqueous solution and their detection. Both heterogeneous and homogeneous equilibria in solution are applied to separation techniques. Lecture material also includes oxidation reduction systematics and their use in estimating reaction spontaneity. Atomic, ionic and molecular structure serve as underlying bases for this study of simple and complex ions. (Prereq 1-005 or 1-032. Students attend twice a week)

Fall Semester

Lect T—6:20-8:00, SmithH 325
Lab Th—6:20-9:30, SmithH 210

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Child Psychology

(See page 143)

Chinese

(See East Asian Languages)

Civil and Mineral Engineering

(See also new Professional Recognition Program in Engineering and Science, page 157)

(See also IT 0-001, REFRESHER COURSE IN ENGINEERING FUNDAMENTALS, page 156)

G. Lee Christensen, Assistant Professor of Civil and Mineral Engineering
Howard I. Epstein, Assistant Professor of Civil and Mineral Engineering
Jesse E. Fant, Associate Professor of Civil and Mineral Engineering
Gerald W. Johnson, Assistant Professor of Civil and Mineral Engineering
Walter K. Johnson, Associate Professor of Civil and Mineral Engineering
Walter J. Maier, Associate Professor of Civil and Mineral Engineering

Your attention is called to the Undergraduate Development Certificate in Civil Engineering—90 credits, page 87 (formerly Senior Civil Engineering Science Certificate).

CE 0-005 REFRESHER COURSE FOR CIVIL ENGINEERS. No credit. \$56.

This course is for practicing engineers and consists of lectures and problem sessions relating to highways, soils, sanitary, structural and hydraulic engineering. (Prereq BCE or equivalent degree, or completion of Parts I and II of the State Board Examination)

Winter Quarter

T—6:00-9:30, Ex 193

CE 3-100 SURVEYING (old CE 61A). 4 degree credits. \$56.

The theory, analysis, and execution of control surveys to determine the horizontal and vertical position of points in mapping, engineering projects, cadastral surveys, and for construction layout. Elements of map construction and use. Field problems in use of surveying instruments. (Prereq Math 1-211 or old 1-210 or equiv)

Fall Quarter

Lect Th—6:20-9:00,
Ex 177, Fant

Lab S—9:00 a.m.-12:00,
Ext 177 (Sept 30;
Oct 14, 21; Nov. 4, 18)

CE 3-102 SURVEY DESIGN AND ANALYSIS (old CE 64A). 4 degree credits. \$56.

Study of land ownership, property rights, and descriptions; geometric design of engineering projects; fitting of design to topography including analysis and computations of earthwork and drainage; land development regulations. (Prereq Math 1-211 or old 1-210)

Winter Quarter

Lect Th—6:20-9:00,
Ex 177, G Johnson

Lab S—9:00 a.m.-12:00,
Ex 177 (Jan. 6, 20;
Feb 3, 17; Mar 3)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

CE 3-500 INTRODUCTION TO ENVIRONMENTAL ENGINEERING. 4 degree credits. \$56.

Needs of urbanized society and their impact on the environment; physical, chemical, and biological characterization of the environment; environmental quality standards; technology for pollution abatement. (Prereq 3-400 or 2)

Fall Quarter

Lect TTh—6:00-7:40,
Ex 193, Maier

CE 5-100 LAND SURVEYING (old CE 111). 4 degree credits. \$60.

Study of Minnesota Public Land Survey. Federal and state laws governing resurveys, registered land surveys, and subdivision plats. Court decisions and legal principles involving boundary line determinations. Interpreting and writing deed descriptions. (Prereq 3-100 and 3-102 or §. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

Lect Th—6:20-9:00,
Ex 177, Fant

Lab S—9:00 a.m.-12:00,
Ex 177 (Apr 7, 21;
May 5, 19; June 2)

CE 5-500 ANALYSIS AND DESIGN OF WATER SUPPLY SYSTEMS (old CE 170). 4 degree credits. \$60.

Planning and engineering design considerations in developing water supply systems for urban centers. This includes considerations of supply quality, storage treatment, distribution, and cost analysis. (Prereq 3-500 or §. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

Lect Th—6:20-9:00,
Ex 250B, W Johnson

Lab S—9:00 a.m.-12:00,
Ex 250B (Jan. 13, 27;
Feb 3, 17; Mar 3)

CE 5-501 ANALYSIS AND DESIGN OF WASTE WATER SYSTEMS. 4 degree credits. \$60.

Planning and engineering design considerations in developing waste water disposal systems for urban centers. This includes characterization of the volumes and quality of the waste streams, treatment and ultimate disposal of domestic, industrial waste waters, and storm water runoff. Environmental effects, cost, and political aspects of ultimate disposal are considered. (Prereq 3-500 or §. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

Lect Th—6:20-9:00,
Ex 250B, Christensen

Lab S—9:00 a.m.-12:00,
Ex 250B, Christensen
(Apr 7, 21; May 5, 19;
June 2)

(For complete list of Ecology courses, see page 262-263)

CE 5-610 DESIGN OF METAL STRUCTURES (old CE 136). 4 degree credits. \$60.

Elastic and plastic philosophies of design and related properties of structural metals. Design of tension members, columns, beams, trusses, buildings, and bridges. Connections. Plastic design. (Prereq 5-600 or §. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

W—6:00-9:20, Ex 177,
Epstein

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

CE 5-611 DESIGN OF REINFORCED CONCRETE STRUCTURES (old CE 141). 4 degree credits. \$60.

Working stress and ultimate load philosophies of design and their relation to physical properties of steel and concrete. Design of continuous beams, columns, slabs, footings. Relation of code provisions to field and laboratory measurements. (Prereq 5-600 or \$. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

W—6:00-9:20, Ex 177,
Epstein

Civil Defense

For information on non-credit conferences or workshops in civil defense, please contact Robert J. Elliott, Civil Defense Education, 1633 Eustis Street, St. Paul, Minnesota 55108.

Classics

(See also Latin)

William D. E. Coulson, Assistant Professor of Classics

A. Thomas Kraabel, Associate Professor of Classics

George Rochefort, Assistant Professor of Classics

Robert P. Sonkowsky, Professor of Classics

NOTE—Classics (Clas) courses require no knowledge of Latin or Greek. All Classics courses listed may be applied toward the CLA foreign language requirement, Route II, see page 57.

Clas 1-007 THE WORLD OF GREECE. 4 degree credits, \$5-007. To be offered 1973-74.

Clas 1-008 THE WORLD OF ROME. 4 degree credits, \$5-008. \$56.

General survey of Roman civilization from its origins to the reign of Constantine. The Roman way of life as seen in art, history, literature, and philosophy. Special attention paid to the Etruscans and to the golden age of Rome under Augustus. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. For Upper Division or Graduate credit register in 5-008).

Fall Quarter

M—6:00-8:30, FoIH 203,
Rochefort

Clas 1-045 GREEK AND ROMAN MYTHOLOGY (old Clas 45). 3 degree credits, \$5-145. \$42.

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 prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. For Upper Division credit register in 5-145)

Fall Quarter

W—6:00-8:30, FoIH 308

(For complete list of courses related to religion, see page 264)

Clas 1-122 GREEK ART, ARCHITECTURE AND ARCHAEOLOGY: AN INTRODUCTORY COURSE (old Clas 22). 4 degree credits, \$5-122. \$56.

Survey of Greek art from the earliest times to 31 B.C. Attention paid to the main trends and concepts in architecture, sculpture and painting; also examination of the art in its social, literary and historical context. (No prereq. May be applied

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

toward the CLA foreign language requirement, Route II [see page 57]. For Upper Division or graduate credit register in Clas 5-122)

Spring Quarter

Th—6:00-8:30, FolH 203,
Coulson

Clas 3-072 RELIGION IN ANTIQUITY: BEGINNINGS OF CHRISTIANITY. 4 degree credits, \$5-072. \$56.

Examination of the origins and first decades of Christianity, based on a close study of English translations of the New Testament and other early Christian writings as well as Hellenistic Jewish texts. Concentration on Mark, Matthew, Luke—Acts and Paul. Emphasis on earliest Christianity as an ancient religion rather than on later theological and doctrinal positions. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. For Upper Division or Graduate credit register in 5-072)

Winter Quarter

Th—6:00-8:30, FolH 308,
Kraabel

(For complete list of courses relating to religion, see page 264)

Clas 3-073 RELIGION IN ANTIQUITY: ROMAN, EARLY CHRISTIAN. 4 degree credits, \$5-073. To be offered 1973-74.

Clas 5-007 THE WORLD OF GREECE. 4 degree credits, \$1-007. To be offered 1973-74.

Clas 5-008 THE WORLD OF ROME. 4 degree credits, \$1-008. \$60.

See course description for Clas 1-008. (No prereq. Meets with 1-008, but requires additional work for Upper Division and Graduate credit. May be applied toward the CLA foreign language requirement, Route II [see page 57]. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

M—6:00-8:30, FolH 203,
Rocheffort

Clas 5-072 RELIGION IN ANTIQUITY: BEGINNINGS OF CHRISTIANITY. 4 degree credits, \$3-072. \$60.

See course description for Clas 3-072. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

Th—6:00-8:30, FolH 308,
Kraabel

(For complete list of courses relating to religion, see page 264)

Clas 5-073 RELIGION IN ANTIQUITY: ROMAN, EARLY CHRISTIAN. 4 degree credits, \$3-073. To be offered 1973-74.

Clas 5-122 GREEK ART, ARCHITECTURE AND ARCHAEOLOGY: AN INTRODUCTORY COURSE (old Clas 122). 4 degree credits, \$1-122. \$60.

See course description for Clas 1-122. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

Th—6:00-8:30, FolH 203,
Coulson

Clas 5-145 GREEK AND ROMAN MYTHOLOGY (old Clas 145). 3 degree credits, \$1-045. \$60. See course description for Clas 1-045. (No prereq. May be applied toward the

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

CLA foreign language requirement, Route II [see page 57]. Upper Division credit.
May not be taken for graduate credit)

Fall Quarter

W—6:00-8:30, FoH 308

Communication Skills

(General College)

Fred Amram, Associate Professor of Communication Skills

Berenice Bleedorn, Instructor in Communication Skills

Evelyn Hansen, Assistant Professor of Communication Skills

(For further information on study help, see page 274)

***GC 1-405 FUNDAMENTALS OF USAGE AND STYLE.** 3 degree credits. \$42.

Students will study English grammar and determine its pertinence to their own writing on an individual study basis. They will arrange a programmed-learning sequence, write two short papers, and consult with a staff member of the Reading and Writing Skills Center, NH 109, at frequent intervals. Students enrolled in the course can come to the Center to study and consult with a staff member any day between 5:00-6:15 p.m. The Center is open Monday through Thursday. (No prereq. Limited to 40 students)

Fall Quarter

Hours arranged

Winter Quarter

Hours arranged

Spring Quarter

Hours arranged

GC 1-409 COMMUNICATION SKILLS: INDIVIDUAL STUDY. 1 degree credit. \$14.

This independent study course is designed to assist students on an individual basis with projects or papers relating directly to work students are doing in other courses being taken concurrently. The project will be determined by the student and a staff member of the General College Reading and Writing Skills Center, NH 109. Students may consult with a staff member any day between 5:00-6:15 p.m. The Center is open Monday through Thursday. (No prereq)

Fall Quarter

Hours arranged

Winter Quarter

Hours arranged

Spring Quarter

Hours arranged

INTEGRATED APPROACH TO COMMUNICATIONS

In the following sequence of courses the student becomes aware of communication processes and increases his understanding of relationships between writing and speech. Through interaction in small-group projects and discussion, he learns about his own communication patterns and gains insight into how and why he affects others as he does. He works at developing greater effectiveness in his writing and speaking.

***GC 1-413/1-414 INTEGRATED COMMUNICATION I.** 4 degree credits. \$56.

Student learns about interpersonal communication, with particular emphasis on his own pattern of interaction. (No prereq. Limited to 27 students)

Fall Quarter

M—6:20-8:50, NH 213,
Hansen

***GC 1-415/1-416 INTEGRATED COMMUNICATION II.** 4 degree credits. \$56.

Student considers how communication serves man in his development of community. He studies primary human groups—particularly the family—analyzing how they form and function, develop norms and standards, deal with conflict and tension, and define roles. (No prereq. Limited to 27 students)

Winter Quarter

M—6:20-8:50, NH 213,
Hansen

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

*GC 1-471 **CREATIVITY: CREATIVE PROBLEM SOLVING** (old GC 34). 4 degree credits.
\$56.

A course organized around a study of creativity and creative problem solving. Emphasis will be directed toward making students aware of the need for creative behavior in business, industry, and community affairs, and in the arts. Students will participate in exercises to help them become more sensitive to problems, better able to analyze problems, and to demonstrate some of the techniques which aid in the discovery of unique solutions. Class discussion about the social and emotional blocks to creative behavior will be designed to help students discover and overcome their own blocks. Students will be encouraged to apply their creative activities to their academic, professional, or artistic interests. (No prereq. Limited to 30 students)

Fall Quarter

T—6:20-8:50, NH 216,
Amram

Spring Quarter

W—7:00-9:30, Harding HS
125, Bleedorn

Communication

(See Communication courses in English; and Study Skills)

Communications, for Health Professionals

(See page 237)

Computer, Information, and Control Sciences

(For information concerning Undergraduate Development Certificates in Computer, Information, and Control Sciences, call the Counseling Office, 373-3905.)

(For a complete list of computer-related courses, see page 266)

Donald Boyd, Assistant Professor of Computer, Information, and Control Sciences

Kenneth Brown, Associate Professor of Computer, Information, and Control Sciences

Krzysztof Frankowski, Associate Professor of Computer, Information, and Control Sciences

William Franta, Assistant Professor of Computer, Information, and Control Sciences

Allen Hanson, Assistant Professor of Computer, Information, and Control Sciences

Oscar Ibarra, Assistant Professor of Computer, Information, and Control Sciences

Jay A. Leavitt, Associate Professor of Computer, Information, and Control Sciences

William D. Munro, Professor of Computer, Information, and Control Sciences

Peter Nicholson, Assistant Professor of Computer, Information, and Control Sciences

COMPUTER, INFORMATION, AND CONTROL SCIENCES

PREREQUISITES IN THE INSTITUTE OF TECHNOLOGY

The entrance requirement for the Institute of Technology and the prerequisite for Math 1-211 or old 1-210 is 4 years of high school mathematics including solid geometry and trigonometry. Any student who meets this requirement is eligible to register for Math 1-211. However, if it has been two years or more since he took his last mathematics course, the student is strongly advised to register for Math 1-201 (replaces Math 0-012C) or possibly Math 0-009 (old 0-011). A student who has completed Math 0-009 or its equivalent (higher algebra) in high school or college (not a trade school) within the last 2 years

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

may register for Math 1-201. Math 0-009 and Math 1-201 take the place of the junior and senior mathematics courses in high school.

CICS 1-105 FUNDAMENTALS OF ALGORITHMS AND LANGUAGE I (replaces CICS 1-100/1-101). 4 degree credits. \$56 plus \$4 materials fee.

Algorithms, their properties and representation. Elementary concepts in linguistics: syntax, semantics, ambiguities. FORTRAN as a language; applications of FORTRAN to different algorithms, for example iteration and recursion, sequential and binary searching, numerical methods. (Prereq Math 1-211 or old 1-210 or ¶1-211 or #)

Fall Semester

M—6:00-8:15, Ex 193,
Leavitt

CICS 1-106 FUNDAMENTALS OF ALGORITHMS AND LANGUAGES II (replaces CICS 1-102/1-103). 4 degree credits. \$56 plus \$4 materials fee.

Algorithms for non-numerical data. Tree structures, lists, strings, simulation, sorting, hashing, elementary graph theory, game playing. Languages for string processing and symbol manipulation; SNOBOL. Language translation. FORTRAN and SNOBOL programs as informal laboratory. (Prereq 1-105 or #)

Spring Semester

M—6:00-8:15, Ex 177, Nicholson

CICS 3-101 A FORTRAN INTRODUCTION TO COMPUTER PROGRAMMING. 4 degree credits, \$5-101. \$56 plus \$4 materials fee.

Basic FORTRAN computer language with extensions. Programming applications and techniques. The binary number system and elements of computer organization and machine language. Integral laboratory. (Prereq Math 1-231 or old 1-230 or 1-443. Some informal laboratory time is required and will be determined as the class progresses)

Fall Semester

W—6:00-7:40, Ex 193,
Brown
(1 hour lab arranged)

Spring Semester

W—6:00-7:40, Ex 193,
Ibarra
(1 hour lab arranged)

CICS 3-107 INTRODUCTION TO ASSEMBLY LANGUAGE PROGRAMMING. 4 degree credits. \$56 plus \$4 materials fee.

Number bases and representation. Analysis of simple computer: machine language instructions, addressing, indexing. Assembly language coding. Floating point arithmetic, looping, testing, character manipulation, logical operations, subroutine linkage and transfer. Students will write assembly language programs. (Prereq 1-105 or 3-101 or #)

Fall Quarter

M—6:00-9:00, Arch 30,
Franta

CICS 5-101/5-102 STRUCTURE AND PROGRAMMING OF SOFTWARE SYSTEMS I/II (old Math 164-165-166). 4 degree credits. \$60 plus \$4 materials fee.

Subroutine coding conventions; argument transfer, interrupts and traps; macro instruction, I/O equipment and operations buffer; conditional assembly and program segmentation. Students will write assembly programs. Creating an assembler, symbol management, microprogramming. (Prereq 3-107 or #. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

M—6:00-9:20, Arch 30,
Franta

Spring Quarter

M—6:00-9:20, Arch 30,
Boyd

CICS 5-304 COMPUTATIONAL ASPECTS OF MATRIX THEORY. 4 degree credits. \$60 plus \$4 materials fee.

Computational pitfalls. Conditioning. Iterative methods. Relaxation methods. Various reduction and elimination schemes. Hessenberg matrices. Methods of Lancos, Givens, Householder. Eigenvalue problems. Bounds for eigenvalues. (Prereq

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

5-302 or #. Qualified students may register for graduate credit at the University of Minnesota)

Spring Semester

M—6:00-8:15, Ex 193,
Leavitt

CICS 5-501 ARTIFICIAL INTELLIGENCE AND HEURISTIC PROGRAMMING. 4 degree credits. \$60 plus \$4 materials fee.

Graph-theoretic problem representations. Algorithms for searching graphs. Problem reduction and subgoal generation. Tower of Hanoi problem. Representation in the predicate calculus. (Prereq 1-106 or #. Qualified students may register for graduate credit at the University of Minnesota)

Fall Semester

M—6:00-8:15, Arch 20,
Hanson

CICS 5-503 INTRODUCTION TO COMPILERS. 4 degree credits. \$60 plus \$4 materials fee.

General organization. Single and multiple pass techniques. Table organization. Macro instruction. Macro nesting. Conditional assembly. Pseudo operations. Error detection. Translation of arithmetic expressions. Polish and inverse-Polish notations. Stacks. Storage. Memory allocation. Compiler generation languages. (Prereq 5-102 or #. Qualified students may register for graduate credit at the University of Minnesota)

Spring Semester

M—6:00-8:15, Arch 20,
Frankowski

Counseling and Student Personnel Psychology

(See page 145)

Counselor, Alcoholism and Drug Abuse

(See Alcoholism and Other Drug Abuse Counselor Certificate, page 74; and Public Health courses)

Criminal Justice Studies

Bruce Vinokour, Assistant Professor of Criminal Justice Studies

CJS 5-102 CRIMINAL PROCEDURE. 4 degree credits. \$60.

Topics covered include discretion to arrest, the constitutional law of arrest and search and seizure, the role of the prosecutor, plea bargaining, sentencing, and post-conviction relief. (No prereq. May not be taken for graduate credit)

Winter Quarter

MTh—7:20-9:00, MainE 136,
Vinokour

(See Special Issues courses, pages 268-269)

Dentistry

For information on non-credit conferences or workshops in dentistry, please contact Dr. Robert D. Jeronimus, Continuing Education in Dentistry, 1 Owré Hall; telephone 373-7961.

Drug Abuse

(See Public Health)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

East Asian Languages

Edward M. Copeland, Professor of East Asian Languages

Kaye Matsumoto, Lecturer in East Asian Languages

Stephen Wang, Associate Professor of East Asian Languages

Tape reels or cassettes are available to extension classes students on a take-home basis. Students can pick up tapes at the Language Laboratory on the second floor of Temporary South of Folwell or the second floor of Temporary South of Coffey on the St. Paul Campus. Students must present a fee statement when checking out tapes. Rental costs are covered by the special fees paid with tuition.

Language laboratory hours are: Monday-Thursday, 8 a.m. - 8 p.m.; Friday, 8 a.m. - 6 p.m.; Saturday, 9 a.m. - 3 p.m.; closed Sunday.

CHINESE

The following non-language extension classes may be applied toward the CLA foreign language requirement, Route II [see page 57]: ArtH 5-766; Hist 3-468; Hist 5-468; Ortl 3-501.

Chin 1-005/1-006 BEGINNING SPOKEN MANDARIN. 3 degree credits each semester. \$42 plus \$3 laboratory fee each semester.

An introduction to modern spoken Mandarin Chinese intended to provide the basic sentence patterns and vocabulary in Romanization necessary for development of conversational ability. (No prereq for 1-005; 1-005 or # for 1-006)

Fall Semester

1-005 W—6:20-8:00, FolH 302, Wang

Spring Semester

1-006 W—6:20-8:00, FolH 302, Wang

JAPANESE

The following non-language extension classes may be applied toward the CLA foreign language requirement, Route II [see page 57]: ArtH 5-767; Hist 3-471; Hist 3-472; Hist 5-471; Ortl 3-502.

Jpn 1-005/1-006 BEGINNING SPOKEN JAPANESE (old Jpn 5-6). 3 degree credits each semester. \$42 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 prereq for 1-005; 1-005 or # for 1-006)

Fall Semester

1-005 M—6:20-8:00, FolH 304, Copeland

Spring Semester

1-006 M—6:20-8:00, FolH 302, Copeland

ORIENTAL

Ortl 3-501 ASIAN CIVILIZATION: CHINA (old Ortl 76). 4 degree credits. \$56. ★

An introduction to the traditional culture of China, with special emphasis on literature, art, philosophy and religion. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57])

Fall Semester

T—6:20-8:00, Jones 1, Matsumoto

Ortl 3-502 ASIAN CIVILIZATION: JAPAN (old Ortl 77). 4 degree credits. \$56.

An introduction to the traditional culture of Japan, with special emphasis on literature, art, philosophy and religion. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57])

Spring Semester

T—6:20-8:00, Jones 1, Matsumoto

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Ecology

(For complete list of Ecology courses, see pages 262-263)

Alan J. Brook, Professor of Ecology and Behavioral Biology

Ecol 1-004 ECOLOGY AND MAN.

(See Biol 1-104, page 120)

Ecol 3-001 INTRODUCTION TO ECOLOGY (old Ecol 50). 4 degree credits, §1-003, 1-004, Biol 1-104. \$56.

See course description for Biol 1-104. (Prereq open to jrs or above [not for Biol majors]. Upper Division credit)

Winter Quarter

Th—6:20-9:50, Brook

Lect—NH 45

Dis—Arch 15, 30, 45,
and 60

Economics

Edward Coen, Professor of Economics

John D. Helmberger, Professor of Agricultural and Applied Economics

Clarence Nelson, Lecturer in Economics

Marcel K. Richter, Professor of Economics

Norman J. Smler, Professor of Economics

Harlan M. Smith, Associate Professor of Economics

John G. Turnbull, Professor of Economics

*Econ 1-001, 1-002 PRINCIPLES OF ECONOMICS (old Econ 1, 2). 4 degree credits each semester, if no credit received for any other beginning economics course. \$56 each semester.

Principles underlying economic activity and the way these principles work out through our economic institutions. 1-001: Macro-economics: national income, money and banking, economic growth. 1-002: Micro-economics: demand and supply, competition and monopoly, distribution of income, international trade, and current economic problems. (No prereq. Econ 1-001 and 1-002 may be taken in either order, or may be taken the same evening or the same term in order for the student to progress more rapidly to other courses. Each section limited to 35 students)

MINNEAPOLIS CAMPUS, WEST BANK

Fall Semester

- 1-001 Sec 1 M—6:20-8:00, BlegH 105
2 T—6:20-8:00, BlegH 210
3 T—6:20-8:00, BlegH 145
4 W—6:20-8:00, BlegH 130
5 Th—6:20-8:00, BlegH 115
6 Th—8:15-9:55, BlegH 115
- 1-002 Sec 7 Th—6:20-8:00, BlegH 340
8 Th—6:20-8:00, BlegH 260
9 Th—8:15-9:55, BlegH 260

Spring Semester

- 1-001 Sec 1 T—6:20-8:00, BlegH 105
2 Th—6:20-8:00, BlegH 255
- 1-002 Sec 3 M—6:20-8:00, BlegH 115
4 T—6:20-8:00, BlegH 220
5 W—6:20-8:00, BlegH 105

KELLOGG HIGH SCHOOL

Fall Semester

- 1-001 Sec 10 M—6:00-7:40, Kel HS 229

Spring Semester

- 1-002 Sec 6 M—6:00-7:40, Kel HS 229

HARDING HIGH SCHOOL

Fall Semester

- 1-001 Sec 11 W—6:30-8:10, Harding HS 119

Spring Semester

- 1-002 Sec 7 W—6:30-8:10, Harding HS 119

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

SANDBURG JUNIOR HIGH SCHOOL

Fall Semester

1-001 Sec 12 T—6:20-8:00, Sand JHS 209
 1-002 Sec 13 T—8:15-9:55, Sand JHS 209

Spring Semester

1-001 Sec 8 T—8:15-9:55, Sand JHS 209
 (Not limited)
 1-002 Sec 9 T—6:20-8:00, Sand JHS 209
 (Not limited)

RICHFIELD SENIOR HIGH SCHOOL

Fall Semester

1-001 Sec 14 M—6:20-8:00, Rich HS 249,
 Helmberger
 (Limited to 60 students*)

Spring Semester

1-002 Sec 10 M—6:20-8:00, Rich HS 249
 (Limited to 60 students*)

Students should note that extension classes will now offer in each field of economics both a course designed for the student who is not an economics major and courses designed for economics majors. Enough of the latter will be offered to enable majors to fulfill the economics requirements for a Bachelor of Arts degree. Most economics courses will be offered on a rotating basis rather than all being offered in any one year. The table below shows the comparable courses for economics majors and for others by fields. In addition to those listed, the following courses are open to economics majors and non-majors alike (only prerequisite is Principles of Economics, Econ 1-001, 1-002):

Econ 3-021 SURVEY OF ECONOMIC IDEAS

Econ 5-021 ECONOMICS, ETHICS AND ECONOMIC PHILOSOPHY

Econ 5-031, 5-032 CURRENT ECONOMIC ISSUES

	Courses open to	
	Econ Majors (Pre-requisites usually 3-101, 3-102)	Non-Majors (Pre-requisites Principles of Economics 1-001, 1-002)
Economic Development	5-331	5-301
Comparative Economic Systems	5-337	5-307
International Economics	5-431	5-401
Labor Economics	3-551	3-501
Industrial Organization	3-651	3-601
Money and Banking	3-751	3-701, 5-701
Public Finance	3-851	3-801

GENERAL ECONOMICS

Econ 3-021 SURVEY OF ECONOMIC IDEAS (old Econ 80). 3-5 degree credits. \$42-70.

A historical and analytical treatment of the development of some of the most important ideas and viewpoints in economics, and their relationship to changing economic conditions and politics. (Prereq 1-001 and 1-002 or Φ . Student may register for 3, 4 or 5 credits; assignments and examinations will vary accordingly. Term paper required only for 5 credits)

Fall Semester

Th—6:20-8:00, BlegH 255, Smith

Econ 5-021 ECONOMICS, ETHICS, AND ECONOMIC PHILOSOPHY (old Econ 170). 3-5 degree credits. To be offered 1973-74.

Liberalism, conservatism, business philosophy, anti-establishment philosophy, conflict of interest, and ideology. The literature and the issues it raises. The relation of ethics to economic organization, practice, and policy. Elements involved in the formulation of an economic philosophy for today. (Prereq 1-001, 1-002, or Φ . Qualified students interested in graduate credit should inquire at time of registration)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Econ 5-031 CURRENT ECONOMIC ISSUES (old Econ 150A). 3-5 degree credits. To be offered 1973-74.

Current controversies over economic policies and problems that underlie the controversies. Selected topics, with some opportunity for selection by the students of topics which especially interest them. (Prereq 3-101, 3-102 or §. With consent, course may be taken more than once since topics covered change each time the course is offered. Qualified students interested in graduate credit should inquire at time of registration)

ECONOMIC THEORY

***Econ 3-101 MICROECONOMIC THEORY** (old Econ 65). 4 degree credits, §3-104. \$56.

Behavior of households, firms and industries under competitive and monopolistic conditions. Factors influencing production, price and advertising decisions. (Prereq 1-002 or §. Each section limited to 35 students)

Fall Semester

T—6:20-8:00, BlegH 425, Coen
W—6:20-8:00, BlegH 425, Simler

Spring Semester

T—6:20-8:00, BlegH 330, Richter

***Econ 3-102 MACROECONOMIC THEORY** (old Econ 66). 4 degree credits, §3-105. \$56.★

Factors determining consumption, investment, national income, employment, and the price level. (Prereq 3-101 or §. Each section limited to 35 students)

Fall Semester

W—8:15-9:55, BlegH 415, Simler

Spring Semester

M—8:15-9:55, BlegH 110
T—8:15-9:55, BlegH 110

Econ 3-131 WELFARE ECONOMICS (old Econ 75). 4 degree credits. \$56.

Introduction to welfare economics. Economic efficiency and the conditions necessary to sustain it. Conflicts between the efficiency and income distribution goals. How market structure and public policies increase or decrease efficiency. (Prereq 3-101 or §)

Spring Semester

T—6:20-8:00, BlegH 255, Coen

DEVELOPMENT AND AREA STUDIES

Econ 5-301 and 5-331 ECONOMIC DEVELOPMENT (old Econ 103 and 103A). 4 degree credits. To be offered 1973-74.

The role of simple economic principles and of non-economic factors in raising a nation's standard of living. Lessons from the historical development of modern industrial economies. Problems of economic development of the underdeveloped nations today. Development planning. Issues in U. S. policy toward underdeveloped nations. (Prereq 1-001 and 1-002 for 5-301 [not open to economics majors]; 3-102 or § for 5-331. Qualified students interested in graduate credit should inquire at time of registration. Qualified students interested in graduate credit should inquire for credit)

Econ 5-307 and 5-337 COMPARATIVE ECONOMIC SYSTEMS (old Econ 160 and 160A). 4 degree credits. \$60.

Different economic systems today, including various socialist, communist, and capitalist economies. Economic ideologies and systems; alternative ways to perform basic economic functions; performance and problems of different economic systems; economic planning and the economic roles of government and the market in different countries; relations between different economic systems. (Prereq 1-001 and 1-002 for 5-307 [not open to economics majors]; 3-102 or § for 5-337. Qualified students may register for graduate credit at the University of Minnesota. The courses meet concurrently, but only one can be taken for credit)

Spring Semester

Th—6:20-8:00, BlegH 105, Smith

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

INTERNATIONAL ECONOMICS

Econ 5-401 and 5-431 INTERNATIONAL ECONOMICS (old Econ 104 and 104A). 4 degree credits. \$60.

Principal issues involved in international economic relations. Significance of foreign trade and investment, foreign exchange and international payments, the International Monetary Fund and Bank, the old gold standard and the new "paper gold." Arguments over foreign aid policies and tariffs. (Prereq 1-001 and 1-002 for 5-401 [not open to economics majors]; 3-102 or § for 5-431. Qualified students may register for graduate credit at the University of Minnesota. The courses meet concurrently, but only one can be taken for credit)

Fall Semester

Th—8:15-9:55, BlegH 105, Smith

LABOR ECONOMICS

Econ 3-501 and 3-551 LABOR ECONOMICS (old Econ 62). 4 degree credits. \$56.

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. (Prereq 1-001 and 1-002 or § for 3-501 [not open to economics majors]; 3-102 for 3-551. The courses meet concurrently, but only one can be taken for credit)

Fall Semester

M—6:20-8:00, BlegH 115, Turnbull

(See also IR 3-002, MODERN LABOR RELATIONS)

(See Special Issues courses, pages 268-269)

Econ 5-537 LABOR MARKET BEHAVIOR AND REGULATION (old Econ 172). 4 degree credits. \$60. ★

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. (Prereq IR 3-002 or Econ 3-501 or §. Qualified students may register for graduate credit at the University of Minnesota)

Spring Semester

M—6:20-8:00, BlegH 105, Turnbull

(See Special Issues courses, pages 268-269)

INDUSTRIAL ORGANIZATION

Econ 3-655 SCIENCE, TECHNOLOGY AND ECONOMIC GROWTH. 4 degree credits. \$56.

Technical change and economic growth. Determinants of invention; factors affecting the rate of innovation and of diffusion of new technology. Rates of return to new technologies. Externalities and public policy; environmental impacts of high-level technologies. (Prereq 3-102 or §)

Fall Semester

T—8:15-9:55, BlegH 105, Nelson

(For complete list of Ecology courses, see pages 262-263)

MONEY AND BANKING

Econ 3-751 MONEY AND BANKING (old Econ 67). 4 degree credits. \$56. ★

Historical development, present pattern, and economic role of financial institutions, with main emphasis on commercial banks, the money supply, and the Federal Reserve System. (Prereq 3-102 or §)

Spring Semester

Th—8:15-9:55, BlegH 105, Smith

Econ 3-701 and 5-701 MONEY, BANKING, AND MONETARY POLICY. 4 degree credits. To be offered 1973-74.

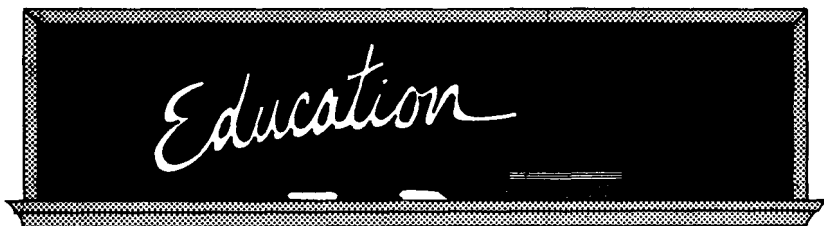
See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

PUBLIC FINANCE

Econ 3-801 and 3-851 **ELEMENTS OF PUBLIC FINANCE** (old Econ 68). 4 degree credits.
To be offered 1973-74.

Survey of taxation and government expenditures, budgeting, fiscal policy and debt, in terms of fiscal institutions, impact on business and the economy, and policy issues. (Prereq 1-001 and 1-002 or # for 3-801 [not open to economics majors]; 3-102 or # for 3-851. The courses meet concurrently, but only one can be taken for credit)



Education

The College of Education also offers late afternoon and Saturday classes. For more information call 373-2234 and ask for the *College of Education Continuing Education Classes Bulletin*.

ART EDUCATION

Mary Hiniker, Instructor in Art Education

Jay D. Kain, Instructor in Art Education

George K. Olson, Assistant Professor of Art Education

Thomas Slettehaugh, Associate Professor of Art Education

Anna Smits, Instructor in Art Education

ArEd 1-207 EXPERIENCES WITH PICTORIAL EXPRESSION (old ArEd 17C). 3 degree credits. \$42 plus \$2 materials fee.

Materials, techniques, and ideas important in art expression; relationship to adult expression, child expression, and art history. (No prereq)

Fall Quarter

Th—6:20-8:50, WuH
240, Olson

ArEd 1-208 EXPERIENCES WITH DESIGN, MATERIALS (old ArEd 18C). 3 degree credits. \$42 plus \$2 materials fee.

Projects in invention, arrangement and decoration; color, lettering, poster, and bulletin board displays. (No prereq)

Winter Quarter

Th—6:20-8:50, WuH 240,
Olson

ArEd 1-209 EXPERIENCES WITH FUNCTIONAL DESIGN, CRAFTS (old ArEd 19C). 3 degree credits. \$42 plus \$2 materials fee.

Projects related to clothing, architecture and interior design, community planning, commercial and industrial design, puppetry, dramatics, intercultural relations. (No prereq)

Spring Quarter

Th—6:20-8:50, WuH 220,
Olson

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

ArEd 3-001 SURVEY OF ART ACTIVITIES (old ArEd 50C). 4 degree credits. \$56.

Introduction to pictorial expression, design and the function of art in the social environment. (No prereq)

Winter Quarter

T—6:20-8:50, Rich HS
215, Hiniker

Spring Quarter

T—6:20-8:50, Sand JHS 204,
Hiniker

***ArEd 3-009 WEAVING WITHOUT A LOOM.** 4 degree credits. \$56.

Developing fundamental weaving skills, employing inexpensive equipment and techniques without use of the floor loom. (No prereq. Limited to 30 students)

Fall Quarter

T—6:20-8:50, WuH 340,
Smits

Winter Quarter

Th—6:20-8:50, WuH 340,
Smits

Spring Quarter

T—6:20-8:50, WuH 340,
Smits

***ArEd 3-020 CONTEMPORARY CRAFTS** (old ArEd 80C). 3 degree credits. \$42 plus \$5 materials fee.

Materials, equipment, design criteria, and techniques for textile, wood, metal and ceramics. (No prereq. Limited to 30 students)

Fall Quarter

T—6:20-8:50, Kel HS 237,
Kain

***ArEd 3-030 PUPPETRY** (old ArEd 81C). 3 degree credits. \$42.

Construction, manipulation, and stage technique for basic puppet types. (No prereq. Limited to 30 students)

Fall Quarter

T—6:20-8:50, WuH
220, Olson

ArEd 5-020 ADVANCED CONTEMPORARY CRAFTS. 4 degree credits. \$60.

In-depth experiences in techniques of metal jewelry with emphasis on design criteria, equipment, materials and process. (Prereq 3-020. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

Th—6:20-8:50, WuH 210,
Kain

ArEd 5-302 CURRICULUM BUILDING IN ART EDUCATION: INNOVATIONS (old ArEd 152). 4 degree credits. \$60.

Selection, evaluation, and organization of material for teaching units and projects. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

W—6:20-8:50, WuH 110,
Slettehaugh

ArEd 5-316 INTERCULTURAL EDUCATION THROUGH ART (old ArEd 156). 3 degree credits. \$45.

Approaches to international understanding through recognition of aesthetic contributions of diverse peoples to American life. (Some off-campus trips.) (No prereq. Qualified students may register for graduate credits at the University of Minnesota)

Special Term

February 9, 5:00-9:00 p.m., WuH 135,
Slettehaugh

February 10, 9:00 a.m.-6:00 p.m.,
7:00 p.m.-9:00 p.m., WuH 135,
Slettehaugh

February 11, 1:00 p.m.-6:00 p.m., WuH 135,
Slettehaugh

(See Special Issues courses, pages 268-269)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Workshops in Art Education

A variety of credit and noncredit courses in Art Education is offered throughout the state. Many of these have been the same as day and evening class offerings but the following two courses have been specially designed for statewide offering.

ArEd 0-100 PAINTING FOR AMATEURS (old ArEd 95). No credit.

Lectures, demonstrations, discussions, critique sessions; effective methods for independent study, use of basic references, defining and applying standard for self criticism and improvement.

ArEd 3-090 UNDERSTANDING CHILDREN'S ART (old ArEd 90). 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.

Courses will be set up for any group on request. For further information write or call Huldah Curl, Continuing Education in Art, 317 Nolte Center for Continuing Education, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-5147.



CHILD PSYCHOLOGY

- Curtis Acredolo, Lecturer in Child Psychology*
Elizabeth Anderson, Lecturer in Child Psychology
Judith Brown, Lecturer in Child Psychology
Frederick Danner, Lecturer in Child Psychology
Cleo Dontas, Lecturer in Child Psychology
Seymour Gross, Lecturer in Child Psychology
Harold Ireton, Lecturer in Child Psychology
Daphne Maurer, Lecturer in Child Psychology
Janice Mokros, Lecturer in Child Psychology
David Morris, Lecturer in Child Psychology
Carole Peterson, Lecturer in Child Psychology
Richard Peterson, Lecturer in Child Psychology
Linda Potter, Lecturer in Child Psychology
Murray Reed, Lecturer in Child Psychology

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Douglas Sawin, Lecturer in Child Psychology
Jerry Tomlinson, Lecturer in Child Psychology

CPsy 3-301 CHILD PSYCHOLOGY (old CPsy 80). 4 degree credits. \$56. ★

Introduction to science of child behavior; emphasis upon critical review of theories and research. (Prereq 5 cr introductory psychology)

Fall Quarter

M—7:00-9:30, Sand JHS
204, Acredolo, Sawin
(Limited to
35 students*)

T—6:20-8:50, CD 216,
Dontas

Winter Quarter

T—4:00-6:30, CD 216,
Potter

W—7:00-9:30, Rich HS
341, C Peterson

Spring Quarter

T—7:00-9:30, Kel HS 235,
Maurer

CPsy 5-303 ADOLESCENT PSYCHOLOGY (old CPsy 81). 4 degree credits. \$60. ★

Physical, cognitive, and social development during adolescence. (Prereq 5 cr introductory psychology. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

T—6:20-8:50, Pt 214,
R Peterson

Spring Quarter

T—6:30-9:00, Harding HS
115-117, Tomlinson

CPsy 5-311 BEHAVIOR PROBLEMS (old CPsy 140). 4 degree credits. \$60.

Types, origin, development, and treatment of behavior difficulties in normal children. (Prereq 3-301 or equiv. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

M—6:20-8:50, Pt 215,
Morris

Winter Quarter

W—6:20-8:50, Pt 215,
Iretton

Spring Quarter

M—7:30-10:00, Pt 215,
Reed

***CPsy 5-313 PSYCHOLOGY OF ATYPICAL CHILDREN** (old CPsy 142). 4 degree credits. \$60.

Problems of research, assessment, and behavior associated with atypicality; evaluation of research in areas of major concern for sensory, language, intellectual, and physical deviation. (Prereq 3-301 or equiv. Limited to 60 students. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

M—6:20-8:50, Pt 215,
Brown

CPsy 5-315 INTRODUCTION TO MENTAL RETARDATION (old CPsy 143). 4 degree credits, \$SpEd 5-120. \$60.

Psychological and educational problems related to the mentally retarded. (Prereq 3-301 or equiv. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

Th—6:20-8:50, Pt 215,
Danner

***CPsy 5-319 CLINICAL PROCEDURES WITH CHILDREN** (old CPsy 179). 4 degree credits. \$60.

Survey of methods of clinical psychology emphasizing basic concepts and research problems in clinical work with children. Primarily for students not majoring in clinical psychology. (Prereq 12 cr in child psychology, psychology, educational psychology, or sociology. Limited to 55 students. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

T—6:20-8:50, Pt 215,
Gross

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

CPsy 5-331 PROCESSES OF SOCIALIZATION OF CHILDREN (old CPsy 100). 4 degree credits. \$60.

Processes of social learning: identification, imitation, reward and punishment, internalization, object choice. (Prereq 3-301 or graduate. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

Th—7:00-9:30, Sand JHS
210, Anderson
(Limited to
35 students*)

Spring Quarter

W—6:20-8:50, Pt 215,
Mokros

COUNSELING AND STUDENT PERSONNEL PSYCHOLOGY

Alan S. Briskin, Assistant Professor of Educational Psychology

Paul Pedersen, Assistant Professor of Education

Warren F. Shaffer, Associate Professor of Education

W. Wesley Tennyson, Professor of Education

***CSPP 5-110 COUNSELING PROCEDURES** (old EPsy 134). 3 degree credits. \$45.

For persons whose professional work includes counseling and interviewing; not for persons seeking certification as school counselors. Emphasis on counseling relationship and principles of interviewing; utilizes case studies, role playing and demonstration. (No prereq. Limited to 35 students. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

M—7:00-9:30, Rich HS
215, Shaffer

Winter Quarter

M—7:00-9:30, Bu 125,
Shaffer

Spring Quarter

M—7:00-9:30, Sand JHS
211, Shaffer

CSPP 5-130 INTRODUCTION TO GUIDANCE (old EPsy 133). 3 degree credits. \$45.

Philosophy, principles and practices in development and operation of pupil personnel services; role of counselor, teacher, principal and specialized personnel; guidance techniques and case studies. (Prereq 9 cr in education. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

T—6:00-8:30, Rich HS 215,
Tennyson

CSPP 5-130 INTRODUCTION TO GUIDANCE (old EPsy 133). 3 degree credits. \$45.

Philosophy, principles and practices in development and operation of pupil personnel services; role of counselor, teacher, principal and specialized personnel; guidance techniques and case studies.

Emphasis this offering: study of stage theories of cognitive, ego, moral, and self-awareness development; study and practice with developmental guidance curriculum; integration of process skills with theory and curriculum content. Theory, content, and process of developmental guidance in elementary school classrooms. (Prereq 9 cr in education. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

T—7:00-9:30, Sand JHS
211, Briskin

Winter Quarter

T—7:00-9:30, Sand JHS
211, Briskin

Spring Quarter

T—7:00-9:30, Sand JHS
211, Briskin

CSPP 5-505 SEMINAR: INTERNATIONAL AND INTERCULTURAL DIMENSIONS OF COUNSELING. 2 degree credits. \$30.

Discussion of the effect cross-cultural and cross-national differences have in the counseling process in a selection of cultural settings. (Prereq \$. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

W—6:20-8:50, CD 105,
Pedersen

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

EDUCATIONAL ADMINISTRATION

William Ammentorp, Associate Professor of Educational Administration

Donald Christensen, Lecturer in Educational Administration

Samuel Popper, Professor of Educational Administration

A wide variety of workshops in educational management are available to local school districts who wish to jointly design a continuing education experience to meet unique local staff needs. Workshop components available include: staff development, personnel evaluation, fiscal and budgetary planning, needs assessment, leadership skill development, program-oriented budgeting, educational law, program planning and evaluation, and other specific training areas.

For further information in regard to planning an individually designed workshop for a particular district or building staff contact: Chairman, Division of Education Administration, University of Minnesota, 225 Health Services Building, St. Paul, Minnesota 55101 or call (612) 373-5836.

EdAd 5-101 PUBLIC SCHOOL ADMINISTRATION (old EdAd 101). 3 degree credits. \$45.

Organization, administration, and general support of public schools in state and local school districts. (Prereq senior [not open to majors in educational administration]; or 9 cr in education. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

T—7:00-9:30, Sand JHS
204, Popper

EdAd 5-128 WORKSHOP: EDUCATIONAL ADMINISTRATION (INDIVIDUALIZED INSTRUCTION) (old EdAd 128). 1-6 degree credits [this offering for 3 credits]. \$45.

Laboratory approach provides opportunities for experienced administrators to concentrate their study on common administrative and supervisory problems. Systems of instruction directed at individual treatment of students are studied from a management perspective. The student deals with problems in materials preparation, management of resources and personnel, and student progress monitoring and reporting. Students will complete a preliminary design for an individualized instruction system which could be implemented in a particular school setting. (Prereq practicing educational administrator or \$. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

W—7:00-9:30, Rich HS
215, Ammentorp,
Christensen

EDUCATIONAL PSYCHOLOGY

(See Counseling and Student Personnel Psychology, Psychological Foundations, and Special Education)

ELEMENTARY EDUCATION

Alan Humphreys, Associate Professor of Elementary Education

Frank L. Ryan, Associate Professor of Elementary Education

(See also Th 5-131, CREATIVE DRAMATICS)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

In addition to the science education course listed in this section, a variety of courses and workshops in elementary education are available to local school districts which wish to jointly design continuing education experiences to meet local staff needs. Such offerings are limited only by the personnel resources of the Division of Elementary Education.

For further information about planning individually designed courses or workshops contact:

Coordinator of Continuing Professional Education, Division of Elementary Education, 258 Burton Hall, University of Minnesota, Minneapolis, Minnesota 55455, Telephone: 373-5369.

***Elem 5-346 TEACHING SCIENCE IN THE ELEMENTARY SCHOOL (old EdCl 103A). 3 degree credits. \$45.**

Materials, resources and methods of teaching science at the elementary level. An introduction to newer ideas and programs. The course will include selected elements from the AAAs—a process approach, SCIS—Science Curriculum Improvement Study, MINNEMAST—Minnesota School Mathematics and Science Teaching Project, and ESS—Elementary School Science projects. (Prereq elementary teaching experience or \$. Limited to 30 students. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

**W—7:00-9:30, Harding HS
121, Humphreys**

***Elem 5-363 WORKSHOP: CURRICULUM IMPLEMENTATION IN ELEMENTARY SCHOOL SOCIAL STUDIES. Credits arranged, maximum of 9 degree credits [this offering for 3 credits]. \$45.**

Analysis of new instructional materials and recent curriculum developments in the field; training in innovative instructional procedures. New social studies programs will be used as focal points to develop inquiry process, inductive-deductive teaching strategies, use of original data sources, instructional sequences, procurement of materials. (Prereq elementary teaching experience and \$. Limited to 30 students. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

**Th—7:00-9:15, Sand JHS
213, Ryan**

MUSIC EDUCATION

A wide variety of workshops in music education is available to local school districts who wish to jointly design a continuing education experience to meet unique local staff needs.

For further information in regard to planning an individually designed workshop for a particular district or building staff contact: Chairman, Department of Music Education, 104 Scott Hall, University of Minnesota, Minneapolis, Minnesota 55455; or telephone 373-3452.

PHYSICAL EDUCATION AND RECREATION

Bruce Anderson, Associate Professor of Physical Education

Tomar Heitler, Instructor in Physical Education

Lynne Johnson, Instructor in Physical Education

Marcia Kramer, Instructor in Physical Education

Mary B. Lampe, Associate Professor of Physical Education

G. Robert Mowerson, Associate Professor of Physical Education

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Sandra Schley, Instructor in Physical Education
Lloyd Stein, Associate Professor of Physical Education
Lela June Stoner, Assistant Professor of Physical Education
Alice Taylor, Instructor in Physical Education
Barbara Tennesen, Instructor in Physical Education
Roy P. Tutt, Instructor in Physical Education

School of Physical Education and Recreation
CONTINUING EDUCATION

A wide variety of programs in school health education, physical education, and recreation are available to local school districts who wish to jointly design a continuing education experience to meet unique local staff needs. For further information in regard to individually designed programs for a particular district or building staff contact: Helen M. Slocum, Coordinator, Continuing Education for the School of Physical Education and Recreation, Norris Gymnasium, University of Minnesota, Minneapolis, Minnesota 55455; or call (612) 373-3403.

Some physical education classes carry no credit and, except for scuba, require no prerequisite. A health examination is required for admission to all children's physical education classes. It is assumed that the health of adults registering for recreation classes will be equal to the demands of the activities in which they are to participate.

Registration for physical education classes may be made by mail or in person. If you register by mail please read carefully the information on Limited Class Registration (page 20).

Limited class card requests for fall classes should be received during the dates specified for Fall Quarter and Fall Semester. Requests for winter classes should be received during the dates specified for Winter Quarter. Requests for spring classes should be received during the dates specified for Spring Quarter.

***PE 1-800 WATER SAFETY INSTRUCTOR'S COURSE** (old PEW 46). 2 degree credits. \$56 plus \$3 facility fee.

Method and procedures related to organization, content, and teaching of swimming and life saving; opportunity to qualify for the American Red Cross Water Safety Instructor's Certificate. (Prereq minimum age 17 and current American Red Cross Senior Life Saving Certificate. Limited to 28 students)

Spring Quarter
T—5:30-8:30, NGW 58,
Stoner

***PE 3-181 DANCE THERAPY.** 2 degree credits. \$28 plus \$3 facility fee.

For students and teachers interested in dance therapy as a means of communication and interaction for the emotionally disturbed and/or handicapped person. This course is designed to show that dance is a truly diversified, eminently human means to establish communication, interaction, and adaptability to our total environment for normal, emotionally disturbed and handicapped persons. (No prereq. Limited to 18 students)

Fall Quarter
W—4:30-6:30, NGW Dance
Studio, Taylor

(See Special Issues courses, pages 268-269)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

***PE 3-360 THE INTRAMURAL-EXTRAMURAL-INTERSCHOOL SPORTS PROGRAM** (old PEWP 58). 3 degree credits. \$42.

Objectives, principles, policies, procedures, and personnel involved in the planning of sports programs for girls and women. (Prereq phy ed major or minor, junior; women only. Limited to 25 students)

Winter Quarter

M—6:00-8:00 plus 1 hr ar,
NGW 3

***PE 3-370 COACHING BASKETBALL AND VOLLEYBALL** (old PEWP 53). 2 degree credits. \$28 plus \$3 facility fee.

This course is designed for teachers wishing to qualify for the Minnesota Public Secondary Athletic Coaching Certification for Girls. Emphasis is on strategy in coaching; theoretical and practical experience. (Prereq 1-550 and 1-551 or 1-652 or #; coed. Limited to 25 students)

Winter Quarter

T—6:00-8:00, NGW 3,
153, Kramer

***PE 5-620 PRACTICUM: PREVENTION AND CARE OF ATHLETIC INJURIES** (old PE 160). 3 degree credits. \$45 plus \$5 facility fee.

An overview of problems (recognition, principles, responsibilities) related to athletic injuries in secondary and college programs; demonstrations and practice in training techniques and familiarity with use of instruments for athletic rehabilitation. (The course is open to men and women teachers who wish to qualify for the Minnesota Public Secondary Athletic Coaching Certification.) (Prereq #. Limited to 35 students. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

W—7:00-9:30, CH, Stein

***PE 5-700 WORKSHOP: DANCE IN EDUCATION.** 2 or 4 degree credits each quarter depending upon selected involvement [maximum of 12 credits]. \$30 or \$60.

History, principles, instructional techniques and materials for teaching dance in the schools and recreational agencies. (Focus of this offering: Creative dance for children at elementary level. Limited to 25 students. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

Sec 1 T—4:30-6:30, (2 cr),
Portland Elem
School, Gym
No. 2, 7201 4th
Ave. So.,
Richfield,
Schley

Sec 2 T—6:30-8:30, (2 cr),
Portland Elem
School, Gym
No. 2, 7201 4th
Ave. So.,
Richfield,
Schley

Winter Quarter

Sec 1 T—4:30-6:30, (2 cr),
Portland Elem
School, Gym
No. 2, 7201 4th
Ave. So.,
Richfield,
Schley

Sec 2 T—6:30-8:30, (2 cr),
Portland Elem
School, Gym
No. 2, 7201 4th
Ave. So.,
Richfield,
Schley

Spring Quarter

Sec 1 T—4:30-6:30, (2 cr),
Portland Elem
School, Gym
No. 2, 7201 4th
Ave. So.,
Richfield,
Schley

Sec 2 T—6:30-8:30, (2 cr),
Portland Elem
School, Gym
No. 2, 7201 4th
Ave. So.,
Richfield,
Schley

***PE 5-700 WORKSHOP: DANCE IN EDUCATION.** 2 or 4 degree credits each quarter depending upon selected involvement [maximum of 12 credits]. \$30 or \$60.

History, principles, instructional techniques and principles and materials for teaching dance in secondary schools and recreational agencies. (Focus of this offering: Modern dance in the secondary school. Limited to 25 students. Qualified students may register for graduate credit at the University of Minnesota)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Fall Quarter

Sec 1 W—4:30-6:30, (2 cr),
Lincoln Hills
Elem School,
Gym, 75th and
Penn Ave. So.,
Richfield,
Heitler

Sec 2 W—6:30-8:30, (2 cr),
Lincoln Hills
Elem School,
Gym, 75th and
Penn Ave. So.,
Richfield,
Heitler

Winter Quarter

Sec 1 W—4:30-6:30, (2 cr),
Lincoln Hills
Elem School,
Gym, 75th and
Penn Ave. So.,
Richfield,
Heitler

Sec 2 W—6:30-8:30, (2 cr),
Lincoln Hills
Elem School,
Gym, 75th and
Penn Ave. So.,
Richfield,
Heitler

Spring Quarter

Sec 1 W—4:30-6:30, (2 cr),
Lincoln Hills
Elem School,
Gym, 75th and
Penn Ave. So.,
Richfield,
Heitler

Sec 2 W—6:30-8:30, (2 cr),
Lincoln Hills
Elem School,
Gym, 75th and
Penn Ave. So.,
Richfield,
Heitler

For information on non-credit conferences and workshops in physical education, please contact the Department of Conferences and Institutes, 131 Nolte Center for Continuing Education; telephone 373-3151.

Activities Open to Men and Women

***PE 0-255 SCUBA FOR MEN AND WOMEN.** No credit. \$42 plus \$3 facility 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 wallet card so stating. (Prereq ability to swim 440 yards free style, float as motionless as possible for 10 minutes, tread water without hands for 3 minutes, swim 75 feet under water, recover 10-pound object in 10 feet of water from surface dive, tow a quiescent victim 50 yards, and be at least 15 years of age. Limited to 18 students).

Equipment: On 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

(March 28 to June 13)

W—7:30-9:30, CH, Mowerson

***PE 0-250 SWIMMING FOR MEN AND WOMEN.** No credit. \$28 plus \$3 facility fee.

Class and individual instruction for beginners in all swimming strokes and in diving. (Limited to 20 students)

Special Class

(March 26 to June 11)

M—8:00-9:00, CH

Activities Open to Women

***PE 0-200 GOLF FOR WOMEN.** No credit. \$28 plus \$3 facility fee.

The fundamentals of golf. Development of a swing pattern and putting stroke. All sessions will be held in Norris Gymnasium. (Each section limited to 20 students)

Special Class

(March 29 to June 14)

Th—6:00-7:00, NGW 60, Tennesen

Th—7:00-8:00, NGW 60, Tennesen

***PE 0-210 POSTURE AND INDIVIDUAL EXERCISE.** No credit. \$28 plus \$3 facility fee.

Course includes the use of individually selected exercises for various purposes such as general muscle toning, correction of functional posture deviation, weight control, and relaxation. (Limited to 24 students)

Special Class

(September 25 to December 11)

M—6:00-7:00, NGW 151, Johnson

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Activities Open to Men and Boys

***PE 0-150 GOLF FOR MEN AND BOYS.** No credit. \$28 plus \$3 equipment fee.

The fundamentals of golf. Open to adult men and all junior and senior high school boys regardless of experience. Development of a swing pattern and putting stroke. All sessions will be held in the golf gymnasium. Students furnish their own clubs; bring only a 5 iron to the first meeting. (Each section limited to 20 students)

Special Class

(March 26 to June 11)

M—6:00-7:00, South Tower Stadium, Tutt

M—7:00-8:00, South Tower Stadium, Tutt

Special Class

(March 28 to June 13)

W—6:00-7:00, South Tower Stadium, Anderson

W—7:00-8:00, South Tower Stadium, Anderson

Activities Open to Boys and Girls

A health examination is required of all children taking diving 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/she is registered.

***PE 0-100 SPRINGBOARD DIVING FOR BOYS AND GIRLS.** No credit. \$21 plus \$3 facility fee.

One Meter Springboard

A course in beginning diving for boys and girls between the ages of 10 and 16 years. (Prereq ability to perform a running front dive from the one meter [low] board. Instruction will be limited primarily to the low diving board. Each child must furnish his own suit and towel. Limited to 12 students)

Special Class

(September 30 to December 16)

S—10:00-10:45 a.m., CH

Special Class

(March 31 to June 16)

S—12:00-12:45 p.m., CH

Activities Open to Boys

A health examination is required of all boys taking swimming 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.

***PE 0-001 SWIMMING FOR BOYS.** No credit. \$21 plus \$3 facility fee.

A course in swimming for boys between the ages of 6 and 14 years who are at least 50 inches tall. Each boy must furnish his own towel and swimming suit. Each boy should be registered for an appropriate section according to his estimated ability. Sections are classified as follows: **Nonswimmers**; **Beginners**—those who can swim, but not 10 yards; **Intermediates**—those who can swim 25 yards of two or more strokes; **Competitive Techniques**—same as Advanced Intermediates plus preparation for competitive swimming. (The first meeting will be used for the purpose of reclassifying swimmers where necessary. Each section limited to 20 students)

Special Class

(March 31 to June 16)

BEGINNERS

S—9:45-10:30 a.m., CH,
Mowerson

INTERMEDIATES

S—10:30-11:15 a.m., CH,
Mowerson

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

COMPETITIVE TECHNIQUES

S—11:15-12:00 p.m., CH,
Mowerson

Activities Open to Girls

A health examination is required of all girls taking swimming 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.

*PE 0-051 **SWIMMING FOR GIRLS.** No credit. \$21 plus \$3 facility fee.

A course in swimming for girls between the ages of 6 and 12 years. 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**—Nonswimmers; **Advanced Beginners**—those who swim with ease in shallow water; **Intermediates**—those who swim with ease in deep water. Suits, towels and caps must be furnished by swimmers. (Each section limited to 20 students)

Special Class

(January 6 to March 24)

BEGINNERS

S—8:45-9:30 a.m., NGW 51, Lampe

ADVANCED BEGINNERS AND INTERMEDIATES

S—9:30-10:15 a.m., NGW 51, Lampe

Special Class

(March 31 to June 16)

BEGINNERS

S—8:45-9:30 a.m., NGW 51, Lampe

ADVANCED BEGINNERS AND INTERMEDIATES

S—9:30-10:15 a.m., NGW 51, Lampe

PSYCHOLOGICAL FOUNDATIONS

Douglas C. Anderson, Associate Professor of Educational Psychology

Carol Bland, Instructor in Educational Psychology

Henry Borow, Professor of Educational Psychology

Cyril Hoyt, Professor of Educational Psychology

Mary P. Noonan, Research Assistant in Psychological Foundations of Education

S. Jay Samuels, Associate Professor of Psychological Foundations of Education

James S. Terwilliger, Associate Professor of Psychological Foundations of Education

PsyF 5-110 INTRODUCTORY STATISTICAL METHODS (old EPsy 116). 3 degree credits. \$45.

Basic statistical techniques; comprehension of literature using elementary concepts and methods. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

Th—6:20-8:50, Bu 125,
Hoyt

Spring Quarter

Th—6:20-8:50, Bu 125,
Hoyt

PsyF 5-120 EDUCATIONAL MEASUREMENT IN THE CLASSROOM (old EPsy 110). 3 degree credits. \$45.

Principles and methods for construction, evaluation, and improvement of classroom measures; techniques for describing measurement results statistically; use of measurement in evaluating instruction and student performance; assignment of grades. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

Th—6:20-8:50, Bu 120,
Terwilliger

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

PsyF 5-141 PSYCHOLOGY OF SCHOOL LEARNING (old EPsy 193). 3 degree credits. \$45.

Survey of psychological conceptions of the learner, the schooling process, and the implications of these conceptions for education. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

W—4:30-7:00, Bu 123,
Samuels

PsyF 5-148 PSYCHOLOGY AND PEDAGOGY OF READING. 3 degree credits. \$45.

Physiological, psychological, and linguistic factors influencing beginning and fluent reading and their implications for instruction. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

W—4:30-6:45, Bu 125,
Samuels

PsyF 5-162 PERSONALITY AND SOCIAL DEVELOPMENT. 3 degree credits, \$5-160. \$45.

Major concepts and research findings in adjustment and development with special emphasis on educational implications. (Prereq 5 cr in introductory psychology. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

T—6:20-8:50, NH 207,
Borow

Spring Quarter

M—6:20-8:50, Bu 120,
Borow

PsyF 5-170 SOCIAL PSYCHOLOGY OF EDUCATION (old EPsy 125). 4 degree credits. \$60.

Concepts and theories in the field of social psychology applied to educational problems and settings. Laboratory sessions to make applications and develop skills in group behavior. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

T—6:20-8:50, Bu 123,
Noonan

Spring Quarter

T—6:20-8:50, Bu 123,
Noonan

PsyF 5-330 COMPUTER PROGRAMMING (old EPsy 141). 3 degree credits. \$45.

Computer as a tool for research in the behavioral sciences; computer systems, language and the development of specific programs that demonstrate computer characteristics, laboratory experience. (Prereq senior. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

M—6:20-8:50, Bu 125,
Anderson

(For complete list of computer-related courses, see page 266)

PsyF 5-641 PRACTICUM IN PRECISION TEACHING AND BEHAVIOR MODIFICATION. 1-3 degree credits, [maximum of 12 credits] \$5-640. \$45.

Supervised experimentation with practical emphasis. (Prereq \$. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

W—6:20-8:50, Bu 125,
Bland

SCHOOL HEALTH EDUCATION

William E. Gebhard, Lecturer in Health Education

Lyle E. Lewis, Lecturer in Health Education

Elizabeth Peterson, Associate Professor of Family Social Science

Frank Thissen, Instructor in Health Education

***Hith 5-100 DRIVER EDUCATION I** (replaces SeEd 5-100 and old EdCl 101A). 4 degree credits, \$SeEd 5-100, EdCl 101A. \$60 plus \$12 special fee.

Materials and methods of driver education; building a plan for driver education for a specific school; behind-the-wheel training. Valid Minnesota driver license required.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Additional time arranged for behind-the-wheel instruction. Open to teachers in-service and students in teacher preparation programs. Others should seek consent of the department of School Health Education. (Prereq § and current employment in junior or senior high school. Limited to 32 students. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

W—7:00-10:00,
Mounds View HS,
Gebhard

***Hlth 5-101 DRIVER EDUCATION II** (replaces SeEd 5-101 and old EdCl 101B). 4 degree credits, §SeEd 5-101, EdCl 101B. \$60 plus \$12 special fee.

See course description for Hlth 5-100. (Prereq 5-100 and § and current employment in junior or senior high school. Limited to 32 students. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

W—7:00-10:00,
Mounds View HS,
Gebhard

***Hlth 5-130 SAFETY EDUCATION** (old Hlth 119). 4 degree credits. \$60.

Scope and nature of the accident problem in our society and the study of curricular areas leading to accident prevention. (Prereq senior. Limited to 32 students. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

T—7:00-10:00, Harding HS
129, Thissen

***Hlth 5-350 FAMILY LIFE AND SEX EDUCATION IN ELEMENTARY SCHOOLS** (old Hlth 121). 3 degree credits. \$45.

Research on sexual behavior of the pre-adolescent child, terminology, appropriate content, and effective methods for teaching. I. Why sex education in the schools? II. Concept of human sexuality; III. Development of values related to this area; IV. Sexual structure and functioning from conception to puberty; V. Concepts and methods, K-3, K-6; VI. Criteria for selecting materials. (No prereq. Limited to 45 students. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

M—4:00-6:30, Multipurpose
Room, Central Park
Elem School, 535 W Co
Rd B2, Roseville,
Peterson

Spring Quarter

W—4:15-6:30, Room 211A,
Technical Education
Center, West Anoka
Hwy 10, Anoka,
Peterson

(See Special Issues courses, pages 268-269)

***Hlth 5-602 THE DRIVER SIMULATOR** (replaces SeEd 5-602 and old EdCl 101C). 4 degree credits, §SeEd 5-602, EdCl 101C. \$60.

Working with the simulator to improve, expand and reduce the cost of conventional driver education. (Prereq teacher in-service and 5-100 and §. Limited to 20 students. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

M—7:00-10:00, Rich HS 116,
Lewis

SECONDARY EDUCATION

Richard Hey, Associate Professor of Family Social Science
Sander Latts, Associate Professor of Family Social Science

SeEd 5-112 FAMILY LIFE EDUCATION (old EdCl 112). 3 degree credits. \$45.

Sources and types of materials available; techniques of family life education, preparation and evaluation of instructional materials. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Fall Quarter

M—6:20-8:50, Sand JHS
211, Latts

Winter Quarter

T—6:20-8:50, PeikH 335,
Latts

Spring Quarter

M—6:20-8:50, Kel HS 235,
Hey

SPECIAL EDUCATION

***SpEd 5-150 EDUCATION OF EMOTIONALLY DISTURBED AND SOCIALLY MALADJUSTED CHILDREN (old EPsy 186). 3 degree credits. \$45.**

Discussion and evaluation of curricula, materials, and methods for instruction of disturbed and delinquent children in hospital, training school and public school settings. (Prereq graduate or \$. Limited to 40 students. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

T—6:20-8:50,
Bu 125

Winter Quarter

W—6:30-9:00,
Harding HS 182

Electrical Engineering

(See also new Professional Development Recognition Program in Engineering and Science, page 157)

Gayle Allen, Lecturer in Electrical Engineering

Paul A. Cartwright, Professor of Electrical Engineering

Robert Cavins, Lecturer in Electrical Engineering

Dave Lo, Lecturer in Electrical Engineering

The curriculum leading to the Bachelor of Electrical Engineering degree (B.E.E.) is described in the *Bulletin of the Institute of Technology*. The first three years of the curriculum can be obtained in Extension Classes.

Students just beginning the electrical engineering sequences should start with EE 1-500/1-501 (old EE 30 and 31). Students already in the program should follow the schedule below:

Sequence last taken

EE 1-500/1-501

EE 3-050/3-051/5-050

Should take 1972-73

EE 3-050/3-051/5-050; and

EE 3-400/3-401/3-402

EE 3-100/3-101/5-100

Your attention is called to the Undergraduate Development Certificate in Electrical Engineering—90 credits (formerly the Senior Electrical Engineering Certificate), page 88; and to the Undergraduate Development Certificate in Electrical Engineering—135 credits, page 89.

**REGISTRATION PROCEDURES FOR
EXTENSION ELECTRICAL ENGINEERING CLASSES**

All students who wish to enroll for electrical engineering classes carrying degree credit are required to (1) complete the Registration Approval Form and (2) submit college transcripts for previous work taken in both day and/or Extension Classes either before or at time of registration. The only exception to this rule is for those students who submitted this information for the 1971-72 school year or for a prior year.

The purpose of the form and accompanying transcript is to insure that registrants are properly advised, that they meet the various course prerequisites, and that they are making satisfactory academic progress. The petitions will be reviewed and acted upon prior to the first meeting of each class. A copy of the petition will be returned to the student by mail or at the first class session. If for some reason a registration is not approved, transfer to another class or full refund of tuition and fees will be made without penalty. The Registration

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Approval Forms are available at all Continuing Education and Extension offices. Transcripts for University of Minnesota college work taken either in day school or Extension may be secured by writing or calling the Office of Admissions and Records, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-2149. (Students should be sure to specify whether work was taken in day school, Extension, or both.)

Students are urged to submit petition forms and transcripts well in advance of registration periods, if at all possible. They may be presented or mailed to Paul A. Cartwright, Assistant Dean, Institute of Technology, 105 Main Engineering Building, University of Minnesota, Minneapolis, Minnesota 55455.

IT 0-001 REFRESHER COURSE IN ENGINEERING FUNDAMENTALS. No credit. \$56.

Review of the fundamentals which undergird all major fields of engineering. Mathematics, physics, chemistry and materials science, mechanics thermodynamics, electric circuits, fluid mechanics, engineering economics and legal and professional aspects. Designed particularly for individuals who plan to take parts I, II, III, or IV of the Registration Examinations. (Prereq Bachelor's degree in Engineering, Physics, or Mathematics)

Fall Quarter

W—6:00-8:40, MechE 108

EE 0-001 REFRESHER COURSE FOR ELECTRICAL ENGINEERS. No credit. \$56.

Review of electrical engineering fundamentals and applications. (Prereq Bachelor's degree in Engineering, Physics, or Mathematics)

Winter Quarter

W—6:00-8:40, MechE 108

EE 1-500/1-501 CIRCUIT ANALYSIS (old EE 30-31). 4 degree credits each semester. \$56 each semester plus \$10 special fee each semester.

1-500: Steady-state and transient response of linear passive circuits under dc, step, and sinusoidal excitation. 1-501: Steady-state ac analysis; instantaneous and average power. Complex frequency; natural and forced response. Magnetically coupled circuits. (Prereq Phys 1-281 or old 1-220, Math 1-240 or ¶Math 1-240 for 1-500; 1-500 for 1-501)

Fall Semester

1-500 Lect M—6:00-7:40, Arch 35
Lab Hours arranged

Spring Semester

1-501 Lect M—6:00-7:40, Arch 15
Lab Hours arranged

EE 3-050/3-051 ELECTRONICS I-II (old EE 64-65). 4 degree credits each quarter. \$56 each quarter.

3-050: Introduction to physical principles of electronic devices; electrical properties of metals, insulators, and semi-conductors. Semi-conductor, vacuum, and gaseous devices; modeling. 3-051: Piecewise linear and incremental models, biasing, operating characteristics of active devices in single-stage circuits; applications of diodes for rectification, clipping, and clamping. (Prereq 1-501. ¶3-400/3-401 required during Fall and Winter quarters)

Fall Quarter

3-050 Lect M—6:00-8:40,
MechE 102,
Rec W—6:00-7:40,
MechE 102

Winter Quarter

3-051 Lect M—6:00-8:40,
MechE 102
Rec W—6:00-7:40,
MechE 102

EE 3-100/3-101 ELECTROMAGNETIC FIELDS I-II (old EE 74-75). 4 degree credits each quarter. \$56 each quarter.

Electrostatic, magnetostatic, and electromagnetic field theory based upon the fundamental experimental laws and leading to applications of Maxwell's equations. (Prereq Phys 1-291 or old 1-230, Math 1-260 or ¶Math 1-260 with #)

Fall Quarter

3-100 Lect M—6:00-8:40,
Arch 10
Rec W—6:00-7:40,
Arch 10

Winter Quarter

3-101 Lect M—6:00-8:40,
Arch 55
Rec W—6:00-7:40,
Arch 55

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

EE 3-400/3-401/3-402 JUNIOR ELECTRICAL ENGINEERING LABORATORY (olds EE 84-85-56). 2 degree credits each quarter. \$28 plus \$10 special fee each quarter. Experimental study of electronic circuits. (Prereq 1-701. ¶3-050/3-051/5-050)

Fall Quarter

3-400 4 class hours per week. Night and hours arranged at first meeting of EE 3-050.

Winter Quarter

3-401 4 class hours per week. Night and hours arranged at first meeting of EE 3-051

Spring Quarter

3-402 4 class hours per week. Night and hours arranged at first meeting of EE 5-050

EE 5-050 NONLINEAR ELECTRONIC CIRCUITS (old EE 66). 4 degree credits. \$60.

Nonregenerative switching circuits, diode and transistor logic circuits; multi-vibrators, oscillators. (Prereq 3-051, ¶3-402. Qualified students interested in graduate credit should inquire at time of registration)

Spring Quarter

Lect M—6:00-8:40,
MechE 102

Rec W—6:00-7:40,
MechE 102

EE 5-100 ELECTROMAGNETIC FIELDS III (old EE 76). 4 degree credits. \$60.

Applications of Maxwell's equations. Transmission lines, wave propagation, antennas and radiation. (Prereq 3-101. Qualified students interested in graduate credit should inquire at time of registration)

Spring Quarter

Lect M—6:00-8:40, Arch 55

Rec W—6:00-7:40, Arch 55

Elementary Education

(See page 146)

Engineering

Your attention is called to the Undergraduate Development Certificate Series in Engineering and Science (formerly the Engineering Certificate program), pages 85-86.

NEW PROGRAM AT THE POST-BACCALAUREATE LEVEL—PROFESSIONAL DEVELOPMENT RECOGNITION PROGRAM IN ENGINEERING AND SCIENCE

The University of Minnesota Institute of Technology faculty has approved the development of a pilot program of Professional Development Recognition which will help plan and document the continuing education programs of individuals in areas of science and technology. Each cycle of Professional Development Recognition will require approximately two years of effort employing a variety of educational formats. Minimum qualifications for entry to the program will be a bachelor's degree or its equivalent. Upon acceptance, a candidate will establish an individualized program of study with a Professional Development adviser. Further details may be obtained by writing James E. Holte, Director, Continuing Education in Engineering and Science, 210 Nolte Center, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-5057.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Please see the following departmental listings for course offerings:

AEROSPACE ENGINEERING AND MECHANICS
CIVIL AND MINERAL ENGINEERING
ELECTRICAL ENGINEERING
ENGINEERING ENGLISH (English)
ENGINEERING GRAPHICS
INDUSTRIAL ENGINEERING/OPERATIONS RESEARCH
MECHANICAL ENGINEERING
METALLURGICAL ENGINEERING

REFRESHER COURSE IN ENGINEERING FUNDAMENTALS (IT 0-001)—see page 156.

For information on non-credit conferences or workshops in engineering and science, please contact James E. Holte, Director, Continuing Education in Engineering and Science, 210 Nolte Center for Continuing Education; telephone 373-5057.

Engineering Graphics

(See also new Professional Development Recognition Program in Engineering and Science, page 157)

Paul W. Bullen, Assistant Professor of Mechanical Engineering
John N. Clausen, Assistant Professor of Mechanical Engineering
Lewis G. Palmer, Assistant Professor of Mechanical Engineering
Richard D. Springer, Associate Professor of Mechanical Engineering

EG 0-045C ENGINEERING DRAWING (replaces 0-004C and old 0-005C). 4 certificate credits. \$56.

Emphasis on industrial applications, principles and practices of communication drawings. Graphical techniques, engineering geometry, orthographic, axonometric, oblique, and perspective projection systems. Symbolic representation. Auxiliary views, intersections and developments. Size and material specifications. Detail and assembly drawings. **NOTE:** EG 0-004C and 0-005C have been discontinued. EG 0-045C satisfies the same requirements as 0-004C and 0-005C. (No prereq)

Fall Semester

M—6:00-8:30, Arch 5

EG 1-025 ENGINEERING GRAPHICS (olds EG 25). 4 degree credits. \$56.

Engineering representation and analysis of systems of projection; the coordinate 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. (Prereq Math 1-211 or old 1-210 or ¶1-211 or §)

Spring Semester

M—6:00-8:30, Arch 10

English

(See Master of Arts in English, page 62)
(See also Continuing Education for Women, page 257)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Chester C. Anderson, Professor of English
Kent Bales, Associate Professor of English
Angus Clarke, Lecturer in English
Thomas S. Clayton, Professor of English
Phillip G. Furia, Assistant Professor of English
David Haley, Associate Professor of English
J. Dennis Hurrell, Professor of English
Calvin Kendall, Associate Professor of English
Paul Kirchner, Lecturer in English
Archibald I. Leyasmeyer, Associate Professor of English
John W. Lippert, Lecturer in English
Andrew MacLeish, Professor of English
Raymond McClure, Assistant Professor of English
John McNally, Associate Professor of English
J. Lawrence Mitchell, Assistant Professor of English
Thomas A. Nelson, Jr., Assistant Professor of English
Charles Norman, Lecturer in English
Gordon W. O'Brien, Professor of English
Justin O'Connell, Lecturer in English
Robert C. Rathburn, Professor of Literature
William Rosendahl, Professor of English
Donald Ross, Jr., Assistant Professor of English
Martin Roth, Associate Professor of English
James L. Scoggins, Professor of English
Robert Solotaroff, Assistant Professor of English
Charles J. Sugnet, Assistant Professor of English

COMPOSITION AND COMMUNICATION

Introductory Composition 1-001 (replaces Engl 1-001 and old Engl 1 as the freshman English requirement) and Communication 1-001 (old Comm 1) are being offered without prerequisite during the 1972-73 school year. Students who feel the need for a refresher course before enrolling in Composition 1-001 or Communication 1-001 are encouraged to take Composition 0-001 (old Comp X), Preparatory Composition, or Comp 0-002C, Composition Grammar Review, if they feel their background in structure or grammar is insufficient, or American Studies 1-101, 1-102, 1-103, American Life, if they feel their reading background has been neglected. Rhetoric 1-147 (old Rhet 47, Efficient Reading) and PO 1-001, Personal Orientation (old PO 1, How to Study) will also be useful. Students with transfer credits in freshman English of less than 7 quarter or 4 semester credits (including credits from other colleges within the University of Minnesota) should contact the Counseling Office, 314 Nolte Center, 373-3905, for information as to their proper choice of courses.

Students with exceptionally high skills in English may earn exemption from the freshman English requirement by earning a very high score in the English placement test. Students interested in this alternative should contact the Continuing Education and Extension Counseling Office, 314 Nolte Center, 373-3905. A student who receives a grade of A in Composition 1-001 or Communication 1-001 should check with the appropriate department concerning possible exemption.

Comp 0-001 PREPARATORY COMPOSITION (old Comp X). No credit. \$42. ★

Intensive drill on grammatical forms, structure, and theme writing. Recommended for those whose primary need is organization and development of themes. (No prereq)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Fall Quarter

T—6:20-8:50, MainE 325

Comp 1-001/1-002 INTRODUCTORY COMPOSITION. 4 degree credits each quarter. \$56 each quarter. ★

A two-quarter sequence offering extensive guided practice in the structural and stylistic features of exposition and argumentation. Not an introduction to literary studies or to humanities. Satisfies the freshman English requirement for most degree programs. (No prereq for 1-001; 1-001 for 1-002)

MINNEAPOLIS CAMPUS**Fall Quarter**1-001 M—6:20-9:50,
MechE 2121-001 T—6:20-9:50,
MechE 2121-001 W—6:20-9:50,
MechE 2121-001 Th—6:20-9:50,
MechE 1141-002 M—6:20-9:50,
MechE 1141-002 T—6:20-9:50,
MechE 2021-002 W—6:20-9:50,
MechE 202**Winter Quarter**1-001 M—6:20-9:50,
MechE 1141-001 W—6:20-9:50,
MechE 2121-002 M—6:20-9:50,
MechE 2121-002 T—6:20-9:50,
MechE 2121-002 W—6:20-9:50,
MechE 2021-002 Th—6:20-9:50,
MechE 114**Spring Quarter**1-001 M—6:20-9:50
MechE 2021-001 T—6:20-9:50,
MechE 2121-001 Th—6:20-9:50,
MechE 1141-002 T—6:20-9:50,
MechE 2021-002 M—6:20-9:50,
MechE 1141-002 W—6:20-9:50,
MechE 114**MINNEAPOLIS CENTRAL HIGH SCHOOL****Fall Quarter**1-001 T—6:20-9:50,
CenHS 219**Winter Quarter**1-002 T—6:20-9:50,
CenHS 219**HARDING HIGH SCHOOL****Fall Quarter**1-001 T—6:30-10:00,
Harding HS 123**Winter Quarter**1-002 T—6:30-10:00,
Harding HS 123**Spring Quarter**1-001 T—6:30-10:00,
Harding HS 123**SANDBURG JUNIOR HIGH SCHOOL****Fall Quarter**1-001 T—6:30-10:00,
Sand JHS 210**Winter Quarter**1-002 T—6:30-10:00,
Sand JHS 210**Spring Quarter**1-001 T—6:30-10:00,
Sand JHS 210**RICHFIELD SENIOR HIGH SCHOOL****Fall Quarter**1-001 M—6:30-10:00,
Rich HS 218**Winter Quarter**1-002 M—6:30-10:00,
Rich HS 218**Spring Quarter**1-001 M—6:30-10:00,
Rich HS 218

Comp 0-002C GRAMMAR REVIEW. 3 certificate credits. \$42 ★

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 prereq)

Fall QuarterT—6:00-8:30, MechE 221,
O'Connell**Winter Quarter**T—6:20-8:50, MechE 202,
O'Connell**Spring Quarter**W—6:20-8:50, MechE 212,
O'Connell

Comm 1-001/1-002,1-003 COMMUNICATION (old Comm 1-2-3). 4 degree credits each quarter. \$56 each quarter.

A course emphasizing both theory and practice, intended to prepare the student to meet more effectively the various communicative demands in contemporary settings, to improve his capabilities in reading, writing, speaking, and listening. 1-001: The process of communication; study of language and non-verbal means

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

of communicating; clarity and appropriateness in expository discourse. **1-002:** Deliberation, reasoning, non-logical appeals, and ethical concerns in problem solving and persuasive discourse. **1-003:** Communicator, message, media, and social implications in mass communication. (Prereq 1-001 for 1-002; 1-002 for 1-003. Comm 1-001/1-002 meet all requirements which are satisfied by Comp 1-001/1-002, Freshman Composition. **NOTE:** Comm 1-003 is not required to meet the Freshman English requirement)

Fall Quarter		Winter Quarter		Spring Quarter	
1-001	M—6:20-9:50, MechE 18	1-001	T—6:20-9:50, MechE 18	1-001	W—6:20-9:50, MainE 320
1-001	T—6:30-10:00, Kel HS 229	1-002	M—6:20-9:50, MechE 18	1-002	T—6:20-9:50, MechE 18
1-002	W—6:20-9:50, MechE 114	1-002	T—7:00-9:30, Kel HS 229	1-003	M—6:20-9:50, MechE 18

(See also Communication Skills; Spch 0-001C, BEGINNING SPEECH-COMMUNICATION; and Study Skills)

Comp 0-003C REVIEW OF BUSINESS ENGLISH. 3 certificate credits. \$42.

For those who have been out of school for awhile 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 prereq)

Fall Semester		Spring Semester	
T—6:20-8:00,	MainE 215, Lippert	M—6:20-8:00,	MainE 215, Lippert

Comp 0-004C BUSINESS CORRESPONDENCE. 3 certificate credits. \$42. ★

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. (The Fall Quarter section will have special material for government employees on all levels.) (No prereq)

Fall Semester		Spring Semester	
M—6:20-8:00,	MainE 215, Lippert	T—6:20-8:00,	MainE 215, Lippert

Fall Quarter
M—2:30-5:00, State Adm
Bldg Trng Rm, Lippert

Comp 1-027,1-028 ADVANCED WRITING (old Comp 27, 28). 4 degree credits each semester. \$56 each semester. ★1-027.

Offers training in the fundamentals of expository writing, through lectures and the criticism of manuscripts. **1-027:** Deals with expository writing: articles, essays, criticism, etc. **1-028:** Deals with description and narration. (Prereq completion of freshman English requirement or § for 1-027 and 1-028)

Fall Semester		Spring Semester	
1-027	M—6:20-8:00, Arch 45	1-028	W—6:20-8:00, Arch 20
1-027	T—6:20-8:00, Arch 20		

Comp 1-113, 1-114, 1-115 AN INTRODUCTION TO CREATIVE WRITING. 4 degree credits each quarter. \$56 each quarter. ★

A highly structured approach to creative writing for students who have not done a great deal of writing. The concentration will be on development of techniques and the course will proceed by definite assignments. **1-113, 1-114:** Short Story I and II. **1-115:** Prose Pieces I. (Prereq completion of freshman English requirement)

Fall Quarter		Winter Quarter		Spring Quarter	
1-113	Th—6:20-9:40, MechE 202	1-114	Th—6:20-9:40, MechE 202	1-115	Th—6:20-9:40, MechE 202

Engl 0-006C BASIC TECHNICAL WRITING I-II. 3 certificate credits each semester. \$42 each semester.

Review of basic English and introduction to technical writing. Designed for people in the technical industries. Includes sentence design, spelling, and punc-

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

tuation. 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 prereq)

Fall Semester

I T—8:15-9:15, MainE 215, Lippert

Spring Semester

II T—8:15-9:55, MainE, Lippert

*Engl 3-085 **TECHNICAL WRITING FOR ENGINEERING** (old Engl 85 [IT]). 3 degree credits. \$42.

Technical and professional writing, including reports and manuals required of engineers, technical men, and those in the business and sales end of the technical industries. Stress 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. (Prereq completion of freshman English requirement. Limited to 25 students)

Fall Semester

M—8:15-9:55, MainE 215, Lippert

Spring Semester

M—8:15-9:55, MainE 215, Lippert

Winter Quarter

M—2:30-5:00, State Adm
Bldg Trng Rm, Lippert

Engl 1-001/1-002/1-003 **FRESHMAN ENGLISH.**

No longer offered. See Comp 1-001/1-002.

LITERATURE

(See also Humanities [General College]; and Phil 3-911, **PHILOSOPHY OF MODERN LITERATURE**)

Engl 1-005 **FRESHMAN ELECTIVE STUDIES.** 4 degree credits. \$56.

Introductory readings in literary and humanistic topics. Different sections will discuss different works and topics. Not a part of the composition sequence. (No prereq)

Fall Quarter

M—6:20-9:40, MainE 303
W—6:20-9:40, MainE 303
Th—6:20-9:40, MainE 303

Winter Quarter

M—6:20-9:40, MainE 303
W—6:20-9:40, MainE 303
Th—6:20-9:40, MainE 303

Spring Quarter

M—6:20-9:40, MainE 303
W—6:20-9:40, MainE 303
Th—6:20-9:40, MainE 303

Engl 1-012, 1-013, 1-014 **INTRODUCTION TO LITERATURE** (replaces Engl 1-821, 1-822, 1-823 and old Engl 21, 22, 23). 4 degree credits each quarter. \$56 each quarter. ★

Close reading of a few selected texts, with emphasis on critical discussion and writing. 1-012: Literature of the Renaissance — some major figures and themes. 1-013: Introduction to Restoration and 18th Century Literature—some major figures and themes. 1-014: Introduction to Romantic Literature—some major figures and themes. (No prereq)

Fall Quarter

1-012 W—6:20-9:30,
MainE 217,
McClure

Winter Quarter

1-013 W—6:20-9:30,
MainE 217,
Kendall

Spring Quarter

1-014 W—6:20-9:30,
MainE 217,
Kendall

Engl 1-017, 1-018, 1-019 **INTRODUCTION TO MODERN LITERATURE.** 4 degree credits each quarter. \$56 each quarter. ★1-018.

Close reading of a few selected texts, with emphasis on critical discussion and writing. 1-017: Poetry. 1-018: Prose Fiction. 1-019: Drama. (No prereq)

Fall Quarter

1-017 M—6:20-9:30,
MainE 217,
McNally

Winter Quarter

1-018 M—6:20-9:30,
MainE 217,
McNally

Spring Quarter

1-019 M—6:20-9:30,
MainE 217,
Sugnet

Engl 3-241, 3-242 **SHAKESPEARE** (replaces Engl 3-155, 3-156 and old Engl 55-56). 4 degree credits each quarter. \$56 each quarter. ★

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

3-241: Reading of plays from Shakespeare's early and middle periods—**A Midsummer Night's Dream, Hamlet**, a history play, and three or four other plays.
 3-242: Reading of plays from the middle and late periods—**King Lear, Macbeth, The Tempest**, and three or four other plays. (No prereq, but recommended that students take 3-241 before 3-242)

Fall Quarter

3-241 W—6:20-9:30,
O'Brien

Winter Quarter

3-242 W—6:20-9:30,
MainE 229,
Clayton

Spring Quarter

3-241 W—6:20-9:30,
MainE 229,
Clayton

TV

Engl 3-251 THE KING JAMES BIBLE AS LITERATURE
 (replaces Engl 3-996, 3-997). 4 degree credits. \$56.

Readings in the old and new testaments from the literary point of view. Selections from historical narratives, prophets, psalms, tales, wisdom literature, apocalypse. In addition to viewing the 10 one-hour television broadcasts, students will be expected to undertake reading, write an 1,800 word paper examining problems which have common ground in the Bible and certain classics of western literature, and take a final examination on campus. Textbooks: **New Testament Background; The Dartmouth Bible; and Documents from Old Testament Readings.** Textbooks may be purchased from local bookstores or by mail from Extension Classes. Students wishing to purchase books by mail should request information at time of registration. Students will receive reading lists and paper assignments upon registration. (No prereq)

Fall Quarter

M—9:00-10:00 p.m., Channel 2, KTCA

(For complete list of Radio and Television courses, and courses related to religion, see pages 261, 264)

Engl 3-411/3-412, 3-413 AMERICAN LITERATURE (replaces Engl 3-721/3-722/3-723 and old Engl 72-73-74). 4 degree credits each quarter. \$56 each quarter. ★

3-411: Beginnings through Hawthorne. 3-412: Thoreau and Melville through James. 3-413: Crane to present. (No prereq for 3-411; 3-411 or # for 3-412 or 3-413)

Fall Quarter

3-411 T—6:20-9:30,
MainE 203

Winter Quarter

3-412 T—6:20-9:30,
MainE 203,
Furia

Spring Quarter

3-413 T—6:20-9:30,
MainE 203,
Roth

Engl 3-851 THE ENGLISH LANGUAGE (replaces Engl 3-601 and old Engl 60). 4 degree credits. \$56.

An informal, nontechnical examination of the English language in order to explore such basic questions as how you learned English, how your knowledge of it can be described, and what it has in common with other languages. (No prereq)

Fall Quarter

M—6:20-9:30, MainE 325, Mitchell

Spring Quarter

M—6:20-9:30, MainE 203,
MacLeish

Engl 5-112, 5-113, 5-114 SURVEY COURSE IN BRITISH LITERATURE. 4 degree credits each quarter. \$60 each quarter.

Historical surveys of important authors, intellectual currents, movements, conventions, genres, the themes. Lecture courses with emphasis on wide reading. No papers. 5-112: 16th-century literature. 5-113: 17th-century literature. 5-114: 18th-century literature. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

5-112 Th—6:20-9:30,
MainE 315,
Haley

Winter Quarter

5-113 Th—6:20-9:30,
MainE 315,
O'Brien

Spring Quarter

5-114 Th—6:20-9:30,
MainE 315,
Leyasmeyer

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Engl 5-117 20TH-CENTURY BRITISH LITERATURE. 4 degree credits. \$60.

Survey of important authors, intellectual currents, movements, conventions, genres, and themes. Lecture course with emphasis on wide reading. No papers. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

T—6:20-9:30,
MainE 217, Reed

Spring Quarter

T—6:20-9:30,
MainE 217, Reed

Engl 5-151, 5-152 THE ENGLISH NOVEL (replaces Engl 5-827, 5-828, and old Engl 116, 117). 4 degree credits each quarter. \$60 each quarter. ★ 3-151, 3-152.

5-151: The Eighteenth-Century English Novel—Selected novels by such authors as Defoe, Richardson, Fielding, Smollett, Sterne, and Jane Austen. **5-152:** The Nineteenth-Century English Novel—Selected novels from the Romantic and Victorian periods by such authors as Scott, Dickens, the Brontes, Thackeray, Eliot, and Hardy. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

5-151 M—6:20-9:30,
NH 216,
Rathburn

Spring Quarter

5-152 M—6:20-9:30,
NH 216,
Rathburn

Engl 5-175 DRAMA (replaces Engl 5-129 and old Engl 129). 4 degree credits. \$60.

Drama since about 1920—survey of chief dramatists, English, American and continental. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

W—6:20-9:30, MainE 203,
Hurrell

Engl 5-221 CHAUCER (replaces Engl 5-875 and old Engl 175). 4 degree credits. \$60. ★

Readings of selections from *The Canterbury Tales*, with an introduction to the grammar and literary forms of 14th-century English. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

W—6:20-9:30, MainE 215,
McClure

Engl 5-261 MILTON (replaces Engl 5-862 and old Engl 162). 4 degree credits. \$60. ★

Paradise Lost, *Samson Agonistes*, minor poems, *Areopagitica*, and often, although not always, *Paradise Regained*. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

T—6:20-9:30, MainE 217,
Haley

(See also Hist 1-101, 1-102, 1-103, **MEDIEVAL AND RENAISSANCE HISTORY**; and Hum 1-013, **THE RENAISSANCE AND REFORMATION**)

Engl 5-311 ROMANTIC WRITERS. 4 degree credits each quarter. \$60 each quarter.

A close examination of one to three writers each quarter. (Engl 5-312 will be offered 1973-74.) (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

Th—6:20-9:30,
MainE 229, Scoggins

Engl 5-363 JAMES JOYCE. 4 degree credits. \$60.

Critical reading of the texts. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

T—6:20-9:30, MainE 229,
Anderson

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Engl 5-432 AMERICAN POETRY (replaces Engl 5-578 and old Engl 158). 4 degree credits. \$60.

Critical survey of American poetry from Hart Crane to the present; some attention to historical and intellectual backgrounds; emphasis upon major figures. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

M—6:20-9:30, MechE 202,
Ross

Engl 5-452 AMERICAN NOVEL (replaces Engl 5-752 and old Engl 155). 4 degree credits. \$60.

History of American novel since Howells. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

M—6:20-9:30, MechE 212

Engl 5-455 AMERICAN SHORT STORY (replaces Engl 5-713 and old Engl 113). 4 degree credits. \$60.

Historical examination of American short story from 18th-century to present. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

Th—6:20-9:30, MainE 4,
Furia

Winter Quarter

Th—6:20-9:30, MainE 4,
Ross

Spring Quarter

Th—6:20-9:30, MainE 4,
Bales

Engl 5-543 HAWTHORNE AND MELVILLE (replaces Engl 5-705 and old 105). 4 degree credits. \$60.

(No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

M—6:20-9:30, MainE 203, Roth

Engl 5-593 BLACK WRITERS OF THE UNITED STATES (replaces Engl 5-771 and old Engl 171). 4 degree credits. \$60.

Prose, poetry, and drama, with emphasis on writers of the 20th-century. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

T—6:20-9:30, MainE 229,
Anderson

(For complete list of Human Relations and Minority Issues courses, see page 265)

Engl 5-610 TWENTIETH-CENTURY WRITERS (replaces Engl 5-991 and old Engl 190). 4 degree credits. \$60.

Fall: Contemporary British and Irish dramatists: John Osborne, Arnold Wesker, John Arden, Harold Pinter, Brendan Behan, Samuel Beckett, Tom Stoppard, and two or three others will be studied analytically and in their social and political contexts. **Winter:** Post-war British fiction. A survey of the novel in Britain since the second World War. Emphasis on tracing recurrent themes, technical developments, trends, and social influences in a selection of post-war novels. To include such writers as: Joyce Cary, Graham Greene, Henry Green, Iris Murdoch, Doris Lessing, William Golding, Kingsley Amis, Angus Wilson, John Braine, and Anthony Burgess. **Spring:** To be selected. May be repeated for credit. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

W—6:20-9:30, MainE 4,
Hurrell

Winter Quarter

W—6:20-9:30, MainE 4,
Reed

Spring Quarter

W—6:20-9:30, MainE 4

Engl 5-753 LITERATURE AND THE OTHER ARTS (replaces Engl 5-933 and old Engl 128). 4 degree credits.

To be offered 1973-74.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Engl 5-815 HISTORY OF ENGLISH LANGUAGE (replaces Engl 5-814 and 5-646 and old Engl 166). 4 degree credits. \$60.

Historical influences upon, and changes within, language as both popular and literary medium of communication. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

M—6:20-9:30, MainE 4,
MacLeish

Engl 5-831 AMERICAN ENGLISH (replaces Engl 5-674 and old Engl 174). 4 degree credits. \$60.

History of the English language in the United States; significant regional variations, access to collections of Linguistic Atlas of the Upper Midwest. (No prereq. Qualified students interested in graduate credit should inquire at time of registration)

Winter Quarter

Th—6:20-9:30, MainE 203

Engl 5-851 STRUCTURE OF MODERN ENGLISH (replaces Engl 5-645 and old Engl 165). 4 degree credits. \$60.

Introduction to three English grammars: traditional, structural, and transformational, with applications in the study of social and regional variations. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

M—6:20-9:30, MainE 203,
Mitchell

Engl 8-240 SEMINAR: SHAKESPEARE. 4 degree credits. \$64.

(Prereq current enrollment in Graduate School or #)

Fall Quarter

M—Hours arranged,
O'Brien

Engl 8-270 SEMINAR: 18TH-CENTURY LITERATURE. 4 degree credits. \$64.

(Prereq current enrollment in Graduate School or #)

Winter Quarter

W—Hours arranged,
Leyasmeyer

Engl 8-310 SEMINAR: ENGLISH ROMANTIC LITERATURE. 4 degree credits. \$64.

(Prereq current enrollment in Graduate School or #)

Spring Quarter

Th—Hours arranged,
Scoggins

Family Social Science

(formerly Family Studies)

(See Special Issues courses, pages 268-269)

Paul Arnold, Instructor in Family Social Science

Ramon Corrales, Instructor in Family Social Science

Ruth Jewson, Instructor in Family Social Science

James Maddock, Assistant Professor of Family Social Science

Nathan Mandel, Associate Professor of Family Social Science

Elizabeth Peterson, Assistant Professor of Family Social Science

Ronald L. Pitzer, Instructor in Family Social Science

Harold Smith, Instructor in Family Social Science

Douglas Sprenkle, Instructor in Family Social Science

Gail Thoen, Instructor in Family Social Science

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

***FSoS 1-001 DYNAMICS OF DATING, COURTSHIP, AND MARRIAGE** (old FamS 1). 3 degree credits, \$3-001. \$42 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 prereq. Limited to 40 students)

Fall Quarter

M—6:20-8:50, Jones 2,
Corrales

Spring Quarter

M—6:00-8:30, Jones 2,
Sprenkle

***FSoS 1-002 DYNAMICS OF MARRIAGE AND PARENTHOOD** (old FamS 1A). 3 degree credits, \$1-001. \$42 plus \$1 materials fee.

This course is designed to help individuals and couples achieve understanding of self and others, happiness in marriage, and success as parents. It focuses upon husband-wife and parent-child relations, with individual development and family unity as specific goals. These are worked toward through discussion and study of such important and practical issues as: self-analysis, developmental tasks, team decision-making and problem solving, family philosophy, religion, values, and planning; child training and discipline, sex education, communication, income management, marriage adjustments regarding money, sex, in-laws, and children, etc., and general dynamics of family interaction. Integral parts of the course are: case studies, movies, and student discussion. Students are invited for discussion and personal or family counseling with the instructor. (Prereq engaged or married students. Limited to 40 students)

Fall Quarter

M—7:00-9:30, Kel HS 233,
Mandel

Spring Quarter

Th—6:20-8:50, BlegH 335,
Jewson

***FSoS 1-025 PARENTHOOD** (old FamS 25). 2 or 3 degree credits. \$28 or \$42.

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 prereq. Limited to 40 students)

Fall Quarter

M—7:30-9:15,
Park Terrace
Elem School,
Spring Lake
Park, Peterson

Winter Quarter

M—6:00-7:45, NH 122,
Thoen

Spring Quarter

M—4:15-6:30,
Technical Education
Center, Anoka,
Peterson

Th—7:30-9:10,

NH 107, Smith

TV

FSoS 3-970 PREPARING CHILDREN FOR THE 21ST CENTURY.

3 degree credits. \$42 plus \$3 special fee.

A series of 11 half-hour television programs especially for parents and others responsible for the day-to-day care of preschool and early elementary school aged children. In addition to viewing the television broadcasts, registrants will be expected to read from selected materials. The television course will explore those characteristics persons will need in order to cope with the complex, pluralistic, increasingly interdependent world of the 21st century. Among the topics to be considered are: responsibility, creativity, prejudice, self-worth, autonomy, and orientation toward change. The course will also explore ways in which parents and others involved in child care facilitate or inhibit the development of coping capacities in children. (No prereq)

Winter Quarter

T—8:30-9:00 p.m.,
TV, Channel 2, Pitzer

(For complete list of Radio and Television courses see page 261)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

***FSoS 5-001 HUMAN SEXUAL BEHAVIOR** (old FamS 100). 3 degree credits. \$45.

The nature of sexual functioning, sexual development, ethics, and attitudes, research problems. (Prereq 15 credits in psychology or sociology. Limited to 50 students. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

M—6:20-8:50, BlegH 415,
Arnold

Spring Quarter

W—6:20-8:50, BlegH 435,
Maddock

For information on non-credit conferences or workshops in Family Social Science, please contact the Department of Conferences and Institutes, 131 Nolte Center for Continuing Education; telephone 373-3151.

Finance and Insurance

FINANCE

Your attention is called to the Credit and Financial Management Certificate program, page 79.

James Bowditch, Lecturer in Finance

C. Robert Carlson, Assistant Professor of Finance

J. Robert Hare, Lecturer in Finance

Paul F. Jessup, Associate Professor of Finance

George A. Mairs, III, Lecturer in Finance

Peter Rosko, Associate Professor of Finance

Roger B. Upson, Associate Professor of Finance

BFin 0-001C INTRODUCTION TO INVESTMENTS. 3 certificate credits, \$3-000. \$42.

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 investor groups. (No prereq)

Fall Semester

M—6:20-8:00, NH 209, Mairs

(See also Math 1-119, MATHEMATICS OF INVESTMENT)

BFin 0-002C CREDIT AND FINANCIAL MANAGEMENT PROBLEMS. 3 certificate credits.

To be offered 1973-74 and alternate years thereafter.

***BFin 3-000 FINANCE FUNDAMENTALS** (old BFin 56). 4 degree credits, \$8-000. \$56.

Provides students with a comprehensive, analytical introduction to the principal concepts in Finance. After considering the general business environment, the course examines valuation theory. Then financial management decisions concerning uses and sources of funds are presented, thus introducing students to capital budgeting. The course concludes by surveying the nation's financial markets. (Prereq Acct 1-026 or 1-051. Limited to 40 students)

Fall Semester

T—8:15-9:55, BlegH 225

Fall Quarter

W—7:00-9:30, Sand JHS 211
(Limited to 35
students*)

Winter Quarter

T—6:20-8:50, BlegH 135

Spring Quarter

T—6:20-8:50, BlegH 135

Th—6:20-8:50, BlegH 110

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

***BFin 3-100 FINANCIAL MANAGEMENT** (old BFin 57). 4 degree credits. \$56.

A broad case-oriented course building on concepts introduced in 3-000. The viewpoint of a corporation's principal financial officer is generally used. Case discussions, augmented by lectures and readings, enable students to apply finance principles in actual business situations. Students gain experience in problem definition, specification of alternatives, analysis, and decision. Effective verbal and written communication is stressed. (Prereq 3-000. Limited to 30 students)

Spring Quarter

M—6:20-8:50, BlegH 360

***BFin 3-300 INVESTMENT MANAGEMENT** (old BFin 66). 4 degree credits, \$0-001C. \$56.

Provides students with a comprehensive introduction to investment decision-making from the viewpoints of both individual and institutional investors. Principal focus is on risk-return relationships of various marketable securities. Presents analytical techniques of security selection and portfolio management in the context of the nation's changing securities markets. (Prereq 3-000. Limited to 35 students)

Fall Quarter

Th—6:20-8:50, BlegH 205

Winter Quarter

W—6:20-8:50, BlegH 205

Spring Quarter

T—6:20-8:50, BlegH 205

INSURANCE

David N. Barker, Lecturer in Insurance

Kenneth P. Bergquist, Lecturer in Insurance

Fred Gedelman, Lecturer in Insurance

John A. Kohler, Lecturer in Insurance

Alfred R. W. Larkin, Lecturer in Insurance

Dennis M. Mathisen, Lecturer in Insurance

Morton C. Mosiman, Lecturer in Insurance

Charles C. Nordhaus, Lecturer in Insurance

Clements Oliver, Lecturer in Insurance

Leighton Quinn, Lecturer in Insurance

Duane J. Rivard, Lecturer in Insurance

Orem O. Robbins, Lecturer in Insurance

Norman J. Simler, Professor of Economics

Michael L. Smith, Lecturer in Insurance

J. Richard Vaaler, Lecturer in Insurance

H. David Warner, Lecturer in Insurance

Roger Wheeler, Lecturer in Insurance

C. Arthur Williams, Jr., Professor of Economics and Insurance

Ins 3-100 RISK MANAGEMENT AND INSURANCE (old Ins 53). 4 degree credits. \$56. ★

Recognition, measurement, and evaluation of insurable property, liability, and personnel risks of firms and families. Tools of risk management; retention, loss prevention, transfer, and others with emphasis on insurance. Design and implementation of the optimum risk management program. Selection of insurers, insurance pricing methods, and preparation for loss adjustments. Public policy and risk management, particularly government regulation of insurance, social insurance, and automobile insurance problems. (Prereq 6 credits in Principles of Economics or #)

Fall Semester

M—8:15-9:55, BlegH 225, Smith

Spring Semester

M—8:15-9:55, BlegH 155, Smith

Spring Quarter

**W—6:30-9:00, Harding HS
127, Williams**

Property and Casualty Insurance Curriculum

The University of Minnesota cooperates with the Insurance Institute of America and the American Institute for Property and Liability Insurance Underwriters

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

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 Ins 0-021C, 0-022C, 0-023C 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 Adjustment courses are part of a professional education program for claims adjusters. The three Insurance Institute of America Risk Management courses are designed to develop professional competence in risk management. The management courses deal with general management concepts. Complete details of the program of training under both institutes are printed in the Institute's Annual announcements, copies of which may be obtained from Continuing Education and Extension.

IIA Ins 0-021C, 0-022C, 0-023C. 3 certificate credits each term. \$42 each term.

Based on the IIA-Ins 21, 22, and 23, 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. **Ins 0-021C:** 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. **0-022C:** An intensive study of fire and marine insurance contracts. **0-023C:** An intensive study of casualty insurance contracts. (No prereq)

Fall Quarter

0-021C Th—5:30-8:00, BlegH 240,
Quinn

0-022C M—5:30-8:00, BlegH 120,
Rivard

Special Term

(January 15 to April 30)

0-023C T—6:20-8:00, BA 632, Quinn

The following courses are based on the ADJ 31, 32, 35, 36, Topical Outlines of the Insurance Institute of America. This Education Program for Adjusters is designed to play an important role in the professional development of independent, staff, and bureau adjusters working in both the property loss and liability claim areas. It is recommended that ADJ 0-031C be taken before ADJ 0-035C and ADJ 0-032C before ADJ 0-036C.

IIA ADJ 0-031C PRINCIPLES OF INSURANCE AND PROPERTY LOSS ADJUSTING. 3 certificate credits.

To be offered 1973-74 if demand warrants.

IIA ADJ 0-032C PRINCIPLES OF INSURANCE AND PROPERTY LOSS ADJUSTING. 3 certificate credits.

To be offered 1973-74 if demand warrants.

IIA ADJ 0-035C PROPERTY INSURANCE ADJUSTING. 3 certificate credits.

To be offered Fall Quarter, 1974-75 if demand warrants.

IIA ADJ 0-036C LIABILITY INSURANCE ADJUSTING. 3 certificate credits.

To be offered Special Spring Term, 1974-75 if demand warrants.

IIA RM 0-054C PRINCIPLES OF RISK MANAGEMENT. 3 certificate credits.

To be offered Special Fall Term, 1973-74.

IIA RM 0-055C PRACTICES IN RISK MANAGEMENT. 3 certificate credits.

To be offered Special Spring Term, 1973-74.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

IIA MGT 0-041C THE PROCESS OF MANAGEMENT. 3 certificate credits.

To be offered Fall Quarter, 1973-74 if demand warrants.

IIA MGT 0-042C MANAGEMENT AND HUMAN RESOURCES. 3 certificate credits.

To be offered Spring Quarter, 1973-74 if demand warrants.

College of Life Underwriters Curriculum

In cooperation with the Minneapolis and St. Paul chapters of the American College of Life Underwriters (CLU), Continuing Education and Extension is offering 0-001C, 0-002C, 0-003C, 0-004C, 0-005C of the CLU educational programs.

CLU COLLEGE OF LIFE UNDERWRITERS

Registration for all Minneapolis CLU classes must be completed with the Minneapolis CLU Chapter. No registrations will be taken by the University of Minnesota offices. Application blanks for enrollment may be obtained by calling 920-3660 or writing to State Office of Life Underwriters, Suite 161, 4620 West 77th Street, Edina, Minnesota 55435, or from the chairman: (listed below).

Minneapolis—Edward T. Henderson, Jr., 1611 Park Ave., 332-7596

Enrollment must be completed in the Fall for two courses covering both Fall and Spring semesters.

Registration is made for consecutive courses (0-001C and 0-002C, 0-003C and 0-004C, 0-005C and 0-006C, 0-007C and 0-008C, 0-009C and 0-010C). The American College will not allow a candidate to sit for the examination for course 0-010C unless he has completed all 10 courses.

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.

CLU 0-001C INDIVIDUAL LIFE AND HEALTH INSURANCE. 3 certificate credits. \$42.

This course is designed as preparation for the January CLU examination in course 0-001C. The subject matter will cover such topics as needs and uses; types of contracts; introduction to health insurance; contract provisions; fundamentals of programming and settlement options. (No prereq)

Fall Semester

M—4:40-6:40, 1750 Henn Ave So, Larkin

CLU 0-002C LIFE INSURANCE LAW AND COMPANY OPERATIONS. 3 certificate credits. \$42.

This course is designed for preparation for the June CLU examination in course 0-002C. The subject matter will cover such topics as the arithmetics of premiums and reserves; structures of the life insurance business; life insurance law and company operations. (No prereq)

Spring Semester

M—4:40-6:40, 1750 Henn Ave So, Larkin

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

- CLU 0-003C SOCIAL INSURANCE AND GROUP INSURANCE.** 3 certificate credits. \$42.
 This course is designed for preparation for the January CLU examination in course 0-003C. The subject matter will cover group life insurance; group health insurance; problems of old age and other social insurance needs. (No prereq)
- Fall Semester**
 T—4:30-6:30, 3701 Wayzata Blvd,
 Nordhaus
- CLU 0-004C PENSION PLANNING.** 3 certificate credits. \$42.
 This course is designed for preparation for the June CLU examination in 0-004C. The subject matter will cover the fundamentals of pension plans. (No prereq)
- Spring Semester**
 T—4:30-6:30, 3701 Wayzata Blvd, Mosiman
- CLU 0-005C INCOME, ESTATE, AND GIFT TAXATION.** 3 certificate credits. \$42.
 This course is designed for preparation for the January CLU examination in course 0-005C. The subject matter will cover income, estate, and gift taxation and its relationship to life insurance and estate planning. (No prereq)
- Fall Semester**
 W—4:30-6:30, 3701 Wayzata Blvd,
 Mathisen
- CLU 0-006C INVESTMENTS AND FAMILY FINANCIAL MANAGEMENT.** 3 certificate credits. \$42.
 This course is designed for preparation for the June CLU examination in course 0-006C. The subject matter will cover the fundamentals of investments and family financial management. (No prereq)
- Spring Semester**
 W—4:30-6:30, 3701 Wayzata Blvd, Warner
- CLU 0-007C ACCOUNTING AND FINANCE.** 3 certificate credits. \$42.
 This course is designed for preparation for the January CLU examination in course 0-007C. The subject matter will cover family and business finances and accounting. (No prereq)
- Fall Semester**
 Th—4:30-6:30, 3701 Wayzata Blvd,
 Barker
- CLU 0-008C ECONOMICS.** 3 certificate credits. \$42.
 This course is designed for preparation for the June CLU examination in course 0-008C. The subject matter will be devoted to the basic principles of economics. (Prereq 0-007C)
- Spring Semester**
 Th—4:30-6:30, 3701 Wayzata Blvd, Barker
- CLU 0-009C BUSINESS INSURANCE.** 3 certificate credits. \$42.
 This course is designed for preparation for the January CLU examination in course 0-009C. The subject matter will cover settlement options and programming and life insurance for business purposes. (No prereq)
- Fall Semester**
 M—4:00-6:00, 1200 2nd Ave So,
 Robbins
- CLU 0-010C ESTATE PLANNING.** 3 certificate credits. \$42.
 This course is designed for preparation for the June CLU examination in course 0-010C. The subject matter will deal with estate planning. (Prereq 0-009C)
- Spring Semester**
 M—4:00-6:00, 1200 2nd Ave So, Robbins

Finnish

(See Scandinavian Languages)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Forestry Resource Development

*FRD 5-402 **INTERPRETATION AND MANAGEMENT OF FOREST ENVIRONMENTS.** 3 degree credits. \$45.

Biological foundations, biology of forest management, wildlife, hydrology, social and economic aspects, timber management and regulation, and recreation and amenity values. Intended for secondary school teachers and other interested students. For information, contact Professor Richard A. Skok, 110b Green Hall, College of Forestry, University of Minnesota, St. Paul, Minnesota 55101; telephone 373-0836 or 373-3195. (No prereq. Limited to 50 students. Qualified students interested in graduate credit should inquire at time of registration)

Special Term

(February 27-April 17)

T—6:30-9:30,

Golden Valley Environmental
Science Center, 5400 Glenwood
Ave, Golden Valley

(March 7-April 25)

W—6:30-9:30,

St. Cloud Area Vocational
Technical School

French

F. R. P. Akehurst, Associate Professor of French

George Bauer, Assistant Professor of French

Henry Kalb, Assistant Professor of French

Margaret Mack, Assistant Professor of French

Thomas O'Donnell, Assistant Professor of French

Peter Robinson, Assistant Professor of French

Fren 1-101/1-102/1-103 (old 1-2-3), **BEGINNING FRENCH**, and **1-004/1-005** (old 25-26), **INTERMEDIATE FRENCH**, stress pronunciation, aural comprehension, basic grammatical forms, patterns of French and the ability to recombine them in new situations. Reading and writing skills will be developed as a complement to the acquisition of the spoken objectives. Each meeting will consist of language laboratory work as well as class recitation. Grades will be assigned solely on the basis of class recitation and weekly quizzes.

Tape reels or cassettes are available to extension classes students on a take-home basis. Students can pick up tapes at the Language Laboratory on the second floor of Temporary South of Folwell or the second floor of Temporary South of Coffey on the St. Paul Campus. Students must present a fee statement when checking out tapes. Rental costs are covered by the special fees paid with tuition.

Language laboratory hours are: Monday-Thursday, 8 a.m.-8 p.m.; Friday, 8 a.m.-6 p.m.; Saturday, 9 a.m.-3 p.m.; closed Sunday.

The following non-language extension classes may be applied toward the CLA foreign language requirement, Route II [see page 57]: ArtH 3-303; Hist 5-211, 5-212, 5-213.

Fren 1-101 BEGINNING FRENCH (old Fren 1). 5 degree credits. \$70 plus \$3 laboratory fee. ★

See note above. (No prereq)

Fall Quarter

MTh—6:20-8:25, FolH 104

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Fren 1-102 BEGINNING FRENCH (old Fren 2). 5 degree credits. \$70 plus \$3 laboratory fee. ★

See note above. (Prereq 1-001 or #)

Winter Quarter

MTh—6:20-8:25, FoIH 110

Fren 1-103 BEGINNING FRENCH (old Fren 3). 5 degree credits. \$70 plus \$3 laboratory fee.

See note above. (Prereq 1-002 or #)

Spring Quarter

MTh—6:20-8:25, FoIH 107

Fren 1-004 INTERMEDIATE FRENCH (old Fren 25). 5 degree credits. \$70.

Consolidation of basic structures and development of oral fluency through readings and discussion. (Prereq 1-003 or #)

Fall Quarter

TTh—6:20-8:25, FoIH 203

Fren 1-005 INTERMEDIATE FRENCH (old Fren 25-26). 5 degree credits. \$70.

Readings in contemporary culture. Development of vocabulary and improvement of ability to read, write and speak the language. (Prereq 1-004 or #)

Winter Quarter

TTh—6:20-8:25, FoIH 107

Fren 3-015 FRENCH CONVERSATION AND COMPOSITION. 5 degree credits. \$70.

Combines traditional conversational and composition courses. Othoepic in approach, leading to an acceptable command of French both in pronunciation and grammar. Includes pastiche-work, free composition, and translation from and into French. (Prereq 1-004 or 1-005)

Spring Quarter

TTh—6:20-8:25, FoIH 108

Fren 3-025 ADVANCED CONVERSATION. 5 degree credits. \$70.

Leads to superior command of oral French, including a knowledge of phonetics as applied to spoken French. Emphasis on present-day usage. (Prereq 3-015 or equiv)

Fall Quarter

TTh—6:20-8:25, FoIH 108

Fren 5-900 TOPICS IN FRENCH LITERATURE. 5 degree credits. \$75.

May be repeated for credit. (Prereq at least one Upper Division course in French literature. Qualified students interested in graduate credit should inquire at time of registration)

Winter Quarter

TTh—6:20-8:25, FoIH 103

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 one-quarter course, 0-001 (17A), specifically designed for students who desire only a reading knowledge of the language.

Fren 0-001 FRENCH FOR GRADUATE STUDENTS (old Fren 17A). No credit. \$42. ★

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 only with the reading aspect of the language, there are no sessions for oral-aural drills and composition, and great skill can be acquired in a short time. At the end of one quarter the student is given the

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Graduate Reading Examination in French. Successfully passing this examination fulfills the Graduate School requirement of a reading knowledge of a foreign language. (No prereq)

Fall Quarter

M—6:20-8:50, FolH 201

Winter Quarter

M—6:20-8:50, FolH 201

Spring Quarter

M—6:20-8:50, FolH 201

Fren 0-001 (17A) usually is offered also as a Summer Extension Class.

General College Courses

As nearly as possible, General College courses are planned to be complete in themselves. Emphasis is on relationships within and among fields of knowledge rather than intensive study of isolated segments. Most courses do not have prerequisites.

The Associate in Arts degree from the General College can be completed in extension classes [see page 51]. New baccalaureate degree programs are explained in General College Extended Programs, page 53. See also General College Occupational Programs, available all or in part through Extension, which may be applied toward the General College degree program, page 52.

With the exception of certain requirements in the occupational education programs and the new baccalaureate degree program, the General College prescribes no specific course of study for its students. Any student may earn the 90 credits necessary for the Associate in Arts degree without following a set pattern of classes. Taking courses in this general education program should give a student some knowledge of a natural world; of man's behavior and social organization; of man's intellectual achievements in the arts, literature, and philosophy; of the means man has found to communicate with his fellow men; and of the ways he has attempted to synthesize and organize his knowledge and experience.

Please see the following departmental listings for all General College course offerings:

BUSINESS STUDIES (page 123)

- The Law in Society, GC 1-235
- Introduction to Modern Business, GC 1-511
- Principles of Small Business Operations, GC 1-513
- Introduction to Data Processing, GC 1-535
- Introduction to Commercial Art, GC 1-536
- Beginning Typewriting, GC 1-544
- Introduction to Block Diagramming and Programming, GC 1-572
- Legal Studies: Business Organization, GC 1-581
- Legal Studies: Real Estate, GC 1-582
- Legal Studies: Estate Planning and Administration, GC 1-583 (offered '73-'74)
- Legal Studies: Litigation and Trial Practice, GC 1-584
- Legal Studies: Income Taxation, GC 1-585 (offered '73-'74)
- Legal Studies: Legal Research, GC 1-586 (offered '73-'74)
- Marketing: Retailing and Sales, GC 1-551
- Marketing: Sales Promotion, GC 1-552
- Marketing: Principles of Management, GC 1-553
- Marketing: Supervised Work Experience, GC 1-557

COMMUNICATION SKILLS (page 132)

- Fundamentals of Usage and Style, GC 1-405
- Communication Skills: Individual Study, GC 1-409
- Integrated Communication I, GC 1-413/1-414
- Integrated Communication II, GC 1-415/1-416
- Creativity: Creative Problem Solving, GC 1-471

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

HUMANITIES (page 192)

General Arts, GC 1-311
Man's Religious Beliefs, GC 1-357
Literature—Film, GC 1-374

NATURAL SCIENCE (page 225)

Man and His Environment, GC 1-112
Human Anatomy and Physiology, GC 1-132

SOCIAL STUDIES (page 244)

Man in Society: His Personal Role, GC 1-211
Minnesota History, GC 1-221
Human Services: Special Topics, GC 1-628

Geography

Russell B. Adams, Associate Professor of Geography

Katsuichi Hoshi, Instructor in Geography

John G. Rice, Associate Professor of Geography

Kenard Smith, Instructor in Geography

Ingolf Vogeler, Instructor in Geography

Geog 1-301 HUMAN GEOGRAPHY (old Geog 4). 5 degree credits. \$70.

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

Fall Semester

W—6:00-8:45, BlegH 115, Rice

Spring Semester

Th—6:00-8:45, BlegH 435, Rice

Geog 1-311 ECONOMIC GEOGRAPHY I: INTRODUCTORY (old Geog 41). 5 degree credits. \$70.

Analysis of world patterns of economic activity; appraisal of resources, production, circulation, and consumption; principles and potential of economic development. (No prereq)

Spring Semester

M—6:00-8:45, BlegH 240, Vogeler

Geog 1-401 PHYSICAL GEOGRAPHY (old Geog 1). 5 degree credits. \$70.

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

Fall Semester

M—6:00-8:40, BlegH 420, Smith

Geog 3-371 URBAN GEOGRAPHY (old Geog 165). 4 degree credits. \$56.

Character and distribution of cities in present-day world, including analysis of their development. Emphasis on internal and external locational relationships. (Prereq 1-301 or 1-311 or #)

Winter Quarter

T—6:00-9:20, BlegH 430,
Hoshi

Geog 3-181 SOVIET UNION (old Geog 63). 4 degree credits. \$56.

Systematic appraisal by regions of physical resources, population, and economic geography; problems and planning in U.S.S.R. compared with the United States. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57])

Spring Quarter

W—6:00-9:20, BlegH 425,
Adams

See symbols, pages 36-37.

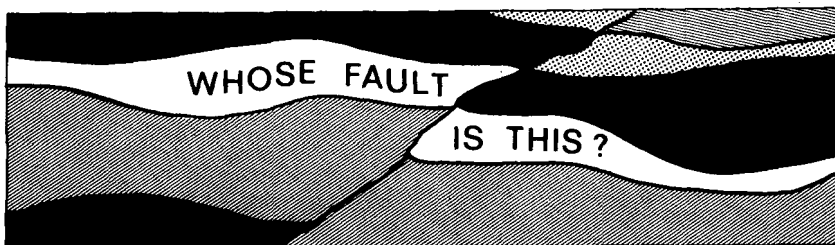
See building abbreviations, page 92; see department abbreviations, page 93.

Geog 5-333 SPATIAL ORGANIZATION OF MODERN EUROPE (old Geog 112). 4 degree credits. \$56.

Historical geography of Europe since 17th century. Areal organization in early modern times. Changes in spatial organization of polity, economy, and settlement. 20th century Europe as a functional region. (Pereq 5 credits in geography and 3-161 or §. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

**W—6:00-9:20, BlegH 435,
Rice**



Geology and Geophysics

Richard L. Bartels, Instructor in Geology and Geophysics

George R. Rapp, Jr., Associate Professor of Geology and Geophysics

Robert E. Sloan, Professor of Geology and Geophysics

Geo 1-001 PHYSICAL GEOLOGY (old Geo 1). 4 degree credits. \$56 plus \$3 laboratory fee. ★

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 prereq. Students wishing lecture only register for 1-003. For graduate credit register in 5-051)

Fall Semester

**Lect T—6:20-8:00, PillsH 110,
Bartels**

Lab T—8:10-9:30, ForH 180

Spring Semester

**Lect M—6:20-8:00, PillsH 110,
Bartels**

Lab M—8:10-9:30, ForH 180

Geo 1-002 HISTORICAL GEOLOGY (old Geo 2). 4 degree credits. \$56 plus \$3 laboratory fee. ★

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. (Prereq 1-001. Students wishing lecture only register for 1-004. For graduate credit register in 5-052)

Spring Semester

**Lect T—6:20-8:00, PillsH 110,
Sloan**

Lab T—8:10-9:30, ForH 180

Geo 1-008 GEOLOGY AND MAN. 4 degree credits, \$1-001. \$56.

An introductory course concerned with man in his physical environment; geological hazards (e.g. earthquakes); the nature and use of natural resources; geological aspects of pollution, recreation and land use; the effect of the composition of rocks and soils on nutrition and disease. An introduction to the broad nature of earth science. Lectures, labs, and field trips. (No prereq)

Fall Semester

Lect M—6:20-8:00, PillsH 110, Sloan

Lab M—8:10-9:30, ForH 180

(For complete list of Ecology courses, see pages 262-263)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Geo 5-051 PHYSICAL GEOLOGY FOR TEACHERS (old Geo 109C). 4 degree credits, \$1-001, 1-003, 1-111. \$60 plus \$3 laboratory fee.

An introduction to the scientific methods and the nature of the earth. Survey of the main features of the physical world and of the processes that have evoked them. (Prereq 1 term college chemistry or physics; only for students holding degrees in education. Qualified students may register for graduate credit at the University of Minnesota)

Fall Semester

Lect T—6:20-8:00, PillsH 110,
Bartels, Sloan

Lab T—8:10-9:30, ForH 180

Geo 5-052 HISTORICAL GEOLOGY FOR TEACHERS (old Geo 122C). 4 degree credits, \$1-002, 1-004, 1-112. \$60 plus \$3 laboratory fee.

An introduction to the origin of the earth, the physical evolution of its crust through geological time, and the biological changes that occurred during its history. (Prereq 1-001 or 1-111 or 5-051 or #; only for students holding degrees in education. Qualified students may register for graduate credit at the University of Minnesota)

Spring Semester

Lect T—6:20-8:00, PillsH 110,
Sloan

Lab T—8:15-9:55, ForH 55

German

Frank D. Hirschbach, Professor of German

Edwin F. Menze, Professor of German

Thomas Plummer, Assistant Professor of German

Herman Ramras, Professor of German

Wolfgang Taraba, Professor of German

Ray Wakefield, Assistant Professor of German

Gerhard H. Weiss, Professor of German

Cecil Wood, Professor of German

1-101/1-102/1-103 BEGINNING GERMAN (old Ger 1A-2A-3A).

5 degree credits per course. 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 1-301, which is a prerequisite for Upper Division German courses.

Tape reels or cassettes are available to extension classes students on a take-home basis. Students can pick up tapes at the Language Laboratory on the second floor of Temporary South of Folwell or the second floor of Temporary South of Coffey on the St. Paul Campus. Students must present a fee statement when checking out tapes. Rental costs are covered by the special fees paid with tuition.

Language laboratory hours are: Monday-Thursday, 8 a.m.-8 p.m.; Friday, 8 a.m.-6 p.m.; Saturday, 9 a.m.-3 p.m.; closed Sunday.

The following non-language extension classes may be applied toward the CLA foreign language requirement, Route II (see page 57): Ger 3-501; Ger 3-604; Hist 5-241, 5-242, 5-243.

Ger 1-101/1-102 BEGINNING GERMAN (old Ger 1A-2A). 5 degree credits each semester. \$70 plus \$3 laboratory fee each semester. ★

Structure, pronunciation, reading, and oral comprehension by learning the patterns

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

of basic German (see note above). (No prereq for 1-101; 1-101 or 1 year preparatory German for 1-102)

Fall Semester

1-101 M—6:20-9:20, FolH 209, Weiss
1-101 Th—6:20-9:20, FolH 209, Plummer

Spring Semester

1-101 Th—6:20-9:20, FolH 105
1-102 M—6:20-9:20, FolH 209, Weiss

Ger 1-103 BEGINNING GERMAN (old Ger 3A). 5 degree credits. \$70. ★

A continuation of the 5-credit sequence in Beginning German. (Prereq 1-102 or 2 years high school German)

Fall Semester

M—6:20-9:20, FolH 302, Taraba

Ger 1-301 INTERMEDIATE GERMAN (old Ger 4-5). 5 degree credits. \$70. ★

Selected reading from literature, elementary composition. (Prereq 1-103 or 3 years high school German)

Spring Semester

M—6:20-9:20, FolH 103, Taraba

Ger 3-501 CONTEMPORARY GERMANY (old Ger 68). 4 degree credits. \$56.

Introduction to culture and civilization of present-day Germany. (Prereq 1-103 or 3 years high school German. May be applied toward the CLA foreign language requirement, Routes I and II, [see page 57])

Spring Semester

W—6:20-8:35, FolH 204, Hirschbach

Ger 3-604 GERMAN LITERATURE IN TRANSLATION AND THE FILM. 4 degree credits. \$56. (No knowledge of German required)

Examination of literary works and films as separate but related art forms. The course will include films ranging from accounts of the first Dracula to the talkies of Peter Lorre and Marlene Dietrich; from Nazi documentaries to recent *avant-garde* cinema. It will consider the writings of such authors as Thomas Mann, Franz Kafka, Günter Grass, and Peter Weiss. The premise that a history of a people is reflected in its art underlies the broad aims of the course: the analysis of the irrational in modern German culture, attitudes toward authority and violence, expressions of guilt, and the plight of the artist. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57])

Fall Quarter

T—6:20-9:40, AndH 210,
Plummer

(See page 271 for further information)

GERMAN FOR GRADUATE STUDENTS

The German language requirement for an advanced degree can be satisfied with a program of study based on Ger 0-221 and Ger 0-222. Ger 0-221 or equivalent (2 quarters of beginning German or 2 years of high school German) is a prerequisite for Ger 0-222. A final examination is administered at the conclusion of Ger 0-222. 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 0-221 GERMAN FOR GRADUATE STUDENTS (old Ger 17A). No credit. \$42. ★

This course is designed to help the graduate student acquire a reading knowledge of basic German as rapidly as possible. (The course itself is not intended to prepare a student for the Graduate German Reading Examinations; it is merely the first step toward that objective.) Ger 0-221 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 prereq)

Fall Semester

M—6:20-8:00, FolH 308, Menze

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Ger 0-222 GERMAN FOR GRADUATE STUDENTS (old Ger 17B). No credit. \$56. ★

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. (Prereq 0-221 or 2 quarters of beginning German or 2 years of high school German)

Spring Semester

M—6:20-8:35, FolH 105, Wood

German 0-221 (old 17A) and 0-222 (old 17B) will be offered also as Summer Extension Classes.

Greek

The following non-language extension classes may be applied toward the CLA foreign language requirement, Route II (see page 57): Clas 1-045; Clas 1-122; Clas 5-122; Clas 5-145; Hist 1-052; Hist 3-052; Hist 5-061, 5-062, 5-063; Hum 1-011; Phil 3-001; Phil 3-002.

Health

(See School Health Education, page 153)

Health, Environmental

(See Public Health)

Health, Public

(See Public Health)

Hebrew

(See Middle Eastern Languages)

History

(See also "Credit Courses in London," page 259; GC 1-221, MINNESOTA HISTORY [Social Studies]; and Continuing Education for Women, page 257)

Charles Aling, Instructor in History

Bernard S. Bachrach, Associate Professor of History

Paul W. Bamford, Professor of History

Hyman Berman, Professor of History

Kinley J. Brauer, Associate Professor of History

Edward L. Farmer, Assistant Professor of History

Joseph R. Goldman, Lecturer in History

John R. Howe, Associate Professor of History

Allen F. Isaacman, Associate Professor of History

Tom B. Jones, Professor of History

Lansine Kaba, Assistant Professor of History

Thomas Kelly, Assistant Professor of History

David Kopf, Associate Professor of History

Stanford E. Lehmborg, Professor of History

Rodney C. Loehr, Professor of History

Byron K. Marshall, Associate Professor of History

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Peyton J. McCrary, Assistant Professor of History
Eric Monkkonen, Instructor in History
David W. Noble, Professor of History
Thomas Noer, Instructor in History
Byron J. Nordstrom, Lecturer in History
Jonathan Paradise, Assistant Professor of Hebrew
Otto P. Pflanze, Professor of History
Michael Rapp, Instructor in History
Daniel Reisman, Assistant Professor of Hebrew
Richard Rudolph, Assistant Professor of History
Theofanis G. Stavrou, Professor of History
Romeyn Taylor, Professor of History
Rudolph Vecoli, Professor of History
Stuart L. Wagner, Instructor in History
William E. Wright, Associate Professor of History

Hist 1-001, 1-002, 1-003 INTRODUCTION TO MODERN EUROPEAN HISTORY (old Hist 1,2,3). 4 degree credits each quarter, \$3-001, 3-002, 3-003. \$56 each quarter. ★
1-001: Development of western European civilization, rise of national states, to 1715. **1-002:** Revolution, liberalism, and nationalism, to 1870. **1-003:** 1870 to recent times. (No prereq. For Upper Division credit, register in Hist 3-001, 3-002, 3-003)

Fall Quarter	Winter Quarter	Spring Quarter
1-001 W—5:30-8:00, AndH 210, Wright	1-002 W—5:30-8:00, AndH 210, Wright	1-003 W—5:30-8:00, AndH 210, Wright

Hist 1-051, 1-052, 1-053 ANCIENT CIVILIZATION (old Hist 14, 15, 16). 3 degree credits each quarter, \$3-051, 3-052, 3-053. \$42 each quarter. ★

1-051: 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. **1-052:** The history of the rise and flowering of the Greek Civilization from the earliest times to the death of Alexander the Great in 323 B.C. Special emphasis is placed on Greek civilization in the literary, artistic, and philosophic achievement of that period. **NOTE—1-052** may be applied toward the CLA foreign language requirement, Route II (see page 57). **1-053:** 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. **NOTE—1-053** may be applied toward the CLA foreign language requirement, Route II (see page 57). (No prereq, but recommended that 1-053 be preceded by 1-052 and 1-052 by 1-051 in order that the student may acquire a background for following course. For Upper Division credit, register in Hist 3-051, 3-052, 3-053)

Fall Quarter	Winter Quarter	Spring Quarter
1-051 Th—5:30-8:00, BlegH 10, Jones	1-052 Th—5:30-8:00, BlegH 10, Jones	1-053 Th—5:30-8:00, BlegH 10, Jones

(See also Clas 1-045, GREEK AND ROMAN MYTHOLOGY; Heb 1-501, 1-502, 1-503, THE BACKGROUND OF THE BIBLE; Hum 1-011, THE GREEK HERITAGE; and Hum 1-012, THE ROMAN AND MEDIEVAL HERITAGE)

Hist 1-101, 1-102, 1-103 MEDIEVAL AND RENAISSANCE HISTORY (old Hist 11, 12, 13). 4 degree credits each quarter, \$3-101, 3-102, 3-103. \$56 each quarter.

1-101: The early Middle Ages, decline of Rome, the barbarian kingdoms. Carolingian empire. **1-102:** The high Middle Ages, feudal Europe, medieval culture. **1-103:** The

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

later Middle Ages and early Renaissance, rise of national monarchies, art, learning and literature. (No prereq. For Upper Division credit, register in Hist 3-101, 3-102, 3-103)

Fall Quarter		Winter Quarter		Spring Quarter	
1-101	W—6:00-8:30, BlegH 150, Bachrach	1-102	W—6:00-8:30, BlegH 250, Bachrach	1-103	W—6:00-8:30, BlegH 250, Bachrach

(See also English literature courses)

Hist 1-151, 1-152, 1-153 ENGLISH HISTORY (old Hist 4, 5, 6). 4 degree credits each quarter, \$3-151, 3-152, 3-153. \$56 each quarter. ★ 1-151, 1-152.

1-151: Conquest and settlement, feudal age, foreshadowings of limited monarchy and popular government. 1-152: Tudors, Stuarts, and Hanoverians, parliament versus king, colonization and American Revolution. 1-153: Coming of democracy, Britain and Europe, empire and commonwealth. (No prereq. Need not be taken in sequence. For Upper Division credit, register in Hist 3-151, 3-152, 3-153)

Fall Quarter		Winter Quarter		Spring Quarter	
1-151	M—6:20-8:50, BlegH 235, Lehmberg	1-152	M—6:20-8:50, BlegH 255, Lehmberg	1-153	M—6:20-8:50, BlegH 255, Lehmberg

Hist 1-301, 1-302 AMERICAN HISTORY (old Hist 23, 24). 4 degree credits each term. \$56 each term. ★

Survey of political, economic, and social history of the United States with emphasis on forces that resulted in the emergence of Modern America. 1-301: Colonial, early national period through the sectional crises. 1-302: Modern America. (No prereq)

Fall Semester		Spring Semester	
1-301	T—6:30-8:45, BlegH 130, McCrary	1-302	T—6:30-8:45, BlegH 130, Monkkonen

Fall Quarter		Winter Quarter		Spring Quarter	
1-301	W—6:30-9:50, Harding HS 131, Rapp	1-301	Th—6:30-9:50, BlegH 135, Berman	1-301	W—6:30-9:50, BlegH 145, McCrary
1-302	Th—5:30-8:50, BlegH 135, Berman	1-302	W—6:30-9:50, Harding HS 131, Noer	1-302	Th—6:30-9:50, BlegH 135, Berman

(See also American Studies; and Pol 5-659, AMERICAN POLITICAL THOUGHT)

Hist 1-310 TOPICS IN AMERICAN HISTORY: THE ETHNIC FACTOR IN AMERICAN HISTORY. 4 degree credits. \$56.

Ethnicity as a basis for group life in American history will be the theme studied. The sources of ethnic affiliation, race, religion, and nationality, will be traced in the successive waves of immigration. The impact of ethnic groupings on geographical patterns of settlement, institutional developments, and the evolving social structure will be examined. Various patterns of relationships, of conflict and accommodation, among ethnic groups will be analyzed. (No prereq)

Fall Quarter	
M—6:00-8:30,	BlegH 210, Vecoli

(For complete list of Human Relations and Minority Issues courses, see page 265)

Hist 1-401, 1-402 SURVEY OF LATIN AMERICAN HISTORY. 4 degree credits each quarter, \$3-401, 3-402. \$56 each quarter.

1-401: The colonial period through independence. 1-402: The national period. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. For Upper Division credit register in 3-401, 3-402)

Fall Quarter		Winter Quarter	
1-401	T—6:00-8:30, BlegH 230, Wagner	1-402	T—6:00-8:30, BlegH 350, Wagner

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

(See also Spanish and Portuguese)

(For complete list of Human Relations and Minority Issues courses, see page 265)

Hist 1-431, 1-432, 1-433 HISTORY OF AFRICA (old Hist 30, 31, 32). 4 degree credits each quarter, §3-431, 3-432, 3-433. \$56 each quarter.

1-431: To 1500. **1-432:** From 1500 to the 19th century establishment of European rule. **1-433:** From the 19th century European arrival to the present. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. For Upper Division credit register in Hist 3-431, 3-432, 3-433)

Fall Quarter	Winter Quarter	Spring Quarter
1-431 T—6:00-8:30, BlegH 215, Kaba	1-432 T—6:00-8:30, BlegH 215, Isaacman	1-433 T—6:00-8:30, BlegH 235, Isaacman

(For complete list of Human Relations and Minority Issues courses, see page 265)

Hist 1-451, 1-452, 1-453 HISTORY OF ASIA (old Hist 17, 18, 19). 4 degree credits each quarter, §3-451, 3-452, 3-453. \$56 each quarter.

A survey of the history of China, Japan, India, and Southeast Asia from ancient times to the present. **1-451:** Ancient history and culture of China, Japan, West Asia, and India to A.D. 1200. **1-452:** Asia (A.D. 1200-1800): Chinese empire period; India, Muslim domination; Japanese feudalism; the beginning of Western influence. **1-453:** Modern Asia: The impact of Europe, nationalism, post World War II Asia. (No prereq. For Upper Division credit register in Hist 3-451, 3-452, 3-453)

Fall Quarter	Winter Quarter	Spring Quarter
1-451 T—5:30-8:50, BlegH 205, Taylor, Marshall, Kopf	1-452 T—5:30-8:50, BlegH 205, Taylor, Marshall, Kopf	1-453 T—5:30-8:50, BlegH 230, Taylor, Marshall, Kopf

Hist 3-001, 3-002, 3-003 INTRODUCTION TO MODERN EUROPEAN HISTORY (old Hist 53, 54, 55). 4 degree credits each quarter, §1-001, 1-002, 1-003. \$56 each quarter.

See course description for Hist 1-001, 1-002, 1-003. (No prereq. Upper Division credit)

Fall Quarter	Winter Quarter	Spring Quarter
3-001 W—5:30-8:00, AndH 210, Wright	3-002 W—5:30-8:00, AndH 210, Wright	3-003 W—5:30-8:00, AndH 210, Wright

Hist 3-051, 3-052, 3-053 ANCIENT CIVILIZATION (old Hist 50, 51, 52). 3 degree credits each quarter, §1-051, 1-052, 1-053. \$42 each quarter.

See course description for Hist 1-051, 1-052, 1-053. **NOTE—3-052 and 3-053 may be applied toward CLA foreign language requirement, Route II (see page 57).** (No prereq. Upper Division credit)

Fall Quarter	Winter Quarter	Spring Quarter
3-051 T—6:30-9:00, Harding HS 131, Aling	3-052 T—6:30-9:00, Harding HS 131, Aling	3-053 Th—5:30-8:00, BlegH 10, Jones
3-051 Th—5:30-8:00, BlegH 10, Jones	3-052 Th—5:30-8:00, BlegH 10, Jones	

Hist 3-101, 3-102, 3-103 MEDIEVAL AND RENAISSANCE HISTORY (old Hist 50A, 51A, 52A). 4 degree credits each quarter, §1-101, 1-102, 1-103. \$56 each quarter.

See course description for Hist 1-101, 1-102, 1-103. (No prereq. Upper Division credit)

Fall Quarter	Winter Quarter	Spring Quarter
3-101 W—6:00-8:30, BlegH 150, Bachrach	3-102 W—6:00-8:30, BlegH 250, Bachrach	3-103 W—6:00-8:30, BlegH 250, Bachrach

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Hist 3-151, 3-152, 3-153 ENGLISH HISTORY (old Hist 56, 57, 58). 4 degree credits each quarter, \$1-151, 1-152, 1-153. \$56 each quarter.

See course description for Hist 1-151, 1-152, 1-153. (No prereq. Upper Division Credit)

Fall Quarter	Winter Quarter	Spring Quarter
3-151 M—6:20-8:50, BlegH 235, Lehmberg	3-152 M—6:20-8:50, BlegH 255, Lehmberg	3-153 M—6:20-8:50, BlegH 255, Lehmberg

Hist 3-200 CONTEMPORARY PROBLEMS IN HISTORICAL PERSPECTIVES: REVOLUTION. 4 degree credits. \$56.

Comparative treatment of a selected contemporary problem in historical perspective. The topic for this course is revolution. (No prereq)

Fall Quarter
T—6:00-8:30, BlegH 335,
Rudolph

(See Special Issues courses, page 268-269)

Hist 3-401, 3-402 SURVEY OF LATIN-AMERICAN HISTORY. 4 degree credits each quarter, \$1-401, 1-402. \$56 each quarter.

See course description for Hist 1-401, 1-402. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. Upper Division credit)

Fall Quarter	Winter Quarter
3-401 T—6:00-8:30, BlegH 230, Wagner	3-402 T—6:00-8:30, BlegH 350, Wagner

(See also Spanish and Portuguese)

Hist 3-431, 3-432, 3-433 HISTORY OF AFRICA (old Hist 30, 31, 32). 4 degree credits each quarter, \$1-431, 1-432, 1-433. \$56 each quarter.

See course description for Hist 1-431, 1-432, 1-433. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. Upper Division credit)

Fall Quarter	Winter Quarter	Spring Quarter
3-431 T—6:00-8:30, BlegH 215, Kaba	3-432 T—6:00-8:30, BlegH 215, Isaacman	3-433 T—6:00-8:30, BlegH 235, Isaacman

Hist 3-451, 3-452, 3-453 HISTORY OF ASIA (old Hist 59, 60, 61). 4 degree credits each quarter, \$1-451, 1-452, 1-453. \$56 each quarter.

See course description for Hist 1-451, 1-452, 1-453. (No prereq. Upper Division credit)

Fall Quarter	Winter Quarter	Spring Quarter
3-451 T—5:30-8:50, BlegH 205, Taylor, Marshall, Kopf	3-452 T—5:30-8:50, BlegH 205, Taylor, Marshall, Kopf	3-453 T—5:30-8:50, BlegH 230, Taylor, Marshall, Kopf

Hist 3-468 MODERN CHINA. 4 degree credits, \$5-468. \$56.

The People's Republic. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. For graduate credit register in 5-468)

Spring Quarter
Th—6:20-8:50, BlegH
430, Farmer

(See also ArH 5-766, CHINESE PAINTING; and East Asian Languages)

Hist 3-471 TWENTIETH CENTURY JAPAN. 4 degree credits, \$5-471. \$56.

A comprehensive history of Japanese modernization. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. For graduate credit register in 5-471)

Fall Quarter
M—5:30-8:00, BlegH 215,
Marshall

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

(See also Arth 5-767, JAPANESE PAINTING; and Jpn 1-005/1-006, BEGINNING SPOKEN JAPANESE)

Hist 3-472 EARLY MODERN JAPAN. 4 degree credits, \$5-472. \$56.

Tradition and change in Tokugawa Society. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57])

Winter Quarter

**M—5:30-8:00, BlegH 260,
Marshall**

(See also Arth 5-767, JAPANESE PAINTING; and East Asian Languages)

Hist 3-591, 3-592, 3-593 ANCIENT ISRAEL (old Hist 74A, 75A, 76A). 3 degree credits each quarter, \$Heb 1-501, 1-502, 1-503, 3-501, 3-502, 3-503. \$92 each quarter.

History of Israel and development of its religion as seen against background of ancient Near East. Special attention given to bearing of civilization of ancient Mesopotamia and Egypt on cultural and social aspects of the Bible. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. No knowledge of Hebrew required. Meets concurrently with Heb 3-501, 3-502, 3-503)

Fall Quarter

**3-591 T—6:20-8:50, NH
122, Reisman**

Winter Quarter

**3-592 T—6:20-8:50, NH
122, Paradise**

Spring Quarter

**3-593 T—6:20-8:50, NH
122, Paradise**

(For complete list of courses related to religion, see page 264)

Hist 3-804 THE AMERICAN REVOLUTION (old Hist 87A). 4 degree credits. \$56.

Causes and course of Revolution. (No prereq)

Fall Quarter

**T—5:30-8:00, BlegH 340,
Howe**

Hist 3-805 JACKSONIAN AMERICA (old Hist 88A). 4 degree credits. \$56.

The Revolution and an American nation. (No prereq)

Spring Quarter

**T—5:30-8:00, BlegH 340,
Howe**

(See also Pol 5-659, AMERICAN POLITICAL THOUGHT)

Hist 3-821, 3-822, 3-823 THE UNITED STATES IN THE TWENTIETH CENTURY (old Hist 79, 80, 81). 4 degree credits each quarter. \$56 each quarter.

Political, economic, diplomatic, and social history of United States from Spanish-American War to present. **3-821:** From 1808 to 1914. **3-822:** From 1914 to 1932. **3-823:** From 1932 to present. (No prereq)

Fall Quarter

**3-821 Th—6:20-8:50,
BlegH 120,
Noble**

Winter Quarter

**3-822 Th—6:20-8:50,
BlegH 120,
Noble**

Spring Quarter

**3-823 Th—6:20-8:50,
BlegH 120,
Noble**

Hist 3-881, 3-882 HISTORY OF AMERICAN FOREIGN POLICY (old Hist 93, 94). 4 degree credits each quarter. \$56 each quarter. ★ 3-881.

3-881: To 1900. **3-882:** Since 1900. (No prereq)

Fall Quarter

**3-881 W—5:30-8:00,
BlegH 120,
Brauer**

Winter Quarter

**3-882 W—5:30-8:00,
BlegH 120,
Brauer**

Hist 5-061, 5-062, 5-063 GREECE TO 200 B.C. (old Hist 103B). 3 degree credits each quarter. \$45 each quarter.

(No prereq. May be applied toward the CLA foreign language requirement, Route

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

II [see page 57]. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter	Winter Quarter	Spring Quarter
5-061 T—6:00-8:30, BlegH 440, Kelly	5-062 T—6:00-8:30, BlegH 440, Kelly	5-063 T—6:00-8:30, BlegH 440, Kelly

Hist 5-211, 5-212, 5-213 FRENCH REVOLUTION AND NAPOLEON (old Hist 115B, 116B, 117B). 4 degree credits each quarter. \$60 each quarter.

5-211: Background and emergence of the Revolution. 5-212: The Revolution and revolutionary wars. 5-213: Napoleon. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter	Winter Quarter	Spring Quarter
5-211 T—6:20-8:50, BlegH 404, Bamford	5-212 T—6:20-8:50, BlegH 404, Bamford	5-213 T—6:20-8:50, BlegH 404, Bamford

Hist 5-221, 5-222, 5-223 EUROPE IN THE TWENTIETH CENTURY (old Hist 115D, 116D, 117D). 4 degree credits each quarter. \$60 each quarter.

5-221: The preeminence of the European order and origins of 20th-century crises; imperialism, social democracy and the first World War, 1890-1918. 5-222: The search for a new order and the development of totalitarianism in Europe, 1918-1939. 5-223: The second World War and the emergence of a new Europe, 1939-1960's. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter	Winter Quarter	Spring Quarter
5-221 Th—5:30-8:00, BlegH 415, Nordstrom	5-222 Th—5:30-8:00, BlegH 415, Nordstrom	5-223 Th—5:30-8:00, BlegH 415, Nordstrom

Hist 5-224, 5-225, 5-226 WORLD WAR II (old Hist 115E, 116E, 117E). 4 degree credits each quarter. \$60 each quarter.

5-224: 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. 5-225: 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. 5-226: Period of 1942-1945. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter	Winter Quarter	Spring Quarter
5-224 T—5:30-8:00, AndH 310, Goldman	5-225 T—5:30-8:00, AndH 270, Goldman	5-226 T—5:30-8:00, AndH 310, Goldman

Hist 5-241, 5-242, 5-243 HISTORY OF GERMANY (old Hist 118C, 119C, 120C). 4 degree credits each quarter. \$60 each quarter.

5-241: From 911 to 1648. 5-242: From 1648 to 1871. 5-243: Since 1871. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter	Winter Quarter	Spring Quarter
5-241 Th—5:30-8:00, BlegH 420, Pflanze	5-242 Th—5:30-8:00, BlegH 420, Pflanze	5-243 Th—5:30-8:00, BlegH 425, Pflanze

(See also German)

Hist 5-264, 5-265, 5-266 MODERN RUSSIA (old Hist 118, 119F, 120F). 4 degree credits each quarter. \$60 each quarter. ★ 5-266.

5-264: The 18th-century background. 5-265: The 19th-century. 5-266: The fall of the Russian monarchy; the revolutions and the Soviet Regime. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. Qualified students may register for graduate credit at the University of Minnesota)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Fall Quarter5-264 M—5:30-8:00, BlegH
205, Stavrou**Winter Quarter**5-265 M—5:30-8:00, BlegH
205, Stavrou**Spring Quarter**5-266 M—5:30-8:00, BlegH
205, Stavrou

(See also Slavic Languages)

Hist 5-425 HISTORY OF MEXICO. 4 degree credits. \$60.

Development of the Mexican nation. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Spring QuarterT—6:00-8:30, BlegH 145,
Wagner

(See also "Winter Quarter in Mexico," page 119)

(For complete list of Human Relations and Minority Issues courses, see page 265)

Hist 5-468 MODERN CHINA (old Hist 151E). 4 degree credits, §3-468. \$60.

See course description for Hist 3-468. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. Qualified students may register for graduate credit at the University of Minnesota)

Spring QuarterTh—6:20-8:50, BlegH 430,
Farmer

(See also Arth 5-766, CHINESE PAINTING; and East Asian Languages)

Hist 5-471 TWENTIETH CENTURY JAPAN (old Hist 148F). 4 degree credits, §3-471. \$60.

See course description for Hist 3-471. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. Qualified students may register for graduate credit at the University of Minnesota)

Fall QuarterW—5:30-8:00, BlegH 215,
Marshall

(See also Arth 5-767, JAPANESE PAINTING; and Jpn 1-005/1-006, BEGINNING SPOKEN JAPANESE [East Asian Languages])

Home Economics

*Margaret Doyle, Associate Professor of Home Economics**Lura Morse, Professor of Home Economics**Dorothy Verstraete, Assistant Professor of Home Economics***HE 5-381 CURRENT DEVELOPMENTS IN NUTRITION** (old HE 172). 3 degree credits. \$45.

Fundamental facts and techniques for solving current nutrition problems. (Prereq 1-381, 1-301, BioC 1-301, Phsl 3-051 or #: Qualified students interested in graduate credit should inquire at time of registration)

Fall Semester

W—6:20-8:00, McNH 227

(See Special Issues courses, page 268)

HE 5-391 NUTRITION TOPICS (old HE 174). 1 degree credit. \$15.

Assigned readings, reports, and discussion of nutrition topics. (Prereq 5-361 or #: Limited to dietetic interns. Qualified students may register for graduate credit at the University of Minnesota)

Fall QuarterDay and time ar, PoH 1108,
Morse**Spring Quarter**Day and time ar, PoH 1108,
Morse

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

HE 5-393 CLINICAL PROBLEMS IN NUTRITION (old HE 178). 2 degree credits. \$30.

Application of nutrition information to problems in health and disease involving assigned readings, discussions, and experience in diabetic clinic. (Prereq 5-361, BioC 5-002 or ¶BioC 5-002 or §. Qualified students may register for graduate credit at the University of Minnesota. Interested persons should contact Professor Dorothy Verstraete, 140 Dining Center, University of Minnesota, St. Paul, Minnesota 55101; telephone 373-1402. Mail registrations are encouraged)

Fall Semester

Time ar, DinC 140, Verstraete

Spring Semester

Time ar, DinC 140, Verstraete

OFF-CAMPUS COURSES IN HOME ECONOMICS AND HOME ECONOMICS EDUCATION

A variety of credit courses in several areas of home economics (equipment, family social science, foods, nutrition, design, textiles and clothing), and home economics education is offered in suburban and out-state locations. For further information, write or call Dr. Roxana Ford, Associate Dean, College of Home Economics, St. Paul, Minnesota 55101; telephone 373-0935.



Horticultural Science

Paul E. Read, Associate Professor of Horticultural Science

Kenneth E. Simons, Instructor in Horticultural Science

O. C. Turnquist, Professor of Horticultural Science

(For complete list of Ecology courses, see page 262)

***Hort 1-001 FUNDAMENTALS OF HORTICULTURE** (old Hort 1). 3 degree credits. \$42 plus \$2 materials fee.

Fruit, vegetable, and ornamental plants, including factors which influence their culture, value, and importance. Useful both to the home gardener and to the person considering a career in horticulture. (No prereq. Limited to 50 students)

Spring Quarter

M—6:20-8:35, HortS 415,
Turnquist

***Hort 1-010 HOME LANDSCAPE GARDENING AND DESIGN** (old Hort 10). 3 degree credits. \$42 plus \$2 materials fee.

Designed for the student who does not plan to major in landscape horticulture. Gives working knowledge of propagation and culture of common house plants and landscape materials: turf, flowers, trees, and shrubs. Principles of home landscape design are applied to a home property of the student's own choosing. Lectures, and reference reading. (No prereq. Limited to 50 students)

Fall Quarter

T—6:20-8:35, HrG 172, Read

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

***Hort 1-021 PLANT MATERIALS I** (old Hort 21). 3 degree credits. \$42 plus \$2 materials fee.

Taxonomy, ecology, and landscape uses of trees, vines, evergreens, and native deciduous shrubs. Lectures and laboratories. (No prereq. Limited to 50 students)

Spring Quarter

**W—6:20-8:35, HortS 415,
Simons**

***Hort 1-026 RESIDENTIAL LANDSCAPE DESIGN.** 3 degree credits. \$42 plus \$2 materials fee.

Principles of landscape design with special reference to their practical application in planning of residential landscapes. Relationships of landscape design, architectural design, and interior design. Landscape plans, landscape drafting techniques and methods of presentation. Lectures, drawings, and practical problems. (No prereq. Limited to 50 students)

Winter Quarter

**W—6:20-8:35, HortS 415,
Simons**

***Hort 1-036 PLANT PROPAGATION** (old Hort 36). 4 degree credits. \$56 plus \$2 materials fee.

Principles and techniques of propagating plants by seeds, cuttings, grafts, buds, layers, and division. Lectures deal with principles, while the laboratory gives students the opportunity to practice various propagation techniques. (Prereq Bot 1-001 or Hort 1-010 or 1-001 or ♪. Limited to 50 students)

Winter Quarter

**T—6:00-9:20, HrG 172,
Read**

***Hort 3-076 ARBORICULTURE.** 4 degree credits. \$56 plus \$2 materials fee.

Survey of environmental and design functions of shade trees. Application of specific cultural principles and techniques pertaining to the installation, maintenance, and preservation of shade and ornamental trees. Equipment selection and adaptability. Fundamental concepts used in the organization and administration of community shade tree programs. Lectures, demonstrations, and field trips. (Prereq 1-021, 3-074, or For 1-100 or ♪. Limited to 50 students)

Fall Quarter

**S—8:30 a.m.-12:00,
HrG 172, Simons**

***Hort 5-020 HORTICULTURAL TECHNIQUES FOR EDUCATION MAJORS.** 3 degree credits. \$45 plus \$2 materials fee.

Study of Horticultural and Botanical concepts and their impact on the use of horticultural plants in the classroom. Development of specific single concept classroom demonstration and pupil-oriented activities relating to horticultural plants. (Prereq teachers, education major or ♪. Limited to 50 students. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

**W—6:20-8:35, HrG 172,
Read**

Hospital Administration

For information on non-credit conferences or workshops in hospital administration, please contact Vernon Weckwerth, 1260 Mayo; telephone 373-8052 or 373-5954.

How to Study

(See Study Skills)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Humanities

(College of Liberal Arts)

(See also American Studies; Humanities [GC]; History; and Continuing Education for Women, page 257)

Hum 1-001 HUMANITIES IN THE MODERN WORLD I (old Hum 1). 5 degree credits, §3-001. \$70. ★

An introduction to the study of the humanities in the modern world, including the old regime, the revolution, neoclassicism and romanticism, from about 1740 to 1820. Materials used are history, prose, criticism, literature, poetry, and art. Authors: Pope, Voltaire, Rousseau, Burke, Goethe, Tolstoy. (No prereq)

Fall Semester

M—6:00-8:45, ForH 150
T—6:30-9:15, Harding HS 133
W—6:00-8:45, ForH 150

Spring Semester

T—6:00-8:45, ForH 150

Fall Quarter

MW—6:00-8:05, ForH 160

Winter Quarter

MW—6:00-8:05, ForH 160

Hum 1-002 HUMANITIES IN THE MODERN WORLD II (old Hum 2). 5 degree credits, §3-002. \$70.

The Industrial Revolution, liberalism and socialism, the psychology of individualism. Period covered is from 1776 to 1890. Authors: Carlyle, Mill, Marx, Smith, Malthus, Ibsen, Dostoevski. (No prereq)

Fall Semester

M—6:00-8:45, ForH 170
W—7:00-9:45, Rich HS 217,
(Limited to 45 students*)

Spring Semester

M—6:00-8:45, ForH 170

Winter Quarter

MW—6:00-8:05, ForH 175

Spring Quarter

MW—6:00-8:05, ForH 175

Hum 1-003 HUMANITIES IN THE MODERN WORLD III (old Hum 3). 5 degree credits, §3-003. \$70. ★

The impact of science and evolution; religion and morals in a changing world, from about 1840 to 1914. Authors: the evolutionists, Kierkegaard, Nietzsche, Chekhov, Thomas Mann. (No prereq. For Upper Division credit register in 3-003)

Fall Semester

Th—6:00-8:45, ForH 115

Spring Semester

M—6:30-9:15, Harding HS 133
T—6:00-8:45, ForH 120

Fall Quarter

TTh—6:00-8:05, ForH 130

Spring Quarter

TTh—6:00-8:05, ForH 130

(For complete list of courses related to religion, see page 264)

Hum 1-004 HUMANITIES IN THE MODERN WORLD IV (old Hum 4). 5 degree credits, §3-004. \$70. ★

Civilization between two wars: the impact of psychoanalysis, communism, 20th-century liberalism, new problems of human value and authority. Authors: Freud, Lenin, T. S. Eliot, Kafka, and others. (No prereq. For Upper Division credit register in 3-004)

Spring Semester

Th—6:00-8:45, ForH 150

Hum 1-011 THE GREEK HERITAGE (old Hum 11). 5 degree credits, §3-011. \$70.

Greece through the Peloponnesian War. Emphasizes Golden Age of Athens; tragic visions of the dramatists, classical art and architecture, Athenian democracy, concepts of reason and justice, Homer, Hesiod, the dramatists, Plato, Aristotle, Greek art and architecture. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57])

Fall Semester

Th—6:00-8:45, ForH 150

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Hum 1-012 ROMAN AND MEDIEVAL HERITAGE (old Hum 12). 5 degree credits, \$3-012.
\$70.

Roman state. Hellenistic and Roman Civilization. Epicureanism and Stoicism, Neoplatonism, Hebrew background and setting for Christianity. Christian doctrine, medieval society, faith, theocracy, Lucretius, Marcus Aurelius, Epictetus, New Testament, Augustine, church documents, Thomas Aquinas, Dante, Early Christian, Romanesque, and Gothic art. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57])

Spring Semester

Th—6:00-8:45, ForH 160

(For complete list of courses related to religion, see page 264)

Hum 3-003 HUMANITIES IN THE MODERN WORLD (old Hum 53). 5 degree credits,
\$1-003. \$70.

See course description for Hum 1-003. (No prereq. Upper Division credit)

Fall Semester

W—6:00-8:45, ForH 170

Hum 3-004 HUMANITIES IN THE MODERN WORLD (old Hum 54). 5 degree credits,
\$1-004. \$70.

See course description for Hum 1-004. (No prereq. Upper Division credit)

Spring Semester

T—6:00-8:45, ForH 160

Hum 3-005 HUMANITIES IN THE MODERN WORLD (old Hum 55). 5 degree credits. \$70.

The intellectual climate of the Western world since World War II. The worlds of existentialism and "the absurd"; alienation, irrationalism; the new theology and the influence of Zen. Readings in Buber, Camus, Hesse, Ionesco, Genet, Bultmann, Tillich, and others. (Prereq 1-004 or 3-004).

Spring Semester

W—5:30-8:00, ForH 170

Hum 3-049 SCIENCE AND THE HUMANITIES (old Hum 99). 5 degree credits. \$70.

Examines warfare between two cultures, scientific and humanistic, through consideration of decisive documents from Ficino and Vives to recent work of Polanyi, Koestler, Bronowski, and A. Huxley. (Prereq junior, senior or #)

Spring Semester

T—6:00-8:45, ForH 170

Hum 5-030 PROSEMINAR: APPROACHES TO THE HUMAN SELF I (old Hum 131). 3
degree credits. \$45.

The human self as viewed by psychologists, philosophers, novelists, poets, and artists will be explored. Non-religious approaches will be studied during the fall quarter. (Students will present specific approaches to the human self which will then be discussed by the participants in the seminar.) (Prereq seniors and graduate students. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

Th—6:00-8:30, ForH 285

(For complete list of courses related to religion, see page 264)

Hum 5-030 PROSEMINAR: APPROACHES TO THE HUMAN SELF II (old Hum 132). 3
degree credits. \$45.

During the winter quarter religious views of the human self will be studied. A variety of approaches will be explored (including those contained in religious scriptures, works of poets, artists, mystics, etc.) (Prereq seniors and graduate students. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

Th—6:00-8:30, ForH 285

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Hum 5-030 PROSEMINAR: APPROACHES TO THE HUMAN SELF III (old Hum 133). 3 degree credits. \$45.

The nature of human relationships and how they affect and are affected by the nature of the human self will be examined. Material for class presentation will be drawn from social psychology, sociology, anthropology, religious scriptures, utopian literature, fiction and relevant works in poetry and art. (Prereq seniors and graduate students. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter
Th—6:00-8:30, ForH 285

Students who have completed and received credit for old Hum 131, 132, or 133 before 1967-68 may enroll again for credit, since the Proseminar topics are new.

(For complete list of courses related to religion, see page 264)

Humanities

(General College)

Jerome Gates, Associate Professor of Humanities

Paul Hagen, Associate Professor of Humanities

Candido Zanoni, Associate Professor of Humanities

The Humanities. General College courses in the arts, philosophy, and literature are designed to enlarge the student's understanding of the human experience, to help him gain insight into himself and his personal relationships, and to make him more aware of the world in which he lives.

***GC 1-311 GENERAL ARTS** (old GC 21). 4 degree credits. \$56.

The student is given the opportunity to evaluate his attitudes and ideas relating to the arts through an examination of the basic similarities which underlie all art forms and through an investigation of the development of these art forms in terms of human needs. The arts concentrated on are painting, sculpture, music, architecture, and literature. (No prereq. Limited to 45 students)

Winter Quarter
Th—6:20-8:50, NH 111, Gates

(See also Architecture; and Art History)

GC 1-357 MAN'S RELIGIOUS BELIEFS (old GC 5D). 4 degree credits. \$56.

The student investigates the religious beliefs most influential in the world today, compares selections from the writings representing different religious beliefs, and develops an understanding of world religions. (No prereq)

Spring Quarter
T—7:00-9:30, NH
209, Zanoni

(For complete list of courses related to religion, see page 264)

***GC 1-374 LITERATURE—FILM** (old GC 29G). 4 degree credits. \$56.

From films shown in class, the student develops an appreciation of films, both as an art form and a medium of communication, and learns techniques of criticism. (No prereq. Limited to 35 students)

Fall Quarter
W—6:30-9:00, Harding HS
125, Hagen

(For complete list of Mass Communications and related courses, see page 267)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Indic

The following non-language extension class may be applied toward the CLA foreign language requirement, Route II (see page 57): Arth 3-014.

Industrial Engineering/Operations Research

(See also new Professional Development Recognition Program in Engineering and Science, page 157)

(Formerly Industrial Engineering)

(See also IT 0-001, REFRESHER COURSE IN ENGINEERING FUNDAMENTALS, page 156)

Sant R. Arora, Associate Professor of Mechanical Engineering

James L. Reynolds, Instructor in Mechanical Engineering

John S. White, Professor of Mechanical Engineering

Your attention is called to the Undergraduate Development Certificate in Industrial Engineering—90 credits (formerly the Senior Industrial Engineering Technician Certificate), page 90.

IEOR 0-100C INDUSTRIAL ENGINEERING AND MANAGEMENT. 5 certificate credits. \$70.

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 prereq)

Fall Semester

M—6:00-9:00, MechE 302

IEOR 0-210C MOTION AND TIME STUDY. 5 certificate credits. \$70 plus \$1 special 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 prereq)

Spring Semester

M—6:00-9:00, MechE 302

IEOR 0-330C MANUFACTURING COST ANALYSIS. 3 certificate credits. \$42.

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. (Prereq Math 0-009 or old 0-011 or #)

Fall Semester

Th—6:20-8:00, MechE 208

IEOR 0-350C PLANT ENGINEERING. 5 certificate credits. \$70.

Demand forecast, and determination of equipment and manpower requirement; economic analysis of capital investment in the equipment and plant; plant layout and design; and maintenance and replacement policies for the equipment. (No prereq)

Spring Semester

T—6:00-9:00, MechE 214

IEOR 0-360C INVENTORY AND PRODUCTION CONTROL. 5 certificate credits.

To be offered Fall Semester, 1973-74.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

IEOR 0 408C CORPORATE STANDARD DATA (C.S.D.) I. 5 certificate credits.

To be offered Fall Semester, 1973-74.

IEOR 0-409C CORPORATE STANDARD DATA (C.S.D.) II. 5 certificate credits.

To be offered Spring Semester, 1973-74.

IEOR 0-410C INTRODUCTION TO OPERATIONS RESEARCH. 5 certificate credits.

To be offered Spring Semester, 1973-74.

IEOR 0-510C STATISTICAL QUALITY CONTROL. 5 certificate credits. \$70.

Elementary probability, normal distribution, control charts for variables and attributes, acceptance sampling for attributes and variables, and life testing. Cost analysis and determination of risk. Use of Military Standard tables. Course designed for those responsible for maintaining the quality during purchasing, production, and dispatching of parts. (Prereq Math 0-009 or old 0-011 or #)

Fall Semester

W—6:00-9:00, MechE 302

IEOR 0-511C ADVANCED STATISTICAL QUALITY CONTROL. 5 certificate credits. \$70.

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. (Prereq IEOR 0-510C, Stat 3-091, or equiv)

Spring Semester

W—6:00-9:00, MechE 302

Industrial Relations

Your attention is called to the Industrial Relations Certificate program; see page 80.

Mario F. Bognanno, Associate Professor of Industrial Relations

Norman F. Crandall, Teaching Associate in Industrial Relations

Robert L. Fjerstad, Lecturer in Industrial Relations

John J. Flagler, Professor of Industrial Relations and Labor Education

Peter J. Frost, Teaching Associate in Industrial Relations

Herbert G. Heneman, Jr., Professor of Industrial Relations and Labor Economics

Linda A. Kretting, Teaching Associate in Industrial Relations

Benjamin H. Lowenberg, Teaching Associate in Industrial Relations

George T. Milkovich, Associate Professor of Industrial Relations

Patrick R. Pinto, Assistant Professor of Industrial Relations

Clyde J. Scott, Teaching Associate in Industrial Relations

Cyrus F. Smythe, Associate Professor of Industrial Relations and Labor Economics

Emil Starr, Associate Professor of Industrial Relations and Labor Education

Armenda V. Subbarao, Teaching Associate in Industrial Relations

William Weitzel, Associate Professor of Industrial Relations

IR 0-001C SUPERVISION I: ELEMENTS OF SUPERVISION. 3 certificate credits. \$42 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 problems such 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 prereq)

Fall Semester

M—6:20-8:00, BlegH 125, Scott

Fall Quarter

T—6:30-9:00, Harding HS 127,
Frost

Spring Semester

T—6:20-8:00, BlegH 110, Lowenberg

Spring Quarter

T—7:00-9:30, Sand JHS 214,
Subbarao

Th—6:20-8:50, BlegH 205,
Kretting

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

IR 0-002C SUPERVISION II: ADVANCED TECHNIQUES OF SUPERVISION. 3 certificate credits. \$42 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. (Prereq 0-001C or #)

Spring Semester

Th—6:20-8:00, BlegH 145

Fall Quarter

T—6:20-8:50; BlegH 135, Milkovich

IR 0-003C SUPERVISION III: TECHNIQUES OF EMPLOYEE TRAINING. 3 certificate credits. \$42.

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. (Prereq 0-002C or #)

Winter Quarter

Th—6:20-8:50, BlegH 110, Fjerstad

IR 0-006C ORGANIZED LABOR AND THE POLITICAL PROCESS. 3 certificate credits. \$42.

Complex social and economic issues: Labor's objectives and responses, the roles labor plays in the presidential and congressional elections; the politics of the wage price freeze; labor and party alliances and their historic roots; the liberal-labor coalition and prospects for division or coalition; the labor vote—can it be delivered?? labor's campaign apparatus and the issue of campaign spending; labor's legislative lobby; minority groups and urban labor politics; labor and the political parties in city and state and federal governments. (No prereq)

Fall Quarter

T—7:00-9:30, Remington Rand
Bldg, 3300 University Ave SE,
Starr

(See Special Issues courses, page 268)

IR 0-007C OCCUPATIONAL SAFETY AND HEALTH. 3 certificate credits. \$42.

Designed to help develop understanding of the Occupational Safety and Health Act of 1970. For representatives of management, unions, nurses associations, government agencies, etc. who have interests or responsibilities in this area. Topics include the content of the Act—complaints and enforcement—administration and record keeping—safety and health standards—union and management views of the role of the safety committee—industrial hygiene—the roles of doctor, nurse and industrial clinic—the role of the states (Minnesota—a case study)—the implications of the Act for Workman's Compensation. (No prereq)

Spring Quarter

T—7:00-9:30, BlegH 150,
Starr

IR 3-002 INDUSTRIAL RELATIONS SYSTEMS: LABOR MARKETS AND THE MANAGEMENT OF HUMAN RESOURCES (old IR 52 and 72). 4 degree credits. \$56. ★

The study of labor markets, manpower management, Federal-State employment policy, and the resolution of industrial conflict. Process followed in valuing, employing, developing, motivating, and maintaining human resources in an industrial society. (Prereq Econ 1-001, Econ 1-002, Psy 1-001. For graduate credit register in 8-002)

Fall Semester

W—6:20-8:00, BlegH 105, Heneman

Spring Semester

W—6:20-8:00, BlegH 125, Milkovich

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Fall Quarter**M**—6:30-9:00, Harding HS 127,
Crandall**T**—7:00-9:30, Rich HS 218,
Bognanno**Spring Quarter****M**—7:00-9:30, Sand JHS 214,
Weitzel**IR 3-007 COLLECTIVE BARGAINING NEGOTIATIONS AND MODERN LABOR RELATIONS**
(old IR 82). 4 degree credits. \$56.

Analysis of collective bargaining negotiations 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. (No prereq)

Fall Semester**W**—6:20-8:00, BlegH 125, Smythe**Spring Quarter****W**—6:20-8:50, BlegH
130, Bognanno**IR 3-010 HUMAN RELATIONS AND APPLIED ORGANIZATION THEORY** (old IR 62). 4 degree credits. \$56.

The problems of human relations arising in modern organizations and approaches to their solution. Philosophies and theories of human relations and their translation into policy. Discussions, cases, role-playing, and skill building sessions. (No prereq)

Fall Semester**T**—6:20-8:00, BlegH 220, Pinto**Spring Semester****M**—8:15-9:55, BlegH 115, Pinto**Winter Quarter****Th**—7:00-9:30, Rich HS 218,
Weitzel

(For complete list of Human Relations and Minority Issues courses, see page 265)

IR 8-002 INDUSTRIAL RELATIONS SYSTEMS: LABOR MARKETS AND THE MANAGEMENT OF HUMAN RESOURCES. 5 degree credits, \$3-002. \$80.

See course description for IR 3-002. (Prereq Econ 1-001, Psy 1-001. Qualified students may register for graduate credit at the University of Minnesota)

Fall Semester**W**—6:20-8:00, BlegH 105, Heneman**Spring Semester****W**—6:20-8:00, BlegH 125, Milkovich**IR 8-017 UNION GOVERNMENT AND POLICIES.** 4 degree credits. \$64.

Internal administration and government of unions; collective bargaining policies of unions with regard to wages, hours, and other conditions of employment; the policies of the American labor movement in the economic, political and social life of the nation. Prereq 8-002 or §. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter**Th**—6:20-8:00, BlegH 125, Flagler

Insurance

(See Finance and Insurance)

Italian

Arshi Pipa, Professor of Italian

Marilyn Schneider, Assistant Professor of Italian

The principal aim of 1-001/1-002/1-003 (old 1-2-3), **BEGINNING ITALIAN**, is to provide a solid foundation for comprehension of the written and spoken language. This sequence is recommended for those planning to continue the study of Italian or wishing to satisfy college language requirements. The sequence is based on an audio-lingual approach.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Tape reels or cassettes are available to extension classes students on a take-home basis. Students can pick up tapes at the Language Laboratory on the second floor of Temporary South of Folwell or the second floor of Temporary South of Coffey on the St. Paul Campus. Students must present a fee statement when checking out tapes. Rental costs are covered by the special fees paid with tuition.

Language laboratory hours are: Monday-Thursday, 8 a.m.-8 p.m.; Friday, 8 a.m.-6 p.m.; Saturday, 9 a.m.-3 p.m.; closed Sunday.

Ital 1-001/1-002/1-003 BEGINNING ITALIAN (old Ital 1-2-3). 5 degree credits each quarter. \$70 plus \$3 laboratory fee for 1-001 and 1-002.

Pronunciation, reading, and conversation. (No prereq for 1-001; 1-001 or \$ for 1-002; 1-002 or \$ for 1-003)

Fall Quarter

1-001 TTh—6:20-8:25,
FolH 204

Winter Quarter

1-002 TTh—6:20-8:25,
FolH 204

Spring Quarter

1-003 TTh—6:20-8:25,
FolH 204

ITALIAN FOR GRADUATE STUDENTS

The Italian language requirements for a graduate degree can be satisfied by successfully passing an examination given at the end of a one-quarter course (0-001), specifically designed for students who desire only a reading knowledge of the language.

Ital 0-001 ITALIAN FOR GRADUATE STUDENTS (old Ital 17A). No credit. \$42.

This course is designed solely to impart a basic reading knowledge of the Italian language. Successfully passing the examination fulfills the Graduate School requirements of reading knowledge of a foreign language. (No prereq)

Spring Quarter

M—6:20-8:30, FolH 307

Ital 0-001 is also usually offered as a Summer Extension Class .

Japanese

(See East Asian Languages)

Journalism and Mass Communications

(For complete list of Mass Communications and related courses see page 267)

Walter H. Brovald, Associate Professor of Journalism

Roy E. Carter, Professor of Journalism

Lester L. Metz, Lecturer in Journalism

R. Smith Schuneman, Professor of Journalism

Herman J. Sittard, Lecturer in Journalism

Willard L. Thompson, Professor of Journalism

Harold W. Wilson, Professor of Journalism

***Jour 1-001 INTRODUCTION TO MASS COMMUNICATIONS** (old Jour 1). 2 degree credits. \$28. ★

The nature, functions, and responsibilities of newspapers, magazines, radio and television, examined from the point of view of the professional journalist. News, opinion, entertainment, and persuasion functions. Basic instruction in fact-gathering and journalistic writing. (Prereq completion of freshman English requirement, minimum typing skill of 30 words per minute. Limited to 24 students)

Fall Quarter

M—6:20-8:00, MurH 210,
Brovald

Spring Quarter

M—6:20-8:00, MurH 210,
Brovald

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Jour 1-005 VISUAL COMMUNICATION (old Jour 5). 3 degree credits. \$42.

Introduction to functions of visual communication in news and advertising in print and electronic media. Evaluation and criticism of visuals in such areas as creative typography, photography. Lectures, projects, and critiques. (No prereq)

Fall Quarter

W—6:20-9:40, ForH 115,
Schuneman

Spring Quarter

W—6:20-9:40, ForH 115,
Schuneman

Jour 1-201 PRINCIPLES OF ADVERTISING (old Jour 18). 4 degree credits. \$56.

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. (Prereq 1-001 or #)

Spring Quarter

T—5:30-8:00, MurH 311,
Thompson

***Jour 3-173 MAGAZINE WRITING** (old Jour 73). 4 degree credits. \$56.

Planning and writing feature articles for general, class, and trade publications; marketing articles; problems of magazine editing. Aid for the free-lance writer. (Prereq completion of freshman English requirement and #. Limited to 20 students)

Fall Semester

W—6:20-8:50, MurH 207,
Sittard

Jour 3-221 GRAPHIC ARTS: PROCESSES (old Jour 60). 4 degree credits. \$56 plus \$5 special fee.

Survey of printing processes and methods by lecture, field trip, and film. Students are introduced to economic organization and technology changes in fields of printing and publishing. (No prereq)

Winter Quarter

M—6:20-8:50, MurH 311,
Metz

***Jour 3-231 DESIGN AND TYPOGRAPHY: ADVERTISING AND PUBLICATIONS** (old Jour 57). 4 degree credits. \$56 plus \$5 laboratory fee.

Principles of design and layout. Use of phototypography, cold-type pasteup techniques. Appropriate use of typefaces. Color in layout and make-up. Hand composition. Individual projects. (Prereq 1-201 or #. Limited to 20 students)

Fall Quarter

M—6:20-8:50, MurH 315,
Wilson

***Jour 5-233 PUBLICATION DESIGN WORKSHOP** (old Jour 158). 4 degree credits. \$60 plus \$5 laboratory fee.

Supervised laboratory work on new formats for newspapers, magazines, brochures and advertising display. Students may bring projects to class from their jobs. (Prereq 3-231, 3-221 or #. Limited to 20 students. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

Th—6:20-8:50, MurH 320,
Wilson

Jour 5-501 COMMUNICATION AND PUBLIC OPINION (old Jour 112). 4 degree credits. \$60.

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

Spring Quarter

T—6:20-8:50, MurH 302,
Carter

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Labor Education

For information on non-credit conferences or workshops in labor education, please contact Martin Duffy, Labor Education Service, 417 Business Administration; telephone 373-3662. Or, inquiries may be addressed to 3300 University Avenue, Remington Rand Bldg., Room 290, Minneapolis, Minnesota 55414; telephone 373-5380.

Latin

(Faculty listed under Classics, page 130)

NOTE—Lat 1-101/1-102 require no previous knowledge of Latin.

The following non-language extension classes may be applied toward the CLA foreign language requirement, Route II (see page 57): Clas 1-008; Clas 1-045; Clas 5-008; Clas 5-145; Hist 1-053; Hist 3-053; Hum 1-012; Phil 3-001; Phil 3-002.

Lat 1-101/1-102 BEGINNING LATIN (old Lat 1-2). 5 degree credits each semester. \$70 each semester. ★

Gradual mastery of classical Latin. Grammatical practice. Oral reading. Before the end of the second semester students are reading selections from Catullus, Ovid, Phaedrus, Cicero, Horace, Martial. (No prereq for 1-101; 1-101 or † for 1-102)

Fall Semester

1-101 T—6:00-8:45, FolH 305, Sonkowsky

Spring Semester

1-102 T—6:00-8:45, FolH 305, Sonkowsky

Law

For information on non-credit conferences or workshops in law, please contact John Wirt, Continuing Legal Education, 338 Nolte Center; telephone 373-5386. (See also Anth 5-121, ANTHROPOLOGY OF LAW)

Law—Common Legal Problems

(See Business Law, Business Studies and Marketing)

Your attention is called to the Legal Programs; see pages 52-53.



Library Science

Colleen Amundson, Lecturer in Library Science

Geraldine King, Lecturer in Library Science

Edith Kromer, Lecturer in Library Science

Lowell Olson, Associate Professor of Library Science

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

MINIMUM CERTIFICATION PROGRAM FOR SCHOOL LIBRARIANS

All courses required for students admitted to the Minimum Certification Program for School Librarians are usually available through extension classes. Students who are interested in this program may obtain information on admission and application procedures from the Library School, Room 3, Walter Library, Minneapolis campus; telephone 373-3100.

Lib 5-102 MEDIA CENTER ADMINISTRATION (old Lib 113). 3 degree credits. \$45.

Organization and administration at the school building level of the library as the single agency that encompasses all forms of instructional materials; philosophy and objectives of service; administration and organization plans, procedures, and relationships. Required of students admitted to the Minimum Certification Program for School Librarians. (Prereq 5-101, 5-221, 5-401. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

T—6:30-9:00, MainE 136,
Olson

*Lib 5-221 RECORDS OF KNOWLEDGE. 4 degree credits. \$60.

History and development of the records of knowledge in relation to the communication needs of society; principles of selection and collection building for libraries; services to meet clientele information needs. Required of students admitted to the graduate program and to the Minimum Certification Program for School Librarians. (No prereq. Limited to 10 students. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

MW—4:30-6:30, JohH 114,
Amundson

Lib 8-222 REFERENCE AND INFORMATION SERVICES (replaces Lib 8-207 and old Lib 266). 4 degree credits. \$64.

Information sources and services to meet clientele needs; user-librarian-information interface; research, evaluation, and planning for future services. (Prereq 5-101, 5-221, 5-401 and current enrollment in the Graduate School of the University of Minnesota or a fifth-year library degree)

Spring Quarter

TTh—4:00-5:15, WaLib 4B,
King

Lib 8-224 SUBJECT BIBLIOGRAPHY. 4 degree credits. \$64.

An overview of the world of learning and the various disciplines as they have developed in the United States, and study of the bibliographic apparatus in relation to the structure of the disciplines. (Prereq 5-101, 5-221, 5-401 and current enrollment in the Graduate School of the University of Minnesota or a fifth-year library degree)

Winter Quarter

TTh—4:15-5:30, WaLib
4B, Kromer

Management and Transportation

MANAGEMENT

W. Bruce Erickson, Associate Professor of Management

J. Stephen Heinen, Assistant Professor of Management

Gary Pielemeier, Instructor in Management

Timothy W. Scott, Instructor in Management

Albert K. Wickesberg, Professor of Management

Bruce D. Wonder, Assistant Professor of Management

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

***Mgmt 3-001 FUNDAMENTALS OF MANAGEMENT (old Mgmt 70). 4 degree credits. \$56.**

An evolving study of concepts, theory, research, and operational problems. Includes the principal functional areas of management. Examines provisions of necessary factors and relationships to achieve organizational objectives: establishment of goals, policies, procedures; the planning process; control systems; organizational structure and behavior; leadership. (No prereq. Credits may be applied toward the Information Systems Analysis and Design certificate [see page 81]. Limited to 40 students)

Fall Semester

M—8:15-9:55, BlegH 425, Scott
W—6:20-8:00, BlegH 420, Pielemeier
W—8:15-9:55, BlegH 420, Pielemeier
Th—6:20-8:00, BlegH, 425, Wonder
Th—8:15-9:55, BlegH 425, Wonder

Spring Semester

M—8:15-9:55, BlegH 425, Scott
T—6:20-8:00, BlegH 435, Wonder
T—8:15-9:55, BlegH 435, Wonder

Fall Quarter

T—7:00-9:30, Sand JHS 205,
Wickesberg
(Limited to
35 students*)

Winter Quarter

W—7:00-9:30, Rich HS 215
Th—5:30-8:00, BlegH 225,
Scott
S—9:00-11:30 a.m., BlegH
415, Scott

Spring Quarter

W—5:30-8:00, Kel HS 237
(Limited to 35
students*)

***Mgmt 3-002 PSYCHOLOGY IN MANAGEMENT (old Mgmt 80). 4 degree credits. \$56.**

Centers on development and application of behavior principles, methods, and skills which underlie managerial competence in preventing and solving problems within and between individuals and groups and aid in effective utilization of human resources. Various laboratory procedures are used to highlight concepts, methods and skills and furnish practice in applying them to management problems. (No prereq. Limited to 40 students)

Fall Semester

T—6:20-8:00, BlegH 115, Heinen
T—8:15-9:55, BlegH 115, Heinen

Spring Semester

Th—6:20-8:00, BlegH 115, Heinen
Th—8:15-9:55, BlegH 115, Heinen

***Mgmt 3-004 BUSINESS POLICY: STRATEGY FORMULATION AND IMPLEMENTATION (old Mgmt 60). 5 degree credits. \$70.**

Undergraduate level integrating course designed to develop skill in the management functions of identifying and analyzing problems, establishing corporate or divisional goals; and designing realistic programs of action. Class time is devoted to case analysis and discussion. Students meet in small groups at other times to prepare cases and occasionally presentations to be made to the entire class. Students utilize data supplied in the case as well as concepts, tools, and theories (previously presented in other courses) as they bear on the solution of goal selection and strategy implementation problems. Usually the viewpoint of the general line manager (department, division, or executive level) is taken. (Prereq sr and completion of business core or ¶ final core course. Limited to 30 students)

Fall Semester

M—6:20-8:00, BlegH 335, Cornelius

Spring Semester

M—6:20-8:00, BlegH 335, Scott

***Mgmt 3-005 GOVERNMENT AND BUSINESS (old Mgmt 95). 4 degree credits. \$56.**

The role of the free enterprise system; the structure of American industry; the economic and social consequences of big business; public policies toward private enterprise; public regulation, public ownership; the anti-trust laws and their applications. (Prereq Econ 1-001 and 1-002 or equiv. Limited to 50 students)

Winter Quarter

Th—5:30-8:00, BlegH 240,
Erickson

(See Special Issues courses, page 268)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

TRANSPORTATION

Frederick J. Beier, Associate Professor of Transportation and Logistics
Donald V. Harper, Professor of Transportation and Logistics
James P. Rakowski, Assistant Professor of Transportation and Logistics

*Tran 3-054 **FUNDAMENTALS OF TRANSPORTATION** (old Tran 54). 4 degree credits, \$8-154. \$56.

Organization and economic aspects of the transportation system of the United States including rail, highway, air, pipeline, and water transportation. Administration of transportation by users of transportation, providers of transportation (carriers), and government. (Prereq Econ 1-002 or equiv. Limited to 50 students)

Fall Quarter

M—5:30-8:00, AndH 210,
Harper

W—7:00-9:30, Kel HS 235,
Rakowski

Winter Quarter

M—5:30-8:00, AndH 310

Spring Quarter

M—5:30-8:00, AndH 230,
Harper

Tran 3-064 **BUSINESS LOGISTICS** (old Tran 164A). 5 degree credits, \$8-264. \$70.

Control of the flow of physical product by the firm. Topics include rate negotiation, transportation alternatives, logistics information systems, inventory control, warehouse operations and location, and logistics system design. (Prereq 3-054. For graduate credit register in 8-264)

Fall Semester

M—5:30-8:00, BlegH 220,
Beier

Tran 3-084 **CARRIER MANAGEMENT**. 5 degree credits, \$8-284. \$70.

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, public policy issues, and shipper-carrier interface. (Prereq 3-054. For graduate credit register in 8-284)

Spring Semester

M—5:30-8:00, BlegH 435,
Beier

Tran 8-264 **BUSINESS LOGISTICS** (old Tran 164A). 5 degree credits, \$3-064. \$80.

See course description for 3-064. (Prereq 3-054 or 8-154. Qualified students may register for graduate credit at the University of Minnesota)

Fall Semester

M—5:30-8:00, BlegH 220,
Beier

Tran 8-284 **CARRIER MANAGEMENT**. 5 degree credits, \$3-084. \$80.

See course description for Tran 3-084. (Prereq 3-054 or 8-154. Qualified students may register for graduate credit at the University of Minnesota)

Spring Semester

M—5:30-8:00, BlegH 435,
Beier

Management Information Systems

(See Management Science)

Management Science

MANAGEMENT INFORMATION SYSTEMS

(For a complete list of computer-related courses, see page 266)

Marvin Beriss, Lecturer in Management Information Systems

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Norman F. Chervany, Associate Professor of Management Information Systems
Gordon B. Davis, Professor of Management Information Systems
Gary W. Dickson, Professor of Management Information Systems
Gordon C. Everest, Assistant Professor of Management Information Systems
Robert Henry, Lecturer in Management Information Systems
Peter C. Knobloch, Assistant Professor of Management Information Systems
Lois P. Moe, Lecturer in Management Information Systems
Richard W. Rinderknecht, Lecturer in Management Information Systems
Richard W. Shaw, Lecturer in Management Information Systems
Michael Timmons, Jr., Lecturer in Management Information Systems
Ronald D. Visness, Assistant Professor of Management Information Systems

Computer Programming Courses

MIS 3-098 ELEMENTARY COBOL. 1 degree credit plus 1 certificate credit. \$28 plus \$10 laboratory fee.

An introduction to programming in the COBOL language. This language is used primarily for the programming of computer data processing applications. Self-paced instruction will involve programming in COBOL of a structured set of problems, short quizzes, and a programming laboratory. (No prereq)

MIS 3-099 ELEMENTARY FORTRAN. 1 degree credit plus 1 certificate credit. \$28 plus \$10 laboratory fee.

An introduction to programming in the FORTRAN language. This language is used primarily for programming analytical problems. Its use in a business environment lies in those areas where much computation is required, such as forecasting, optimization, and statistical analysis. Self-paced instruction will involve programming in FORTRAN of a structured set of problems, short quizzes, and a programming laboratory. (No prereq)

MIS 5-098 INTERMEDIATE COBOL. 1 degree credit plus 1 certificate credit. \$30 plus \$10 laboratory fee.

Intermediate and advanced features of the COBOL programming language. Self-paced instruction will involve programming in COBOL of a structured set of problems, short quizzes, and a programming laboratory. (Prereq MIS 3-098 or *. Qualified students interested in graduate credit should inquire at time of registration)

MIS 5-099 INTERMEDIATE FORTRAN. 1 degree credit plus 1 certificate credit. \$30 plus \$10 laboratory fee.

Intermediate and advanced features of the FORTRAN programming language will be covered using self-paced instruction. Students will be expected to complete a structured set of problems, short quizzes, and a programming laboratory. (Prereq MIS 3-099 or *. Qualified students interested in graduate credit should inquire at time of registration)

Sectioning for the MIS Programming Courses

Since these courses are self-paced, no formal lectures or sections are necessary. The student should determine at registration time his preference for a specific evening even though he will not be held to that schedule. Instructors will be provided to aid the students, on the following schedule:

Fall Quarter	Winter Quarter	Spring Quarter
M—6:00-10:00, BA 735	M—6:00-10:00, BA 735	M—6:00-10:00, BA 735
T—6:00-10:00, BA 735	T—6:00-10:00, BA 735	T—6:00-10:00, BA 735
W—6:00-10:00, BA 735	W—6:00-10:00, BA 735	W—6:00-10:00, BA 735
Th—6:00-10:00, BA 735	Th—6:00-10:00, BA 735	Th—6:00-10:00, BA 735

MIS 3-100 BASIC COMPUTER SYSTEMS (old QA 62). 3 degree credits plus 1 certificate credit, \$8-208. \$56 plus \$15 laboratory fee.

Basic elements of computer hardware, software, and systems. Problem analysis and flowcharting. Introduction to concepts of programming and Management

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Information Systems. The application of computers to problems in organizations.
(Prereq high school algebra or Math 0-006)

Fall Semester

Lect T—6:20-8:00, BlegH 260, Visness
Lab T—8:00-9:00

Spring Semester

Lect T—6:20-8:00, BlegH 260, Visness
Lab T—8:00-9:00

Special Program of Continuing Education in Data Processing and MIS

The following courses are taught in a special program of continuing education in data processing and Management Information Systems (MIS). This sequence of courses is offered only through Continuing Education and Extension. However, most of the courses count toward the requirements for the certificate in Information Systems Analysis and Design (see page 81). The program was established to fill a recognized need within the community for continuing computer data processing education not previously available. The goal of this sequence is to provide an individual with the skills necessary to analyze, design, and implement computer-based management information systems.

***MIS 0-120C INTRODUCTION TO SYSTEMS ANALYSIS I. 4 certificate credits. \$132.**

Introduces the programmer or beginning systems analyst to the concept of information systems as they relate to the complex formal organization. Emphasis is placed on the necessity for taking a systems view of the organization with several levels of planning and control. Lectures and laboratory work will develop the skills required to define the problems of a complex organization and present methods by which a systems understanding of the existing organization can be achieved. System feasibility study methods will be used as the training vehicle, relating cost analysis and economic evaluation concepts. (No prereq. Limited to 35 students)

Fall Semester

Th—6:20-8:35, BlegH 210, Moe

Spring Semester

Th—6:20-8:35, BlegH 210, Moe

***MIS 0-121C INTRODUCTION TO SYSTEMS ANALYSIS II. 4 certificate credits. \$132.**

A continuation of MIS 0-120C emphasizing the design of computer-based business systems. Lectures and problems will cover systems specification techniques, systems timing estimates, project planning and control, cost estimation techniques, system control and auditing, equipment selection, conversion, testing and training. (Prereq MIS 0-120C. Limited to 35 students)

Fall Semester

Th—6:20-8:35, BlegH 435, Visness

Spring Semester

Th—6:20-8:35, BlegH 260, Visness

***MIS 0-124C MANAGEMENT INFORMATION SYSTEMS DESIGN. 4 certificate credits. \$132.**

Emerging technology and formal approaches to systems analysis and the design of complex systems. The increased use of quantitative techniques in systems analysis and the direction of current research projects. Fundamental principles of systems and subsystem structures, parts, and boundaries. The use of systems algebra and graphs for describing systems requirements. The relationship between a data process and its files. Implications of grouping data, files and processes. Students will be expected to apply the techniques learned to the analysis of an actual system. A set of programs to accomplish the manipulation portion of the analysis will be available for student use. (Prereq MIS 0-140C, 0-121C, or current employment in data processing at the level of programmer or analyst. Limited to 35 students)

Fall Semester

W—6:20-8:35, BlegH 340, Knobloch

Spring Semester

W—6:20-8:35, BlegH 415, Knobloch

***MIS 0-130C DATA STRUCTURES AND FILE PROCESSING. 4 certificate credits. \$132.**

An in-depth analysis of data base design starting with concepts from sequential file structures. Topics covered will include: sequential file design considerations,

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

sorting of data files, the data base oriented approach to problem solving, schema language, data base graphic notation, disk access methods and storage structures, data manipulation language, systems support functions and the structure of an information storage and retrieval system. (Prereq current employment in data processing at the level of programmer or analyst, or MIS 3-100 and MIS 5-098. Limited to 35 students)

Fall Semester

M—6:20-8:35, BlegH 110, Beriss

Spring Semester

M—6:20-8:35, BlegH 125, Beriss

MIS 0-131C DATA MANAGEMENT SYSTEMS. 4 certificate credits. \$132.

The second course in the data management series following MIS 0-130C will concentrate on the evaluation of alternative generalized data base management systems. The student will be expected to use case problems to evaluate the advantages and disadvantages of actual systems. Upon completion of this course, the student should be able to match data base requirements to data management system alternatives and evaluate the results. (Prereq MIS 0-130C or #)

Fall Semester

M—6:20-8:35, BlegH 330

Spring Semester

M—6:20-8:35, BlegH 330

MIS 0-132C DATA COMMUNICATIONS SYSTEMS. 4 certificate credits. \$132.

Intended for systems analysts, programmers, and systems managers who desire a working knowledge of data communications as an integral part of the development of management information systems. The course will cover both the hardware, and software aspects of data communications including the characteristics of various transmission facilities, terminals, and message control systems. Upon completion of this course the student should be able to describe the hardware and software features required in the installation of a data communications system. (No prereq)

Fall Semester

W—6:20-8:35, BlegH 110, Timmons

Spring Semester

W—6:20-8:35, BlegH 110, Timmons

MIS 0-140C MATHEMATICAL FOUNDATIONS OF SYSTEMS ANALYSIS I. 3 certificate credits. \$99.

This course will provide the student with a working knowledge of the basic mathematical tools required in the development of quantitative skills. The course has been designed for those individuals with weak mathematical backgrounds who desire to raise their skill level. Topics covered will include linear algebra, matrix manipulation, set theory, Boolean Algebra and logic, sequences and series, and iteration. (No prereq)

Fall Semester

T—6:20-8:00, BlegH 450

Spring Semester

T—6:20-8:00, BlegH 450

MIS 0-141C STATISTICAL TECHNIQUES FOR SYSTEMS ANALYSIS II. 3 certificate credits. \$99.

This course will provide the student with a working knowledge of the fundamental principles and uses of probability and statistics in business applications. Topics covered will include presentation of statistical data, probability concepts, sampling procedures, estimation from sample data, simple statistical decision making, statistical relationships between two variables, and forecasting. Upon completion of this course the student will be able to set up and solve simple statistical experiments that will be useful in the analysis and design of business systems. (Prereq MIS 0-140C or #)

Fall Semester

T—6:20-8:00, BlegH 110, Shaw

Spring Semester

T—6:20-8:00, BlegH 240, Shaw

***MIS 0-142C APPLIED DECISION THEORY FOR SYSTEMS ANALYSIS III.** 3 certificate credits. \$99.

Will provide the student with the tools necessary to undertake more complex statistical experiments. Principles of experimental design, analysis of variance, multiple regression analysis, Bayesian decision theory, and optimum sample sizes. Due to the availability of software packages for statistical analysis, the course will concentrate on models and analysis rather than on manual calculation.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

tion schemes. (Prereq MIS 0-141C or one college-level statistics course. Limited to 35 students)

Fall Semester

W—6:20-8:00, BlegH 350,
Rinderknecht

Spring Semester

W—6:20-8:00, BlegH 440,
Rinderknecht

***MIS 0-143C MODELING TECHNIQUES FOR SYSTEMS ANALYSIS IV. 3 certificate credits. \$99.**

Will provide the student with an understanding of the application of modeling and simulation techniques to the decision problems of an organization, basic modeling concepts and the development of mathematical models, simulation concepts, optimization versus simulation models, and the study of discrete models. The course will concentrate on the appropriateness of techniques studied and on problems encountered in application. The students will develop the ability to match problems and solution techniques even though they will not be expected to become proficient in building models. (Prereq MIS 0-141C or one college-level statistics course. Limited to 35 students)

Fall Semester

W—6:20-8:00, BlegH 404,
Chervany

Spring Semester

W—6:20-8:00, BlegH 450,
Chervany

***MIS 0-151C ADMINISTRATION AND CONTROL OF MANAGEMENT INFORMATION SYSTEMS. 3 certificate credits. \$99.**

Will provide the student with technical tools and management concepts required in the administration of the information systems function. Topics will include the structure and management of computer operations, measurement of operating performance, budgeting and planning, project management techniques used in systems and programming, personnel training and compensation, and the role of the data processing manager. (No prereq. Limited to 35 students)

Fall Semester

W—6:20-8:00, BlegH 210, Visness

Spring Semester

W—6:20-8:00, BlegH 210, Visness

***MIS 0-152C THE MANAGEMENT OF CHANGE IN ORGANIZATIONS. 4 certificate credits. \$132.**

This course is designed for persons in, or preparing for, supervisory positions in computer-based information systems. Computer technology will be depicted as revolutionary change agent. Conceptual foundations for organizational behavior, change models, conflict, and political behavior in organizations will be surveyed through the research findings of behavioral science. Factors in minimizing resistance to change, conflict resolution, planning and training for change will be evaluated in order to evolve an understanding of the roles of analyst, project team leader, and manager as direct effectors of change. (No prereq. Limited to 35 students)

Fall Semester

W—6:20-8:35, BlegH 235, Henry

Spring Semester

W—6:20-8:35, BlegH 235, Henry

OPERATIONS ANALYSIS AND MANAGEMENT

(formerly Production)

(For complete list of computer-related courses, see page 266)

Carl R. Adams, Associate Professor of Operations Analysis and Management

Gary W. Dickson, Associate Professor of Operations Analysis and Management

Roger G. Schroeder, Associate Professor of Operations Analysis and Management

***OAM 3-055 INTRODUCTION TO MANAGEMENT SCIENCES (replaces Prod 3-050). 4 degree credits. \$56.**

First course in the use of analytical approaches and techniques within business contexts. Emphasis on the role of mathematical models, statistical techniques related to data acquisition, and the use of computers and computer techniques in solving organizational problems. Examples will illustrate the use of both deterministic and stochastic models. Laboratory session will include problem solving and case analysis. (Prereq QA 1-050 or old 3-050, MIS 3-099 or ¶3-099, Math 1-142 or equiv. Limited to 50 students)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Fall Quarter
T—5:30-8:50, AndH 230,
Schroeder

Winter Quarter
T—5:30-8:50, AndH 350,
Adams

Spring Quarter
M—5:30-8:50, AndH 330,
Dickson

***OAM 5-056 APPLICATIONS OF ANALYTICAL METHODS AND COMPUTERS IN OPERATIONS MANAGEMENT AND ANALYSIS.** 5 degree credits. \$75 plus \$4 laboratory fee.

The application of forecasting methods, optimization techniques; simulation, product and project management methods; inventory models, quality control techniques and computer technology problems encountered in organizational management. Specific laboratory sessions will include problem solving and case analysis. (Prereq OAM 3-055 or \$. Limited to 40 students. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter
W—5:30-8:50, BlegH 240,
Schroeder

QUANTITATIVE ANALYSIS

(For complete list of computer-related courses, see page 266)

Delbert C. Hastings, Professor of Quantitative Analysis

***QA 1-050 ELEMENTARY MANAGERIAL STATISTICS** (replaces QA 3-050). 4 degree credits. \$56.

Introduction to quantitative decision making. Probabilistic and statistical techniques in decision making, data analysis, and management information systems, e.g., laws of probability, sampling, estimation, and regression. (Prereq Math 1-131 or 1-141 or \$. Limited to 50 students)

Fall Quarter
M—5:30-8:50, AndH 270,
Hastings

Winter Quarter
M—5:30-8:50, AndH 270,
Hastings

Spring Quarter
M—5:30-8:50, AndH 270,
Hastings

W—5:30-8:50, AndH 270,
Hastings

Marketing and Business Law

BUSINESS LAW

Albert O. Andrews, Jr., Lecturer in Business Law

John R. Carroll, Lecturer in Business Law

Charles Diessner, Lecturer in Business Law

Richard A. Hassel, Lecturer in Business Law

Thomas Lovett, Lecturer in Business Law

Richard A. Nordbye, Lecturer in Business Law

James E. O'Brien, Lecturer in Business Law

James D. Olson, Lecturer in Business Law

C. Harold Peterson, Lecturer in Business Law

Walter Robb, Lecturer in Business Law

Ross L. Thorfinnson, Lecturer in Business Law

James Van Valkenburg, Lecturer in Business Law

Paul Van Valkenburg, Lecturer in Business Law

(See also General College Legal Paraprofessions, page 52)

BLaw 0-001C COMMON LEGAL PROBLEMS. 3 certificate credits. \$42.

Provides a comprehensive course in everyday legal principles, designed to assist the layman in recognizing his legal rights and more intelligently and efficiently managing his personal affairs. This course considers legal problems such as: purchase, sale, rental, or lease of homes and other real property; making of wills and handling of estates; preparation of income tax returns; rights of persons

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

injured in accidents and liability of persons causing accidents; liability for various other types of tortious conduct; making of contracts; sale of personal property; negotiable instruments; formation and operation of small business as a sole proprietorship, partnership or corporation; workmen's compensation laws; rights and responsibilities within family, including divorce; collection of monies through garnishment, attachment, and mechanic's liens; criminal law. (No prereq)

Fall Semester

Th—6:20-8:00, NH 209,
Peterson, Thorfinnson

Spring Quarter

Th—7:00-9:30, Rich HS 341,
Peterson

(See Special Issues courses, page 268)

BLaw 0-098C BUSINESS LAW—LAW OF REAL PROPERTY (old BLaw 98). 3 certificate each semester. \$42 each semester. ★

The study of the nature and classification of real estate; deeds and conveyances; landlord and tenant; recording and abstracting; torrens titles; mortgages; wills; probating of estates, etc. (No prereq)

Spring Semester

W—6:20-8:00, BlegH 255, Carroll
Th—6:20-8:00, BlegH 155, Olson
(Limited to 45 students*)

BLaw 3-058/3-078, 3-088 BUSINESS LAW (old BLaw 58, 78, 88). 4 degree credits each term. \$56 each term. ★

Sequence of courses in Business Law in the fundamental principles of law for the business and professional man or woman. **3-058:** Study of origin, history and development of law, systems of courts, legal procedure, and extensive study of law of contracts, the basic law affecting business transactions; and the law of the relationship of principal and agent, master and servant, employer and employee. **3-078:** Partnerships, corporations, and the law of real property, including nature, creation, and terms of the relations, rights and liabilities of parties involved in business associations; together with study of the basic concepts and principles of real property law. **3-088:** Study of the basic concepts of personal property, including rights of possessors, bailees, holders of security interests, etc.; and extensive study of the law of sales of goods contracts, and law of commercial paper under the Uniform Commercial Code, together with brief study of the law of wills and estates. (No prereq for 3-058; 3-058 for 3-078 and 3-088)

Fall Semester

3-058 M—7:00-8:40, Rich HS 251-252,
Diessner
(Limited to 45 students*)

3-058 T—6:20-8:00, BlegH 240, Robb
(Limited to 45 students*)

3-058 W—6:20-8:00, BlegH 155, Lovett
(Limited to 45 students*)

3-078 W—8:15-9:55, BlegH 125, Lovett

Spring Semester

3-058 W—8:15-9:55, BlegH 150,
Robb, P Van Valkenburg

Fall Quarter

3-058 T—6:30-9:00,
Harding HS
182, J Van
Valkenburg,
O'Brien
(Limited to
35 students*)

3-088 T—6:20-8:50,
BlegH 155,
Nordbye

Winter Quarter

3-058 T—7:00-9:30, Kel HS
237, J Van
Valkenburg

3-058 T—6:20-8:50, BlegH
120, Andrews

Spring Quarter

3-058 T—7:00-9:30, Sand
JHS 205,
Hassel
(Limited to
35 students*)

3-078 T—7:00-9:30, Kel HS
237, J Van
Valkenburg

3-088 T—6:20-8:50, BlegH
120, Nordbye

MARKETING

Your attention is called to the Credit and Financial Management Certificate program, page 79.

(For complete list of Mass Communications and related courses, see page 267)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Stanley R. Cowle, Lecturer in Marketing
Michael Dwyer, Lecturer in Marketing
Robert J. Holloway, Professor of Marketing
Willis Kerns, Lecturer in Marketing
Edwin H. Lewis, Professor of Marketing
Ivan Ross, Associate Professor of Business Administration
Bertram Russick, Lecturer in Marketing
Richard Sauter, Assistant Professor of Marketing
Orville Walker, Assistant Professor of Marketing

Mktg 0-087C CREDITS AND COLLECTIONS (old Mktg 87). 3 certificate credits. \$42.

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. (Prereq 3-000)

Fall Semester

Th—6:20-8:00, BlegH 230, Kerns

***Mktg 3-000 PRINCIPLES OF MARKETING** (old Mktg 57). 4 degree credits. \$56.

Study of the basic policy and strategy issues in marketing and the environmental factors that affect these issues. Legal, behavioral, ethical, competitive, economic, and technological factors are examined as they affect product, pricing, promotion, and marketing channel decisions. (Prereq Econ 1-001 and 1-002 or $\$$. Limited to 50 students)

Fall Semester

T—6:20-8:00, BlegH 150

T—8:15-9:55, BlegH 150

Th—6:20-8:00, AndH 250

Spring Semester

T—6:20-8:00, AndH 330

Fall Quarter

M—5:30-8:00, Kel HS
168-170

Winter Quarter

T—7:00-9:30, Sand JHS 205
(Limited to
35 students*)

Spring Quarter

M—7:00-9:30, Rich HS
251-252

Mktg 3-075 SALES MANAGEMENT (old Mktg 75). 4 degree credits. \$56.

Management of the personal selling function including sales organization; selection, training, compensation, motivation, supervision, and control of the field sales force; sales forecasting; sales budgets; sales and cost analysis. Case materials used extensively. (Prereq 3-000)

Spring Semester

M—6:20-8:00, BlegH 150, Lewis

***Mktg 3-077 ADVERTISING AND SALES PROMOTION** (old Mktg 77). 4 degree credits. \$56.

The promotion function in marketing: Media, audience, message. Establishing objectives for advertising and sales promotion, budget and media allocation decision, sales promotion mix components, advertiser—agency structure and relationships, measuring advertising and sales promotion effectiveness, and socio-economic considerations. (Prereq 3-000. Limited to 45 students)

Fall Quarter

W—5:30-8:00, BlegH 240,
Ross

(For complete list of Mass Communications and related courses, see page 267)

Mktg 3-080 INDUSTRIAL AND GOVERNMENTAL PROCUREMENT (old Mktg 80). 4 degree credits. \$56.

Procurement of supplies, equipment and complete systems of industrial firms and governmental agencies. Study of quantity and quality decisions, forward buying, pricing decisions, and vendor selection decisions common to both industrial and governmental purchases. Study of the unique problems of the acquisition of tech-

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

nological systems by government agencies; national and regional impact of these procurements. (Prereq 3-000)

Spring Semester
M—6:20-8:00, BlegH 235, Cowle

Mktg 3-095 MARKETING RESEARCH (old Mktg 95). 4 degree credits. \$56.

Survey, observational, and experimental techniques used in marketing research. Application of these techniques to selected marketing problems. Class project involves utilizing one or more of these techniques to study an actual marketing problem. (Prereq 3-000, QA 3-050 or #)

Fall Semester

M—8:15-9:55, BlegH 240, Russick

Mktg 3-098 INTRODUCTION TO CONSUMER BEHAVIOR (old Mktg 98). 4 degree credits. \$56.

Applications of the behavioral sciences to understanding human behavior in the marketplace. Topics include perception, learning, attitude theory and measurement, persuasion, motivation, personality, social and cultural influences, family decision-making, the social influence process, consumer decision-making strategies, managerial implications of consumer research and "consumerism." (Prereq 3-000)

Winter Quarter

T—6:20-8:50, BlegH 340,
Walker

Mathematics

Your attention is called to the Mathematics and Science Certificate Program, page 71, and the Undergraduate Development Certificates in Engineering and Science, pages 85 and 86.

(See also new Professional Development Recognition Program in Engineering and Science, page 157)

David K. Cohoon, Assistant Professor of Mathematics

William A. Dold, Lecturer in Mathematics

Lawrence R. Harper, Assistant Professor of Mathematics

Walter James, Lecturer in Mathematics

Howard Jenkins, Associate Professor of Mathematics

Harvey B. Keynes, Associate Professor of Mathematics

Norman G. Meyers, Professor of Mathematics

Chester L. Miracle, Associate Professor of Mathematics

Wayne W. Schmaedeke, Lecturer in Mathematics

Gaylord P. Schwartz, Lecturer in Mathematics

Burton O. Scott, Lecturer in Mathematics

William Serbyn, Instructor in Mathematics

James G. Swenson, Lecturer in Mathematics

James E. Thompson, Associate Professor of Mathematics

V. Varadachari, Lecturer in Mathematics

John L. Vitelli, Lecturer in Mathematics

MATHEMATICS PREREQUISITES

The entrance requirement for the Institute of Technology is four years of high school mathematics, including solid geometry and trigonometry. Any student who has completed this requirement in high school within the last two years with above average grades can register in Math 1-211 (replaces 1-210 and old 21A).

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

However, if it has been more than two years since he completed his last mathematics course in high school, the student should register in Math 1-201 (replaces Math 0-012C or old 12), or possibly Math 0-009 (higher algebra). A student who has been out of high school five years or more, or did not have higher algebra in high school should register in Math 0-009, or possibly Math 0-006 (higher algebra). Math 0-009 and Math 1-201 take the place of the junior and senior mathematics courses in high school. A CLA student interested in taking a full calculus sequence is required to have the same prerequisites before starting with Math 1-211 (replaces 1-210 and old 21A). See below.

MATHEMATICS FOR NONMAJORS AND PREBUSINESS STUDENTS

Math 1-141 (old 10A) and Math 1-142 (old 40A) are offered for the benefit of prebusiness students and are designed in cooperation with the College of Business Administration. These courses are also taken by CLA non-mathematics majors who do not need a full four-quarter calculus course. However, if it has been more than three years since students have completed their last mathematics course in high school, they should register for Math 0-009.

CALCULUS REFRESHER COURSE

This course provides students who have been out of school for several years with the necessary background to enter more advanced courses on an equal footing with students who have just finished about four calculus courses.

NEW CALCULUS SEQUENCE

The mathematics department is in the process of replacing the Analysis Sequence 1-210, 1-220, 1-230 with a new Analysis Sequence 1-211, 1-221, 1-231. Math 1-220 and 1-230 are being offered in 1972-73 for the last time to allow students who started in the sequence to finish it. Any student who wishes may switch to the new sequence at any time. A student can replace 1-220 with 1-221 or replace 1-230 with 1-231. For the first year this new sequence can be taken by both IT- and CLA students who wish to take a full calculus program.

Math 0-005 ARITHMETIC FOR ADULTS. No credit. \$42.

A practical course for anyone needing an elementary background in mathematics. Study of the arithmetic of whole numbers, fractions, and decimal fractions with aids to quick and easy computation; introduction to elementary algebra, linear equations and other topics; and the measurement of length, area, and volume. A good refresher course for those who have forgotten the arithmetic of fractions or long division; or for industry shop men who work with fractions and measurement; also helpful to those who have a poor background in arithmetic and algebra or those who dropped out of high school and now need to know arithmetic. Some exercises will be done in class. Students who do not wish to take any tests or have a grade should register for a V grade in the course. Students may also register for S-N grade, (satisfactory-no credit), or may register for an A-N grade (see page 22 for explanation of grading system). (No prereq)

Fall Semester

Th—6:00-8:30, MainE 305

Math 0-006 ELEMENTARY ALGEBRA (old Math 6). Entrance credit. \$84. ★

Introduction to algebra, including all the elements of algebra to quadratic equations. Equivalent to one year of ninth grade algebra. (Prereq arithmetic. Entrance requirement for most colleges including the College of Liberal Arts and the Institute of Technology)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Fall Semester
MW—6:20-8:00, VH 203
TTh—6:20-8:00, VH 203

Spring Semester
MW—6:20-8:00, VH 203

Math 0-007 PLANE GEOMETRY (old Math 7). Entrance credit. \$84. ★

Elements of plane geometry, equivalent to 1 year of high school plane geometry. (Prereq arithmetic. Entrance requirement for College of Liberal Arts and Institute of Technology)

Fall Semester
MW—6:20-8:00, Aero 215

Math 0-008 SOLID GEOMETRY (old Math 8). Entrance credit. \$42. ★

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. (Prereq plane geometry. Entrance requirement for Institute of Technology and College of Education)

Spring Semester
Th—6:20-8:00, Aero 211

Math 0-009 INTERMEDIATE ALGEBRA (replaces Math 0-011 and old Math 11). Entrance credit. \$70. ★

Fundamental operations, factoring, fractions, functions and graphs, linear equations, exponents and radicals, quadratic equations, ratio and variation, progressions, binomial theorem, logarithms. (Prereq 0-006 or equivalent. Entrance requirement for Institute of Technology and is a prereq to all IT and CLA mathematics courses)

Fall Semester
MW—6:20-7:45, MainE 302
TTh—6:00-7:25, MainE 302

Spring Semester
MW—6:00-7:25, MainE 302
TTh—6:20-7:45, MainE 302

Fall Quarter
MW—7:00-9:05, Sand JHS 205
(Limited to 35 students*)

Winter Quarter
TTh—7:00-9:05, Kel HS 235
(Limited to 30 students*)

Spring Quarter
MW—6:30-8:35, Rich HS 215
(Limited to 30 students*)

MTh—5:15-7:20, Arch 135
MW—6:30-8:35, Harding HS 135
(Limited to 30 students*)

Math 0-090 CALCULUS REFRESHER. Entrance credit. \$70.

A one-semester course designed for students who have already had calculus, but who have been away from it for awhile and need a review; especially for engineers wishing to take engineering refresher courses or the engineering exams, for high school mathematics teachers, and for Education Masters' candidates with a major in math education or math. Covers the topics of a standard calculus course: differentiation of algebraic and trigonometric functions, differentials, the definite integral, analytic geometry, logarithmic and exponential functions, hyperbolic functions, techniques of integration, applications of integration, polar coordinates, infinite series, approximation, partial differentiation, and multiple integrals. Students may register for this course S-N (satisfactory-no credit; see page 32 for explanation of new grading system). (Prereq 4 quarters of calculus or #)

Fall Semester
TTh—6:20-7:45, MechE 108

Math 1-005/1-006 FOUNDATIONS OF ARITHMETIC (old Math 5A-B). 3 degree credits each quarter. \$42 each quarter.

Logical and axiomatic basis of rules for arithmetical operations with integers, rational numbers, and real irrational numbers; real number line and inequalities as necessary background for teaching arithmetic in elementary school, topics from geometry and congruences; some attention to history of subject and its role in our culture and civilization. **Not available for Arts College credit.** (Prereq 1 year elementary algebra and 1 year high school geometry or # for 1-005; 1-005 for 1-006)

See symbols, pages 36-37.
See building abbreviations, page 92; see department abbreviations, page 93.

Fall Quarter
1-005 W—6:30-9:00,
Arch 35

Winter Quarter
1-006 W—6:30-9:00,
Arch 35

Math 1-008 TRIGONOMETRY (old Math T). 3 degree credits, \$0-012C. \$42. ★

Analytic trigonometry emphasizing identities, equations and properties of the functions; right and oblique triangles without logarithmic computation. Credit is given for this course in all colleges except the Institute of Technology. (Prereq plane geometry, high school higher algebra or Math 0-009 or old 0-011 or #)

Fall Semester
T—8:15-9:55, Arch 50
W—6:20-8:00, Arch 5

Spring Semester
T—6:20-8:00, Arch 50

Math 1-111 COLLEGE ALGEBRA AND ANALYTIC GEOMETRY. 5 degree credits, \$1-141, 1-411, 1-441, 1-201, 1-210. \$70.

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. (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 quarters of mathematics should not take this course. (Prereq high school higher algebra in the last two years or 0-009 or old 0-011))

Fall Quarter
TTh—6:00-8:05, Aero 21

Math 1-118 MATHEMATICS OF INVESTMENT (old Math 20). 3 degree credits. \$42. ★

Simple interest and simple discount, compound interest, annuities with simple data, extinction of debts by periodic installments, bonds, depreciation, perpetuities, capitalization, general annuity formulas. (Prereq 0-012C or 1-141 or 1-411 or 1-441)

Fall Quarter
T—6:30-9:00, Aero 327

Math 1-141 ALGEBRA, PROBABILITY, AND PRE-CALCULUS (old Math 10A). 5 degree credits, \$1-111, 1-201, 1-210, 1-441. \$70. ★

(First of a two-semester sequence for students in pre-business administration curriculum and others requiring college algebra and a minimal amount of calculus. Students who plan to take several quarters of mathematics should not register for this course.) Inequalities, elementary set theory, functions and analytic geometry, general systems of linear equations, linear inequalities and programming, combinations, permutations, probability, sequences, limits, and continuity. (Prereq 0-009 or 0-011 or high school higher algebra, 1-008 or high school trigonometry)

Fall Semester
MW—5:45-7:10, Arch 15
MW—7:00-8:25, Rich HS 213
TTh—6:20-7:45, VH 16
S—9:00-11:50 a.m., VH 16

Spring Semester
MW—6:20-7:45, Arch 5

Math 1-142 INTRODUCTION TO CALCULUS OF ONE AND SEVERAL VARIABLES (old Math 40A). 5 degree credits, \$1-211, 1-220, 1-442. \$70.

(Second of a two-semester sequence for students in pre-business administration curriculum and for other students requiring college algebra and a minimal amount of calculus. Students who plan to take several quarters of calculus should not register for this course.) Limits, derivatives, and integrals, some calculus of several variables and differential equations, rates of change, maxima and minima, several applications to a variety of disciplines. (Prereq Math 1-141)

Fall Semester
MW—6:20-7:45, VH 1

Spring Semester
MW—5:45-7:10, Arch 45
MW—7:00-8:25, Rich HS 213
TTh—6:20-7:45, VH 16
S—9:00-11:50 a.m., VH 16

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Math 1-201 PRE-CALCULUS. 5 degree credits, \$0-012C, 1-141, 1-411, 1-441. \$70.

Inequalities, analytical geometry, complex numbers, binomial theorem, mathematical induction, functions and graphs, and trigonometric, exponential and logarithmic functions. For students in both IT and CLA who intend to take a calculus sequence. (Prereq 0-009 or old 0-011 or high school higher algebra, high school trigonometry or 1-008)

Fall Semester

MW—5:45-7:10, MainE 54

TTh—6:20-7:45, VH 20

Fall Quarter

MW—6:10-8:15, VH 20

MW—7:00-9:05, Rich HS
201
(Limited to
30 students*)

TTh—6:30-8:35, Kel HS 233
(Limited to
30 students*)

Spring Semester

MW—6:20-7:45, VH 209

Spring Quarter

TTh—6:00-8:05, VH 209

Winter Quarter

MW—7:00-9:05, Sand JHS
205
(Limited to
35 students*)

Math 1-211 ANALYSIS I (replaces 1-210, 1-142, 1-421, 1-442). 5 degree credits. \$70. ★

Analytical geometry and calculus of functions of one variable; applications. (Prereq 0-012C or 1-201, or 0-009 or old 0-011 and 1-008, or 4 years of high school mathematics including trigonometry within the last two years. [See note on page 211])

Fall Semester

MW—6:00-7:25, VH 2

TTh—6:20-7:45, VH 206

Fall Quarter

MW—6:30-8:35, Harding
HS 140
(Limited to
35 students*)

Spring Semester

MW—5:45-7:10, MainE 54

TTh—6:20-7:45, VH 20

Spring Quarter

MW—7:00-9:05, Sand JHS
205
(Limited to
35 students*)

Winter Quarter

MW—6:10-8:15, VH 20
MW—7:00-9:05, Rich HS
201
(Limited to
30 students*)

TTh—6:30-8:35, Kel HS 233
(Limited to
30 students*)

Math 1-220 ANALYSIS II (old Math 22A). 5 degree credits, \$1-221, 1-142, 1-442. \$70. ★

Review of high school algebra; analytic geometry, calculus of functions of one variable, application. This course description also covers 1-210. This course is being discontinued, and will not be offered after Fall 1972. (Prereq 1-210)

Fall Semester

TTh—6:20-7:45, VH 207

Fall Quarter

MW—6:00-8:05, Aero 211

Math 1-221 ANALYSIS II (replaces 1-220, 1-431, 1-443). 5 degree credits. \$70. ★

A continuation of course described under 1-211. (Prereq 1-211 or 1-210)

Spring Semester

MW—6:00-7:25, VH 1

TTh—6:20-7:45, VH 206

Winter Quarter

MW—6:30-8:35, Harding
HS 140
(Limited to
35 students*)

Spring Quarter

MW—6:10-8:15, VH 20
MW—7:00-9:05, Rich HS 201
(Limited to
30 students*)

TTh—6:30-8:35, Kel HS 233
(Limited to
30 students*)

Math 1-230 ANALYSIS III (old Math 23A). 5 degree credits, \$1-443. \$70. ★

A continuation of course described under 1-220. This course is being discontinued, and will not be offered after Spring Semester 1973. (Prereq 1-220)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Fall Semester

TTh—6:00-7:25, VH 209

Fall Quarter

MW—6:00-8:05, Aero 327

Spring Semester

TTh—6:20-7:45, Aero 327

Winter Quarter

MW—6:00-8:05, Aero 211

***Math 1-231 ANALYSIS III** (replaces 1-230, 1-444). 5 degree credits. \$70. ★
A continuation of course described under 1-221. (Prereq 1-221 or 1-220. Limited to 35 students)

Spring Quarter

MW—6:30-8:35, Harding HS 140

Math 1-240 CALCULUS IV (old Math 31). 5 degree credits. \$70. ★

Vector algebra, solid analytic geometry, elementary linear algebra, multi-dimensional differential and integral calculus, infinite series, elementary differential equations. (Prereq 1-230 or 1-231)

Fall Semester

TTh—6:20-7:45, Aero 211

Winter Quarter

MW—6:00-8:05, Aero 21

Spring Quarter

MW—6:00-8:05, Aero 211

Math 1-250 CALCULUS V (old Math 32). 5 degree credits. \$70. ★

A continuation of course described under 1-240. (Prereq 1-240)

Fall Semester

TTh—6:20-7:45, Arch 10

Spring Quarter

MW—6:00-8:05, Aero 21

Math 1-260 CALCULUS VI (old Math 33). 5 degree credits. \$70. ★

Vector calculus, continuation of multi-dimensional calculus and of infinite series. (Prereq 1-250)

Fall Semester

T—6:00-9:00, MainE 320

Math 3-061 OPERATIONAL METHODS FOR LINEAR SYSTEMS (old Math 60A). 4 degree credits. \$56.

(Primarily for EE students). Review of Fourier series and their applications to linear ordinary differential equation. 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. (Prereq 1-250 or 3-221 or 3-066)

Spring Semester

W—6:00-8:15, MainE 325

Math 3-066 ELEMENTARY DIFFERENTIAL EQUATIONS. 4 degree credits, §3-221, 5-506, 5-512, 5-521. \$56. ★

An elementary course concerned mainly with the techniques of problem solving. First and second order equations, linear equations of higher order. (Prereq 1-250 or 3-211 or 3-411)

Winter Quarter

TTh—6:20-8:00, VH 211

Math 3-091 ELEMENTARY PROBABILITY AND STATISTICS WITH APPLICATIONS (old Math 90). 3 degree credits. \$42.

Probability, permutations, and combinations. Distributions, inference, continuous random variables, sampling. (Prereq 1-230 or 1-231 or 1-431)

Spring Quarter

W—6:20-8:55, VH 207

Math 3-092 ELEMENTARY PROBABILITY AND STATISTICS WITH APPLICATIONS. 3 degree credits. \$42.

A continuation of 3-091. Probability, permutations and combinations. Distributions, inference continuous random variables, sampling. (Prereq 3-091)

Fall Quarter

Th—6:20-8:55, VH 211, Schmaedeke

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Math 3-411 MULTI-VARIABLE CALCULUS (replaces 1-444 and old Math 44). 5 degree credits, \$1-240, 3-211. \$70.

Partial differentiation, chain rule, implicit functions, applications. Multiple integrals in 2 and 3 dimensions. Infinite series, power series. This course is almost exactly the same as 3-211. (Prereq 1-230 or 1-231 or 1-431 or 1-443)

Fall Quarter

MW—6:00-8:05, VH 209

Math 5-209 THEORY OF NUMBERS. 4 degree credits. \$60.

Elementary properties of integers; prime and composite numbers; Euclid's algorithm; congruences; theorems of Fermat and Wilson; primitive roots; indices; Diophantine equations. The equivalent of one hour of class per week will be made up by extra homework and problem sessions. (Prereq 1-240, 3-211 or 3-411. Qualified students interested in graduate credit should inquire at time of registration)

Spring Quarter

Th—6:00-8:30, VH 207

Math 5-242/5-243 LINEAR ALGEBRA WITH APPLICATIONS. 4 degree credits. \$60.

Systems of linear equations, finite dimensional linear spaces, bases, linear transformations, matrices, determinants, eigenvalues, reduction to canonical forms, quadratic and bilinear forms, applications. The equivalent of one hour of class per week will be made up by extra graded homework and problem sessions. (Prereq 1-240, 3-211, or 3-411 for 5-242; 5-242 for 5-243. Qualified students interested in graduate credit should inquire at time of registration)

Fall Quarter

5-242 W—6:00-8:30, VH 207

Winter Quarter

5-243 W—6:00-8:30, VH 207



Mechanical Engineering

(See also new Professional Development Recognition Program in Engineering and Science, page 157)

(See also IT 0-001 REFRESHER COURSE IN ENGINEERING FUNDAMENTALS, page 156)

Your attention is called to the Undergraduate Development Certificate in Mechanical Engineering—90 credits, see page 91.

Fulton Holtby, Associate Professor of Mechanical Engineering

William A. Kleinhenz, Associate Professor of Mechanical Engineering

Thomas E. Murphy, Professor of Mechanical Engineering

Katsuhiko Ogata, Professor of Mechanical Engineering

Ephraim M. Sparrow, Professor of Mechanical Engineering

ME 0-001 REFRESHER COURSE FOR MECHANICAL ENGINEERS. No credit. Tuition equivalent to 4 credits. \$56.

This course is designed for practicing engineers, and will consist of lectures and

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

problem sessions. (Prereq BME or equivalent degree or completion of Parts I and II of State Board Examination)

Winter Quarter

W—6:00-9:00, MechE 321

ME 0-011C PLASTICS TECHNOLOGY. 5 certificate credits.

To be offered Fall Semester 1973-74.

ME 0-024C/0-025C MACHINE DESIGN I - II. 5 certificate credits each semester.

To be offered 1973-74.

ME 0-030C SYSTEM INSTRUMENTATION AND CONTROL. 5 certificate credits. \$70.

Basic theory and operation of automatic controls including industrial instrumentation. Linear feedback control systems including mathematical representation and analysis. On-off, proportional, floating and rate response in control systems. Fluidic principles and fluidic logic applied to system control. Course includes lecture and laboratory. (Prereq Math 0-009 or old 0-011 or #)

Spring Semester

T—6:00-9:00, MechE 308

***ME 0-110C MACHINE TOOL FUNDAMENTALS.** 5 certificate credits. \$70 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. (Prereq Math 0-009 or old 0-011 or #. Limited to 20 students)

Fall Semester

T—6:00-9:00, MechE 214

ME 3-201 MECHANICAL ENGINEERING SYSTEMS ANALYSIS (old ME 23). 4 degree credits. \$56.

Modeling and analytic description of mechanical systems. Properties of linear models with emphasis on automatic computation solution. Necessary background includes differential equations. (Prereq Math 1-250 or #)

Fall Quarter

Th—6:00-9:20, MechE 321

ME 3-203 ANALYSIS OF MECHANISM SYSTEMS (replaces ME 3-200 and old ME 22). 4 degree credits. \$56.

Diagnostics of the performance of mechanism systems involving linkage, hydraulic, pneumatic, and electro-mechanical components. Energy balance techniques used to describe energy flow through machine systems. Preparation should include basic dynamics. (Prereq AEM 3-036 or #)

Winter Quarter

Th—6:00-9:20, MechE 321

ME 3-205 ENGINEERING SYSTEMS DESIGN. 4 degree credits. \$56.

Application of fundamental concepts to the design of typical mechanical components. Engineering approach to the analysis and synthesis of machines and systems. Specification of materials in engineering design. Optimum design criteria. (Prereq 3-201, 3-203)

Spring Quarter

Th—6:00-9:20, MechE 321

ME 3-301 THERMODYNAMICS (old ME 30A). 4 degree credits. \$56.

Properties, equations of state, processes and cycles for various thermodynamic systems. Development of first and second laws of thermodynamics, correlating

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

heat, work and mass transfer. Equilibrium, irreversibility and mixtures. Necessary preparation, introductory thermodynamics and basic calculus. (Prereq Chem 1-015 or Phys 1-281 or old 1-220 and Math 1-250 or #)

Fall Quarter

T—6:00-9:20, MechE 321

ME 3-303 APPLIED THERMODYNAMICS (old ME 3-302). 4 degree credits.
To be offered Winter Quarter, 1973-74.

ME 5-342 HEAT TRANSFER (replaces ME 5-320 and old ME 133). 4 degree credits. \$60. Steady and unsteady conduction of heat. Convection heat transfer in boundary layer and duct flows; forced and free convection; condensation and boiling; heat exchangers. Heat transfer by thermal radiation; radiative properties of black bodies and real surfaces. (Prereq Math 1-250, CE 3-400 or #. Qualified students interested in graduate credit should inquire at time of registration)

Winter Quarter

M—6:00-9:20, MechE 321

ME 5-344 THERMODYNAMICS OF FLUID FLOW. 4 degree credits. \$60.

Compressible flow of gases in engineering systems such as nozzles, ducts, combustion chambers, ramjets, pipe lines, etc. Isentropic flow in variable area passages. Shock waves. Flow with wall friction, heat transfer, and mass transfer. (Prereq CE 3-400, 3-301 or equiv. Qualified students interested in graduate credit should inquire at time of registration)

Spring Quarter

M—6:00-9:20, MechE 321

Mechanics and Materials

(See Aerospace Engineering and Mechanics)

Medicine

For information on non-credit conferences or workshops in medicine, please contact Office of Postgraduate Medical Education, Box 193, Health Sciences Center; telephone 373-8012.

Metallurgical Engineering

(See also new Professional Development Recognition Program in Engineering and Science page 157)

(See also IT 0-001, REFRESHER COURSE IN ENGINEERING FUNDAMENTALS, page 156)

Henry S. Jerabek, Associate Professor of Metallurgy

MetE 0-001C PHYSICAL METALLURGY (old MetE 1). 3 certificate credits. \$42.

The structure and properties of metals and alloys. Heat treatment of steels. Important non-ferrous alloys. Corrosion resistance; failures at high and low temperatures and under repeated stresses. (No prereq but high school chemistry and high school physics are strongly desirable)

Fall Semester

M—6:20-8:00, MinMet 116, Jerabek

MetE 0-002C PHYSICAL METALLURGY (old MetE 11). 3 certificate credits. \$42.

The metallic bond and semi-conductors. Crystal structure determinations and defect structures. Structure and mechanical properties of plastics. Hardenability and weldability of steels; alloy steels. Welding metallurgy. (No prereq but high school chemistry and high school physics are strongly desirable. Will not be offered again until Spring Semester, 1975)

Spring Semester

M—6:20-8:00, MinMet 116, Jerabek

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Microbiology, Environmental

(See page 238)

Middle Eastern Languages

Anwar Chejne, Professor of Arabic

Jonathan Paradise, Assistant Professor of Hebrew

Daniel Reisman, Assistant Professor of Hebrew

Tape reels or cassettes are available to extension classes students on a take-home basis. Students can pick up tapes at the Language Laboratory on the second floor of Temporary South of Folwell or the second floor of Temporary South of Coffey on the St. Paul Campus. Students must present a fee statement when checking out tapes. Rental costs are covered by the special fees paid with tuition.

Language laboratory hours are: Monday-Thursday, 8 a.m.-8 p.m.; Friday, 8 a.m.-6 p.m.; Saturday, 9 a.m.-3 p.m.; closed Sunday.

ARABIC

Arab 1-101/1-102 INTRODUCTION TO ARABIC GRAMMAR AND READING (old Arab 1-2). 4 degree credits each semester. \$56 plus \$3 laboratory fee each semester. Vocabulary, forms and syntax; intensive graded reading and speaking facility. (No prereq for 1-101; 1-101 or \$ for 1-102)

Fall Semester

1-101 M—6:20-8:00, NH 209A,
Chejne

Spring Semester

1-102 M—6:20-8:00, NH 209A,
Chejne

HEBREW

The following non-language extension classes may be applied toward the CLA foreign language requirement, Route II [see page 57]: Clas 3-072; Clas 5-072; Hist 1-051, 3-051; Hist 3-591, 3-592, 3-593; Heb 1-501, 1-502, 1-503, 3-501, 3-502, 3-503.

Heb 1-501, 1-502, 1-503 THE BACKGROUND OF THE BIBLE (old Heb 30, 31, 32). 4 degree credits each quarter, \$3-501, 3-502, 3-503, Hist 3-591, 3-592, 3-593. \$56 each quarter.

The study of Biblical literature places it in the cultural, historical, and religious milieu of its origin. The impact of the civilizations of Egypt, Canaan, and Mesopotamia on the Ancient Hebrews, as well as the unique aspects of Israelite civilization will be traced through lecture and classroom discussion. Colored slides will be used to help illustrate the contribution of archaeology to Biblical studies. **1-501:** The Near East before Biblical times. The Bible's indebtedness to pagan literature, religion, and law. The formation of the Hebrew people. **1-502:** Conquest and settlement. Political, economic, and religious development. The structure of the Biblical narrative. **1-503:** The divided kingdom, classical prophecy, destruction and exile, restoration, the emergence of Judaism. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. For Upper Division credit register in Heb 3-501, 3-502, 3-503, or Hist 3-591, 3-592, 3-593)

Fall Quarter

1-501 T—6:20-8:50, NH 122,
Reisman

Winter Quarter

1-502 T—6:20-8:50, NH 122,
Paradise

Spring Quarter

1-503 T—6:20-8:50,
NH 122,
Paradise

(For complete list of courses relating to religion, see page 264)

Heb 1-504 PAGAN MYTHS AND THE BIBLE. 4 degree credits, \$Heb 3-504. \$56.

Examines Biblical proto-history in its Ancient Near Eastern context. Through lectures and discussions, attention will be focused on the early chapters of

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Genesis, dealing with pre-Israelite "history," as well as Mesopotamian mythologies offering parallels. Among the subjects are: the Creation, the Garden of Eden, Cain and Abel, the Flood, and the Tower of Babel. Readings will consist primarily of relevant portions of Genesis in translation, and parallel pagan myths. (No prereq. For Upper Division credit register in Heb 3-504)

Spring Quarter

W—6:20-8:50, NH 207,
Reisman

(For complete list of courses relating to religion, see page 264)

Heb 3-501, 3-502, 3-503 THE BACKGROUND OF THE BIBLE (old Heb 74, 75, 76). 4 degree credits each quarter, \$1-501, 1-502, 1-503, Hist 3-591, 3-592, 3-593. \$56 each quarter.

See course description for Heb 1-501, 1-502, 1-503. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. Arrangements for Upper Division credit should be made with instructor)

Fall Quarter

3-501 T—6:20-8:50, NH 122,
Reisman

Winter Quarter

3-502 T—6:20-8:50, NH 122,
Paradise

Spring Quarter

3-503 T—6:20-8:50,
NH 122,
Paradise

Heb 3-504 PAGAN MYTHS AND THE BIBLE. 4 degree credits, \$Heb 1-504. \$56.

See course description for Heb 1-504. (No prereq. Upper Division credit)

Spring Quarter

W—6:20-8:50, NH 207,
Reisman



Music

(See also GC 1-331, MUSIC TODAY: MUSIC IN SOCIETY [Humanities])

Frank P. A. Bencriscutto, Professor of Music

Maury Bernstein, Lecturer in Music

Paul Fetter, Professor of Music

Lee Humphries, Instructor in Music

Dwayne Jorgenson, Instructor in Music

Thomas Lancaster, Assistant Professor of Music

Adrian Lauritzen, Associate Professor of Music

Richard Massmann, Associate Professor of Music

Fred Nylind, Instructor in Music

Johannes Riedel, Professor of Music

Everett Sutton, Assistant Professor of Music

Edgar Turrentine, Professor of Music Education

APPLIED MUSIC

Individual instruction in music is offered by the Department of Music for

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

students not able to attend day classes by registration through Continuing Education and Extension. Lessons are available on the Minneapolis Campus and at the MacPhail Center in downtown Minneapolis. Private lessons are given in piano, organ, voice, and most other modern musical instruments.

Elective Credit Courses

All applicants for elective credit in applied music must first, prior to the beginning of a quarter, obtain an "Approval for Registration Form" and fulfill any necessary audition requirements through the Department of Music, 106 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 Classes office at the time of registration during the appropriate quarter registration period. To register for Upper Division credit a student must have completed 12 credits at the Lower Division level and must have passed the Upper Division Qualifying Examination administered by the Department of Music. Students wishing to register for graduate credit should inquire at the Extension Classes office, 57 Nicholson Hall (373-3195) at the time of registration. Auditions for all elective credit must be taken at Scott Hall on the Minneapolis Campus.

In addition to the regular tuition and fees, a \$4 registration fee will be charged for each quarter course. For further information, consult any Extension Classes office or the office of the Department of Music.

Non-credit Courses

Applicants who wish to enroll for non-credit instruction may do so by inquiring at either of the locations listed in the first paragraph. Students wishing to enroll for non-credit classes at the MacPhail Center should contact Ms. Jacobson at the MacPhail Center—telephone 373-1925—for information about availability of instruction, and tuition and fee costs. No auditions are required.

ELECTIVE CREDIT

Instrument	(Old Number)	Non-credit	ELECTIVE CREDIT		
			Lower Division	Upper Division	Graduate
Piano	(11V,11,61,100)	0-101	1-101	3-101	5-101
Harpsichord	(28V,28,78,100)	0-102	1-102	3-102	5-102
Organ	(27V,27,77,100)	0-103	1-103	3-103	5-103
Voice	(12V,12,62,100)	0-104	1-104	3-104	5-104
Violin	(13V,13,63,100)	0-105	1-105	3-105	5-105
Viola	(14V,14,64,100)	0-106	1-106	3-106	5-106
Cello	(15V,15,65,100)	0-107	1-107	3-107	5-107
Double Bass	(16V,16,66,100)	0-108	1-108	3-108	5-108
Flute	(17V,17,67,100)	0-109	1-109	3-109	5-109
Oboe	(18V,18,68,100)	0-111	1-111	3-111	5-111
Clarinet	(19V,19,69,100)	0-112	1-112	3-112	5-112
Saxophone	(19V,19,69,100)	0-113	1-113	3-113	5-113
Bassoon	(20V,20,70,100)	0-114	1-114	3-114	5-114
French Horn	(22V,22,72,100)	0-115	1-115	3-115	5-115
Trumpet	(21V,21,71,100)	0-116	1-116	3-116	5-116
Trombone	(23V,23,73,100)	0-117	1-117	3-117	5-117
Baritone	(23V,23,73,100)	0-118	1-118	3-118	5-118
Tuba	(24V,24,74,100)	0-119	1-119	3-119	5-119
Percussion	(25V,25,75,100)	0-121	1-121	3-121	5-121
Harp	(26V,26,76,100)	0-122	1-122	3-122	5-122
Guitar	(29V,29,79,100)	0-123	1-123	3-123	5-123
Accordion	(30V,30,80,100)	0-124	1-124	3-124	5-124
Sitar		0-125	1-125	3-125	5-125

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

*Mus 0-051C/0-052C **PIANO PLAYING FOR PLEASURE** (old Mus I-II). 2 certificate credits each semester. \$28 each semester.

Designed primarily for the person with no piano background. Keyboard fundamentals such as sight-reading, transposition, harmonization, improvisation, repertory building. Individual practice outside the class period necessary for successful completion of the course. (No prereq for 0-051C; 0-051C or ♯ for 0-052C. Each section limited to 12 students)

Fall Semester

0-051C T—6:30-7:45, MusEd 103,
Lauritzen
0-052C Th—6:30-7:45, MusEd 103,
Lauritzen

Spring Semester

0-051C Th—6:30-7:45, MusEd 103,
Lauritzen
0-052C T—6:30-7:45, MusEd 103,
Lauritzen

GROUP PERFORMANCE

Students must audition for all of the group performance music classes. Auditioning should be arranged with the instructor in advance of the class opening.

Mus 1-410 BAND (old Mus 46, 47, 48). 1 degree credit. \$14.

Rehearsals and appearances cover standard band literature; several appearances each quarter. (Prereq ♯. Class meets 2,3 or 4 days a week by arrangement. Students are advised to arrange auditions and class meeting days with Professor Bencriscutto, telephone 373-3431, prior to registration)

Fall Quarter

Days ar, 3:15-5:05, NMA
4, Bencriscutto

Winter Quarter

Days ar, 3:15-5:05, NMA
4, Bencriscutto

Spring Quarter

Days ar, 3:15-5:05, NMA
4, Bencriscutto

Mus 1-420 ORCHESTRA (old Mus 40, 41, 42). 1 degree credit. \$14.

Standard orchestral literature performed. Open to players of orchestral instruments from Twin Cities. Those enrolled with consent of chairman of Music Department are given the opportunity of rehearsing with the University Symphony and participating in a concert given in Northrop Auditorium. (Prereq ♯)

Fall Quarter

MTTh—3:15-5:00, WuH 320,
Massmann

Winter Quarter

MTTh—3:15-5:00, WuH 320,
Massmann

Spring Quarter

MTTh—3:15-5:00, WuH 320,
Massmann

Mus 1-430 UNIVERSITY CHORUS (old Mus 43). 1 degree credit. \$14.

Performances of major symphonic-choral works with the Minnesota Orchestra, University Symphony Orchestra, and University Concert Band. (Prereq ♯. Extension students may choose whether or not to attend one of the MWF daytime sections, but must attend the evening section)

Fall Quarter

MWF—11:15-12:05, NMA 4,
Jorgenson

Winter Quarter

MWF—11:15-12:05, NMA 4,
Jorgenson

Spring Quarter

MWF—11:15-12:05, NMA 4,
Jorgenson

MWF—1:15-2:05, NMA 4,
Jorgenson

MWF—1:15-2:05, NMA 4,
Jorgenson

MWF—1:15-2:05, NMA 4,
Jorgenson

T—7:00-9:30, SciCB 325,
Jorgenson

T—7:00-9:30, SciCB 325,
Jorgenson

T—7:00-9:30, SciCB 325,
Jorgenson

Mus 1-430 MEN'S CHORUS (old Mus 49). 1 degree credit. \$14.

Rehearsals and performances cover standard men's glee club material as well as special arrangements. Group appears for on- and off-campus functions. (Prereq ♯)

Fall Quarter

MTWThF—12:15-1:05, NMA
5, Nyline

Winter Quarter

MTWThF—12:15-1:05, NMA
5, Nyline

Spring Quarter

MTWThF—12:15-1:05, NMA
5, Nyline

Mus 1-430 WOMEN'S CHORUS (old Mus 39). 1 degree credit. \$14.

Rehearsals and performances cover standard women's glee club material as well as special arrangements. (Prereq ♯)

Fall Quarter

TTh—12:15-1:05, NMA 5

Winter Quarter

TTh—12:15-1:05, NMA 5

Spring Quarter

TTh—12:15-1:05, NMA 5

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Mus 1-430 ST. PAUL CAMPUS CHORUS (old Mus 43S, 44S, 45S). 1 degree credit. \$14.

Prepares for at least one public appearance each quarter as well as for special events connected with the St. Paul Campus. (Prereq #)

Fall Quarter

TTh—4:30-6:00, Hort
310

Winter Quarter

TTh—4:30-6:00, Hort
310

Spring Quarter

TTh—4:30-6:00, Hort
310

Mus 5-490 CHAMBER SINGERS (old 57, 58, 59). 2 degree credits. \$30.

A small mixed vocal ensemble of select voices. Sacred and secular music from 16th century to contemporary composers prepared for concert presentation. (Prereq #. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

MTWThF—1:15-2:05,
331-17th Ave SE,
Lancaster

Winter Quarter

MTWThF—1:15-2:05,
331-17th Ave SE,
Lancaster

Spring Quarter

MTWThF—1:15-2:05,
331-17th Ave SE,
Lancaster

MUSIC THEORY, HISTORY, AND LITERATURE

Mus 1-001 FUNDAMENTALS OF MUSIC (old Mus 4). 4 degree credits. \$56.

Study of basic musical symbols, vocabulary, rhythm, design, scale structures, intervals, chords. The development of basic piano skills; the playing of simple accompaniments. Required of students in elementary, primary, kindergarten, and nursery school education; also recommended for the layman interested in a basic introduction to music; not for music majors. (No prereq)

Fall Quarter

M—6:00-9:20, MuEd 103,
Lauritzen

Winter Quarter

M—6:00-9:20, MuEd 103,
Lauritzen

Spring Quarter

M—6:00-9:20, MuEd 103,
Lauritzen

Mus 1-014 INTRODUCTION TO MUSIC (old Mus 1A). 4 degree credits. \$56.

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 prereq)

Winter Quarter

M—6:10-9:30, Sch 3,
Turrentine

Spring Quarter

M—6:10-9:30, Sch 3,
Turrentine

Mus 1-501/1-502/1-503 MATERIALS AND STRUCTURE OF MUSIC I (old Mus 1T-2T-3T). 4 degree credits each quarter. \$56 each quarter. ★

Materials and structure of music; melody; tonality; rudiments of counterpoint; texture and form; harmony; sight-singing and ear training. (No prereq for 1-501; 1-501 for 1-502; 1-502 for 1-503. Students with very limited musical experience may be interested in Mus 1-001, a more elementary course in music)

Fall Quarter

1-501 TTh—6:20-8:30,
WuH 320,
Humphries

Winter Quarter

1-502 TTh—6:20-8:30,
WuH 320,
Humphries

Spring Quarter

1-503 TTh—6:20-8:30,
WuH 320,
Humphries

Mus 1-801, 1-802, 1-803 AMERICAN FOLK MUSIC. 3 degree credits each quarter. \$42 each quarter.

An exploration of the folk song traditions which have had an important role in America's popular history. Will examine the spirituals, blues, gospel music of the Afro-American; vocal and instrumental music of the Southern Appalachians; songs and ballads of the New England and Mid-western traditions; music of Louisiana's Cajuns; Spanish-American music of the Southwest; Scandinavian-

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

dialect songs of the Upper Midwest; other U.S. traditions. Emphasis is on folk music listening and appreciation. (No prereq. Need not be taken in sequence)

Fall Quarter	Winter Quarter	Spring Quarter
1-801 W—6:20-8:50, WuH 320, Bernstein	1-802 W—6:20-8:50, WuH 320, Bernstein	1-803 W—6:20-8:50, WuH 320, Bernstein

Mus 3-021 INTRODUCTION TO MUSIC (old Mus 50). 5 degree credits. \$70.

Introduction to music in the repertory of our culture, exploring selected forms and styles from the 17th through 20th centuries. Aural analyses, relationships of large units of musical form. (No prereq)

Fall Quarter
W—6:10-9:50, ScH 4, Sutton

Mus 3-543 COUNTERPOINT (old Mus 99). 2 degree credits. \$28. ★

Review 18th century counterpoint in two and three parts; writing of canons, inventions, fugues. This is a creative course. The student learns to write musical examples by means of analysis within prescribed styles. (Prereq 1-506 or #)

Spring Quarter
M—6:20-8:50, ScH 103,
Fetler

Mus 3-584, 3-585 MUSIC: ITS MEANING AND STRUCTURE (old Mus 84J, 84K). 4 degree credits each quarter. \$56 each quarter.

A study of musical creativity. Discussion and examination of a selected number of works from various periods including most recent developments. The student will be asked to look for purpose, meaning, continuity, and direction in the works analyzed. The instructor will demonstrate how composers manipulate and develop materials to achieve certain desired aesthetic results; how they work on the one hand with spontaneous musical ideas, and on the other hand with all kinds of structures and theories. New materials covered each quarter. (No prereq)

Fall Quarter	Winter Quarter
3-584 M—6:10-9:30, ScH 103, Fetler	3-585 M—6:10-9:30, ScH 103, Fetler

Mus 5-704, 5-705 LATIN AMERICAN MUSIC (old Mus 176A, 176B). 4 degree credits. \$60.

Pre-Maya and pre-Inca times through colonial period to present. Music of Indians in Brazil, Inca countries, Afro-, Ibero-Latin American music. Folk, popular, contemporary music. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter	Winter Quarter
5-704 T—6:10-9:30, ScH 4, Riedel	5-705 T—6:10-9:30, ScH 4, Riedel

(For complete list of Human Relations and Minority Issues courses, see page 265)

Mus 5-711, 5-712 AMERICAN POPULAR MUSIC. 4 degree credits. \$60.

History of popular music in the U.S. from the first half of the 19th century through 1970—the lyrics and music, composers, performers, bands. Its various types and forms. The contribution of black music to popular music in cakewalk, protest music, ragtime, jazz and rock. The impact of American popular music on popular music of the world. The impact of popular music on church music throughout the ages. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter	Spring Quarter
5-711 Th—6:10-9:30, ScH 4, Riedel	5-712 Th—6:10-9:30, ScH 4, Riedel

(See page 271 for further information)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

PIANO TECHNICIAN

A special course in piano tuning and repairing will be offered at MacPhail Center, the Fall Session beginning in September, and the Spring Session beginning in May. (Call MacPhail Center for exact starting dates.) No credit will be given for the course. The fee of \$250.00 for each 12-week session includes professional equipment and text. Prerequisites for the course are a secure musical background, although piano playing itself is not necessary. A minimum of 6 hours tuning practice outside the class is required each week, with pianos available at MacPhail Center for these purposes. A certificate is awarded after the completion of the course and one season of experience. The student is required to tune a piano for testing by panel of judges before the certificate is awarded. All inquiries regarding this course should be directed to the MacPhail Center; telephone 373-1925.

Music Education

(See page 147)

Natural Science

(General College)

Douglas Dearden, Professor of Natural Science

Lorraine R. Matusak, Instructor in Natural Science

The Natural Sciences. Courses in this area have common purposes: to provide the student with knowledge of the biological and physical sciences, to increase his understanding of the physical environment, and to enhance his appreciation of the role of science in modern life.

***GC 1-112 MAN AND HIS ENVIRONMENT (old GC 11A). 4 degree credits. \$56.**

This course deals with the biological principles of the interrelationships which exist between man and his environment, or the study of ecology as applied to the problems of man's past, present, and future existence. The basic principles of ecology are applied to such topics as the structure and function of the ecosystem; the pollution of air, water, and soil; the population explosion; the evolution of man, his migrations, and the development of human settlements or bio-social environments; marine, radiation, and space biology; and the creation of livable environments for man, present and future. (No prereq. Limited to 45 students)

Winter Quarter

T—6:20-8:50, SciCB 125,
Matusak

(For complete list of Ecology courses, see page 262)

***GC 1-132 HUMAN ANATOMY AND PHYSIOLOGY (old GC 10B). 4 degree credits. \$56.**

Structure and function of the human body and its parts, including basic principles and concepts; systems (digestive, skeletal, etc.); location, structure, and function of primary organs in the normal body, and some of the common disorders. There is no laboratory. Films and demonstrations supplement lectures and class discussions. (No prereq. Limited to 30 students)

Fall Quarter

T—7:00-9:30, Kel HS 235,
Dearden

(See also Anatomy)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Norwegian

(See Scandinavian Languages)

Nursing

Marilyne Backlund, Assistant Professor of Nursing

Helen B. Hansen, Assistant Professor of Nursing

Julia S. Randall, Assistant Professor of Nursing

Evening courses offered by the School of Nursing provide opportunities for registered nurses who are interested in continuing their education. The course numbers prefaced by a "0" indicate certificate credit and are job related courses. They help the nurse to maintain a high level of nursing competence and, where necessary, provide evidence of continuing education for license renewal and/or promotion opportunities.

The course numbers prefaced by a "3" or "5" indicate credits which may be applied toward the requirements of a bachelor of science in nursing. These credits have a time limit of three years from the date of course completion and enrollment in the School of Nursing.

There are also many general education courses offered in extension classes which may be taken for degree 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 Admission Committee.

Registered nurses who wish to continue their studies toward a degree program in nursing are urged to contact the School of Nursing, 3313 Powell Hall (telephone 373-3462) and ask for an appointment.

Nurs 0-500C FUNDAMENTALS OF EDUCATION IN NURSING SERVICE. 3 certificate credits. \$42.

This course is designed for nurses who have no formal preparation in nursing education. The focus of the course will be on identification of learning needs and situations; selection and planning of learning experiences; methods of instruction for individuals and groups; evaluation. (Prereq R.N.'s in service agencies with teaching responsibilities or #)

Fall Quarter

T—6:00-8:30, MirdH 118,
Backlund

Nurs 0-620C MANAGEMENT OF NURSING SERVICES. 3 certificate credits. \$42.

A general orientation to the principles and process of management and their application to nursing service. The roles of the nurse administrator, nurse clinician, nurse educator will be discussed. Other topics will include setting objectives, establishing policies, utilization of resources, communications, supervision and development of nursing personnel. (Prereq registered nurse)

Fall Quarter

Th—6:00-8:30,
Lakewood Jr College,
Randall

Spring Quarter

Th—6:00-8:30,
Lakewood Jr College,
Randall

***Nurs 5-220 NURSING IN PERSPECTIVE** (old Nurs 30). 4 degree credits. \$60.

Study of relationship of nursing philosophy to multiple dimensions of professional nursing role. Exploration of health needs of population. Includes overview of adaptation framework and nursing process. (Prereq 5 cr General Psy or 3 cr Cultural Anthropology or #. May not be taken for graduate credit. Limited to 40 students).

Fall Semester

T—6:00-8:30, PoH 2317,
Hansen

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

*Nurs 5-230 **PERSPECTIVES OF THE NURSE-PATIENT RELATIONSHIP** (old Nurs 40). 4 degree credits. \$60.

Nurse-patient relationship as a fundamental context of nursing with emphasis on the data collection phase of the nursing process. Designed to increase competence in the observation, communication, interpersonal skills. (Prereq 5-220. May not be taken for graduate credit. Limited to 25 students).

Spring Semester
T—6:00-8:30, PoH 2317,
Hansen

Operations Analysis and Management

(See Management Science)

Ophthalmology

(See page 73)

Pharmacy

For information on non-credit programs in pharmacy, please contact Thomas McKennell, Continuing Education in Pharmacy, Appleby Hall; telephone 373-2187.

Philosophy

Norman Dahl, Assistant Professor of Philosophy
John Dolan, Associate Professor of Philosophy
Keith Gunderson, Professor of Philosophy
William Hanson, Associate Professor of Philosophy
Herbert Hochberg, Professor of Philosophy
Jasper Hopkins, Associate Professor of Philosophy
Homer Mason, Professor of Philosophy
Grover Maxwell, Professor of Philosophy
Mischa Penn, Instructor in Humanities
Candido Zanoni, Associate Professor, General College

Phil 1-001 **LOGIC** (old Phil 2A). 5 degree credits. \$70. ★

Special emphasis upon the application of formal techniques for evaluating argument. (No prereq)

Fall Semester

T—6:20-8:35, ForH 40

Spring Semester

M—6:30-8:45, Harding HS 123

Fall Quarter

M—Rec 5:30-6:20, ForH 30

Lect 6:20-8:50, ForH 30

Winter Quarter

W—Rec 5:30-6:20, ForH 30

Lect 6:20-8:50, ForH 30,

Lewis

Spring Quarter

T—Rec 5:30-6:20, ForH 30

Lect 6:20-8:50,

ForH 30

W—Rec 5:30-6:20, ForH 30

Lect 6:20-8:50, ForH 30

Th—Rec 5:30-6:20, ForH 30

Lect 6:20-8:50, ForH 30

Phil 1-002 **INTRODUCTION TO PHILOSOPHY** (old Phil 1A). 5 degree credits. \$70. ★

Introduction to permanent problems; principal methods and schools of philosophy; historical and contemporary views. (No prereq)

Fall Quarter

T—5:30-8:00, ForH 30

Winter Quarter

W—5:30-8:00, ForH 40

Spring Quarter

W—5:30-8:00, ForH 40

Phil 1-003 **ETHICS** (old Phil 3). 5 degree credits. \$70. ★

Examination of problems that arise when human beings attempt to think systematically about conduct and values. (No prereq)

Fall Quarter

W—5:30-8:00, ForH 40

Winter Quarter

Th—5:30-8:00, ForH 40

Spring Quarter

Th—6:20-8:50, ForH 40

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Phil 1-004 POLITICAL PHILOSOPHY (old Phil 4). 5 degree credits. \$70.

Under what conditions, if any, ought one to obey the law? (No prereq)

Spring Quarter

M—6:20-8:50, ForH 30

Phil 1-011 SCIENCE AND RELIGION (old Phil 10). 5 degree credits. \$70. ★

Inquiry into nature of science and religion as currently interpreted; attempt to find ground of conflict and/or reconciliation. (No prereq)

Fall Quarter

**T—6:30-8:45, Harding HS 119,
Zanoni**

Spring Quarter

**M—6:20-8:50, ForH 40,
Penn**

(For complete list of courses relating to religion, see page 264)

Phil 3-001 GENERAL HISTORY OF WESTERN PHILOSOPHY (old Phil 50A). 5 degree credits. \$70. ★

Survey of major developments in Western philosophic thought; Greek philosophy, pre-Socratics, Socrates, Plato, Aristotle. (No prereq)

Fall Quarter

**Th—5:30-8:00, ForH 30,
Dahl**

Phil 3-002 GENERAL HISTORY OF WESTERN PHILOSOPHY (old Phil 51). 5 degree credits. \$70.

Survey of major developments in Western philosophic thought; Stoicism, Epicureanism, and medieval Christian synthesis. (No prereq)

Winter Quarter

**Th—6:20-8:50, ForH 60,
Hopkins**

(For complete list of courses relating to religion, see page 264)

Phil 3-003 GENERAL HISTORY OF WESTERN PHILOSOPHY (old Phil 52A). 5 degree credits. \$70. ★

Survey of major developments in Western philosophic thought; early modern philosophy from Descartes through Hume; impact of science; backgrounds of contemporary philosophical problems. (No prereq)

Spring Quarter

M—5:30-8:00, ForH 60

Phil 3-004 GENERAL HISTORY OF WESTERN PHILOSOPHY (old Phil 53A). 5 degree credits. \$70. ★

Survey of major developments in Western philosophic thought; later modern philosophy from Kant through 19th century. (No prereq)

Fall Quarter

T—6:20-8:50, ForH 60

Phil 3-302 MORAL PROBLEMS OF CONTEMPORARY SOCIETY. 5 degree credits. \$70.

A consideration of some of the fundamental moral dilemmas confronting people in the present time. (No prereq)

Fall Quarter

M—6:20-8:50, ForH 60

Winter Quarter

M—6:20-8:50, ForH 60

Spring Quarter

W—6:20-8:50, ForH 60

Phil 5-054 KIERKEGAARD (old Phil 137). 5 degree credits. \$75.

Detailed examination of major philosophical works. (Prereq 3 cr in history of philosophy or Φ . May be applied toward the CLA foreign language requirement, Route II [see page 57]. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

**M—6:20-8:50, ForH 30,
Mason**

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Phil 5-501 PRINCIPLES OF AESTHETICS (old Phil 151). 5 degree credits. \$75.

Sample topics: standards of evaluation; aesthetic experience; representation, meaning. (Prereq 3 cr in philosophy or Φ . Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

M—5:30-8:00, ForH 40,
Gunderson

Phil 5-601 PHILOSOPHY OF SCIENCE (old Phil 160). 5 degree credits. \$75.

Meaning, methods, implications of modern science. Basic concepts, presuppositions, and procedures. (Prereq 1-001 or Φ . Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

Th—5:30-8:00, ForH 60,
Maxwell

Phil 5-701 SURVEY OF CONTEMPORARY PHILOSOPHY (old Phil 140). 5 degree credits. \$75.

Current systematic and critical philosophies, as represented by their principal exponents. (Prereq 3-003 or Φ . Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

Th—5:30-8:00, ForH 60

Photography

(See Art, Studio)

Physical Education

(See page 147)

Physics

(See also new Professional Development Recognition Program in Engineering and Science, page 156)

(See also GC 1-181, MODERN PHYSICAL SCIENCE [Natural Science])

Phys 1-031/1-032 INTRODUCTORY PHYSICS: MEASUREMENT AND APPLICATIONS (replaces Phys 1-011/1-021). 5 degree credits each semester. \$70 plus \$10 special fee each semester. ★

Demonstration lectures, problem sessions and laboratory exercises on topics in physics. Application of physics will be emphasized. Topics include mechanics, random processes, gases and fluids, electric circuits, feedback and control, waves, light, optical instruments, atoms and spectra, nuclei, and radioactivity. Primarily for students interested in those topics useful in various technical areas. Laboratory sections will meet for 2 hours on Saturday morning or Thursday evening. Sections will be assigned at the first class period and will meet eight times during the semester. (Prereq HS algebra and plane geometry for 1-031; 1-031 for 1-032)

Fall Semester

1-031 T—6:00-8:30, Ph 133
(laboratory hours arranged)

Spring Semester

1-032 T—6:00-8:30, Ph 133
(laboratory hours arranged)

Phys 1-271 GENERAL PHYSICS (replaces Phys 1-210 and old Phys 21). 4 degree credits. \$56.

Classical mechanics. (Prereq Math 1-221 or 1-220 or \mathbb{I} 1-221, or \mathbb{I} 1-220, Math 1-321, Math 1-421 or Math 1-521 or equiv; may be taken with or without Phys 1-275 lab)

Fall Semester

T—6:00-9:00, Ph 170

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Phys 1-275 GENERAL PHYSICS LABORATORY (replaces Phys 1-215 and olds Phys 21A).
1 degree credit. \$14 plus \$10 laboratory fee.

Laboratory exercises in mechanics. This course offered S-N only.** (Prereq old 1-210 or 1-271 or ¶1-271)

Fall Semester

Lab meets for two hours Th evening
or Sat morning for a total of 8 mtgs.
during the semester. Sections will be
assigned at the first class meeting
of 1-271.

Phys 1-281 GENERAL PHYSICS (replaces Phys 1-220 and old Phys 22T). 4 degree
credits. \$56.

Fluid mechanics, heat and electricity. (Prereq old 1-210 or 1-271 and Math 1-231
or 1-230 or ¶1-231 or ¶1-230, Math 1-331, Math 1-431 or Math 1-531 or equiv)

Spring Semester

T—6:00-9:00, Ph 170

Phys 1-285 GENERAL PHYSICS LABORATORY (replaces Phys 1-225 and old Phys 22A).
1 degree credit. \$14 plus \$10 laboratory fee.

Laboratory exercises in electricity. This course offered S-N only.** (Prereq old
1-220 or 1-281 or ¶1-281)

Spring Semester

Lab meets for two hours on Th evening or
Sat morning for a total of 8 mtgs.
Sections will be assigned at the first
class meeting of 1-281.

Phys 1-291 GENERAL PHYSICS (replaces Phys 1-230 and old Phys 23T). 4 degree credits.
\$56.

Magnetism, optics. (Prereq 1-220 or 1-281; may be taken with or without Phys
1-295 lab)

Fall Semester

T—6:00-9:00, Ph 166

Phys 1-295 GENERAL PHYSICS LABORATORY (replaces Phys 1-235 and old Phys 23A).
1 degree credit. \$14 plus \$10 laboratory fee.

Laboratory exercises in magnetism and optics. This course offered S-N only.**
(Prereq old 1-230 or 1-291 or ¶1-291)

Fall Semester

Lab meets for two hours on Th evening
or Sat morning for a total of 8 mtgs.
during the semester. Sections will
be assigned at the first class
meeting of 1-291.

Physiology

(See GC 1-132, HUMAN ANATOMY AND PHYSIOLOGY [Natural Science])

Polish

(See Slavic Languages)

Political Science

(See Special Issues courses, pages 268-269)

Charles Backstrom, Professor of Political Science

Terence Ball, Assistant Professor of Political Science

**See Grades—A-N and S-N page 32.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Richard Blue, Assistant Professor of Political Science
Robert Eyestone, Assistant Professor of Political Science
P. Terrence Hopmann, Assistant Professor of Political Science
Norma Noonan, Visiting Professor of Political Science
Robert E. Riggs, Professor of Political Science
William C. Rogers, Professor of Political Science
Charles E. Walcott, Assistant Professor of Political Science
Gary W. Wynia, Assistant Professor of Political Science

All Graduate students can use only 8-001 through 8-998-level seminars to satisfy major requirements; they should take lower-level political science courses only to correct deficiencies in background when directed to do so by advisers.

Pol 1-001 AMERICAN GOVERNMENT AND POLITICS (old Pol 1-001 and 1-002). 5 degree credits. \$70. ★

Analysis of principles, organization, processes, functions of government and the interplay of political forces in United States—national, state and local. Attention given throughout to current issues. (No prereq)

Spring Semester

T—6:00-8:30, AndH 250, Backstrom

Fall Quarter

MW—7:20-9:00, BlegH 145,
Eyestone

Winter Quarter

MW—6:20-8:00, Rich HS
217, Walcott
(Limited to
45 students*)

Spring Quarter

MW—6:30-8:10, Harding
HS 137, Walcott

Pol 1-025 WORLD POLITICS (old Pol 25). 4 degree credits. \$56. ★

Introduction to contemporary international relations; forms of state interaction; problems of conflict and cooperation. (No prereq)

Fall Quarter

W—6:20-8:50, BlegH 135,
Rogers

Winter Quarter

W—6:20-8:50, BlegH 135,
Riggs

Pol 1-026 AMERICAN FOREIGN POLICY (old Pol 26) 4 degree credits. \$56. ★

Introduction to institutions and processes which determine American foreign policy. (No prereq)

Spring Quarter

M—6:20-8:50, BlegH 135,
Hopmann

Pol 1-031 AMERICAN PUBLIC POLICY (old Pol 30). 4 degree credits. \$56. ★

Analysis of several major public policy issues such as: social welfare policy, education policy, economic policy, national security policy. Emphasis upon forces molding and impact of policy choices. (No prereq)

Spring Quarter

T—6:20-8:50, BlegH 155,
Rogers

Pol 1-051 INTRODUCTION TO POLITICAL ANALYSIS (replaces Pol 1-051, 1-052). 5 degree credits. \$70.

Topics such as formation of political communities, political participation, policy-making, compliance, legitimacy, political development, types of political systems; emphasis on both empirical and normative problems; applications to major contemporary systems. (No prereq)

Fall Semester

T—6:20-8:50, BlegH 235, Wynia

Spring Semester

W—6:20-8:50, BlegH 155, Noonan

Pol 5-446 GOVERNMENT AND POLITICS OF SOUTH ASIA (replaces Pol 5-446, 5-447). 5 degree credits. \$70.

Governmental institutions in their historical and social setting. Emphasis on dynamic processes of modernization within a democratic institutional framework.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Special attention is given to problems of implementing public policies involving social and economic development, including agrarian reform, population control, and industrial growth. (No prereq. Qualified students may register for graduate credit at the University of Minnesota, except in the major field)

Fall Semester

W—6:20-8:50, BlegH 330, Blue

Pol 5-661 PROBLEMS OF DEMOCRACY (old Pol 161). 4 degree credits. \$60.

Analysis of postulates and implications; moral foundations; democratic theory and the economic order; liberty and authority; equality; representation; spiritual order, critics of democracy. (No prereq. Qualified students may register for graduate credit at the University of Minnesota, except in the major field)

Fall Quarter

Th—6:20-8:50, BlegH 215,
Ball

Pol 5-737 POLITICAL PARTIES (old Pol 137). 4 degree credits. \$60. ★

Role and functions of the party in American government; party composition and organization; process of nomination and policy formulation; regulation of party organization and activities. (No prereq. Qualified students may register for graduate credit at the University of Minnesota, except in the major field)

Winter Quarter

T—6:20-8:50, BlegH 335,
Eystone

Pol 5-738 POLITICAL CAMPAIGNS AND ELECTIONS (old Pol 138). 4 degree credits. \$60.

Examination of national, state and local campaigns and elections, including field work in local political parties and election campaigns. (No prereq. Qualified students may register for graduate credit at the University of Minnesota, except in the major field)

Fall Quarter

Th—6:20-8:50, BlegH 335,
Backstrom

Pol 5-773 POLITICAL DEVELOPMENT. 4 degree credits. \$60.

Analysis of political problems of new nations; particular emphasis on political consequences of breakdown of traditional society and problems of developing new institutional forms and procedures. (No prereq. Qualified students may register for graduate credit at the University of Minnesota, except in the major field)

Spring Semester

M—6:20-8:00, BlegH 215, Wynia

Portuguese

Russell G. Hamilton, Professor of Portuguese

Tape reels or cassettes are available to extension classes students on a take-home basis. Students can pick up tapes at the Language Laboratory on the second floor of Temporary South of Folwell or the second floor of Temporary South of Coffey on the St. Paul Campus. Students must present a fee statement when checking out tapes. Rental costs are covered by the special fees paid with tuition.

Language laboratory hours are: Monday-Thursday, 8 a.m.-8 p.m.; Friday, 8 a.m.-6 p.m.; Saturday, 9 a.m.-3 p.m.; closed Sunday.

The following non-language extension classes may be applied toward the CLA foreign language requirement, Route II [see page 57]: Hist 1-401, 1-402; Hist 3-401, 3-402; Mus 5-704, 5-705.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Port 1-101/1-102/1-103 BEGINNING PORTUGUESE (old Port 1-2-3). 5 degree credits each quarter. \$70 plus \$3 laboratory fee each quarter.

Grammar, pronunciation, reading, and practice in speaking. (No prereq for 1-101; 1-101 or # for 1-102; 1-102 or # for 1-103)

Fall Quarter

1-101 MW—6:00-8:05,
FolH 208,
Hamilton

Winter Quarter

1-102 MW—6:00-8:05,
FolH 208,
Hamilton

Spring Quarter

1-103 MW—6:00-8:05,
FolH 208,
Hamilton

Production

(See "Operations Analysis and Management", listed under Management Science)

Psychological Foundations

(See page 152)



Psychology

(See also Adult Psychiatry)

Mary J. Bradshaw, Instructor in Psychology
Paul W. Fox, Professor of Psychology
James C. Kincannon, Lecturer in Psychology
Leslie A. King, Professor of Psychological Studies
G. Gordon Kingsley, Professor of Psychological Studies
Gove P. Laybourn, Jr., Lecturer in Psychology
Geula G. Lowenberg, Assistant Professor of Psychology
Albert Macek, Associate Professor of Psychology
Mary Ann Mattoon, Lecturer in Psychology
Roy W. Pickens, Associate Professor of Psychology
Vera M. Schletzer, Professor of Psychology
Karl Schwarzkopf, Instructor in Psychology
Gerald A. Stearns, Lecturer in Psychology
Donald R. Stieper, Lecturer in Psychology
Marvin E. Trautwein, Instructor in Psychology

Psy 1-001 GENERAL PSYCHOLOGY (replaces Psy 1-001/1-002 and old Psy 1-2). 5 degree credits. \$70. ★

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 prereq)

Fall Semester

M—7:00-9:30, Rich HS 341,
Schwarzkopf
(Limited to 65 students*)

Spring Semester

M—6:20-8:55, NH 211, Kincannon
T—6:30-9:05, Harding HS 182, Pickens

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

T—6:20-8:55, NH 211
 W—7:00-9:35, Sand JHS Cafeteria,
 Kincannon
 Th—7:00-9:35, Kel HS 167-169, Trautwein
 (Limited to 60 students*)

Psy 1-003 APPLICATION OF PSYCHOLOGY TO LIVING (old Psy 1A). 4 degree credits. \$56.
 Psychology in personal relationships and in the achievement of mental health,
 centering, for the most part, around our fundamental needs; and exploration of
 principles highly applicable in the life of every person. (No prereq. May be taken
 before or after Psy 1-001)

Fall Semester

Th—8:15-9:55, NH 213, King

Fall Quarter

M—7:00-9:30, NH 211,
 Schletzer

T—6:30-9:00, Harding HS
 115-117, Kingsley
 (Limited to
 50 students*)

Spring Semester

Th—8:15-9:55, NH 207, King

Winter Quarter

T—6:20-8:50, Sand JHS
 213, Schletzer
 (Limited to
 45 students*)

Spring Quarter

T—6:20-8:50, NH 211,
 Kingsley
 (Limited to
 50 students*)

***Psy 1-004/1-005† INTRODUCTORY LABORATORY PSYCHOLOGY** (old Psy 4-5). 3 degree
 credits each quarter. \$42 plus \$14 special fee plus \$1.50 laboratory fee
 each quarter.

Experiments illustrating the subject matter of contemporary psychology. Included
 are human and animal learning, problem solving, visual perception, measurement
 of general and special abilities and personality traits. (Prereq 1-001 or †1-001
 for 1-004; 1-004 for 1-005. Sections limited to 36 students)

Fall Quarter

1-004 W—6:20-8:50, EltH
 150-160, Fox
 and others

1-004 Th—6:20-8:50, EltH
 150-160, Fox
 and others

Winter Quarter

1-005 W—6:20-8:50, EltH
 50-60, Fox
 and others

1-005 Th—6:20-8:50, EltH
 50-60, Fox
 and others

Psy 1-911 PSYCHOLOGY AND RELIGION. 4 degree credits. \$56.

Major theoretical statements on religion. Development of the religious sentiment.
 Religious experience. Pathological and self-actualizing religion, according to major
 theoretical positions. Assessment of religious behavior and religiousness. (No
 prereq)

Fall Quarter

M—6:20-8:50, FolH 105,
 Bradshaw

(For complete list of courses relating to religion, see page 264)

Psy 3-011 INTRODUCTION TO THE PSYCHOLOGY OF LEARNING (old Psy 75). 4 degree
 credits. \$56.

Survey of the basic methods in the study of learning. Development of fundamental
 concepts and principles governing the learning process. (Prereq new 1-001 or
 old 1-002)

Fall Quarter

T—6:20-8:50, WuH 230

Spring Quarter

T—6:20-8:50, WuH 230

***Psy 3-031 SENSATION AND PERCEPTION** (old Psy 55). 4 degree credits. \$56.

Roles of stimulus, receptor organ and brain, and of learning and motivation, in
 man's perception of his world. Lectures and demonstrations. (Prereq new 1-001
 or old 1-002. Limited to 40 students)

Spring Quarter

M—6:20-8:50, EltH 150-160

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Psy 3-051 INTRODUCTION TO COGNITIVE PSYCHOLOGY (old Psy 64). 4 degree credits. \$56.

Discussion of basic research problems and theoretical concepts in the study of cognitive factors in perception and memory. (Prereq new 1-001 or old 1-002 and 1-005)

Spring Quarter
W—6:20-8:50, ForH 130

Psy 3-101 INTRODUCTION TO PERSONALITY. 4 degree credits. \$56.

An overview of the field of personality, with discussions of personality theory, of selected topics of empirical research in the field of personality, and of personality assessment. (Prereq 1-001 or old 1-002, 1-005)

Fall Semester
W—6:20-8:00, WuH 130

Spring Semester
W—6:20-8:00, WuH 130

Psy 3-124 PSYCHOLOGY OF INDIVIDUAL DIFFERENCES. 4 degree credits. \$56.

The differential method as a means for studying human behavior, impact and importance of individual differences in modern society, instruments of measurement and behavior prediction in differential psychology and the major determiners of individuality. (Prereq 3-801)

Spring Semester
Th—8:15-9:55, WuH 130

Psy 3-801 INTRODUCTION TO STATISTICAL METHODS (old Psy 90). 4 degree credits, \$old 70 (1968 or before). \$56.

Central tendency and variation, correlation and methods, bivariate regression, introduction to problems of sampling and hypothesis testing. (Prereq 1-005 or #)

Fall Semester
Th—8:15-9:55, BlegH 255

Spring Semester
Th—6:20-8:00, BlegH 130

Psy 5-044 PSYCHOLOGY OF MOTIVATION AND CONFLICT (old Psy 138). 4 degree credits. \$60.

The drives and motives which underlie normal behavior and the forms of adjustment which arise when motives conflict or encounter external frustration. Parallel observations in the field of animal behavior will be considered. (Prereq new 1-001 or old 1-002. Qualified students may register for graduate credit at the University of Minnesota)

Fall Semester
Th—8:15-9:55, Bu 123, Stearns

Spring Semester
Th—8:15-9:55, Bu 123, Stearns

Psy 5-105 THE ANALYTICAL PSYCHOLOGY OF C.G. JUNG. 4 degree credits. \$60.

This course will discuss Jung's theoretical and clinical positions on the structure of the conscious personality; the unconscious personality; and the collective unconscious. It will include Jung's theories of dream interpretations. (Prereq 3-101 or 5-101 or #. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter
T—6:20-8:50, Bu 125,
Mattoon

Psy 5-604/5-605 ABNORMAL PSYCHOLOGY (old Psy 144-145). 4 degree credits each semester. \$60 each semester. ★

Normal and abnormal behavior contrasted. Dynamics, and particularly the social determinants, of personality and maladjustments. (Prereq 9 credits in psychology, or 6 credits in psychology with either Biol 1-011 or old 1-002 or 12 credits in social science for 5-604; 5-604 for 5-605. Qualified students may register for graduate credit at the University of Minnesota)

Fall Semester
5-604 M—6:20-8:00, Aero 209, Stieper

Spring Semester
5-605 M—6:20-8:00, Aero 209, Stieper

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Psy 5-751 PSYCHOLOGY OF ADVERTISING (old Psy 156). 4 degree credits. \$60.

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. (Prereq new 1-001 or old 1-002. Qualified students may register for graduate credit at the University of Minnesota)

Spring Semester

Th—6:20-8:00, WuH 230, Laybourn

(For complete list of Mass Communications and related courses, see page 267)
For information on non-credit conferences or workshops in psychology, please contact the Department of Conferences, 131 Nolte Center for Continuing Education; telephone 373-3151.

Public Affairs

(See page 66)

Public Health

Your attention is called to the Alcoholism and Other Drug Abuse Counselor Certificate Program, page 74.

Daniel Anderson, President and Director, Hazelden Rehabilitation Center

Knowlton J. Caplan, Associate Professor of Environmental Health

Delphie Fredlund, Associate Professor of Public Health Nursing

Velv W. Greene, Professor of Environmental Health

Carl B. Heggstad, Associate Professor of Anatomy

Richard O. Heilman, Assistant Professor of Psychiatry and Public Health

James Kincannon, Clinical Assistant Professor of Psychiatry

William A. O'Brien, Clinical Assistant Professor of Medicine and Assistant Professor of Public Health

Harold J. Paulus, Professor of Environmental Health

John M. Phin, Associate Professor of Public Health

Gustave L. Scheffler, Assistant Professor of Environmental Health and Safety

Robert W. Schwanke, Assistant Professor of Public Health Administration

Frederick E. Shideman, Professor of Pharmacology

Conrad P. Straub, Professor of Environmental Health

Robert L. Veninga, Assistant Professor of Health Education

PubH 3-001 PERSONAL AND COMMUNITY HEALTH (old PubH 50). 3 degree credits, \$1-001, 1-002, 1-003, 5-002. \$42. ★

Fundamental principles of health conservation and disease prevention. (No prereq)

Winter Quarter

**T—7:00-9:30, Mayo 100,
O'Brien**

(For complete list of Ecology courses, see page 262)

PubH 3-005 INTRODUCTION TO ANATOMY AND MEDICAL TERMINOLOGY. 3 degree credits. \$42.

Presentation of a method of medical terminology by body system; review of anatomy including the regions and systems of the body. (No prereq)

Spring Quarter

**T—6:30-8:30, JacH 74,
Heggstad, Phin**

(See also Anatomy)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

PubH 5-070 COMMUNICATION SKILLS FOR HEALTH PROFESSIONALS. 3 degree credits. \$45.

The course will concentrate on the identification of basic skills in interpersonal and interprofessional relationships. Attention will be given to development of (1) skills in one-to-one communication; (2) skills in small group interaction and (3) skills necessary to affect change within human relationships, conflict resolution, and teamwork. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

M—6:20-8:20, Owre 117,
Veninga

Spring Quarter

M—6:20-8:20, Owre 117,
Veninga

DRUG ABUSE COURSES

(See Special Issues courses, page 268)

***PubH 3-030 FUNDAMENTAL ASPECTS OF DRUG ABUSE AND DEPENDENCY** (old PubH 0-030C). 3 degree credits. \$42.

Lectures and discussions on the nature of the drugs involved; the medical, psychological and social aspects of dependence. (Prereq advance application or \$. Requests for admission should be made to Professor Robert W. Schwanke [see page 74])

Fall Quarter

T—6:20-8:50, Owre 15,
Schwanke, Heilman,
Shideman, Anderson

Winter Quarter

Th—6:20-8:50, Owre 15

***PubH 3-031 THE DISEASE PROCESS AND SOCIAL IMPLICATIONS OF DRUG DEPENDENCY** (old PubH 0-031C). 3 degree credits. \$42.

Study of the social and pathological use of drugs by individuals and societies. Historical as well as contemporary usage will be considered. (Prereq 3-030 or 0-030C or \$. Requests for admission should be made to Professor Robert W. Schwanke [see page 74])

Winter Quarter

T—6:20-8:50, Owre 15,
Schwanke, Heilman,
Kincannon, Anderson

Spring Quarter

Th—6:20-8:50, Owre 15

***PubH 3-032 COUNSELING THE ALCOHOLIC AND OTHER DRUG DEPENDENT PERSONS** (old PubH 0-032C). 3 degree credits. \$42.

Individual and group counseling techniques, family counseling as specifically related to drug abuse and its effect on all aspects of a person's life. (Prereq 3-031 or 0-031C or \$. Requests for admission should be made to Professor Robert W. Schwanke [see page 74])

Fall Quarter

Th—6:20-8:50, Owre 15,
Schwanke, Heilman,
Anderson

Spring Quarter

T—6:20-8:50, Owre 15,
Schwanke, Heilman,
Anderson

***PubH 3-033 FUNDAMENTALS OF ALCOHOL AND DRUG ABUSE.** 2 degree credits. \$28.

Lecture, discussion and special readings on the scientific, sociocultural and attitudinal aspects of alcohol and other drug abuse with special emphasis on the role of education. (Prereq education majors or \$. Limited to 128 students)

Winter Quarter

T—6:30-8:30, 125 Mayo,
Schwanke

PubH 3-034 TOPICS IN ALCOHOL AND DRUG ABUSE. 2-5 degree credits. \$14 per credit.

Selected readings in alcohol and drug abuse with discussion based on these readings. (Prereq advanced application or \$. Requests for admission should be made to Professor Robert W. Schwanke [see page 74])

Fall Quarter

Hours arranged

Winter Quarter

Hours arranged

Spring Quarter

Hours arranged

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

PubH 3-035 INTERNSHIP IN ALCOHOL AND DRUG ABUSE. 2-9 degree credits. \$14 per credit.

(Prereq 3-032 and #)

Fall Quarter

Hours arranged

Winter Quarter

Hours arranged

Spring Quarter

Hours arranged

PubH 5-034 TOPICS IN ALCOHOL AND DRUG ABUSE. 2-5 degree credits. \$15 per credit.

Selected readings in alcohol and drug abuse with discussion based on these readings. (Prereq advanced application or #. Requests for admission should be made to Professor Robert W. Schwanke [see page 74]. Qualified students interested in graduate credit should inquire at time of registration)

Fall Quarter

Hours arranged

Winter Quarter

Hours arranged

Spring Quarter

Hours arranged

PubH 5-036 GROUP COUNSELING TECHNIQUES RELATED TO CHEMICAL DEPENDENCY TREATMENT. 3 degree credits. \$45.

The course's primary focus will be on the small group and the role it plays in the recovery process. The course will utilize specialized readings, group interaction, and video taping. (Prereq 3-035 or completed internship and #. Requests for admission should be made to Professor Robert W. Schwanke [see page 74]. Qualified students interested in graduate credit should inquire at time of registration)

Fall Quarter

Hours arranged

Winter Quarter

Hours arranged

Spring Quarter

Hours arranged

ENVIRONMENTAL HEALTH COURSES

(For complete list of Ecology courses, see page 262)

PubH 5-151 ENVIRONMENTAL HEALTH (old PubH 102). 3 degree credits. \$45.

Methods for promoting man's health and comfort by controlling the environment. (Prereq #. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

T—7:00-9:30, Mayo 1210,
Straub

PubH 5-171 ENVIRONMENTAL MICROBIOLOGY (old PubH 118). 3 degree credits. \$45.

Survival, dissemination, transportation and significance of micro-organisms in the environment; application of principles to environmental health problems. (Prereq 5-002, 5-121, MicB 3-103 or #. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

T—7:00-9:30, Mayo 1210,
Greene

PubH 5-181 INTRODUCTION TO AIR POLLUTION PROBLEMS (old PubH 155). 3 degree credits. \$45.

History, sources, controls, effects, surveys, legal aspects, and administration of air pollution programs. (Prereq #. Qualified students may register for graduate credit at the University of Minnesota)

Fall Semester

M—6:20-8:00, Mayo 1250, Paulus

PubH 5-182 AIR POLLUTION CONTROLS AND SURVEYS (old PubH 156). 3 degree credits. \$45.

Public health engineering approach to air pollution controls and surveys. (Prereq 5-181 or #. Qualified students may register for graduate credit at the University of Minnesota)

Spring Semester

M—6:20-8:00, Mayo 1250,
Paulus

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

PubH 5-192 HOSPITAL SAFETY (old PubH 158). 3 degree credits. \$45.

Theories and practices in accident and fire prevention and control for hospitals and other medical care facilities. (Prereq #. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

M—7:00-9:30, Mayo 1210,
Scheffler

PubH 5-211 INDUSTRIAL HYGIENE ENGINEERING (old PubH 152). 3 degree credits. \$45.

Field and laboratory methods used by industrial hygiene engineers in study and control of occupational health hazards. (Prereq #. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

M—6:20-8:50, Mayo 1220,
Caplan

PubH 5-212 VENTILATION CONTROL OF ENVIRONMENTAL HAZARDS. 3 degree credits. \$45.

Theory and application of exhaust ventilation in control of airborne environmental hazards; principles of exhaust hoods, air moving devices; gas cleaning devices; demonstration of measurement techniques; relationship of hazard and process to ventilation design criteria. (Prereq 5-211 or #. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

M—6:20-8:50, Mayo 1220,
Caplan

PubH 5-241 ENVIRONMENTAL HEALTH ASPECTS OF WATER SUPPLY. 3 degree credits. \$45.

Role of water in health of man; physical, chemical, and biological characteristics; evaluation of source, treatment, and distribution systems. (Prereq #. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

T—7:00-9:30, Mayo 1220,
Straub

PubH 5-244 ENVIRONMENTAL ASPECTS OF LIQUID WASTE DISPOSAL. 3 degree credits. \$45.

Role of liquid wastes in health of man; physical, chemical, and biological characteristics; evaluation of source, treatment, and disposal facilities. (Prereq #. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

T—7:00-9:30, Mayo 1210,
Straub

Quantitative Analysis

(See Management Science)

Reading, Efficient

(See Study Skills)

Real Estate

Bernard G. Rice, Coordinator of Real Estate Classes and Staff

Peter Rosko, Associate Professor of Finance

The University of Minnesota cooperates with the Real Estate Boards of St. Paul and Minneapolis and the Minnesota Association of Realtors in a program of educational training leading toward competence in the professional aspects of

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

real estate practice. Instructional staff for each course will be made up of a number of practicing Realtors in the Twin Cities and Peter Rosko, Associate Professor of Finance. Coordinator for the Real Estate Boards is Bernard G. Rice, 6101 Wayzata Boulevard, Minneapolis, Minnesota 55416.

***RE 0-001C FUNDAMENTALS OF REAL ESTATE PRACTICE.** 3 certificate credits. \$42.

The basics of various aspects of the real estate business—appraisal, property management, sales brokerage, financing, real estate investments, land development and preparation of essential contracts. A basic course; should be taken prior to other courses in real estate curriculum. (No prereq. Limited to 75 students)

Fall Semester

Th—6:20-8:00, AndH 310, Rice

Spring Quarter

W—6:20-8:00, AndH 310,
Rice

***RE 0-002C PRINCIPLES OF COMMERCIAL AND INDUSTRIAL REAL ESTATE.** 4 certificate credits. \$56.

Fundamentals of analyzing and evaluating investments in income-producing real estate properties. Operating statement; financing effects; depreciation methods; tax analysis; exchanging properties; valuation. Collection and analysis of investment data from a current field of study. (Prereq open to persons having completed one or more RE courses, or persons experienced in real estate. Limited to 30 students)

Fall Quarter

Th—5:30-8:00, BlegH 145,
Rosko

Spring Quarter

Th—5:30-8:00, BlegH 110,
Rosko

RE 0-004C REAL ESTATE APPRAISAL. 3 certificate credits. \$42.

Primarily of the consideration of principles and practices in the valuation of residential real estate; the approaches to value, capitalization and depreciation, a case study, and summation and the appraisal report. Secondary consideration only to specialized income reports. (No prereq but real estate experience or RE 0-001C is desirable)

Spring Semester

Th—6:20-8:00, AndH 250, Rice

RE 0-006C REAL ESTATE FINANCING AND INSURANCE. 3 certificate credits. \$42.

Kinds and types of insurance necessary and advisable to adequately cover property of all kinds, real estate financing—F.H.A., V.A., conventional, contract for deed—determining degree of risk and extending the loan, sources of money available and procedures and policies of same. (No prereq)

Fall Semester

T—6:20-8:00, AndH 330, Rice

REAL ESTATE LAW—See BLaw 0-098C, page 208.

Recreation

(See page 147)

Romance Languages

(See French, Italian, and Spanish)

Russian

(See Slavic Languages)

Salesmanship

Perry Jacobson, Lecturer in Salesmanship

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Sal 0-001C SALESMANSHIP. 3 certificate credits. \$42. ★

Course designed to build a foundation for a more successful sales or business career. A study of principles that influence people; presentation of the product or service; key words; motivation; praise and appreciation; power closing techniques. Develops confidence, a creative mind, and earning potential through a positive plan of action. (No prereq)

Fall Quarter

M—6:20-8:50, BlegH 415,
Jacobson

Spring Quarter

M—6:20-8:50, BlegH 415,
Jacobson

Scandinavian Languages

Anne Lundquist, Instructor in Scandinavian

James A. Simpson, Associate Professor of Scandinavian

Tape reels or cassettes are available to extension classes students on a take-home basis. Students can pick up tapes at the Language Laboratory on the second floor of Temporary South of Folwell or the second floor of Temporary South of Coffey on the St. Paul Campus. Students must present a fee statement when checking out tapes. Rental costs are covered by the special fees paid with tuition.

Language laboratory hours are: Monday-Thursday, 8 a.m.-8 p.m.; Friday, 8 a.m.-6 p.m.; Saturday, 9 a.m.-3 p.m.; closed Sunday.

The following non-language extension class may be applied toward the CLA foreign language requirement, Route II [see page 57]: Phil 5-054.

FINNISH

Finn 1-101/1-102 BEGINNING FINNISH (old Finn 1A-2A). 5 degree credits each semester. \$60 plus \$3 laboratory fee each semester. ★ Finn 1-101.

This course, intended for students who have little or no previous knowledge of Finnish, stresses spoken Finnish, but provides, in addition, the essentials of grammar and some practice in simple composition. (No prereq for 1-101; 1-101 or # for 1-102)

Fall Semester

1-101 M—6:20-9:05, FolH 205

Spring Semester

1-102 M—6:20-9:05, FolH 205

NORWEGIAN

Nor 1-101/1-102 BEGINNING NORWEGIAN (old Nor 1A-2A). 5 degree credits each semester. \$70 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 prereq for 1-101; 1-101 or # for 1-102)

Fall Semester

1-101 M—6:20-9:05, FolH 305, Simpson

Spring Semester

1-102 M—6:20-9:05, FolH 305, Simpson

SWEDISH

Swed 1-101/1-102 BEGINNING SWEDISH (old Swed 1A-2A). 5 degree credits each semester. \$70 plus \$3 laboratory fee each semester. ★ 1-101.

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 prereq for 1-101; 1-101 or # for 1-102)

Fall Semester

1-101 M—6:20-9:05, FolH 207, Lundquist

Spring Semester

1-102 M—6:20-9:05, FolH 207, Lundquist

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

School Health Education

(See page 153)

Secondary Education

(See page 154)

Slavic Languages

(See also Hist 5-264, 5-265, 5-266, MODERN RUSSIA)

Adele Donchenko, Assistant Professor of Slavic Languages

Tape reels or cassettes are available to extension classes students on a take-home basis. Students can pick up tapes at the Language Laboratory on the second floor of Temporary South of Folwell or the second floor of Temporary South of Coffey on the St. Paul Campus. Students must present a fee statement when checking out tapes. Rental costs are covered by the special fees paid with tuition.

Language laboratory hours are: Monday-Thursday, 8 a.m.-8 p.m.; Friday, 8 a.m.-6 p.m.; Saturday, 9 a.m.-3 p.m.; closed Sunday.

POLISH

Leonard Polakiewicz, Instructor in Polish

Polish 1-101/1-102 INTRODUCTION TO POLISH. 3 degree credits each semester. \$42 each semester. ★

Intended for students who have little or no previous knowledge of Polish and wish to learn the language in order to apply it toward their immediate objectives, such as travel to Poland. The course stresses fundamentals in grammar, standard Polish pronunciation, reading and practice in conversation. (No prereq for 1-101; 1-101 for 1-102)

Fall Semester

1-101 M—6:20-8:00, FolH 108,
Polakiewicz

Spring Semester

1-102 M—6:20-8:00, FolH 108,
Polakiewicz

RUSSIAN

The following non-language extension classes may be applied toward the CLA foreign language requirement, Route II [see page 57]: Hist 5-264, 5-265, 5-266; Geog 3-181.

Russ 1-101/1-102 BEGINNING RUSSIAN (old Russ 1-2). 5 degree credits each semester. \$70 plus \$3 laboratory fee each semester. ★

Grammar, pronunciation, reading, and practice in speaking. (No prereq for 1-101; 1-101 or # for 1-102)

Fall Semester

1-101 M—6:20-9:05, FolH 204,
Donchenko

Spring Semester

1-102 M—6:20-9:05, FolH 204,
Donchenko

Social Science

(See also Continuing Education for Women, page 257)

J. Edward Anderson, Professor of Mechanical Engineering

Khosrow Rigg, Teaching Associate in Social Science

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

These courses draw on a wide variety of research findings and theories from the social sciences, arranged so as to present a coherent interpretation of several broad aspects of human behavior. Each course focuses on a significant segment of human action; the general aim is to provide the student with an understanding of how such behavior may be explained. Most of the courses are experimental, seeking to focus attention on key human and social problems areas from a variety of disciplinary approaches. These courses are now under the administrative supervision of the School of Cross-Disciplinary Studies.

SSci 3-102 INTRODUCTION TO SOCIAL SCIENCE: MODERNIZATION (old SSci 52). 4 degree credits. \$56.

The economic perspective on the process of transformation of pre-modern societies into modern ones. The social functions of economic systems. A comparison of various developed and developing economies. (No prereq)

Winter Quarter

W—5:30-8:50, BlegH 245,
Riggi

SSci 3-103 INTRODUCTION TO SOCIAL SCIENCE: THE COMMUNITY (old SSci 53). 4 degree credits. \$56.

The social and political perspectives on the process of transformation of pre-modern societies into modern ones. The nature of revolutionary change. Power distribution in different societies. Examination of social theories. (No prereq)

Spring Quarter

W—5:30-8:50, BlegH 245,
Riggi

SSci 3-203 STRUCTURE AND DYNAMICS OF POVERTY (old SSci 62). 4 degree credits. \$56.

Structural characteristics of poverty as described by social, legal, and economic criteria. Specific problems of poverty: unemployment, immobility, illiteracy, crime, and others. Private and public programs designed to alleviate poverty. (No prereq)

Fall Quarter

W—5:30-8:50, BlegH 335,
Riggi

TV

SSci 3-402, 3-403 ECOLOGY, TECHNOLOGY AND SOCIETY.

The following courses will be broadcast on the University Hour (KTCA, Channel 2, Monday, 9:00 to 10:00 p.m.). Each of the courses will involve lectures and discussions with Professors J. Edward Anderson, Department of Mechanical Engineering, Eville Gorham, Department of Biology, David Noble, Department of History, Mulford Q. Sibley, Department of Political Science, and Dean Abramson, Professor of Public Affairs and Director, Center for Studies of the Physical Environment. In addition to the televised broadcasts, registrants will be expected to read from selected materials and write a term paper and either a send-home examination or final examination on the campus. Five hours of radio discussion—with telephone call-ins—will be held each quarter. Textbooks are: **Resources and Man** and **The Limits to Growth** (others will be assigned). Textbooks may be purchased from local bookstores or by mail from Extension Classes. Students wishing to purchase books by mail should request information at time of registration. **NOTE**—Students may register for both courses but must register separately for each.

(For complete list of Radio and Television courses, and Ecology courses, see pages 261 and 262)

SSci 3-402 ECOLOGY, TECHNOLOGY AND SOCIETY (old SSci 82). 4 degree credits. \$56.

The environmental crisis and its causes. Topics include: Attitudes toward Nature,

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Ecology and History, The Energy Question, The Meaning of Progress and Growth.
(No prereq)

Winter Quarter
M—9:00-10:00, TV,
Channel 2, Anderson

SSci 3-403 ECOLOGY, TECHNOLOGY AND SOCIETY. 4 degree credits. \$56.

Specific data regarding population, physical resources and the Minnesota environment. Possible political, economic and technological solutions to the environmental crises will be explored. (No prereq)

Spring Quarter
M—9:00-10:00, TV,
Channel 2, Anderson

Social Studies

(General College)

James Hickman, Instructor in Social Studies

Norman Moen, Professor of Social Studies

Frederick Neet, Instructor in Social Studies

The General College Social Studies courses are intended to help students become thoughtful, informed, and responsible citizens prepared to involve themselves with society's social, economic, and political problems. An effort is made in each course to acquaint students with the scope and methods of the social sciences and to apply them to the issues of the day.

***GC 1-211 MAN IN SOCIETY: HIS PERSONAL ROLE (old GC 41A). 4 degree credits. \$56.**

An interdisciplinary approach is used to study social problems. American values are examined in an attempt to make the student aware of how he orients himself to social problems in terms of his own personal values. Emphasis is on problems in the urban setting. (No prereq. Limited to 50 students)

Fall Quarter

T—6:20-8:50, NH 209,
Neet

(See Special Issues courses, page 268)

GC 1-221 MINNESOTA HISTORY (old GC 45C). 4 degree credits. \$56.

The land, people, and institutions of Minnesota and the Upper Midwest are studied in the light of a history extending from the primitive and colorful life led by Indians, voyageurs, and explorers to the complexities and opportunities of today. The double purpose of the course is to show how Minnesota came to be what it is, and to trace the growth of governmental functions and the course of political struggles from pioneer times to the present. (No prereq)

Winter Quarter
T—6:20-8:50, NH 213,
Moen

GC 1-628 HUMAN SERVICES: SPECIAL TOPICS. 4 degree credits. \$56.

A study of Human Service work from the standpoint of the person, the agency or setting, and the helper. Concepts and processes that are common to various settings are presented. Includes the development of attitudes and beginning level skills that are useful in working with people. Small group discussion is used to further the integration of concepts, and to help students develop their own communication skills. (No prereq)

Spring Quarter
W—6:20-8:50, NH 122,
Hickman

(For complete list of Human Relations and Minority Issues courses, see page 265)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Social Work

(See also Adult Psychiatry)

Sue Bennett, Clinical Instructor in Social Work
Chester Bower, Professor of Social Work
Elaine Budd, Clinical Instructor in Social Work
Peter Chomme, Associate Professor of Social Work
William Hoffman, Professor of Social Work
Harvey Kaplan, Clinical Instructor in Social Work
Mayo Newhouse, Professor of Social Work
Richard Sterne, Associate Professor of Social Work
Shirley Zimmerman, Lecturer in Social Work

Graduate level courses in social work listed in this bulletin may be applicable to a graduate program in certain disciplines. Please refer to the information on Graduate Credit and Graduate Registration in this bulletin. The Social Work Post-Baccalaureate Certificate requirements are listed on page 75.

Candidates for the Master's degree in social work who wish to use up to 9 credits selected from these courses must first consult with their advisers, and must have been admitted to the Graduate School. None of these courses may substitute for specific requirements in the MSW program; they may be acceptable as electives.

POST-BACCALAUREATE CERTIFICATE IN SOCIAL WORK (25 CREDITS)

The Post-Baccalaureate Certificate in Social Work is being offered by the Graduate School of Social Work through Continuing Education and Extension. Admission to this program is limited to individuals with Bachelor's degrees and currently employed in the field. Those individuals employed in the field who do not have a B.A. degree and are seeking one, are advised to seek such a degree in the undergraduate Social Welfare Program currently offered by the School of Social Work.

The Certificate Program in Social Work has been redesigned to assist practitioners in acquiring knowledge and skills in better performing specific social welfare tasks. Students will be helped to acquire increased understanding of the people for whom social services are available, of the social institutions in society—particularly changing social welfare institutions—of ways of helping people solve problems of social functioning, and of attitudes and philosophy that make the helping process more effective no matter in what specialized setting. Each of the courses has been designed to meet the express needs of individuals employed in social welfare positions who may or may not intend to enter the two-year graduate program in social work.

For additional information about the Post-Baccalaureate Certificate in Social Work, as well as other social work courses offered through the Graduate School of Social Work and Continuing Education and Extension, please contact Professor William Hoffman, Director, or Shirley Zimmerman, Assistant to the Director, Continuing Education in Social Work, 321 Nolte Center for Continuing Education, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-5831.

First Year

*SW 5-201/5-202/5-203 **NORMAL SOCIAL FUNCTIONING** (old SW 148-149). 2 degree credits each quarter. \$30 each quarter.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Develops understanding of basic personality and environmental factors which affect and determine the individual's potential for normal social functioning. (Prereq BA and current employment in a social welfare position or # for 5-201; 5-201 for 5-202; 5-202 for 5-203. Limited to 30 students. Qualified students interested in graduate credit should inquire at time of registration)

Fall Quarter	Winter Quarter	Spring Quarter
5-201 T—6:00-7:40, BlegH 350, Chommie	5-202 T—6:00-7:40, BlegH 155, Chommie	5-203 T—6:00-7:40, BlegH 215, Chommie

***SW 5-402/5-403 WORKING WITH INDIVIDUALS AND FAMILIES** (old SW 165-166). 2 degree credits each quarter. \$30 each quarter.

Knowledge, attitudes, skills needed for supportive techniques; emphasis on how, why, and when of referral and use of supervision and consultation. (Prereq BA and current employment in social welfare position or # for 5-402; 5-402 for 5-403. Limited to 30 students. Qualified students interested in graduate credit should inquire at time of registration)

Fall Quarter	Winter Quarter	Spring Quarter
5-402 T—3:40-5:20, BlegH 245, Bennett	5-403 T—3:40-5:20, BlegH 340, Bennett	5-402 T—3:40-5:20, BlegH 340, Bennett

** (See footnote below)

***SW 5-412/5-413 WORKING WITH GROUPS** (old SW 175-176). 2 degree credits each quarter. \$30 each quarter.

Dynamics of individual and group behavior as they influence social group work: role of group worker, basic principles, use and meaning of program content. (Prereq BA and current employment in social welfare position or # for 5-412; 5-412 for 5-413. Limited to 30 students. Qualified students interested in graduate credit should inquire at time of registration)

Fall Quarter	Winter Quarter	Spring Quarter
5-412 T—3:40-5:20, BlegH 260, Budd	5-413 T—3:40-5:20, BlegH 260, Budd	5-412 T—3:40-5:20, BlegH 260, Budd

** (See footnote below)

****Method Courses**—A student must complete 4 credits (two sequential courses) in one primary method followed by 2 additional credits in the other; for example, students who have taken SW 5-402/5-403 Fall and Winter Quarters are to take SW 5-412 in the Spring Quarter.

Second Year

***SW 5-010 SPECIAL TOPIC: CONSUMER RESEARCH — INTERPRETATION OF PUBLISHED MATERIAL.** 1 degree credit. \$15.

To acquaint student with tables, charts and other graphic material likely to be encountered in their job and literature. To promote an understanding of content and to assist student to make more effective use of practical and relevant research material. (Prereq BA and current employment in a social welfare position or #. Limited to 30 students. Qualified students interested in graduate credit should inquire at time of registration)

Fall Quarter
T—6:30-7:20, BA 933,
Sterne

***SW 5-010 SPECIAL TOPICS.** 2 degree credits each section. \$30 each section.

Two special elective topics offered Spring Quarter, based upon first-year student survey. The final designation of these two elective courses will be made available prior to registration in a separate mailing. Both special topic courses must be taken to complete the 25 credit requirement. (Prereq BA and current employment in a social welfare position or #. Limited to 30 students. Qualified students interested in graduate credit should inquire at the time of registration)

Spring Quarter
T—3:40-5:20, BlegH 430
Th—6:00-7:40, BlegH 330

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

***SW 5-101 SOCIAL POLICY ANALYSIS** (old SW 125). 3 degree credits. \$45.

The student acquires knowledge about and explores attitudes toward social welfare services. Exploration of developing policy and program trends, with emphasis upon the conflicts of value systems and the changing needs of society in the area of social welfare. (Prereq 5-203 or \$. Limited to 30 students. Qualified students interested in graduate credit should inquire at time of registration)

Fall Quarter

T—3:40-6:10, BlegH 255

***SW 5-105 INDIVIDUAL HUMAN RIGHTS AND SOCIAL WORK PRACTICE** (old SW 140). 3 degree credits. \$45.

The purpose of this course is to acquaint the student with the attitudes and philosophy of the social work profession in order to help him understand 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 toward the helping process and the individual seeking help. (Prereq SW 5-101 or \$. Limited to 30 students. Qualified students interested in graduate credit should inquire at time of registration)

Winter Quarter

T—3:40-6:10, BlegH 230,
Kaplan

***SW 5-315 INTRODUCTION TO CURRENT PROBLEMS IN COMMUNITY ORGANIZATION AND ADMINISTRATION** (old SW 171). 2 degree credits. \$30.

Acquaints the student with the process of community organization and social work administration as integrated means of identifying community problems and needs. Describes methods of deciding what to do and developing ways of transforming the arrived-at policies into services to meet the needs. (Prereq 5-203 and either SW 5-402/5-403/5-412 or SW 5-412/5-413/5-402, or \$. Limited to 30 students. Qualified students interested in graduate credit should inquire at time of registration)

Winter Quarter

T—6:30-8:00, BlegH 230
Bower

ADDITIONAL SOCIAL WORK COURSES

Other social work courses (not included in the Post Baccalaureate Certificate Program) are being developed and are not included in this bulletin. Specific information about these courses will be made available by mailings with ample time for review and registration by prospective students. For any information, please call the Department of Continuing Education in Social Work, 373-5831, or write to 321 Nolte Center, University of Minnesota, Minneapolis, Minnesota 55455. Among other social work courses being considered are:

Authority—Its Use and Abuse
Legal Issues in Social Work Practice
Working with Adult and Juvenile Offenders
Supervision and Consultation

Sociology

(See also "Credit Courses in London", page 259)

Joel Best, Instructor in Sociology
David B. Chain, Instructor in Sociology
Peggy L. Cochran, Instructor in Sociology
Barry Cohen, Instructor in Sociology
Vijay Gupta, Instructor in Sociology
Linda Havir, Instructor in Sociology

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Eddie Chen-yu Kuo, Instructor in Sociology
Nathan Mandel, Associate Professor of Sociology
Charles Simpkins, Instructor in Sociology
Nancy Stein, Instructor in Sociology
Jan Sturgeon, Instructor in Sociology

Soc 1-001 INTRODUCTION TO SOCIOLOGY (old Soc 1). 4 degree credits. \$56. ★

A survey of the main substantive fields of sociology for non-prospective sociology majors. Illustrative material drawn from current social problem areas. (No prereq. Usually not for sociology majors; however, prospective sociology majors wishing to apply 1-001 to a degree program should contact the undergraduate adviser in the department of Sociology)

Fall Semester

Th—6:20-8:00, BlegH 130, Simpkins

Fall Quarter

M—6:00-8:30, BlegH 130, Sturgeon

T—6:30-9:00, Harding HS 182, Havir

W—7:00-9:30, Rich HS 251-252, Cochran (Limited to 60 students*)

Spring Semester

W—6:20-8:00, BlegH 220, Simpkins

Winter Quarter

T—6:30-9:00, Harding HS 115-117, Sturgeon

W—7:00-9:30, Sand JHS 213, Chein (Limited to 45 students*)

Th—5:30-8:00, BlegH 150, Havir

Spring Quarter

M—7:00-9:30, Kel HS 167-169, Havir (Limited to 60 students*)

S—9:00-11:30 a.m., BlegH 150, Gupta

Soc 1-002 AMERICAN COMMUNITY (old Soc 2). 4 degree credits. \$56.

Sociological analysis of modern American society. Topics include distribution of population, urban-rural differences, social factors in business systems, occupational groups, determination of social status, and minority group adjustment. (No prereq)

Fall Quarter

M—6:20-8:50, BlegH 230, Cohen

Spring Quarter

M—6:20-8:50, BlegH 230

(For complete list of Human Relations and Minority Issues courses, see page 265)

Soc 1-505/1-506 PRINCIPLES OF SOCIOLOGY I-II (replaces Soc 1-005/1-006). 5 degree credits each semester. \$70 each semester.

Required of prospective sociology majors. The course is focused upon the basic concepts and variables used in the analysis of individual-to-group relationships and the organization and structure of social groups. (Prereq soph or # for 1-505; 1-505 for 1-506)

Fall Semester

1-505 T—6:20-8:00, BlegH 245, Best

Spring Semester

1-506 T—6:20-8:00, BlegH 245, Best

Soc 3-101 ELEMENTS OF CRIMINOLOGY (old Soc 53). 4 degree credits. 56. ★

General survey of field of criminology. (Prereq 1-001 or #)

Fall Semester

W—8:15-9:55, AndH 250, Mandel

Spring Semester

W—8:15-9:55, AndH 250, Mandel

Soc 5-141 DELINQUENT BEHAVIOR (old Soc 118). 4 degree credits. \$60.

Critical analysis of nature of delinquent behavior and its "causes"; consideration of help that understanding of causes can give to its modification and its prevention. (Prereq 3-101 or #. Qualified students may register for graduate credit at the University of Minnesota)

Fall Semester

W—6:20-8:00, BlegH 10, Mandel

(See Special Issues courses page 268)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Soc 5-145 MODERN AGENCIES FOR CONTROL OF JUVENILE DELINQUENCY (old Soc 119). 4 degree credits. \$60.

Functions of school, of welfare, casework and group work agencies, of juvenile bureau in police departments, juvenile court, detention home, probation services, clinics, and integrated state agencies like Minnesota Youth Conservation Commission in prevention and modification of delinquent behavior. (Prereq 5-141 or §. Qualified students may register for graduate credit at the University of Minnesota)

Spring Semester

W—6:20-8:00, BlegH 150, Mandel

(See Special Issues courses page 268)

Soc 5-151 RELIGION AS A SOCIAL INSTITUTION (old Soc 142). 4 degree credits. \$60.

Structure and function of religious organizations in various types of societies, nature of religious leadership, type of religious participation, and relationship of religion to other social institutions. (Prereq 1-001, or 1-006, or §. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

M—5:30-8:00, AgEng 109,
StP Campus

(For complete list of courses relating to religion, see page 264)

Soc 5-201 INTRODUCTION TO SOCIAL PSYCHOLOGY (old Soc 120). 4 degree credits \$60. ★

Research and theory regarding relation of individual to social groups. Emphasis on socialization processes; effects of social interaction and isolation; individual behavior under conditions of social organization and disorganization; cultural influence and its limits. (Prereq 1-001, or 1-006, or §. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

W—5:30-8:00, AndH 330,
Chen

Spring Quarter

W—5:30-8:00, AndH 230

Soc 5-401 SOCIAL ORGANIZATION (old Soc 140). 4 degree credits. \$60.

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. (Prereq 1-001, or 1-006, or §. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

M—5:30-8:00, BlegH 150,
Stein

Soc 5-405 SOCIAL STRATIFICATION AND MOBILITY (old Soc 144). 4 degree credits. \$60.

Analysis of form and content of hierarchical arrangements. Relationship of hierarchical arrangements to problems of social order and individual behavior. (Prereq 1-001 or 1-006 or §. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

M—5:30-8:00, BlegH 350,
Chen

Soc 5-951 MINORITY GROUP RELATIONS (old Soc 123). 4 degree credits. \$60. ★

Interaction of social and cultural groups in America; particular reference to the Negro. Processes leading to group contact; characteristics and contribution of ethnic groups in United States; mechanisms and problems of group adjustment. Democratic theory and practice; sources of prejudice; contemporary status of principal minority groups; international implications; trends and proposed solutions. (Prereq 1-001, or 1-006, or §. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

W—5:30-8:00, BlegH 215

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

(For complete list of Human Relations and Minority Issues courses, see page 265)

For information on non-credit conferences or workshops in sociology, please contact the Department of Conferences and Institutes, 131 Noite Center for Continuing Education; telephone 373-3151.

Spanish

Robert F. Estelle, Assistant Professor of Spanish
Rodolfo O. Floripe, Professor of Spanish
Ruth E. Jones, Associate Professor of Spanish
Lawrence Mantini, Associate Professor of Spanish
Ricardo A. Narvaez, Professor of Spanish
Andres Suris, Instructor in Spanish
William Woodhouse, Instructor in Spanish

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

SPAN 1-101/1-102/1-103 BEGINNING SPANISH (old Span 1-2-3), carrying 5 degree credits per unit, comprises the standard course in first-year 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.

Span 1-201/1-202/1-203/1-204/1-205 BEGINNING SPANISH (old Span 1A-1B-2A-2B). 3 degree credits per unit. This sequence is recommended for those who desire a general introduction to the language but who wish to proceed at a slower pace than required for the standard 5-credit units. Students wishing further Spanish after completing 1-205, register for 1-104.

Tapes reels or cassettes are available to extension classes students on a take-home basis. Students can pick up tapes at the Language Laboratory on the second floor of Temporary South of Folwell or the second floor of Temporary South of Coffey on the St. Paul Campus. Students must present a fee statement when checking out tapes. Rental costs are covered by the special fees paid with tuition.

Language laboratory hours are: Monday-Thursday, 8 a.m. - 8 p.m.; Friday, 8 a.m. - 6 p.m.; Saturday, 9 a.m. - 3 p.m.; closed Sunday.

The following non-language extension classes may be applied toward the CLA foreign language requirement, Route II [see page 57]: Hist 1-401, 1-402; Hist 3-401, 3-402; Hist 5-425; Mus 5-704, 5-705.

Span 1-101/1-102/1-103. BEGINNING SPANISH (old Span 1-2-3). 5 degree credits each quarter. \$70 plus \$3 laboratory fee each quarter. ★

Grammar, pronunciation, reading, and practice in speaking. See note above. (No prereq for 1-101; 1-101 or # for 1-102; 1-102 or # for 1-103)

Fall Quarter	Winter Quarter	Spring Quarter
1-101 TTh—6:00-8:05, FolH 109, Mantini	1-102 TTh—6:00-8:05, FolH 109, Mantini	1-103 TTh—6:00-8:05, FolH 109, Mantini

Span 1-104 INTERMEDIATE SPANISH (old Span 25). 4 degree credits. \$56. ★
Intensive review of grammar coupled with continued development of reading.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

comprehension, speaking, and writing skills, with an emphasis on active use of readings to build vocabulary and to model compositions. (Prereq 1-103 or 1-205 or #)

Fall Quarter

**MW—6:00-7:40, FolH 109,
Suris**

Span 1-105 INTERMEDIATE SPANISH (old Span 26). 4 degree credits. \$56. ★

Intensive review of grammar coupled with continued development of reading, comprehension, speaking, and writing skills, with an emphasis on active use of readings to build vocabulary and to model compositions. (Prereq 1-104 or #)

Winter Quarter

**MW—6:00-7:40, FolH 109,
Suris**

Span 1-201/1-202/1-203/1-204/1-205 BEGINNING SPANISH (old Span 1A-1B-2A-2B). 3 degree credits each quarter. \$42 plus \$3 laboratory fee each quarter.

Grammar, pronunciation, reading, and practice in speaking. See note above. (No prereq for 1-201; 1-201 or # for 1-202; 1-202 or # for 1-203; 1-203 or # for 1-204; 1-204 or # for 1-205)

Fall Quarter

**1-201 M—6:00-8:30,
FolH 110,
Estelle**

**1-204 W—6:00-8:30,
FolH 107,
Jones**

Winter Quarter

**1-202 M—6:00-8:30,
FolH 104,
Estelle**

**1-205 W—6:00-8:30,
FolH 107,
Jones**

Spring Quarter

**1-203 M—6:00-8:30,
FolH 110,
Estelle**

Span 3-014 SPANISH CONVERSATION AND COMPOSITION (old Span 55). 5 degree credits. \$70. ★

A course taught in Spanish and designed to improve the student's ability to write, speak, and comprehend. (Prereq 1-105 or #)

Spring Quarter

**MW—6:00-8:05, FolH 109,
Suris**

Span 5-414 DON QUIJOTE. 4 degree credits. \$60.

A course for reading the Spanish classic Don Quijote de la Mancha by Miguel de Cervantes in English. Class discussions will bring out the humor, pathos, and philosophy of Don Quijote as well as the style in which Cervantes wrote his masterpiece. (No prereq. May be applied toward the CLA foreign language requirement, Route II [see page 57]. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter

**W—6:00-8:30, FolH 103,
Jones**

Span 5-711 STRUCTURE OF MODERN SPANISH: PHONOLOGY (old Span 107). 4 degree credits.

To be offered 1973-74.

Span 5-712 STRUCTURE OF MODERN SPANISH: MORPHOLOGY (old Span 108). 4 degree credits.

To be offered 1973-74 and alternate years thereafter.

Span 5-713 STRUCTURE OF MODERN SPANISH: SYNTAX (old Span 109). 4 degree credits.

To be offered 1973-74 and alternate years thereafter.

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 one-quarter course,

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

0-221, specifically designed for students who desire only a reading knowledge of the language.

Span 0-221 SPANISH FOR GRADUATE STUDENTS (old Span 17A). No credit. \$42. ★

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—great skill can be acquired in a short time. At the end of the one 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 prereq)

Fall Quarter

W—6:20-8:50, FolH 104,
Estelle

Winter Quarter

W—6:20-8:50, FolH 104,
Estelle

Spring Quarter

W—6:20-8:50, FolH 104,
Estelle

Spanish 0-221 usually offered also as a Summer Extension Class.

Special Education

(See page 155)

Speech-Communication

(See also Communications [General College] page 132)

Leonard D. Bart, Associate Professor of Speech-Communication

Ernest G. Bormann, Professor of Speech-Communication

Bernard L. Brock, Associate Professor of Speech-Communication

Harold A. Miller, Associate Professor of Speech-Communication

Kenneth Newton, Instructor in Speech-Communication

David Rarick, Assistant Professor of Speech Communication

Donald Z. Woods, Professor of Speech-Communication

*Spch 0-001C **BEGINNING SPEECH-COMMUNICATION**. 3 certificate credits. \$42 plus \$5.50 special fee.

Designed particularly for the adult student who wants a practical application of speech-communication techniques to his professional business and social needs. Planned to develop confidence and effectiveness in day-to-day speaking situations. Individual attention is given to every student. Each student speaks before the class each meeting. A session before live television cameras is provided each student. (No prereq. Limited to 20 students)

Fall Quarter

M—6:20-8:50, NH 107,
Woods

Winter Quarter

M—6:20-8:50, NH 107,
Woods

Spring Quarter

M—6:20-8:50, NH 107,
Woods

Th—6:20-8:50, Rich HS 218,
Newton

*Spch 1-101 **FUNDAMENTALS OF SPEECH** (replaces Spch 1-301/1-302). 5 degree credits. \$70.

Development of basic understanding of speech processes. Examines nature of speech and speech skills; provides opportunities for individual speaking and evaluation. (No prereq. Each section limited to 25 students)

Fall Semester

T—6:20-8:35, FolH 307,
Bart

Spring Semester

M—6:20-8:35, FolH 306

Spch 3-201 **INTRODUCTION TO BROADCASTING PRODUCTION** (old Spch 65). 4 degree credits. \$56.

Fundamentals of practice and theory in radio and television. Emphasis on projects and exercises in performance and scripting; introduction to studio equipment and

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

procedures. Historical and sociological aspects of broadcasting. (Prereq 1-101 or 1-106 or 1-302)

Spring Quarter
W—6:20-8:50, Aero 313,
Bart

(For complete list of Mass Communications and related courses, see page 267)

***Spch 5-402 BREAKDOWN IN INTERPERSONAL COMMUNICATION** (old Spch 162). 4 degree credits. \$60.

A study of factors contributing to misunderstanding, not understanding, disagreement and cessation of contact in dyads. (Prereq 3-401 or \$. Limited to 25 students. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter

M—6:20-8:50, FolH 307, Rarick

(For complete list of Mass Communications and related courses, see page 267)

***Spch 5-411 SMALL GROUP COMMUNICATION** (old Spch 106). 5 degree credits. \$75.

Study of communication and dynamics within small, task-oriented group. Group cohesiveness, leadership, role structure, information processing, and decision-making. (Prereq 3-641 or \$. Limited to 30 students. Qualified students may register for graduate credit at the University of Minnesota)

Fall Semester

T—6:20-9:05, FolH 306, Bormann

Spch 5-431 THE PROCESS OF PERSUASION (old Spch 101). 4 degree credits. \$60.

Theories of modern motivational communication. Analysis of the process of social control through persuasive speech. (Prereq 1-101 or 1-302 or 1-105H, Psy 1-001, 10 cr in social science or \$. Qualified students may register for graduate credit at the University of Minnesota)

Spring Quarter
T—6:20-8:50, FolH 306,
Miller

Study Skills

(See also Communications [General College] page 132)

Warren Y. Gore, Instructor in Rhetoric

James R. Holloway, Assistant Professor of Rhetoric

Richard O. Horberg, Assistant Professor of Rhetoric

Susan Johnson, Instructor, Student Counseling Bureau

Alex Kurak, Associate Professor, General College

William M. Marchand, Associate Professor of Rhetoric

Thomas E. Pearsall, Professor of Rhetoric

Starling W. Price, Associate Professor of Rhetoric

Dorothy L. Sheldon, Associate Professor, General College

David M. Wark, Associate Professor, Student Counseling Bureau

John F. White, Instructor in Rhetoric

***SSk 0-001C VOCABULARY BUILDING: HOW TO EXPAND YOUR WORD POWER.** 3 certificate credits. \$42. ★

A class designed to extend the range and increase the quality of one's vocabulary and to benefit one's intellectual development. Students master 150 word elements which furnish a basis for the analysis and formation of thousands of English words. Among the additional instructional techniques that may be used are dictionary study, programmed learning sequences, readings in context and tape recordings. Materials are arranged to accommodate persons at any vocabulary

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

level, and provision is made for each student to progress at his own rate. (No prereq. This course may, by petition, be used on a degree program in General College. Limited to 45 students)

Fall Quarter	Winter Quarter	Spring Quarter
W—6:20-8:50, NH 216, Sheldon	M—6:20-8:50, NH 216, Kurak	T—7:00-9:30, Kel HS 219, Kurak

***PO 1-001 HOW TO STUDY** (old PO 1). 2 degree credits. (Credits do not count toward a B.A. degree; however, grades are included in the over-all grade point average.) \$42 plus \$2 materials fee. ★

Practical assistance to the student in developing efficient study habits, organizing materials, preparing for examinations, and improving the speed and comprehension of reading. Diagnosis and practice in basic skill areas such as reading, spelling, vocabulary and elementary composition are also provided. (No prereq. Limited to 25 students)

Fall Semester

M—6:20-8:00, EdH 102, Wark

Spring Semester

M—6:20-8:00, Jones 1, Wark

Fall Quarter

M—7:00-9:30, Rich HS 212,
Johnson

Spring Quarter

W—6:30-9:00, Harding HS
133, Johnson

***Rhet 1-147 EFFICIENT READING** (old Rhet 47). 3 degree credits in Business Administration, General College, the Institute of Technology, and Agriculture. \$42 plus \$2 materials fee. ★

Designed for students, business, or professional people of average or above-average reading ability who wish to improve their reading speed and comprehension. Emphasizes reading techniques useful in achieving or maintaining scholastic or professional status. A suggested follow-up for PO 1-001, How to Study. (No prereq. Limited to 30 students)

Fall Quarter	Winter Quarter	Spring Quarter
M—6:20-8:50, ForH 115, Price	M—6:20-8:50, ForH 115, Price	M—6:20-8:50, ForH 115, Price
T—6:20-8:50, ForH 115, Horberg	W—6:20-8:50, ForH 115, Horberg	T—6:20-8:50, ForH 115, Pearsall
W—7:00-9:30, Rich HS 212, Holloway	W—7:00-9:30, Sand JHS 209, Holloway	W—6:30-9:00, Harding HS 118, Marchand
W—6:30-9:00, Harding HS 118, Marchand	Th—7:00-9:30, Kel HS 229, Marchand	
S—9:30 a.m.-12:00, ForH 115, Gore		

Rhet 1-225 PARLIAMENTARY PROCEDURE. 1 degree credit plus 1 certificate credit.
To be offered 1973-74.

Swahili

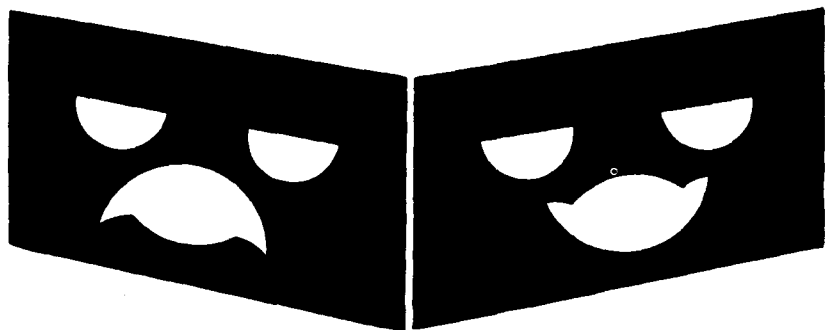
The following non-language extension classes may be applied toward the CLA foreign language requirement, Route II [see page 57]: Hist 1-431, 1-432, 1-433; Hist 3-431, 3-432, 3-433.

Swedish

(See Scandinavian Languages)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.



Theatre Arts

(See also "Credit Courses in London", page 259)

Arthur H. Ballet, Professor of Theatre Arts
Mary Corrigan, Instructor in Theatre Arts
Louis Dezseran, Assistant Professor of Theatre Arts
David Feldshuh, Instructor in Theatre Arts
Charles Nolte, Associate Professor of Theatre Arts
Richard Seifert, Instructor in Theatre Arts
Mary Elin Wright, Instructor in Theatre Arts

Th 1-101 INTRODUCTION TO THE THEATRE (old Th 11). 4 degree credits. \$56.

An orientation in the great dramatic tradition through a consideration of plays and playwrights from Sophocles to Tennessee Williams. It covers the history of the 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 prereq)

Fall Quarter

T—6:20-8:50, SciCB 175,
Ballet

Spring Quarter

T—6:20-8:50, SciCB 175,
Ballet

*Th 1-321 BEGINNING ACTING: CREATIVE APPROACH (old Th 21). 4 degree credits. \$56.

Creation and presentation of original scenes and exercises. Ability to respond to the imaginative situation with individuality and effectiveness stressed. (Prereq 1-504 or ¶1-504. Limited to 24 students)

Fall Quarter

W—6:15-9:00, ScH 19,
Dezseran

Spring Quarter

W—6:15-9:00, ScH 19,
Dezseran

Th 1-328 MIME AND THE ACTOR (old Th 25). 2 degree credits. \$28.

The basic techniques and the domain of Mime discussed and explored through class participation. (Prereq 1-321 or §)

Fall Quarter

M—4:00-6:20, WeH 302,
Dezseran

Winter Quarter

S—9:00 a.m.-11:30, WeH 302,
Feldshuh

Spring Quarter

M—4:00-6:20, WeH 302,
Dezseran

Th 1-504 ELEMENTS OF TECHNICAL THEATRE. 4 degree credits. \$56.

The practice of the arts and crafts of the theatre; scenery and particularly construction and painting, stage operation, theatre lighting, costumes, or make-up. (Prereq 1-101 or ¶1-101. Further sessions will be scheduled at first class meeting)

Fall Quarter

Th—6:20-10:30, A Annex 53,
Seifert

Winter Quarter

Th—6:20-10:30, A Annex 53,
Seifert

Spring Quarter

Th—6:20-10:30, A Annex 53,
Seifert

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Th 3-311 VOICE PRODUCTION FOR THE THEATRE (old Th 118). 4 degree credits. \$56.

Physical exercises designed to free the human voice from unnecessary inhibitions and tensions. Work on prose, poetry and drama. Vocal exercises with piano. Required attendance at taped listening sessions. (Prereq 1-321 or #)

Fall Quarter

T—7:00-9:15, WeH 302,
Corrigan

Th 3-321 ADVANCED ACTING (old Th 61). 4 degree credits. \$56.

Presentation of scenes from great plays. (Prereq 1-321 or 1-326)

Winter Quarter

S—9:15 a.m.-12:00, ScH 19,
Dezseran

***Th 5-131 CREATIVE DRAMATICS** (old Th 131). 4 degree credits. \$60 plus \$2 materials fee.

This course will introduce elementary school classroom teachers to the principles and methods of developing original dramatizations with children and how these activities may be integrated as an essential part of the language arts and/or social studies curriculum. Class work will involve observations of children's classes in creative dramatics, readings, projects, term papers. (Prereq elem school teacher, 1-101 or #. Limited to 25 students. Qualified students interested in graduate credit should inquire at time of registration)

Fall Quarter

Th—4:00-7:30, Lauderdale School,
1795 Eustis, St. Paul

Spring Quarter

Th—4:00-7:30, Robbinsdale
School District, Wright
(For information call
373-4947)

TH 5-177 THEATRE BACKGROUNDS (old Th 177). 4 degree credits. \$60.

Selective examination of plays as part of the living theatre. Chronological, comparative study of development of theatrical elements in the drama from its origins through the 18th century. (Prereq #. Qualified students interested in graduate credit should inquire at time of registration)

Spring Quarter

W—6:20-9:40, WeH 306

Transportation

(See Management and Transportation)

Urban Affairs

For information on non-credit conferences or workshops in urban affairs, please contact William C. Rogers, 3300 University Ave. S.E.; telephone 373-3709.

Veterinary Medicine

James O. Hanson, Director of Veterinary Medicine Continuing Education

George W. Mather, Professor of Veterinary Medicine

VM 1-100 CARE, MANAGEMENT, SHOWING, AND DISEASES OF HORSES (old VMC 1). 3 degree credits. \$42.

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 prereq)

Special Term

(January 4 to April 26)

Th—7:30-9:30, VetC, StP Campus,
Hanson and Mather (coordinators)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Vocabulary Building

(See Study Skills)

World Affairs

For information on non-credit conferences or workshops in world affairs, please contact William C. Rogers, 3300 University Ave. S.E.; telephone 373-3709.

Community Programs

Continuing Education and Extension, in cooperation with various communities in the Twin Cities area, offers community-located degree credit programs designed to meet the needs and interests of the community residents. Tuition for these programs is based on the student's ability to pay.

Counselors are available in the classrooms to aid students in planning their educations; or they may be reached at 373-3905.

Community programs are currently under way in two Minneapolis areas—North Minneapolis and the Glendale Housing Development; and two St. Paul areas—Summit-University and West Seventh Street.

For information on community programs and services, call 376-7401.

Continuing Education for Women

Clarke A. Chambers, Professor of History

John D. Hurrell, Professor of English and Theatre Arts

John Modell, Assistant Professor of History

William Rosendahl, Professor of English

Joel Samaha, Associate Professor of Criminal-Justice Studies

The following courses are designed for adults who may find daytime classes convenient. Registration is only through the Department of Continuing Education for Women. For complete information about all courses, call 373-9743, or write to Women's Programs, 200 Wesbrook Hall, University of Minnesota, Minneapolis, Minnesota 55455.

LIBERAL ARTS SEMINARS

*AmSt 5-201/5-202/5-203† **WOMAN IN AMERICA.** 9 degree credits for the three quarters. \$45 per quarter plus \$10 special fee. Fall, Winter, and Spring Quarters.

The place of women in American life from early days to the present. Readings from historical documents, literature, psychology, and sociology. (Prereq advance application. Limited to 30 students. Qualified students may register for graduate credit at the University of Minnesota. Instructor: Chambers)

(For complete list of Human Relations and Minority Issues courses, see page 265)

*AmSt 5-401/5-402/5-403† **IDEAS IN AMERICA.** 9 degree credits for the three quarters. \$45 per quarter plus \$10 special fee. Fall, Winter, and Spring Quarters.

Basic American beliefs conditioning our current thought examined in historical context. (Prereq advance application. Limited to 30 students. Qualified students may register for graduate credit at the University of Minnesota) Instructor: Chambers

(See also American Studies)

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

*Engl 5-641/5-642/5-643† **ARTS OF READING.** 9 degree credits for the three quarters. \$45 per quarter plus \$10 special fee. Fall, Winter, and Spring Quarters.

Reading and criticism, relation of language to literature. Novels, poetry, drama. (Prereq advance application. Limited to 30 students. Qualified students may register for graduate credit at the University of Minnesota) Instructor: Rosendahl

(See also English)

*Hist 5-027/5-028/5-029† **ANALYSIS OF CULTURAL CHANGE.** 9 degree credits for the three quarters. \$45 per quarter plus \$10 special fee.

Study of major historical changes, focusing on culture. Faculty will include guest lecturers from various departments. (Prereq advance application. Limited to 30 students. Qualified students may register for graduate credit at the University of Minnesota) Instructor: Modell

(See also History)

*Hum 5-021/5-022/5-023† **NEW WORLDS OF KNOWLEDGE.** 9 degree credits for the three quarters. \$45 per quarter plus \$10 special fee. Fall, Winter, and Spring Quarters.

Developments in recent years in the sciences, music, art and literature with emphasis on common problems and unifying concepts. Faculty members from various departments. (Prereq advance application. Limited to 30 students. Qualified students interested in graduate credit should inquire at time of registration) Instructor: Hurrell

(See also Humanities)

radio

Hum 5-021/5-202 NEW WORLDS OF KNOWLEDGE. 6 degree credits for the two quarters. \$45 per quarter plus \$10 special fee.

Developments in recent years in the sciences, social sciences, music, art, and literature with emphasis on common problems and unifying concepts. The course will explore some expansions of knowledge in astronomy, archaeology, human genetics, modern literature, anthropology, psychology, molecular architecture, the shape of the city, forms of music, art and language, the future of Europe, ecology, and behavior modifications. The course is an adaptation of Women's Programs' New Worlds seminar. (Prereq advance application. Registrations accepted beginning September 5)

Fall Quarter

(Sept 25-Dec 8)

MWF—11:15 a.m.-12:00,

KUOM (770 kc), Hurrell

Winter Quarter

(Jan 8-March 16)

MWF—11:15 a.m.-12:00,

KUOM (770 kc), Hurrell

(For complete list of Radio and Television courses, see page 261)

*SSci 3-601/3-602† **LAW AND SOCIETY.** 8 degree credits for the two quarters. \$56 per quarter plus \$10 special materials fee. Fall and Winter Quarters.

The nature of legal rules and processes, the court system, law and mass media, the police, prison systems, regulatory agencies, law and social change will be among the topics discussed. Visits to the court and reports on local agencies. Guest lecturers from several departments. (Prereq advance application. Limited to 30 students) Instructor: Samaha

(See also Social Science)

(See Special Issues courses, page 268)

Seminars carrying 3 credits generally meet bi-weekly.

Seminars are limited in enrollment. Advance application should be made as early as possible.

Also offered are quarter credit courses meeting one morning a week, non-credit workshops, short courses, and neighborhood seminars. Credit courses offered in American Studies, Anthropology, Art History, Child Psychology, English, French,

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

History, Humanities, Psychology, Sociology, and Spanish. The majority of courses are held at MacPhail Center. For complete information call 373-9743, or write to Women's Programs, 200 Wesbrook Hall, University of Minnesota, Minneapolis, Minnesota 55455.

Credit Courses in London

Continuing Education and Extension will offer credit courses in London during the spring and summer of 1973. Undergraduates with sophomore standing may take 16 credit hours of courses in the social sciences and humanities. All courses will be taught by University of Minnesota faculty.

DATES:

Spring Session—March 29-June 14, 1973
Summer Session—June 22-August 30, 1973

COSTS:

Costs include: hotel and breakfast for the ten-week period; University of Minnesota tuition for 16 hours credit; an overseas credit fee; activities fee; and round-trip air travel from Minneapolis-St. Paul. The total estimated cost \$1,450 (subject to change).

Lunch and dinner is provided for \$2.00 per day for those wishing all their meals at the hotel. Spending money can be estimated at \$20 per week, and books and course materials will be around \$30.00.

ENROLLMENT DEADLINE:

Enrollment deadline for Spring is December 15, 1972; and for Summer, March 15, 1973. Each session is limited to 40 students. Registration must be made at the World Affairs Center, 3300 University Ave.

FOR FURTHER INFORMATION:

Call the World Affairs Center, 373-3709.

COURSE OFFERINGS:

Engl 1-020 INTRODUCTION TO LITERATURE: TOPICS. 4 degree credits.* No prereq. Spring Session.

Study of the lyric poem in English literature from 17th Century to the present. Students may choose a particular subject to study, in addition to the required reading list. Many resources available. For instance, if William Blake is read, students can see his drawings at The Tate Gallery; if Donne's love poetry or divine poems are read, students can visit Lincoln's Inn Court and St. Paul's Cathedral where he spent much of his time. Instructor: to be assigned.

Engl 3-242 SHAKESPEARE. 4 degree credits.* No prereq. Spring Session.

Focus on *Macbeth*, *Anthony and Cleopatra*, *King Lear*, *Othello*, and *The Tempest*. Visits to Stratford and the British Museum, containing early editions of Shakespeare's plays. Instructor: to be assigned.

(See also English)

*Arrangements for extra credit for independent study may be made.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.

Hist 3-801 THE COLONIAL PERIOD OF AMERICAN HISTORY. 4 degree credits.* No prereq. Spring Session.

Focus on the English background to colonization, the motives for emigration, and examination of the Puritan colonies to about 1689. Instructor: Associate Professor Peter Carroll.

Hist 5-379 PROBLEMS IN COLONIAL AMERICAN HISTORY. 4 degree credits.* Prereq Hist 3-801, 3-802 or §. Spring Session.

"Provincialism" in the Atlantic community of the 18th century. Examination of American attitudes toward England and English attitudes toward the colonies in the decades before the war for independence. Qualified students may register for graduate credit at the University of Minnesota. Instructor: Associate Professor Peter Carroll.

(See also History)

Soc 1-001 MAN IN SOCIETY: AN INTRODUCTION TO SOCIOLOGY. 4 degree credits.* No prereq. Summer Session.

The course will cover, among other things: the nature of culture; socialization and the development of the self; how institutions work; class structures; conflict and change. Students living in England will have first-hand opportunity to compare English and American societies. Instructor: Professor Caroline Rose.

Soc 5-954 WOMEN AND MEN IN WESTERN SOCIETIES TODAY. 4 degree credits.* Prereq 1-001 or ¶ 1-001. Summer Session.

Social change in women's and men's roles and how this change affects other institutions in the society. Study of the changes in women's status now going on in England and comparison with the similar movement in the United States. Qualified students may register for graduate credit at the University of Minnesota. Instructor: Professor Caroline Rose.

(See also Sociology)

Th 1-102 THE LONDON THEATRE FROM THE RESTORATION TO DATE. 4 degree credits.* No prereq. Summer Session.

Theatre architecture, staging practices, acting styles, and the great performers and representative plays from 1660. Representative plays will be required reading; projects and reports. Class visits to the British Museum, the Victoria and Albert Museum (with rare theatrical collections), and some of the London theatres. Instructor: Associate Professor Charles Nolte.

Th 5-173 PLAYS, ARTS, AND CRAFTS OF THE THEATRE FROM THEIR BEGINNING TO PRESENT. 4 degree credits.* Prereq 1-100 or §. Summer Session.

Deals with the late 19th and 20th century theatre in Western Europe, including study of Ibsen, Strindberg, Chekhov, Shaw, Pirandello, Brecht, Beckett, Genet, Anouilh, Pinter, and Osborne. Traces the decline of romanticism, the rise and decline of realism, expressionism, surrealism, theatre of the absurd, theatre of journalism, and other current modes in playwriting and production. Also includes discussion of the physical theatre: changes in architecture, the rise and importance of the thrust stage, changing acting styles, and the great acting companies. Qualified students may register for graduate credit at the University of Minnesota. Instructor: Associate Professor Charles Nolte.

(See also Theatre Arts)

For more detailed course descriptions and biographical information on instructors, write or call: World Affairs Center, 3300 University Avenue S.E., Minneapolis, Minnesota 55414; telephone 373-3709.

*Arrangements for extra credit for independent study may be made.

See symbols, pages 36-37.

See building abbreviations, page 92; see department abbreviations, page 93.



RADIO AND TELEVISION COURSES

Tune In—to a University of Minnesota radio or television course. You can earn degree credits for course work right in your own home. For complete information on content, course requirements, and times, see the individual departmental listings.

THE KING JAMES BIBLE AS LITERATURE. Engl 3-251. (A Channel 2 television course; see English)

NEW WORLDS OF KNOWLEDGE. Hum 5-021/5-022. (A KUOM radio course; see Continuing Education for Women, page 257)

ECOLOGY, TECHNOLOGY AND SOCIETY. SSci 3-402/3-403. (A Channel 2 television course; see Social Science)

PREPARING CHILDREN FOR THE 21ST CENTURY. FSoS 3-970. (A Channel 2 television course; see Family Social Science)

environmental courses

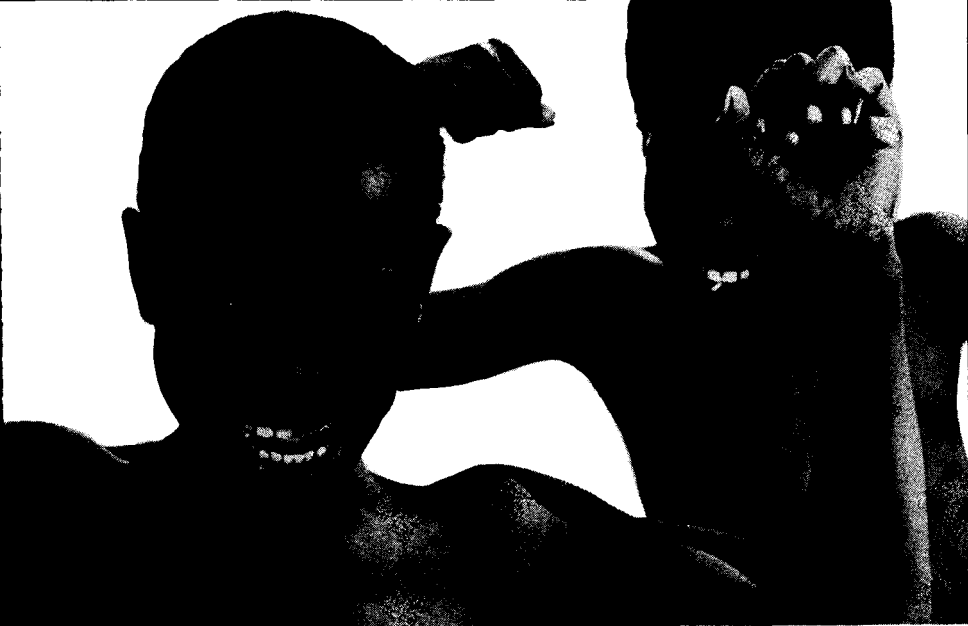
Courses about the problems . . . the solutions . . . the enjoyment of our environment. See departmental listings for each course description.

- AMERICAN LIFE. AmSt 1-103, 3-113.
ECOLOGY AND MAN. Biol 1-104.
BIOLOGY AND THE FUTURE OF MAN. Biol 3-051.
BUSINESS AND THE NATURAL ENVIRONMENT. BA 3-200.
INTRODUCTION TO ENVIRONMENTAL ENGINEERING. CE 3-500.
ANALYSIS AND DESIGN OF WATER SUPPLY SYSTEMS. CE 5-500.
ANALYSIS AND DESIGN OF WASTE WATER SYSTEMS. CE 5-501.
INTRODUCTION TO ECOLOGY. Ecol 3-001.
SCIENCE, TECHNOLOGY AND ECONOMIC GROWTH. Econ 3-655.
INTERPRETATION AND MANAGEMENT OF FOREST ENVIRONMENTS. FRD 5-402.
MAN AND HIS ENVIRONMENT. GC 1-112 (Natural Science).
HUMAN GEOGRAPHY. Geog 1-301.
ECONOMIC GEOGRAPHY I: INTRODUCTORY. Geog 1-311.
URBAN GEOGRAPHY. Geog 3-371.
GEOLOGY AND MAN. Geo 1-008.
FUNDAMENTALS OF HORTICULTURE. Hort 1-001.
HOME LANDSCAPE GARDENING AND DESIGN. Hort 1-010.
PLANT MATERIALS I. Hort 1-021.
RESIDENTIAL LANDSCAPE DESIGN. Hort 1-026.
PLANT PROPAGATION. Hort 1-036.
ARBORICULTURE. Hort 3-076.
HORTICULTURAL TECHNIQUES FOR EDUCATION MAJORS. Hort 5-020.
PERSONAL AND COMMUNITY HEALTH. PubH 3-001.
ENVIRONMENTAL HEALTH. PubH 5-151.
ENVIRONMENTAL MICROBIOLOGY. PubH 5-171.
INTRODUCTION TO AIR POLLUTION PROBLEMS. PubH 5-181.
AIR POLLUTION CONTROLS AND SURVEYS. PubH 5-182.
INDUSTRIAL HYGIENE ENGINEERING. PubH 5-211.
VENTILATION CONTROL OF ENVIRONMENTAL HAZARDS. PubH 5-212.
ENVIRONMENTAL HEALTH ASPECTS OF WATER SUPPLY. PubH 5-241.
ENVIRONMENTAL ASPECTS OF LIQUID WASTE DISPOSAL. PubH 5-244.
ECOLOGY, TECHNOLOGY, AND SOCIETY. SScl 3-402. (Channel 2 TV course)

Religion Courses

The increased interest in religion is part of a search for knowledge that will help people better understand themselves by learning about others. Courses relating to religion deal with history . . . effects on society and the individual . . . and occasional conflicts between science and religion. See departmental listings for each course description.

- AMERICAN LIFE. AmSt 1-102, 3-112.
GREEK AND ROMAN MYTHOLOGY. Clas
1-045, 5-145.
RELIGION IN ANTIQUITY: BEGINNINGS OF
CHRISTIANITY. Clas 3-072, 5-072.
THE KING JAMES BIBLE AS LITERATURE.
Engl 3-251. (Channel 2 TV course)
MAN'S RELIGIOUS BELIEFS. GC 1-357 (Hu-
manities).
ANCIENT ISRAEL. Hist 3-591, 3-592, 3-593.
(Meets concurrently with THE BACK-
GROUND OF THE BIBLE, Heb 1-501, 1-502,
1-503, and 3-501, 3-502, 3-503)
HUMANITIES IN THE MODERN WORLD III.
Hum 1-003, 3-003.
ROMAN AND MEDIEVAL HERITAGE. Hum
1-012.
PROSEMINAR: APPROACHES TO THE HUMAN
SELF I, II, III. Hum 5-030.
PAGAN MYTHS AND THE BIBLE. Heb 1-504.
SCIENCE AND RELIGION. Phil 1-011.
HISTORY OF WESTERN PHILOSOPHY. Phil
3-002.
PSYCHOLOGY AND RELIGION. Psy 1-911.
RELIGION AS A SOCIAL INSTITUTION. Soc
5-151.



David K. Coats

human relations and minority issues courses

**Both culture and history courses on a variety of human relations topics.
See departmental listings for course descriptions.**

- BLACK PROTEST FROM COLONIAL TIMES TO PRESENT. Afro 1-015.
- PERSONALITY OF BLACK PEOPLES. Afro 1-025.
- LANGUAGE ARTS FROM A BLACK PERSPECTIVE. Afro 1-101.
- AFRO-AMERICAN HISTORY AND CULTURE. Afro 1-441, 1-442.
- BLACK FAMILY. Afro 3-061/3-062.
- BLACK MUSIC PRIOR TO WORLD WAR I. Afro 3-105.
- LAW AND SOCIETY—A MINORITY POINT OF VIEW. Afro 5-001.
- BEGINNING CONVERSATIONAL OJIBWE. AmIn 1-021.
- AMERICAN INDIANS IN THE MODERN WORLD. AmIn 3-061.
- AMERICAN LIFE. AmSt 1-103, 3-113.
- WOMAN IN AMERICA. AmSt 5-201/5-202/5-203. (See page 257)
- BLACK WRITERS OF THE UNITED STATES. Engl 5-593.
- HUMAN SERVICES: SPECIAL TOPICS. GC 1-628 (Social Studies).
- TOPICS IN AMERICAN HISTORY: THE ETHNIC FACTOR IN AMERICAN HISTORY. Hist 1-310.
- SURVEY OF LATIN AMERICAN HISTORY. Hist 1-401, 1-402, 3-401, 3-402.
- HISTORY OF AMERICA. Hist 1-431, 1-432, 1-433; Hist 3-431, 3-432, 3-433.
- HISTORY OF MEXICO. Hist 5-425.
- HUMAN RELATIONS AND APPLIED ORGANIZATION THEORY. IR 3-010.
- LATIN AMERICAN MUSIC. Mus 5-704, 5-705.
- MINORITY GROUP RELATIONS. Soc 5-951.

COMPUTER COURSES

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**. . . courses for programmers or beginning systems analysts . . .
courses for persons interested in entering the data processing field
. . . and courses for those who desire a working knowledge of com-
puters to help them in their jobs. For complete course information
see each departmental listing.**

INTRODUCTION TO DATA PROCESSING. GC 1-535 (Business Studies).

INTRODUCTION TO BLOCK DIAGRAMMING AND PROGRAMMING. GC 1-572
(Business Studies).

COMPUTER, INFORMATION, AND CONTROL SCIENCES. All courses.

MANAGEMENT INFORMATION SYSTEMS. All Courses.

INTRODUCTION TO MANAGEMENT SCIENCES. OAM 3-055.

APPLICATIONS OF ANALYTICAL METHODS AND COMPUTERS IN OPERATIONS
ANALYSIS AND MANAGEMENT. OAM 5-056.

ELEMENTARY MANAGERIAL STATISTICS. QA 1-050.

COMPUTER PROGRAMMING. PsyF 5-330.

MASS COMMUNICATIONS AND RELATED COURSES

Find your medium . . . whether it's commercial art, journalism, photography, advertising, or filmmaking. See departmental listings for complete course information.

- INTAGLIO. ArtS 1-510, 3-510, 5-510.
PHOTOGRAPHY. ArtS 1-701.
COMMERCIAL DRAWING I, II. ArtS 3-114, 3-115.
COMMERCIAL ART MEDIA. ArtS 3-116.
INTRODUCTION TO ART OF FILMMAKING. ArtS 3-701.
INTERMEDIATE PHOTOGRAPHY. ArtS 3-710.
COLOR PHOTOGRAPHY I, II. Phot 0-001C, 0-002C.
INTRODUCTION TO COMMERCIAL ART. GC 1-536 (Business Studies).
LITERATURE—FILM. GC 1-374 (Humanities).
MARKETING: SALES PROMOTION. GC 1-552 (Business Studies).
INTRODUCTION TO MASS COMMUNICATIONS. Jour 1-001.
VISUAL COMMUNICATION. Jour 1-005.
PRINCIPLES OF ADVERTISING. Jour 1-201.
MAGAZINE WRITING. Jour 3-173.
GRAPHIC ARTS: PROCESSES. Jour 3-221.
DESIGN AND TYPOGRAPHY: ADVERTISING AND PUBLICATIONS. Jour 3-231.
PUBLICATION DESIGN WORKSHOP. Jour 5-233.
COMMUNICATION AND PUBLIC OPINION. Jour 5-501.
INTRODUCTION TO BROADCASTING PRODUCTION. Spch 3-201.
THE PROCESS OF PERSUASION. Spch 5-431.
ADVERTISING AND SALES PROMOTION. Mktg 3-077.
PSYCHOLOGY OF ADVERTISING. Psy 5-751.





**72-73
issues**

Whether taken for degree or certificate requirements, career advancement, or personal enrichment, these 'issues' courses provide current information on subjects of national importance. See departmental listings for each course description.

COMMON LEGAL PROBLEMS. BLaw 0-001C.

CRIMINAL PROCEDURES. CJS 5-102.

THE LAW IN SOCIETY. GC 1-235 (Business Studies).

ELEMENTS OF CRIMINOLOGY. Soc 3-101.

DELINQUENT BEHAVIOR. Soc. 5-141.

**MODERN AGENCIES FOR CONTROL OF JUVENILE
DELINQUENCY. Soc 5-145.**

**LAW AND SOCIETY. SSci 3-601/3-602† (See Continuing
Education for Women, page 257)**

**ORGANIZED LABOR AND THE POLITICAL PROCESS.
IR 0-006C.**

AMERICAN GOVERNMENT AND POLITICS. Pol 1-001.

WORLD POLITICS. Pol 1-025.

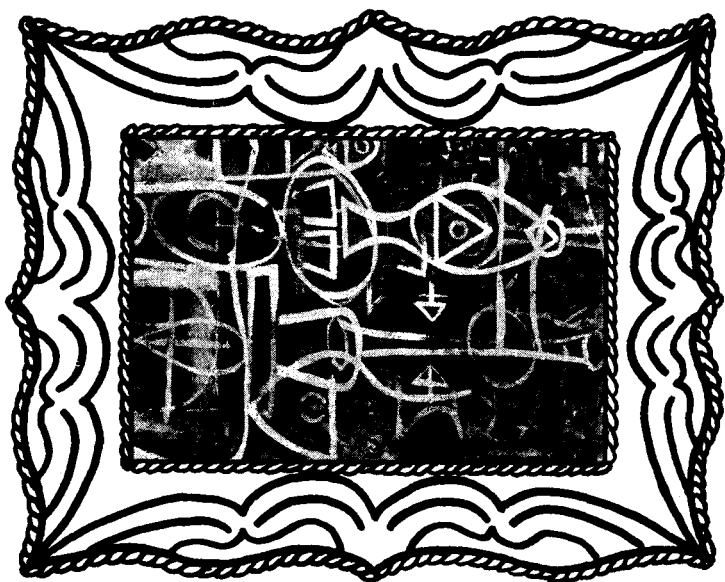
AMERICAN FOREIGN POLICY. Pol 1-026.

AMERICAN PUBLIC POLICY. Pol 1-031.

INTRODUCTION TO POLITICAL ANALYSIS. Pol 1-051.

GOVERNMENT AND POLITICS OF SOUTH ASIA. Pol 5-446.
PROBLEMS OF DEMOCRACY. Pol 5-661.
POLITICAL PARTIES. Pol 5-737.
POLITICAL CAMPAIGNS AND ELECTIONS. Pol 5-738.
POLITICAL DEVELOPMENT. Pol 5-773.
BUSINESS AND SOCIETY. BA 3-002.
SOCIAL CONCERNS OF BUSINESS. BA 3-100.
LABOR ECONOMICS. Econ 3-501 and 3-551.
LABOR MARKET BEHAVIOR AND REGULATION.
Econ 5-537.
GOVERNMENT AND BUSINESS. Mgmt 3-005.
INTERIOR DESIGN: HOUSING, DYNAMICS AND
POLICY. ArtS 3-135.
INTERIOR DESIGN: HOUSING AND THE URBAN
ENVIRONMENT. ArtS 3-136.
INTERCULTURAL EDUCATION THROUGH ART.
ArEd 5-316.
DANCE THERAPY. PE 3-181.
FUNDAMENTAL ASPECTS OF DRUG ABUSE AND
DEPENDENCY. PubH 3-030.
THE DISEASE PROCESS AND SOCIAL IMPLICATIONS
OF DRUG DEPENDENCY. PubH 3-031.
COUNSELING THE ALCOHOLIC AND OTHER DRUG
DEPENDENT PERSONS. PubH 3-032.
FUNDAMENTALS OF ALCOHOL AND DRUG USE.
PubH 3-033.
TOPICS IN ALCOHOL AND DRUG USE. PubH 3-034, 5-034.
INTERNSHIP IN ALCOHOL AND DRUG USE. PubH 3-035.
GROUP COUNSELING TECHNIQUES RELATED TO
CHEMICAL DEPENDENCY TREATMENT. PubH 5-036.
CONTEMPORARY PROBLEMS IN HISTORICAL
PERSPECTIVES. Hist 3-200.
MAN AND HIS SOCIETY: HIS PERSONAL ROLE.
GC 1-211 (Social Studies).
CURRENT DEVELOPMENT IN NUTRITION. HE 5-381.
FAMILY LIFE AND SEX EDUCATION IN ELEMENTARY
SCHOOLS. Hlth 5-350.
DYNAMICS OF DATING, COURTSHIP AND MARRIAGE.
FSoS 1-001.
DYNAMICS OF MARRIAGE AND PARENTHOOD.
FSoS 1-002.
PARENTHOOD. FSoS 1-025.
HUMAN SEXUAL BEHAVIOR. FSoS 5-001.
PREPARING CHILDREN FOR THE 21ST CENTURY.
FSoS 3-970.

If You Don't Know What It Is, Is It Necessarily Bad Art?



Can Andy Warhol really paint?

Why did Van Gogh paint blue and green beards?

Are beauty or story-telling criteria for art?

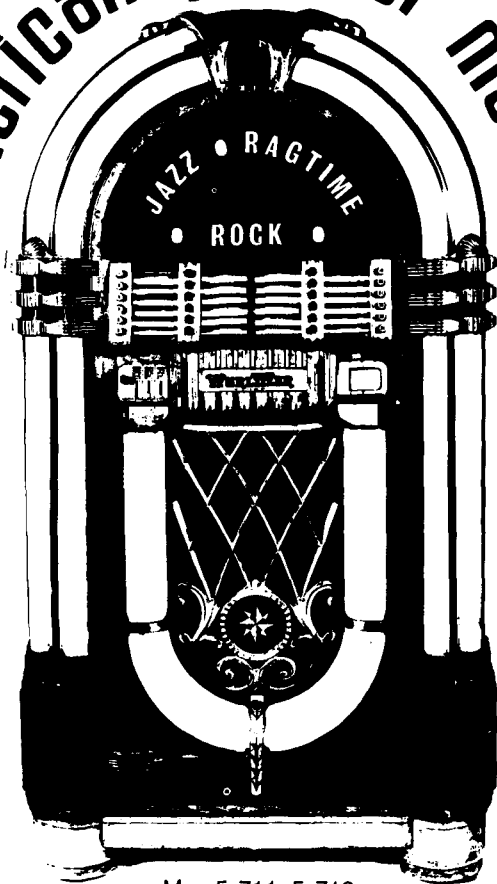
What themes traditionally have been reproduced by artists?

How is art a reflection of its society?

What is art?

Find out in ArtH 1-001, Introduction to the Visual Arts . . . a course that shows you how to look at art and answer your own questions. In addition to discussing major problems, ideas, and theories of art, students will get some "first-hand" viewing experience at the Minneapolis Institute of Art. See Art History for complete course information.

American popular music



Mus 5-711, 5-712

Scott Joplin . . . Jefferson Airplane . . .

Duke Ellington . . . Woody Guthrie . . . Jelly Roll

Moulton . . . the Beatles . . . Louie Armstrong . . . Dave

Brubeck . . . Bob Dylan . . . the Doors . . . and Elvis Presley . . .

a few of the musicians studied in a new Music course that emphasizes the people, rather than the history—their sounds, their messages, their times.

All music—ragtime, jazz, rock, and protest—will be demonstrated live, and with recordings. Students can write a paper on the subject of their choice, or perform before the class.

Mus 5-711, 5-712 is taught by Professor Johannes Riedel, co-author of *The Art of Ragtime*, published by Louisiana State University Press. See Music for further course information.



So You Think You Have Problems?

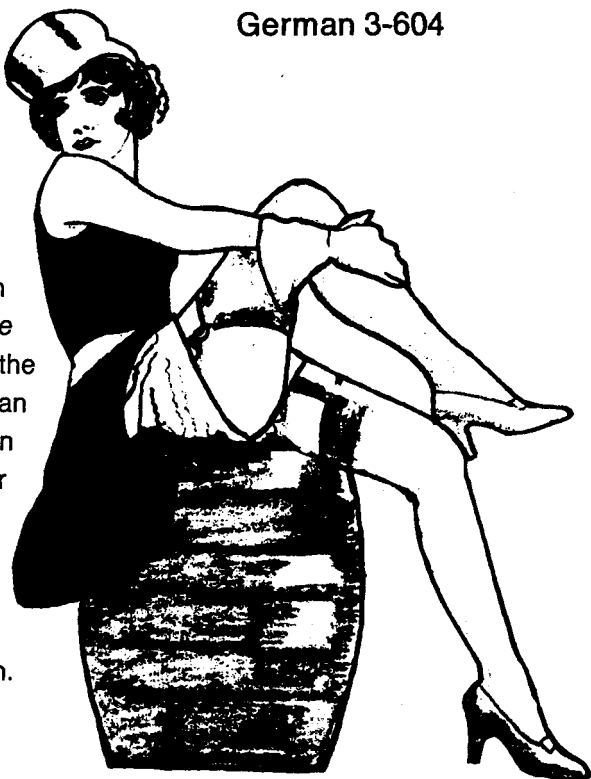
Society's problems belong to everybody. Business men and women are recognizing their roles in helping to solve complex problems like: poor and minority employment; inner-city decay; preservation of the environment; technology and the military-industrial complex; business ethics and personal values; and legislative issues. In BA 3-100, *Social Concerns of Business*, students are discussing controversial problems, and developing their own philosophies in order to deal with them. For further course information, see listing for Business Administration courses.

German Literature in Translation and the Film

German 3-604

The "classic" German films and literature through recent *avant-garde* innovations supply the course content for an unusual German course, offered for the first time in Extension Classes.

See German course listing for further information.



FILMS

The Cabinet of Dr. Caligari
Nosferatu
Warning Shadows
The Last Laugh
Spies
Uberfall
The Blue Angel
"M"
The Threepenny Opera
Fahrman Maria
The Rest is Silence
The Confessions of Felix Krull
Aren't We Wonderful
I Love You, I Kill You
Marat Sade

LITERATURE

Hoffman: The Sandman
Mann: Death in Venice
Mann: The Confessions of Felix Krull
Hauptmann: The Heretic of Soana
Hesse: Steppenwolf
Kafka: The Metamorphosis
Kafka: The Judgment
Brecht: The Threepenny Opera
Durrenmatt: The Visit
Grass: Cat and Mouse
Weiss: Marat Sade



Need to Improve Your Study Skills?

Drop in at the Study Skills Center, 113 Eddy Hall, and counselors will diagnose reading and writing difficulties and help plan an effective program to improve your communications skills. This is a free service available to all registered Extension students. Hours are 5 to 8 p.m., Wednesday and Thursday.

Also, see list below of communications skills courses which may be of help:

- PO 1-001 HOW TO STUDY (See Study Skills)
- SSk 0-001C VOCABULARY BUILDING: HOW TO EXPAND YOUR WORD POWER (See Study Skills)
 - Rhet 1-147 EFFICIENT READING (See Study Skills)
- GC 1-413/1-414; 1-415/1-416 INTEGRATED COMMUNICATION I, II, III, IV (See Communication Skills [General College])
 - Comp 0-001 PREPARATORY COMPOSITION (See English)
 - Comp 0-002C GRAMMAR REVIEW (See English)

Day by Day Schedule of Extension Classes

In the schedule below, classes are listed by each day of the week, the location, and the term the class is offered.

The following abbreviations are used to show the term in which each course is offered:

FS	Fall Semester	W	Winter Quarter
SS	Spring Semester	S	Spring Quarter
F	Fall Quarter	S.T.	Special Term

The following abbreviations are used to show location of each course:

Cam	Minneapolis or St. Paul Campus	Kel	Kellogg Senior High School
Harding	Harding High School	Rich	Richfield High School
MacP	MacPhail Center	Sand	Sandburg Junior High School

See Course Desc Refer to Course Offerings section for location of course

MONDAY

CLASSES	LOCATIONS					
	Cam	Harding	Kel	Rich	Sand	See Course Desc
Accounting						
Acct						
0-130C	FS					
0-131C	SS					
1-024	SS	F		F		
1-025		W		W		
1-026	FS/SS	S		S		
1-024/1-025, 1-026	SS		F			
3-105						
3-160	SS					
3-220	FS					
3-221	SS					
5-180	SS					
5-300	FS					
Afro-American Studies						
Afro						
3-061	F					
3-062	W					
3-105	W					
American Studies						
AmSt						
1-101	S					
1-102	F					
1-103	W					
3-111	S					
3-112	F					
3-113	W					
Architecture						
Arch						
5-056	F					

Monday (continued)

CLASSES		LOCATIONS					See Course Desc
		Cam	Harding	Kel	Rich	Sand	
Art History							
ArtH	1-016	S					
	3-008	W					
	3-011	S					
	3-303	F					
	5-346	W					
Art, Studio							
ArtS	1-101	F/W				F/W	
	1-102	W/S					
	1-113	SS					
	1-119	FS					
	1-121	SS					
	1-701	F/W/S					
	3-100	F/W/S					
	3-116	SS					
	3-131	FS					
	3-133	FS					
	3-134	SS					
	3-135	FS					
	3-136	SS					
	3-701	F/W/S					
	5-112	SS					
	5-113	FS					
	5-114	SS					
	5-120	F/W/S/					
Astronomy							
Ast	1-008		W				
	1-009			F			
Business Law							
BLaw	3-058				FS		
Business Studies (General College)							
GC	1-511	F					
	1-536	S					
	1-581	F					
	1-584	S					
Child Psychology							
CPsy	3-301					F	
	5-311	F/S					
Classics							
Clas	1-008	F					
	5-008	F					
Computer, Information and Control Sciences							
CICS	1-105	FS					
	1-106	SS					
	3-107	F					
	5-101	W					
	5-102	S					
	5-304	SS					
	5-501	FS					
	5-503	SS					
Communication Skills (General College)							
GC	1-413	F					
	1-414	F					
	1-415	W					
	1-416	W					

Monday (continued)

CLASSES	LOCATIONS					See Course Desc
	Cam	Harding	Kel	Rich	Sand	
Counseling and Student Personnel Psychology						
CSPP 5-110	W			F	S	
5-313	W					
Criminal Justice Studies						
CJS 5-102	W					
East Asian Languages						
Jpn 1-005	FS					
1-006	SS					
Economics						
Econ 1-001	FS		FS	FS		
1-002	SS		SS	SS		
3-102	SS					
3-501	FS					
3-551	FS					
5-537	SS					
Electrical Engineering						
EE 1-500	FS					
1-501	SS					
(lect) 3-050	F					
(lect) 3-051	W					
(lect) 3-100	F					
(lect) 3-101	W					
(lect) 5-050	S					
(lect) 5-100	S					
Engineering Graphics						
EG 0-045C	FS					
1-025	SS					
English						
Comm 1-001	F					
1-002	W					
1-003	S					
Comp 0-003C	SS					F
0-004C	FS					
1-001	F/W/S			F/S		
1-002	F/W/S			W		
1-027	FS					
Engl 1-005	F/W/S					
1-017	F					
1-018	W					
1-019	S					
3-085	FS/SS					W
3-251						W
3-851	F/S					
5-151	F					
5-152	S					
5-432	F					
5-452	S					
5-543	F					
5-815	F					
5-851	W					
8-240	F					
Family Social Science						
FSoS 1-001	F/S					
1-002			F			
1-025	W					F/S
5-001	W					

Monday (continued)

CLASSES		LOCATIONS					See Course Desc
		Cam	Harding	Kel	Rich	Sand	
Finance							
BFin	0-001C 3-100	FS S					
French							
Fren	0-001 1-101 1-102 1-103	F/W/S F W S					
Geography							
Geog	1-311 1-401	SS FS					
Geology							
Geo	(lect) 1-001 (lab) 1-001 (lect) 1-008 (lab) 1-008	SS SS FS FS					
German							
Ger	0-221 0-222 1-101 1-102 1-103 1-301	FS SS FS SS FS SS					
Health							
Hlth	5-350 5-602				F		F
History							
Hist	1-151 1-152 1-153 1-310 3-151 3-152 3-153 3-471 3-472 5-264 5-265 5-266	F W S F F W S F W F W S					
Horticulture Science							
Hort	1-001	S					
Humanities (CLA)							
Hum	1-001 1-002 1-003 5-021 5-022	F/FS/W FS/W/SS/S	SS				F/W F/W
Industrial Engineering/ Operations Research							
IEOR	0-100C 0-210C	FS SS					
Industrial Relations							
IR	0-001C 3-002 3-010	FS SS	F			S	

Monday (continued)

CLASSES		LOCATIONS					See Course Desc
		Cam	Harding	Kel	Rich	Sand	
Insurance							
IA	0-022C	F					
Ins	3-100	FS/SS					FS
CLU	0-001C						SS
	0-002C						FS
	0-009C						SS
	0-010C						
Italian							
Ital	0-001	S					
Journalism							
Jour	1-001	F/S					
	3-221	W					
	3-231	F					
Library Science							
Lib	5-221	F					
Management							
Mgmt	3-001	FS/SS					
	3-004	FS/SS					
	8-001	F					
Management Information Systems							
MIS	0-130C	FS/SS					
	0-131C	FS/SS					
	3-098	F/W/S					
	3-099	F/W/S					
	5-098	F/W/S					
	5-099	F/W/S					
Marketing							
Mktg	3-000		F	S			
	3-075	SS					
	3-080	SS					
	3-095	FS					
Mathematics							
Math	0-006	FS/SS					
	0-007	FS					
	0-009	F/FS/SS	F		S	F	
	1-141	FS/SS			FS		
	1-142	FS/SS			SS		
	1-201	F/FS/SS			F	W	
	1-211	FS/W/SS	F		W	S	
	1-220	F					
	1-221	SS/S	W		S		
	1-230	F/W					
	1-231		S				
	1-240	W/S					
	1-250	S					
	3-411	F					
Mechanical Engineering							
ME	5-342	W					
	5-344	S					
Metallurgical Engineering							
MetE	0-001C	FS					
	0-002C	SS					
Middle Eastern Languages							
Arab	1-101	FS					
	1-102	SS					

Monday (continued)

CLASSES	LOCATIONS					
	Cam	Harding	Kel	Rich	Sand	See Course Desc
Music						
Mus	1-001	F/W/S				
	1-014	W/S				
	1-420	F/W/S				
(U chorus)	1-430,	F/W/S				
(Men's Glee Club)	1-430	F/W/S				
	3-543	S				
	3-584	F				
	3-585	W				
	5-490					F/W/S
Philosophy						
Phil	1-001	F	SS			
	1-004	S				
	1-011	S				
	3-003	S				
	3-302	F/W				
	5-054	W				
	5-501	F				
Physical Education and Recreation						
PE	0-150	S.T.				
	0-210	S.T.				
	0-250	S.T.				
	3-360	W				
Political Science						
Pol	1-001	F		W		
	1-026	S				
	5-773	SS				
Portugese						
Port	1-101	F				
	1-102	W				
	1-103	S				
Psychological Foundations						
PsyF	5-162	F/S				
	5-330	F				
Psychology						
Psy	1-001	SS		FS		
	1-003	F				
	1-911	F				
	3-031	S				
	5-604	FS				
	5-605	SS				
Public Health						
PubH	5-070	F/S				
	5-181	FS				
	5-182	SS				
	5-192	S				
	5-211	W				
	5-212	S				
Quantitative Analysis						
QA	1-050	F/W/S				
Salesmanship						
Sal	0-001C	F/S				

Monday (continued)

CLASSES	LOCATIONS					See Course Desc
	Cam	Harding	Kel	Rich	Sand	
Scandinavian Languages						
Finn	1-101	FS				
	1-102	SS				
Nor	1-101	FS				
	1-102	SS				
Swed	1-101	FS				
	1-102	SS				
Secondary Education						
SeEd	5-112		S		F	
Slavic Languages						
Plsh	1-101	FS				
	1-102	SS				
Russ	1-101	FS				
	1-102	SS				
Social Science						
SSci	3-402					W
	3-403					S
Sociology						
Soc	1-001	F	S			
	1-002	F/S				
	5-151	W				
	5-401	F				
	5-405	S				
Spanish						
Span	1-104	F				
	1-105	W				
	1-201	F				
	1-202	W				
	1-203	S				
	3-014	S				
Speech						
Spch	0-001C	F/W/S				
	1-101	SS				
	5-402	F				
Study Skills						
SSk	0-001C	W				
PO	1-001	FS/SS		F		
Rhet	1-147	F/W/S				
Theatre Arts						
Th	1-238	F/S				
Transportation						
Tran	3-054	F/W/S				
	3-064	FS				
	3-084	SS				
	8-264	FS				
	8-284	SS				

TUESDAY

CLASSES	LOCATIONS					
	Cam	Harding	Kel	Rich	Sand	See Course Desc
Accounting						
Acct	1-024	F/FS/S				
	1-025	W				
	1-026	S				
	3-105				F	
	3-107	S				
Adult Psychiatry						
AdPsy	0-101C					F
	0-102C					W
	0-103C					S
Aerospace Engineering and Mechanics						
AEM	0-001C	S.T.				
	3-009	F/W/S				
	3-016	SS				
Afro-American Studies						
Afro	1-015	F				
	1-025	S				
	5-001					W
American Indian Studies						
AmIn	3-061	F				
American Studies						
AmSt	1-101			W		
	1-102			S		
	1-103			F		
	3-111			W		
	3-112			S		
	3-113			F		
Anthropology						
Anth	5-141	SS				
Art Education						
ArEd	3-001			W	S	
	3-009	F/S				
	3-020		F			
	3-030	F				
Art History						
Arth	1-001	F/W/S				
	3-001	F/W/S				
Art, Studio						
ArtS	0-001C	FS/SS				
	0-002C	SS				
	1-101	F/W/S	F			
	1-102	F/S				
	1-301	F/W/S				
	1-302	F/W/S				
	1-510	F/W/S				
	1-801	F/W/S				
	3-131	FS				
	3-132	SS				

Tuesday (continued)

CLASSES	LOCATIONS					
	Cam	Harding	Kel	Rich	Sand	See Course Desc
Art, Studio						
ArtS	3-510	F/W/S				
	3-701	F/W/S				
	3-710	F/W/S				
	5-111	FS				
	5-510	F/W/S				
Astronomy						
Ast	1-008	FS				
	1-009	SS				
Biology						
Biol	(lect) 1-011	F/W/S				
	(ab) 1-011	F/W/S				
Business Administration						
BA	3-002	F				
	3-100	SS				
	3-200	FS				
Business Law						
BLaw	3-058	FS/W	F	W	S	
	3-078			S		
	3-088	F/S				
Business Studies						
(General College)						
GC	1-513			S		
	1-544	F				
	1-551	F				
	1-552	W				
	1-553	S				
	1-582	W				
Chemistry						
Chem	(lab) 1-004	FS				
	(lab) 1-005	SS				
	(lect) 1-006	FS				
Child Psychology						
CPsy	3-301	F/W		S		
	5-303	W	S			
	5-319	F				
Civil Engineering						
CE	0-005	W				
	(lect) 3-500	F				
Communication Skills						
(General College)						
GC	1-471	F				
Counseling and Student Personnel Psychology						
CSPP	5-130			F	F/W/S	
East Asian Languages						
Ortl	3-501	FS				
	3-502	SS				
Economics						
Econ	1-001	FS/SS			FS/SS	
	1-002	SS			FS/SS	
	3-101	FS/SS				
	3-102	SS				
	3-131	SS				
	3-655	FS				

Tuesday (continued)

CLASSES	LOCATIONS					
	Cam	Harding	Kel	Rich	Sand	See Course Desc
Educational Administration						
EdAd 5-101					F	
English						
Comm 1-001	W		F			
1-002	S		W			
0-001	F					
0-002C	F/W					
0-003C	FS					
0-004C	SS					
1-001	F/S	F/S			F/S	F
1-002	F/W/S	W			W	W
1-027	FS					
Engl 0-006C I	FS					
0-006C II	SS					
3-411	F					
3-412	W					
3-413	S					
5-117	F/S					
5-261	W					
5-363	W					
5-593	S					
5-753	F					
Family Social Science						
FSoS 3-970						W
Finance						
BFin 3-000	FS/W/S					
3-300	S					
Forestry Resource Development						
FRD 5-401						S.T.
French						
Fren 1-004	F					
1-005	W					
3-015	S					
3-025	F					
5-900	W					
Geography						
Geog 3-371	W					
Geology						
Geo (lect) 1-001	FS					
(lab) 1-001	FS					
(lect) 1-002	SS					
(lab) 1-002	SS					
(lect) 5-051	FS					
(lab) 5-051	FS					
(lect) 5-052	SS					
(lab) 5-052	SS					
Health						
Hth 5-130		S				
German						
Ger 3-604	F					

Tuesday (continued)

CLASSES	LOCATIONS					
	Cam	Harding	Kel	Rich	Sand	See Course Desc
History						
Hist	1-301	FS				
	1-302	SS				
	1-401	F				
	1-402	W				
	1-431	F				
	1-432	W				
	1-433	S				
	1-451	F				
	1-452	W				
	1-453	S				
	3-051		F			
	3-052		W			
	3-200	F				
	3-401	F				
	3-402	W				
	3-431	F				
	3-432	W				
	3-433	S				
	3-451	F				
	3-452	W				
	3-453	S				
	3-591	F				
	3-592	W				
	3-593	S				
	3-804	F				
	3-805	S				
	5-061	F				
	5-062	W				
	5-063	S				
	5-211	F				
	5-212	W				
	5-213	S				
	5-224	F				
	5-225	W				
	5-226	S				
	5-425	S				
Horticulture						
Hort	1-010	F				
	1-036	W				
Humanities (CLA)						
Hum	1-001	SS	FS			
	1-003	F/S/SS				
	3-004	SS				
	3-049	SS				
(General College)						
GC	1-357	S				
Industrial Engineering/Operations Research						
IEOR	0-350C	SS				
Industrial Relations						
IR	0-001C	SS	F		S	
	0-002C	F				
	0-006C	F				
	0-007C	S				
	3-002			F		
	3-010	FS				
	8-002	S				

Tuesday (continued)

CLASSES		LOCATIONS					See Course Desc
		Cam	Harding	Kel	Rich	Sand	
Insurance							
IIA Ins	0-023C	S.T.					
CLU	0-003C						FS
	0-004C						SS
Italian							
Ital	1-001	F					
	1-002	W					
	1-003	S					
Journalism							
Jour	1-201	S					
	5-501	S					
Latin							
Lat	1-101	FS					
	1-102	SS					
Library Science							
Lib	5-102	W					
	8-222	S					
	8-224	W					
Management							
Mgmt	3-001	SS				F	
	3-002	FS					
Management Information Systems							
MIS	0-140C	FS/SS					
	0-141C	FS/SS					
	3-098	F/W/S					
	3-099	F/W/S					
	3-100	FS/SS					
	5-098	F/W/S					
	5-099	F/W/S					
Marketing							
Mktg	3-000	FS/SS				W	
	3-098	W					
	8-000	F					
Mathematics							
Math	0-006	FS					
	0-009	FS/SS		W			
	0-090	FS					
	1-008	FS/SS					
	1-111	F					
	1-118	F					
	1-141	FS					
	1-142	SS					
	1-201	FS/S		F			
	1-211	FS/SS		W			
	1-220	FS		S			
	1-221	SS					
	1-230	FS/SS					
	1-240	FS					
	1-250	FS					
	1-260	FS					
	3-066	W					

Tuesday (continued)

CLASSES	LOCATIONS					
	Cam	Harding	Kel	Rich	Sand	See Course Desc
Mechanical Engineering						
ME	0-030C	SS				
	0-110C	FS				
	3-301	F				
Middle Eastern Languages						
Heb	1-501	F				
	1-502	W				
	1-503	S				
	3-501	F				
	3-502	W				
	3-503	S				
Music						
Mus	0-051C	FS				
	0-052C	SS				
	1-420	F/W/S				
(U chorus)	1-430	F/W/S				
(Men's Glee Club)	1-430	F/W/S				
(Women's Chorus)	1-430	F/W/S				
(St. Paul Campus Chorus)	1-430	F/W/S				
	1-501	F				
	1-502	W				
	1-503	S				
	5-490					F/W/S
	5-704	F				
	5-705	W				
Natural Science						
(General College)						
GC	1-112	W				
	1-132		F			
Nursing						
Nurs	0-500C	F				
	5-220	FS				
	5-230	SS				
Operations Analysis and Management						
OAM	3-055	F/W/S				
Philosophy						
Phil	1-001	FS/S				
	1-002	F				
	1-011		F			
	3-004	F				
Physical Education and Recreation						
PE	1-800	S				
	3-370	W				
	5-700					F/W/S
Physics						
Phys	1-031	FS				
	1-032	SS				
	1-271	FS				
	1-281	SS				
	1-291	FS				

Tuesday (continued)

CLASSES		LOCATIONS					See Course Desc
		Cam	Harding	Kel	Rich	Sand	
Political Science							
Pol	1-001	SS					
	1-031	S					
	1-051	FS					
	5-737	W					
Psychological Foundations							
PsyF	5-162	F					
	5-170	F/S					
Psychology							
Psy	1-001	FS	SS				
	1-003	S	F			W	
	3-011	F/S					
	5-105	S					
Public Health							
PubH	3-001	W					
	3-005	S					
	3-030	F					
	3-031	W					
	3-032	S					
	3-033	W					
	5-151	F					
	5-171	S					
	5-241	S					
	5-244	W					
Real Estate							
RE	0-006C	FS					
Secondary Education							
SeEd	5-112	W					
Social Studies (General College)							
GC	1-211	F					
	1-221	W					
Social Work							
SW	5-010	F/S					
	5-101	F					
	5-105	W					
	5-201	F					
	5-202	W					
	5-203	S					
	5-315	W					
	5-402	F/S					
	5-403	W					
	5-412	F/S					
	5-413	W					
Sociology							
Soc	1-001		F/W				
	1-505	FS					
	1-506	SS					
Spanish							
Span	1-101	F					
	1-102	W					
	1-103	S					

CLASSES	LOCATIONS					
	Cam	Harding	Kel	Rich	Sand	See Course Desc
Special Education						
SpEd 5-150	F					
Speech						
Spch 1-101	FS					
5-411	FS					
5-431	S					
Study Skills						
SSk 0-001C			S			
Rhet 1-147	F/S					
Theatre						
Th 1-101	F/S					
3-311	F					
Transportation						
Tran 8-154	W					

WEDNESDAY

Accounting						
Acct 1-024			F			
1-025	FS/SS		W			
1-026			S			
3-105	FS					
3-106	SS/W					
3-107	FS					
5-125	FS					
8-050	W					
8-051	S					
Afro-American Studies						
Afro 1-101	S					
1-441	F					
1-442	W					
American Indian Studies						
Amin 1-021	S					
3-061	W/S					
American Studies						
AmSt 1-101		F				
1-102		W				
1-103		S				
3-111		F				
3-112		W				
3-113		S				
Anatomy						
Anat 0-058	F					
Anthropology						
Anth 5-121	SS					
5-181	FS					
Architecture						
Arch 1-021	W/S					
Art Education						
ArEd 5-302	W					
Art History						
Arth 3-012	F					
3-467	S					
3-769	S					
5-766	F					
5-767	W					
5-769	S					

Wednesday (continued)

CLASSES	LOCATIONS					
	Cam	Harding	Kel	Rich	Sand	See Course Desc
Art, Studio						
ArtS	1-101	F/S				
	1-102	W				
	1-111	FS/SS				
	1-112	FS/SS				
	1-119	SS				
	1-301	F/W/S				
	1-302	F/W/S				
	1-701	F/W/S				
	3-110	F/W/S				
	3-131	FS/SS				
	3-132	FS				
	5-130	W				
Astronomy						
Ast	1-008	S				
Biology						
Biol	3-051	SS				
Business Administration						
BA	3-002	W				
Business Law						
BLaw	0-098C	SS				
	3-058	FS/SS				
	3-078	SS				
Business Studies						
(General College)	1-513	F				
GC	1-535	F	W			
	1-572	S				
Child Psychology						
CPsy	3-301			W		
	5-128			W		
	5-311	W				
	5-331	S				
Civil Engineering						
CE	5-601	F				
	5-611	S				
Classics						
Clas	1-045	F				
	5-145	F				
Communication Skills						
(General College)	1-471		S			
GC						
Computer, Information and Control Sciences						
CICS	3-101	FS/SS				
Counseling and Student Personnel Psychology						
CSPP	5-505	W				
East Asian Languages						
Chin	1-005	FS				
	1-006	SS				

Wednesday (continued)

CLASSES		LOCATIONS					
		Cam	Harding	Kel	Rich	Sand	See Course Desc
Economics							
Econ	1-001	FS	FS				
	1-002	SS	SS				
	3-101	FS					
	3-102	FS					
Educational Administration							
EdAd	5-128				F		
Electrical Engineering							
IT	0-001	F					
EE	0-001	W					
	(rec) 3-050	F					
	(rec) 3-051	W					
	(rec) 3-100	F					
	(rec) 3-101	W					
	(rec) 5-050	S					
	(rec) 5-100	S					
Elementary Education							
Elem	5-346		F				
English							
Comm	1-001	S					
	1-002	F					
Comp	0-002C	S					
	1-001	F/W					
	1-002	F/W/S					
	1-028	SS					
Engl	1-005	F/W/S					
	1-012	F					
	1-013	W					
	1-014	S					
	3-241	F/S					
	3-242	W					
	5-175	S					
	5-221	S					
	5-610	F/W/S					
	8-270	W					
Family Social Science							
FSoS	5-001	S					
Finance							
BFin	3-000					F	
	3-300	W					
Forestry Resource Development							
FRD	5-402						S.T.
Geography							
Geog	1-301	FS					
	3-181	S					
	5-333	F					
German							
Ger	3-501	SS					
Health							
Hlth	5-100						F
	5-101						W
	5-350						S

Wednesday (continued)

CLASSES		LOCATIONS					See Course Desc
		Cam	Harding	Kel	Rich	Sand	
History							
Hist	1-001	F					
	1-002	W					
	1-003	S					
	1-101	F					
	1-102	W					
	1-103	S					
	1-301	S					
	1-302		F				
	3-001	F	W				
	3-002	W					
	3-003	S					
	3-101	F					
	3-102	W					
	3-103	S					
	3-881	F					
	3-882	W					
	5-471	F					
Home Economics							
HE	5-381	FS					
Horticulture							
Hort	1-021	S					
	1-026	W					
	5-020	S					
Humanities (CLA)							
Hum	1-001	F/FS/W					
	1-002	S/W			FS		
	3-003	FS					
	3-005	SS					
	5-021						F
	5-022						W
(General College) GC	1-374		F				
Industrial Engineering/ Operations Research							
IEOR	0-510C	FS					
	0-511C	SS					
Industrial Relations							
IR	3-002	FS/SS					
	3-007	FS/S					
	8-002	FS/SS					
Insurance							
CLU	0-005C						FS
	0-006C						SS
Ins	3-100		S				
Journalism							
Jour	1-005	F/S					
	3-173	FS					
Library Science							
Lib	5-221	F					
Management Mgmt	3-001	FS		S	W		

Wednesday (continued)

CLASSES	LOCATIONS					
	Cam	Harding	Kel	Rich	Sand	See Course Desc
Management Information Systems						
MIS						
0-124C	FS/SS					
0-132C	FS/SS					
0-142C	FS/SS					
0-143C	FS/SS					
0-151C	FS/SS					
0-152C	FS/SS					
3-098	F/W/S					
3-099	F/W/S					
5-098	F					
5-099	F/W/S					
Marketing						
Mktg						
3-007	F					
Mathematics						
Math						
0-006	FS/SS					
0-007	FS					
0-009	FS/SS	F		S	F	
1-005	F					
1-006	W					
1-008	FS					
1-141	FS/SS			FS		
1-142	FS/SS			SS		
1-201	F/FS/SS			F		
1-211	FS/W/SS	F		W	W	S
1-220	F					
1-221	SS/S	W		S		
1-230	F/W					
1-231		S				
1-240	W/S					
1-250	S					
3-061	SS					
3-091	S					
3-411	F					
5-242	F					
5-243	W					
Mechanical Engineering						
ME						
0-001	W					
Middle East Languages						
Heb						
1-504	S					
3-504	S					
Music						
Mus						
(U Chorus) 1-430	F/W/S					
(Men's Glee Club) 1-430	F/W/S					
1-801	F					
1-802	W					
1-803	S					
3-021	F					
5-490						F/W/S
Operations Analysis and Management						
OAM						
5-056	W					
Philosophy						
Phil						
1-001	F/W					
1-002	W/S					
1-003	F					
3-302	S					

Wednesday (continued)

CLASSES	LOCATIONS					
	Cam	Harding	Kel	Rich	Sand	See Course Desc
Physical Education and Recreation						
PE	0-150	S.T.				
	0-255	S.T.				
	3-181	F				
	5-620	S				
	5-700					F/W/S
Political Science						
Pol	1-001	F	S	W		
	1-025	F/W				
	1-051	SS				
	5-446	FS				
Portugese						
Port	1-101	F				
	1-102	W				
	1-103	S				
Psychological Foundations						
PsyF	5-141	W				
	5-148	F				
	5-641	W				
Psychology						
Psy	1-001				FS	
	1-004	F				
	1-005	W				
	3-051	S				
	3-101	FS/SS				
Quantitative Analysis						
QA	1-050	F				
Real Estate						
RE	0-001C	S				
Social Science						
SSci	3-102	W				
	3-103	S				
	3-203	F				
Social Studies (General College)						
GC	1-628	S				
Sociology						
Soc	1-001	SS		F	W	
	3-101	FS/SS				
	5-141	FS				
	5-145	SS				
	5-201	F/S				
	5-951	W				
Spanish						
Span	0-221	F/W/S				
	1-104	F				
	1-105	W				
	1-204	F				
	1-205	W				
	3-014	S				
	5-414	S				
Special Education						
SpEd	5-150		W			

Wednesday (continued)

CLASSES		LOCATIONS					See Course Desc
		Cam	Harding	Kel	Rich	Sand	
Speech Spch	3-201	S					
Study Skills SSk	0-001C	F					
PO	1-001	S	S				
Rhet	1-147	W			F	W	
Theatre Th	1-321	F/S					
	5-177	S					
Transportation Tran	3-054			F			

THURSDAY

Accounting Acct	1-024	F/S					
	1-025	W				F	
	1-024/1-025, 1-026	SS				W	
	1-026	S				S	
Aerospace Engineering and Mechanics AEM	0-001C	S.T.					
	1-015	FS					
	3-009	F/W/S					
	3-036	FS					
Afro-American Studies Afro	1-025	F/W					
American Studies AmSt	1-101	F					
	1-102	W					
	1-103	S					
	3-111	F					
	3-112	W					
	3-113	S					
Anthropology Anth	1-002	FS/SS					
Art Education ArEd	1-207	F					
	1-208	W					
	1-209	S					
	3-009	W					
	5-020	F					
	5-316						S.T.
Art History ArtH	1-015	F					
	3-014	F					
	3-053	W					
Art, Studio ArtS	0-003C	F					
	1-103	F/W/S					
	1-104	F/W/S					

Thursday (continued)

CLASSES		LOCATIONS					See Course Desc
		Cam	Harding	Kel	Rich	Sand	
	1-801	F					
	3-110	F/W/S					
	3-114	FS/SS					
	3-115	FS					
	3-120	F/W/S					
	3-131	FS/SS					
	3-137	SS					
	3-150	F/S					
	3-710	F/W/S					
	3-810	W/S					
Biology							
Biol	(lect) 1-011	F/W/S					
	(leb) 1-011	F/W/S					
	1-104	W					
Business Law							
BLaw	0-001C	FS			S		
	0-098C	SS					
	8-158	W					
Business Studies							
(General College)							
GC	1-235	F			W		
	1-544	F					
Chemistry							
Chem	(lect) 1-004	FS					
	(lect) 1-005	SS					
	(lab) 1-006	FS					
Child Psychology							
CPsy	5-315	W					
	5-331					F	
Civil Engineering							
CE	(lect) 3-100	F					
	(lect) 3-102	W					
	(lect) 3-500	F					
	(lect) 5-100	S					
	(lect) 5-500	W					
	(lect) 5-501	S					
Classics							
Clas	1-122	S					
	3-072	W					
	5-072	W					
	5-122	S					
Criminal Justice Studies							
CJS	5-102	W					
Ecology							
Ecol	(lect) 3-001	W					
	(dis) 3-001	W					
Economics							
Econ	1-001	FS/SS					
	1-002	FS					
	3-021	FS					
	3-751	SS					
	5-307	SS					
	5-337	SS					
	5-401	FS					
	5-431	FS					

Thursday (continued)

CLASSES	LOCATIONS					
	Cam	Harding	Kel	Rich	Sand	See Course Desc
Elementary Education						
Elem	5-363				F	
English						
Comp	1-001	F/S				
	1-002	W				
	1-113	F				
	1-114	W				
	1-115	S				
Engl	1-005	F/W/S				
	5-112	F				
	5-113	W				
	5-114	S				
	5-311	F				
	5-312	W				
	5-445	S				
	5-831	W				
	8-310	F/W/S				
Family Social Science						
FSoS	1-002	S				
	1-025	F				
Finance						
BFin	3-000	F				
	3-300	F				
	8-000	S				
French						
Fren	1-004	F				
	1-005	W				
	1-101	F				
	1-102	W				
	1-103	S				
	1-004	F				
	3-015	S				
	3-025	F				
	5-900	W				
Geography						
Geog	1-301	SS				
German						
Ger	1-101	FS/SS				
History						
Hist	1-051	F				
	1-052	W				
	1-053	S				
	1-301	W				
	1-302	F/S				
	3-051	F				
	3-052	W				
	3-053	S				
	3-468	S				
	3-821	F				
	3-822	W				
	3-823	S				
	5-221	W				
	5-222	W				
	5-223	S				
	5-241	F				
	5-242	W				
	5-243	S				
	5-468	S				

Thursday (continued)

CLASSES	LOCATIONS					
	Cam	Harding	Kel	Rich	Sand	See Course Desc
Humanities						
Hum	1-003	F/FS/S				
	1-004	SS				
	1-011	FS				
	1-012	SS				
	5-030 I	F				
	5-030 II	W				
	5-030 III	S				
Humanities (General College)						
GC	1-311	W				
Industrial Engineering/ Operations Research						
IEOR	0-330C	FS				
Industrial Relations						
IR	0-001C	S				
	0-002C	SS				
	0-003C	W				
	3-010			W		
	8-017	W				
Insurance						
IIA	0-021C	F				
Ins	8-000	F				
CLU	0-007C					FS
	0-008C					SS
Italian						
Ital	1-001	F				
	1-002	W				
	1-003	S				
Journalism						
Jour	5-233	S				
Library Science						
Lib	8-222	S				
		W				
Management						
Mgmt	3-001	FS/W				
	3-002	SS				
	3-005	W				
Management Information Systems						
MIS	0-120C	FS/SS				
	0-121C	FS/SS				
	3-098	F/W/S				
	3-099	F/W/S				
	5-098	F/W/S				
	5-099	F/W/S				
Marketing						
Mktg	0-087	FS				
	3-000	FS				

Thursday (continued)

CLASSES	LOCATIONS					
	Cam	Harding	Kel	Rich	Sand	See Course Desc
Mathematics						
Math						
0-005	FS					
0-006	FS					
0-008	SS					
0-009	F/FS/SS		W			
1-090	FS					
1-111	F					
1-141	FS					
1-142	SS					
1-201	FS/S		F			
1-211	FS/SS		W			
1-220	FS					
1-221	SS		S			
1-230	FS/SS		F			
1-240	FS		W			
1-250	FS		S			
3-066	W					
3-092	F					
5-209	S					
Mechanical Engineering						
ME						
3-201	F					
3-203	W					
3-205	S					
Music						
Mus						
0-051C	SS					
0-052C	FS					
1-420	F/W/S					
(Men's Glee Club) 1-430	F/W/S					
(Women's Chorus) 1-430	F/W/S					
(StP Campus Chorus) 1-430	F/W/S					
1-501	F					
1-502	W					
1-503	S					
5-490						F/W/S
5-711	W					
5-712	S					
Nursing						
Nurs						
0-620C						FS
Philosophy						
Phil						
1-001	W					
1-003	W/S					
3-001	F					
3-002	W					
5-601	F					
5-701	S					
Physics						
Phys						
1-275	FS					
1-285	S					
1-295	FS					
Physical Education and Recreation						
PE						
0-200	ST					
Political Science						
Pol						
5-661	F					
5-738	F					
Psychological Foundations						
PsyF						
5-110	F/S					
5-120	W					

Thursday (continued)

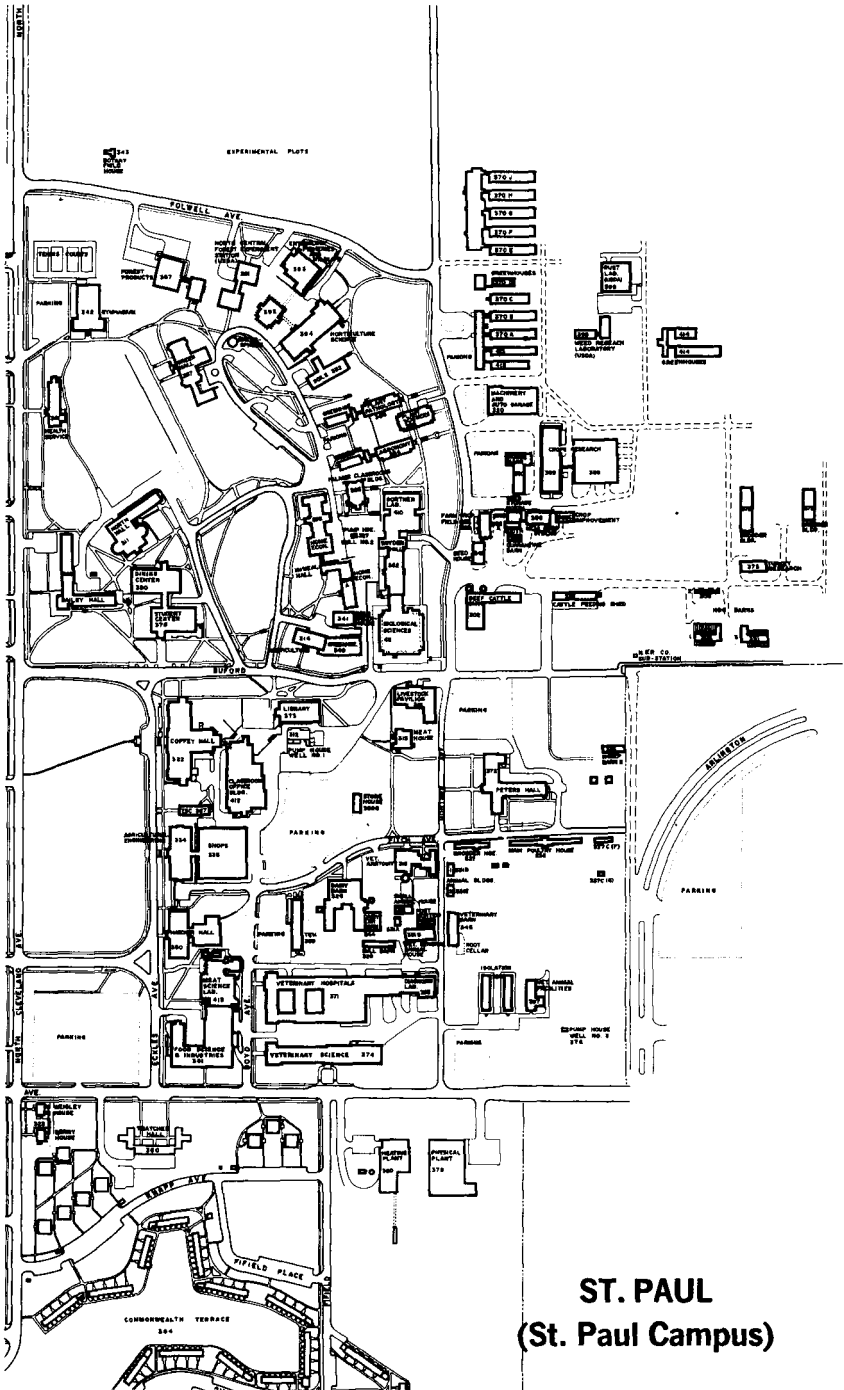
CLASSES		LOCATIONS					
		Cam	Harding	Kel	Rich	Sand	See Course Desc
Psychology							
Psy	1-001			FS			
	1-003	FS/SS					
	1-004	F					
	1-005	W					
	3-124	SS					
	3-801	FS/SS					
	5-044	FS/SS					
	5-751	SS					
Public Health							
PubH	3-030	W					
	3-031	S					
	3-032	F					
Real Estate							
RE	0-001C	FS					
	0-002C	F/S					
	0-004C	SS					
Social Work							
SW	5-010	S					
Sociology							
Soc	1-001	FS/W					
	3-801	F					
	3-802	W					
	3-803	S					
Spanish							
Span	1-101	F					
	1-102	W					
	1-103	S					
Speech-Communication							
Spch	0-001C				F		
Study Skills							
Rhet	1-147		F/S	W			
Theatre							
Th	1-504	F/W/S					F/S
	5-131						
Veterinary Medicine							
VM	1-100	S.T.					

FRIDAY

Art Education							
ArEd	5-316						S.T.
Music							
Mus (U Chorus)	1-430	F/W/S					
(Men's Glee Club)	1-430	F/W/S					
	5-490						F/W/S

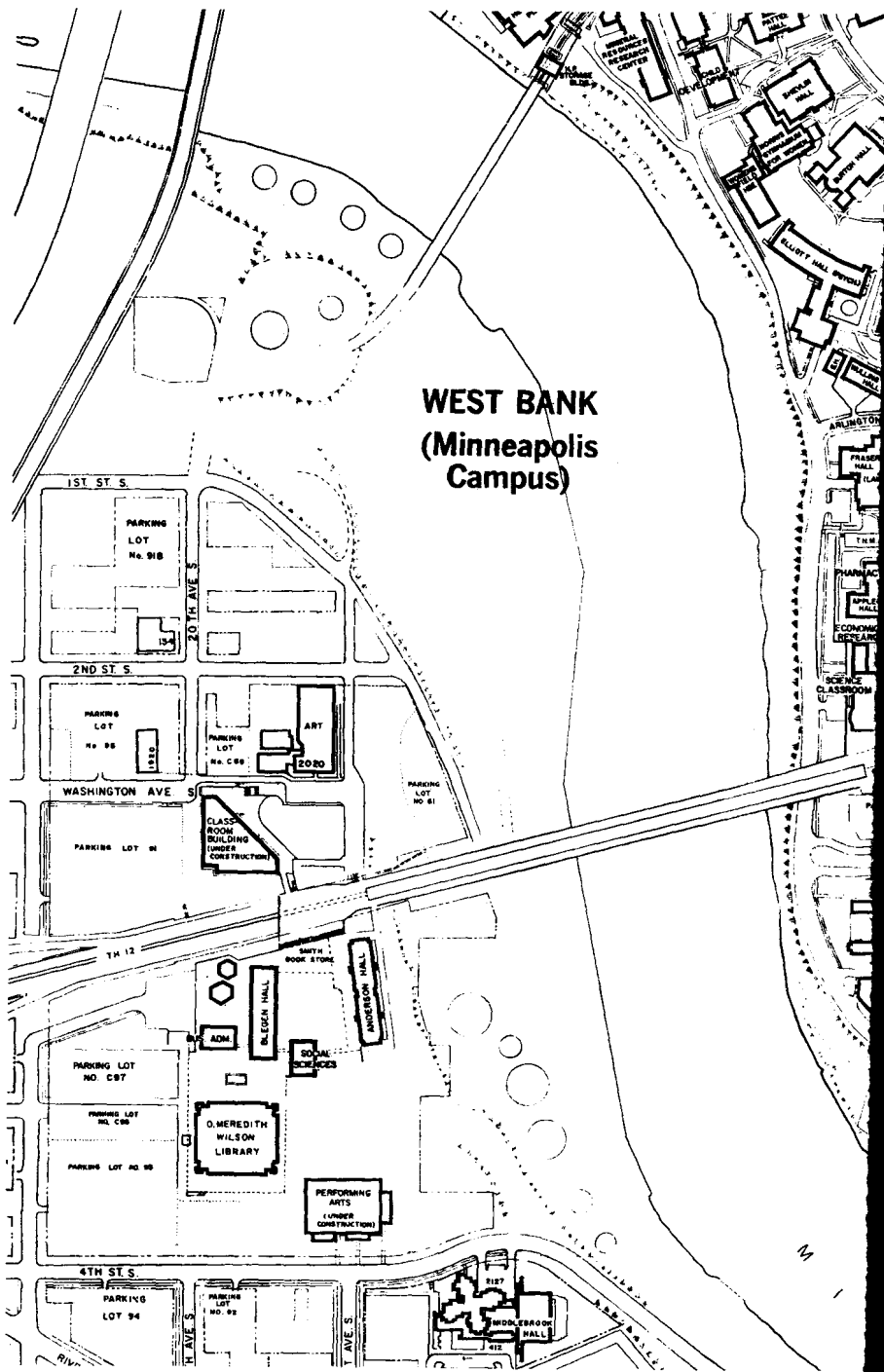
SATURDAY

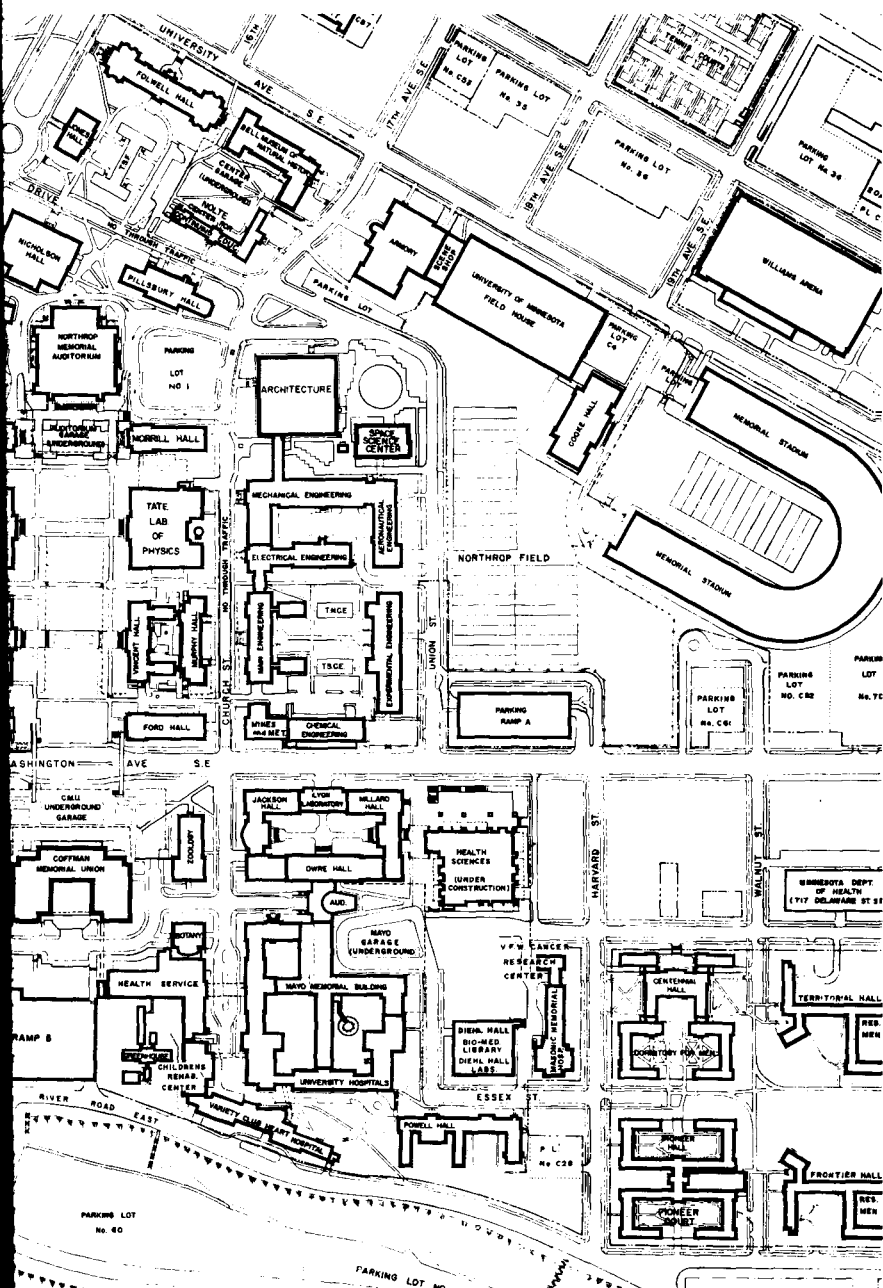
CLASSES	LOCATIONS					
	Cam	Harding	Kel	Rich	Sand	See Course Desc
Accounting Acct	1-024 1-025 1-026	F W S				
Art Education ArEd	5-316					S.T.
Art, Studio Arts	1-101 1-701 1-801 3-100	F/W/S F/W/S F/W/S F/W/S				
Civil Engineering CE	(lab) 3-100 (lab) 3-102 (lab) 5-100 (lab) 5-501 (lab) 5-500	F W S S W				
Horticulture Hort	3-076	F				
Management Mgmt	3-001	W				
Mathematics Math	1-141 1-142	FS SS				
Physical Education and Recreation PE	0-001 0-051 0-100	S.T. S.T. S.T.				
Physics Phys	1-275 1-285 1-295	FS S FS				
Sociology Soc	1-001	S				
Study Skills Rhet	1-147	F				
Theatre Th	1-328 3-321	W W				



**ST. PAUL
(St. Paul Campus)**

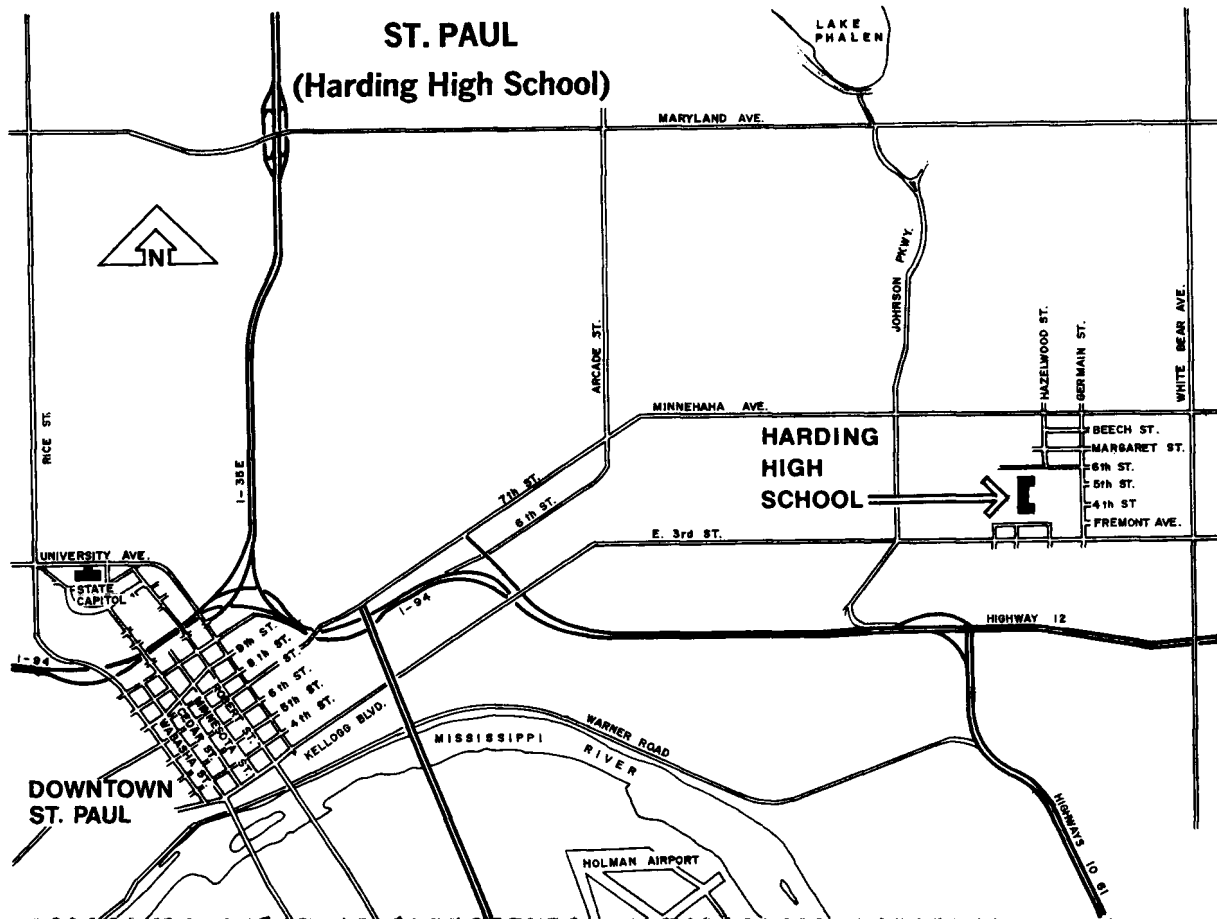
WEST BANK (Minneapolis Campus)

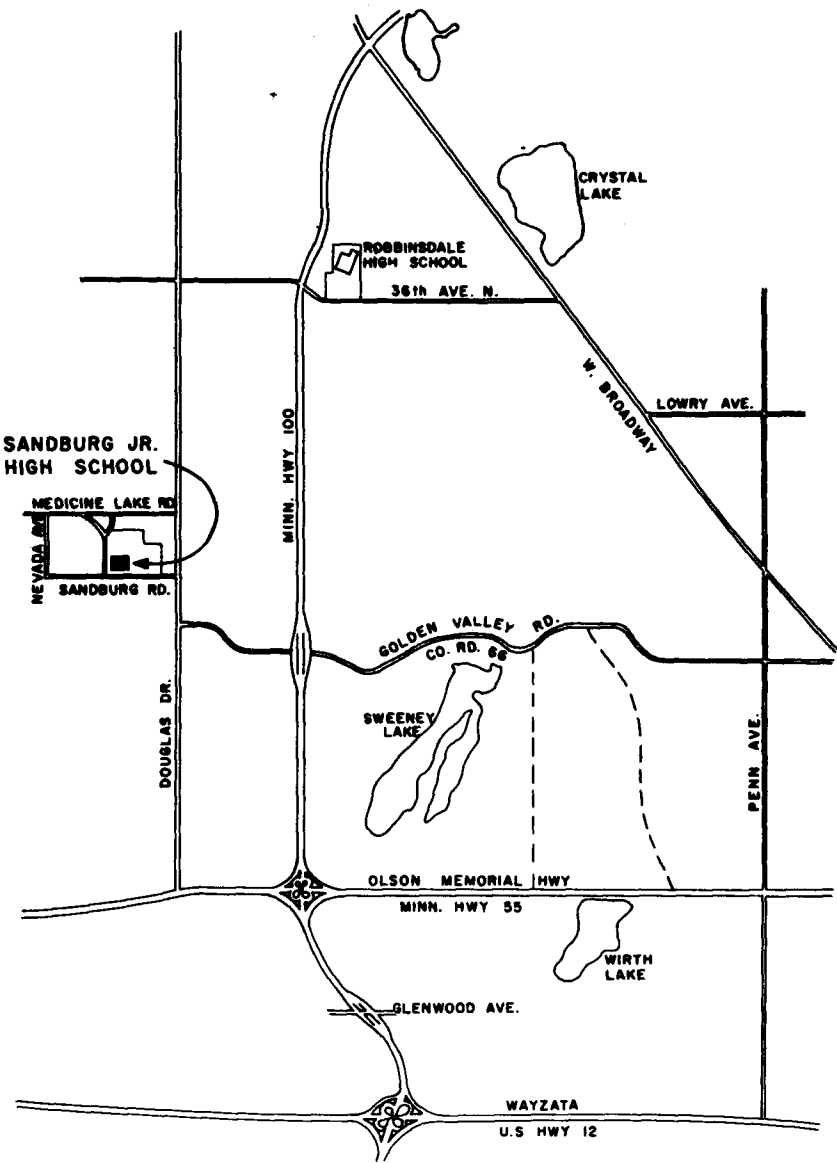




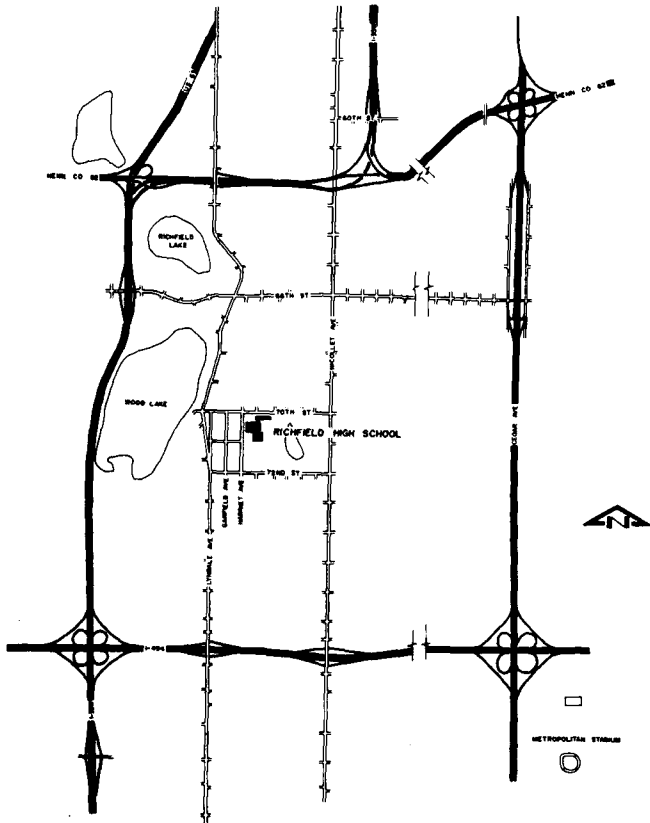
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 CENTENNIAL
 (Minneapolis Campus)



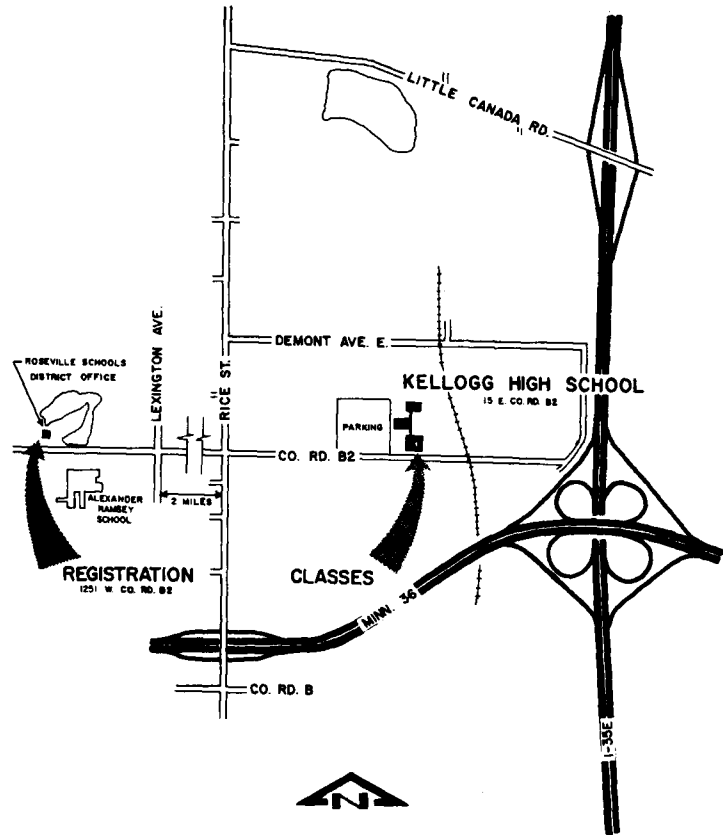




**NORTHWESTERN EXTENSION CENTER
(Carl Sandburg Junior High School)**



RICHFIELD EXTENSION CENTER
(Richfield Senior High School)



ROSEVILLE EXTENSION CENTER
(Kellogg Senior High School)

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Register by MAIL

We wish to help you register for extension classes in the easiest manner possible. The simplest procedure is to register by mail. Please refer to **Procedures for Registering by Mail, page 19.**

Registration can be made only for the current term. Request the number and kinds of registration forms by filling in completely and mailing the card below. Do not enclose check with this card. Check must accompany your registration materials. Registration forms will not be mailed out after the registration period has ended.



PLEASE DETACH AND MAIL . . .

LIMITED CLASSES FILL IN SPACES BELOW (SEE SAMPLE)
FOR EACH LIMITED CLASS REQUESTED

DEPARTMENT	COURSE NO.	TERM *	SEC NO.	DAY	TIME	BUILDING & ROOM NO.
Example ECON	1-001	F.S.	2	M	6:20	BLEGH 430

TERM
S: FALL SEMESTER FQ: FALL QUARTER ST: SPECIAL TERM
S: SPRING SEMESTER WQ: WINTER QUARTER SC: SPECIAL CLASS
SQ: SPRING QUARTER

PLEASE PRINT

Name _____

Street Address _____

City _____

State _____

Zip Code _____

UNLIMITED CLASSES

INDICATE HOW MANY
REGISTRATION FORMS
IN EACH BOX

QUARTER CLASSES

SEMESTER CLASSES

SPECIAL CLASSES

SPECIAL TERM
CLASSES

TELEPHONE: _____

HOME _____

BUSINESS _____

EXTENSION

- I am registering under the G.I. Bill
 My tuition and fees are to be billed to a company, scholarship or the military.
 Athletic Facilities
 Health Service

AFFIX
6 CENT
POSTAGE
HERE

DEPARTMENT OF EXTENSION CLASSES
57 NICHOLSON HALL
UNIVERSITY OF MINNESOTA
MINNEAPOLIS, MINNESOTA 55455

Register by MAIL

We wish to help you register for extension classes in the easiest manner possible. The simplest procedure is to register by mail. Please refer to **Procedures for Registering by Mail, page 19.**

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DEPARTMENT	COURSE NO.	TERM *	SEC NO.	DAY	TIME	BUILDING & ROOM NO.
Example ECON	1-001	F.S.	2	M	6:20	BLEGH 430

ERM: F: FALL SEMESTER FQ: FALL QUARTER ST: SPECIAL TERM
 S: SPRING SEMESTER WQ: WINTER QUARTER SC: SPECIAL CLASS
 SQ: SPRING QUARTER

NONLIMITED CLASSES

INDICATE HOW MANY REGISTRATION FORMS IN EACH BOX

- QUARTER CLASSES
- SEMESTER CLASSES
- SPECIAL CLASSES
- SPECIAL TERM CLASSES

TELEPHONE: _____
 HOME _____
 BUSINESS _____

PLEASE PRINT

Name _____

Street Address _____

City _____ State _____ Zip Code _____

- I am registering under the G.I. Bill
- My tuition and fees are to be billed to a company, scholarship or the military.
- Athletic Facilities
- Health Service

EXTENSION

AFFIX
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HERE

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Register by MAIL

We wish to help you register for extension classes in the easiest manner possible. The simplest procedure is to register by mail. Please refer to **Procedures for Registering by Mail, page 19.**

Registration can be made only for the current term. Request the number and kinds of registration forms by filling in completely and mailing the card below. Do not enclose check with this card. Check must accompany your registration materials. Registration forms will not be mailed out after the registration period has ended.



PLEASE DETACH AND MAIL . . .

LIMITED CLASSES FILL IN SPACES BELOW (SEE SAMPLE) FOR EACH LIMITED CLASS REQUESTED

NONLIMITED CLASSES

DEPARTMENT	COURSE NO.	TERM *	SEC NO.	DAY	TIME	BUILDING & ROOM NO.
Example ECON	1-001	F.S.	2	M	6:20	BLEGH 430

INDICATE HOW MANY REGISTRATION FORMS IN EACH BOX

QUARTER CLASSES

SEMESTER CLASSES

SPECIAL CLASSES

SPECIAL TERM CLASSES

TELEPHONE:

HOME

BUSINESS

EXTENSION

TERM: FQ: FALL QUARTER ST: SPECIAL TERM
 FS: FALL SEMESTER WQ: WINTER QUARTER SC: SPECIAL CLASS
 SS: SPRING SEMESTER SQ: SPRING QUARTER

PLEASE PRINT

Name

Street Address

City

State

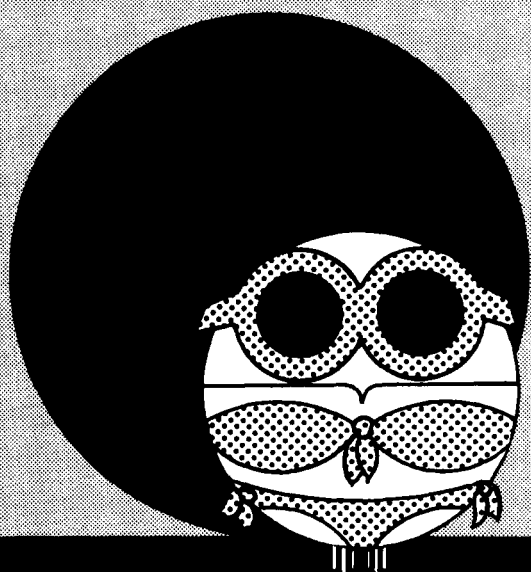
Zip Code

- I am registering under the G.I. Bill
- My tuition and fees are to be billed to a company, scholarship or the military.
- Athletic Facilities
- Health Service

AFFIX
6 CENT
POSTAGE
HERE

DEPARTMENT OF EXTENSION CLASSES
57 NICHOLSON HALL
UNIVERSITY OF MINNESOTA
MINNEAPOLIS, MINNESOTA 55455

1973



SUMMER EXTENSION CLASSES

a variety of extension
classes scheduled on
5 and 10-week terms
in the summer

a descriptive brochure
will be available
after May 1.

call

373-3195

COURSES IN

- Family Studies
- Accounting
- Psychology
- Studio Arts
- Humanities
- Economics
and other areas

UNIVERSITY OF MINNESOTA

extension classes

1972-1973

SCHEDULE OF TERMS

Fall Quarter—September 25-December 13

Fall Semester—September 25-January 27

Winter Quarter—January 3-March 21

Spring Semester—February 12-June 16

Spring Quarter—March 28-June 16

University of Minnesota

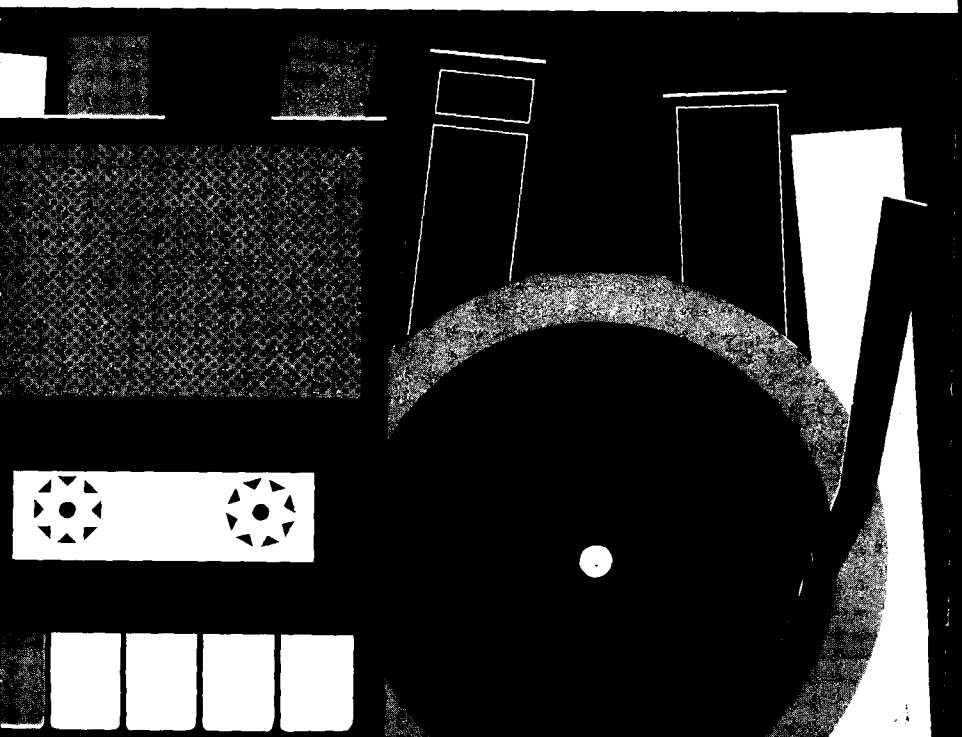
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Bulletin

MAY 12, 1972

Independent study

Continuing education and extension



LEARNING THROUGH INDEPENDENT STUDY

The Department of Independent Study is pledged to extend the resources of the University into the community. And in a way no other method can, independent study brings the University to the student by offering him the opportunity to study wherever he is, whenever he has the time. The process is simple: using a variety of media, students prepare assignments and submit them, along with any questions they may have, to their instructor. The instructor then evaluates the work, returning it promptly with his comments and the answers to any questions raised by the student. With their first exchange, student and instructor develop a personal relationship which often goes beyond course content and lasts long after the course is finished.

An essential quality of independent study is its flexibility: the student may enroll in a course at any time and work at his own pace; the instructor may modify a course for individual students according to their backgrounds, interests, and progress; an individual may carry on an educational program while earning a living, caring for a family, traveling, or participating in other activities.

In return for such flexibility, independent study asks something from the student: motivation and self direction. Responsibility for individual progress lies completely with the student, and he is the one who decides upon and finally achieves or does not achieve his own educational objectives. For the student who can meet the challenge, the rewards are great: a truly satisfying and individualized learning experience.

Historically, what is now referred to as independent study was originally called "correspondence study." Highly successful in meeting the educational needs of millions of students, correspondence courses have, in the past, been shunned by many as too rigid, too difficult and somehow less prestigious than on-campus study. With the advent of new media and a greater understanding and respect for self-directed learning, however, the traditional correspondence course has blossomed into a better and more valuable learning tool than ever before. As a result, "Correspondence Study" departments all over the country (including Minnesota's) have changed their names to "Independent Study" to reflect both changes which have already taken place and a continuing emphasis on future innovation.

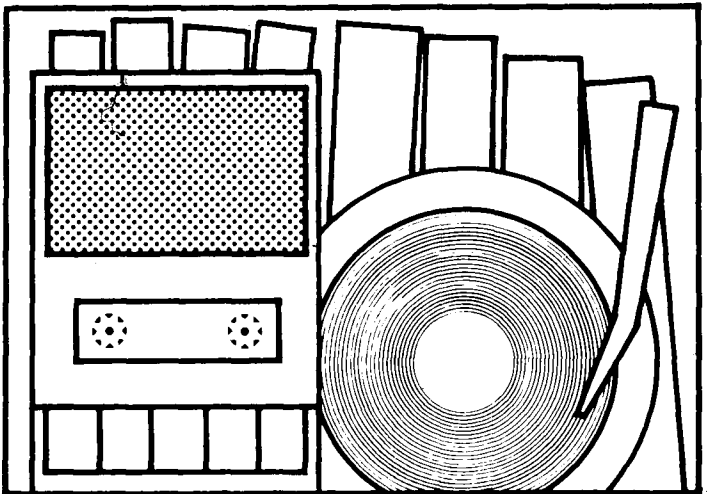
More than five million students in the United States today are enrolled in independent study through correspondence. For these people, independent study obviously does fill an educational need which they either cannot or do not wish to fill in any other way. It is for them that the University of Minnesota will continue to provide, as it has since 1909, quality independent study opportunities.



CONTINUING EDUCATION AND EXTENSION
UNIVERSITY OF MINNESOTA

1972-73 independent study

continuing education and extension

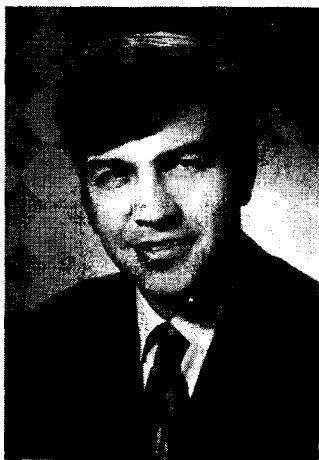


If the modern university is to serve today's society and today's student more effectively, it must look beyond the traditional kind of education it has provided in the past. The Department of Independent Study, through the use of new techniques, sophisticated technology, and more individualized instruction, is uniquely qualified to extend the resources of the University to the non-traditional student in Minnesota and throughout the world.

We are proud of the nearly 185,000 students who have already taken courses in Independent Study since the department was founded, and we pledge to serve our growing state, national, and world constituencies in more and better ways in the future.

Malcolm Moos

Malcolm Moos
President, University of Minnesota



Students who elect to continue their education through Independent Study are very special persons. They have a definite idea of what they want out of their educational experience. They are self-motivated enough to keep going when there is no set schedule but their own, and they are mature enough to work independently, with their instructor's guidance, on what interests them most. We're proud of our Independent Study students. Each is in a class by himself.

Harold A. Miller

Harold A. Miller
Acting Dean,
Continuing Education and Extension

UNIVERSITY OF MINNESOTA

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Continuing Pharmacy Education, 118 Appleby Hall, Director to be appointed
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Civil Defense Education, 1633 Eustis Street, St. Paul, Robert Elliott, Director
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Delinquency Control Program, 323 Walter Library, Richard Clendenen, Director
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Director
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The Board of Regents has committed itself and the University of Minnesota to the policy that there shall be no discrimination in the treatment of persons because of race, creed, color, sex, or national origin. This is a guiding policy in the admission of students in all colleges and in their academic pursuits. It is also a governing policy principle in University-owned and University-approved housing, in food services, student and staff services. This policy must also be adhered to in the employment of students either by the University or by outsiders through the University and in the employment of faculty and civil service staff.

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General Information

ADMISSION

There are no entrance requirements for admission to independent study. Registration in specific programs or courses may, however, require prerequisite study or experience. Prerequisites are noted in the course descriptions in this bulletin.

To enroll in an independent study course, a student need only complete and submit, along with the appropriate fees, the registration form found in the center of this bulletin. Additional registration forms are available on request.

COURSES

This bulletin follows the regular course description and numbering system used at the University of Minnesota. Students who are not familiar with the University system may find the following information helpful in determining whether courses described in this bulletin apply to their own college or university program.

Opposite: Students who have questions about independent study may write, call or come in to the department offices, 45 Wesbrook Hall.

Photo by Steve Murray

General Information

Course Descriptions

Courses in this bulletin are listed under departmental or subject headings, alphabetically arranged. Where several classifications are possible, cross references are given. Please refer to the index at the back of this bulletin for additional help in locating a particular course.

It is vitally important that you understand the course description format. It can help you decide whether or not you wish to take a course and can help you complete the registration form properly. The following sample course description indicates the information which may be found in course descriptions listed in this bulletin. If you would like to know more about a particular course than is provided in the course description, write to the Department of Independent Study for an introduction to the study guide. The introduction provides complete information regarding course requirements, topics covered, grading procedures, textbooks, and examinations. A form which may be used to request a study guide introduction is included in the back of this bulletin.

Sample Course Description

1	2	3	4	5	6	7	8
Engl 5-261.	MILTON	(3692).	9 lessons	— \$60	— 4 degree credits	— text price \$10-15	— McNaron
Course covers the following poems: <i>Comus</i> , <i>Lycidas</i> , <i>Areopagitica</i> , <i>Paradise Lost</i> , and							
9 <i>Samson Agonistes</i> . (Prerequisite: Freshman English and 5 additional credits in English or consent of instructor)							

1. Department designation and course number (See Course Numbering.)
2. Course title.
3. Department of Independent Study reference number (for office use only).
4. Number of lesson assignments to be submitted for evaluation (does not include examinations)
5. Tuition cost (at \$15 credit)
6. Number and kind (i.e., degree or certificate) of credits offered
7. Approximate price of all required texts and materials.
8. Instructor's last name (for full name and title, see faculty list).
9. Description of course content and prerequisite, if any.

Course Numbering

In the fall of 1970, the University of Minnesota instituted a 4-digit course numbering system in which the first number indicates the credit level of the course. This numbering system is coded as follows:

- 0-001 to 0-998 Certificate or non-credit courses.
Certificate credit course numbers are followed by a "C."
- 1-000 to 1-998 Lower division courses designed primarily for freshmen and sophomores.
- 3-000 to 3-998 Upper division courses designed primarily for juniors and seniors; (also open to other students with at least a C average overall and the necessary prerequisites.)
- 5-000 to 5-998 Graduate level courses designed primarily for juniors, seniors and graduate students. NOTE: 5-000 level courses taken through independent study will not be accepted for credit in the University of Minnesota Graduate School.

Course Cancellation

The unavailability of materials, books or instructors sometimes makes it necessary for the Department of Independent Study to discontinue accepting enrollments in an independent study course. Students who attempt to register for courses which have been cancelled since this bulletin was printed will receive a full refund or may transfer free of charge to another course, paying only the additional credit-hour fee should their second choice carry more credits than their first.

A list of cancelled courses and other important addenda to this bulletin will be printed and inserted periodically in all bulletins not yet distributed. For the most up-to-date information on courses which have been added or cancelled, write to the Department of Independent Study for a *Bulletin Supplement*.

CREDITS

The University of Minnesota uses the quarter hour as the basis of credit evaluation. The ratio between the quarter hour and the semester hour is approximately as follows:

2 quarter hours	= 1-1/3 semester hours
3 quarter hours	= 2 semester hours
4 quarter hours	= 2-2/3 semester hours
4-1/2 quarter hours	= 3 semester hours
5 quarter hours	= 3-1/3 semester hours

All credits listed in this bulletin are quarter hour credits.

General Information

The following credit designations are used in the course descriptions in this bulletin:

1. **Degree credit** — credit earned may be used in a degree program. Students working toward a degree should check the policy of their college concerning the acceptability of independent study credits. University of Minnesota students should consult an adviser in their major department. (For more information, see **Degree Candidates** and **University Degree Programs**.)
2. **Certificate credit** — credit earned may be used in appropriate Extension certificate programs. Certificate credit courses are university-level but do not carry degree credit and have no counterpart in day classes at the University of Minnesota. (For more information, see **Extension Certificate Programs**.)
3. **No credit** — no credit is given for the course although grades may be assigned. (See also **Enrolling in Credit Courses on a Non-credit Basis**.)

It is important, when filling out the independent study registration form, that you indicate clearly in the "credit" column the type of credit (outlined above) as well as the number of credits the course carries.

Ways to Earn Credit through Independent Study

(See also Group Study)

There are three ways to earn credit through independent study:

1. **Lesson method** — The lesson method is similar to the traditional correspondence format, although in many of the newer courses the communication and study processes have been enhanced by the use of additional media such as audio cassettes. When a student enrolls under this method, he receives a study guide which includes a list of required texts and materials, study instructions, supplementary information and specific lesson assignments. Written by the instructor, the study guide's main purposes are to provide a format and structure for the student's independent study and to initiate and maintain communication between the student and the instructor. Using the study guide, his textbooks, and other materials, the student works at his own pace through a series of assignments which he sends to the instructor for comment and evaluation. Depending on the course, some assignments as well as teacher feedback may be taped instead of written. The lesson method is particularly suitable for students wishing an organized program of study which more closely approximates the content and format of regular classes at the University of Minnesota. **Students who do not indicate specifically on their registration blank that they want to earn credit using either the credit by examination method or the honors alternative (see below) will be enrolled automatically in independent study on a regular lesson method basis.**

2. **Honors alternative** — Less structured than the lesson format described above, this method allows the student relative freedom in his course work by exempting him from the periodic lesson assignments which characterize the traditional independent study enrollment. Instead, in consultation with the instructor, the student chooses his own method of study, concentrating — to a greater or lesser degree according to his interests — on different aspects of the course content. Intended to equip the particularly mature or able student for continued individual study.

the honors alternative requires more self-reliance, scholarship and personal motivation than either regular independent study or classroom participation.

If he chooses this method, the student can expect helpful guidance from his instructor, especially in the beginning of his work. He should for the most part, however, be willing to forego step-by-step evaluation and control.

The work to be submitted for evaluation will vary widely depending upon the course content and the student's interests and abilities. Some students may be required to submit very little work and will be given almost complete responsibility for their own preparation. Others will be required to submit a limited number of assignments and/or to undertake a special project. In order to receive credit for the course, all students will be expected to pass a final examination and/or in some other way chosen by the instructor, demonstrate their mastery of the course content.

Students wishing to enroll under the honors alternative should send, along with their registration blank, a letter describing their background and reason for wishing to enroll under this method, as well as a transcript of all college-level work to Roger Young, Director, Department of Independent Study, 33 Westbrook Hall, University of Minnesota, Minneapolis, Minnesota 55455. Based on the student's interests, abilities and the subject to be studied, the Director, in consultation with the instructor, will decide either to approve honors alternative enrollment, to recommend regular lesson enrollment, or to ask that the student submit a trial number of regular lessons before a final decision is reached. Like all independent study students, students applying for honors alternative receive a study guide upon receipt of their application for registration. If, however, they are approved for honors alternative enrollment, they will not necessarily be required to follow the lesson assignments outlined there.

Honors alternative enrollment is also open by invitation from individual professors who decide, based on the quality of regular lessons submitted, that particular students may benefit from a more flexible study arrangement. While an instructor may make such a recommendation, it is still up to the student to decide whether or not he wishes to change to the honors alternative enrollment. Enrollment for the honors alternative carries full tuition.

3. Credit by examination — Similar to the honors alternative, the credit by examination method of independent study allows the student to prepare himself largely on his own for a final examination, the passing of which entitles him to credit in the course. Like all independent study students, students applying for credit by examination receive a study guide upon receipt of their application for enrollment and are expected to obtain all required texts and materials for use in their self-preparation. They will not, however, be allowed to submit work for the instructor's evaluation before writing the examination. The credit by examination method is designed primarily for students with extensive background in an area who wish mainly to reorient their practical experience to an academic framework in order to earn certificate or degree credit. This method is not recommended for students who do not have substantial prior knowledge in a subject area. Students wishing to enroll for credit by examination should send their application

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blank, a transcript (if previous college work has been taken), and a letter explaining their qualifications for such enrollment to Roger Young, Director, Department of Independent Study, 33 Westbrook Hall, University of Minnesota, Minneapolis, Minnesota 55455. Based on this information and any other information he may request, the Director, in consultation with the course instructor, will decide whether or not the student has sufficient background to earn credit by examination. If the application is accepted, the student will be asked to pay the special examination fee of \$25 (\$20 for the exam plus \$5 for the course materials). If the student's application is not accepted, he will be asked to pay full tuition and enroll in the course on a regular lesson basis.

Special note: some instructors have indicated that particular courses are not suitable for credit by examination. Where this is the case, the student will be notified immediately upon receipt of his application.

Resident Credit

Degree credit courses described in this bulletin parallel or are equivalent to courses offered on the University of Minnesota campus with the same title and course number. Independent study credits do not count, however, as credits in residence at the University of Minnesota. Neither is work taken through independent study automatically transferred to the regular transcript of a day class University student. Rather, a record of work taken through independent study is kept on a separate Extension Transcript, along with any work taken in University of Minnesota evening classes. Day school students presently enrolled at the University should request at their college window that their independent study credits be transferred to their day school record.

Graduate Credit

Credits earned through independent study are not acceptable for graduate credit in the University of Minnesota Graduate School. Independent study courses may be used, however, to satisfy undergraduate prerequisites for Graduate School admission, to complete the graduate language requirement, or to acquire additional background in particular subject areas.

Enrolling in Credit Courses on a Non-credit Basis

Any course listed in this bulletin, whether offered for credit or not, may be taken on a non-credit basis by simply indicating "NC" in the credit section of the registration form. In some cases, an individual instructor may take into account, in his grading or lesson requirements, that a student has an objective other than degree or certificate credit. Usually, however, instructors will expect the same quality of work and will grade both credit and non-credit students on the same basis. Students may not change from a non-credit to a credit registration once they have begun submitting lessons.

DEGREE CANDIDATES

(See also University Degree Programs)

It is possible, through independent study, to work on a variety of degrees at the University of Minnesota. There are limitations, however, on the use of independent study credits in degree programs, depending on the policy of the individual school or major department. For this reason, students who are currently enrolled in regular day classes and who wish to apply credits earned through independent study to a University of Minnesota degree program are urged to consult an academic adviser or college officer **before** enrolling in independent study.

Students who have never been admitted to the University of Minnesota but who wish to work toward a University of Minnesota degree should contact the Extension Counseling Office, 314 Nolte Center, University of Minnesota, Minneapolis, Minnesota 55455, as soon in their planning as possible. It is also essential that they read carefully the official bulletin of the college to which they wish to be admitted. College bulletins can be obtained by writing the Service Bureau, B-3 Morrill Hall, University of Minnesota, Minneapolis, Minnesota 55455.

Officials at other colleges or universities determine which independent study courses will be accepted and fulfill degree requirements at their institutions. Students wishing to receive credit at another institution for courses taken through independent study should therefore obtain prior approval from their resident college or university before enrolling. A transcript of work taken through independent study will be sent to other colleges and universities upon request. Students should send their name, address and the name of the institution to which the transcript should be sent to:

Extension Transcripts Department
Window 17
105 Morrill Hall
University of Minnesota
Minneapolis, Minnesota 55455

Students at the University of Minnesota or elsewhere who are working to meet a specific credit deadline must take full responsibility for meeting that deadline. All lessons and examinations must be completed at least 3 weeks before the date on which the final grade must be recorded for graduation or certification. This is especially important during May, June and September when, because many students are completing courses, the recording process is somewhat slower than at other times. Students with special time limitations should check with the Department of Independent Study **before** enrolling. (See also **Time Limitations**.)

EXAMINATIONS

Most independent study courses include a final examination and, in many cases, one or more mid-course quizzes. Examinations are usually supervised and may be

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taken at the following offices or under the supervision of the following individuals:

1. Department of Independent Study, 45 Westbrook Hall, Minneapolis campus of the University. Office hours are from 7:45 a.m. to 4:30 p.m., Monday through Friday. No appointment is necessary during regular hours. Students wishing to take their examination on the first or second Tuesday evening of the month should call 373-3256.

Students in the Twin Cities area are urged to take their exams at the offices of the Department of Independent Study.

2. Continuing Education and Extension Offices (by appointment only):

Duluth: 431 Administration Building, 726-8113

Minneapolis: MacPhail Center, 1128 LaSalle, 332-4424

Morris: 200D Education Building, 589-1464

Rochester: 2120 E. Center Street, Building 4, 288-4584

3. The Independent Study Department of any member institution of the National University Extension Association. (A list is available upon request.)
4. A school superintendent or principal; a college instructor or administrator.
5. A commissioned officer whose rank is higher than the student's (for students in the military only).

The Department of Independent Study reserves the right to reject any supervisor. Regardless of his academic qualifications, no relative may proctor an examination. No proctor fees are authorized.

One or more request for examination forms are included in the study guide for each course. Students who take examinations in locations other than the offices of the Department of Independent Study must contact the individual whom they wish to proctor their examination **before** sending the request for examination form to the Department of Independent Study. Examinations are mailed directly to the supervisor at his or her business location.

EXTENSION CERTIFICATES

Twenty-five intensive certificate programs have been developed and are offered by Continuing Education and Extension. Certificate programs are designed for students who do not need or want to pursue a regular degree program and are generally regarded by business and industry as valuable professional and technical preparation for employment and promotion. For more information and a detailed listing of requirements, see the special section in this bulletin, **Extension Certificate Programs**.

FACULTY

All independent study instructors are approved by the academic departments through which courses are offered. In some instances, faculty members from other colleges and universities or specialists in professional and business fields also teach courses. In most cases, however, independent study instructors are faculty members of the University of Minnesota. A complete listing of the faculty of the Department of Independent Study follows the course description section of this bulletin.

FEES

Tuition and Out-of-State Fees

Tuition for independent study courses is \$15 per credit. A 3-credit course, therefore, costs \$45, a 4-credit course \$60 and a 5-credit course \$75. The tuition for each course is listed with the course description. Books and materials are not included in the tuition and must be purchased separately. (See **Textbooks and Materials**.) Students who are not residents of Minnesota must pay an additional \$3.00 fee per course. The cost of airmail postage, if desired, must also be added to the cost of tuition. (See explanation of postage fees below.) Checks or money orders should be made payable to the University of Minnesota. Students must register for independent study courses directly with the Department of Independent Study. Independent Study has no commercial agents in this country or abroad.

Postage

The student pays the postage on all mail sent to the Department of Independent Study; return mail to the student is paid by the Department at surface mail rates. Foreign or American students may arrange for airmail return of lessons, texts and materials, or both, by enclosing a special fee with their registration. Overseas students who do not arrange for airmail postage should expect considerable delay and possible loss of delivery.

Foreign or American students who wish **corrected lessons** returned by airmail or other rapid-service mail should remit the following amounts in addition to the tuition for each course:

Africa	\$12.50	Central America	\$7.50
Near and Far East	12.50	Canada	5.00
Europe	7.50	Mexico	5.00
South America	7.50	United States	5.00

Any balance remaining after the completion of a course will be refunded.

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Students in the United States and Canada who wish **texts and materials** sent airmail should remit \$5.00 in addition to the tuition for each course. Overseas students should remit \$10.00 per course. Any balance remaining after postage has been paid will be refunded. Students should indicate clearly on the registration blank the purpose for which additional payment for postage is included.

Refunds

If, for some reason, a student wishes to cancel his registration in a course, he may request a partial refund of his tuition providing he does so within 3 months of the date of registration and prior to the completion of half the lessons in the course. Twenty-five percent of the cost of the course plus \$2.50 for each lesson evaluated are nonrefundable. The service charge and first payment under the partial payment plan are also nonrefundable. Students who have made the second payment under the partial payment plan may, however, receive a refund in the same manner as other independent study students. (See complete explanation of Partial Payment Plan under **Financial Assistance**.)

Reinstatements

Students have one year from the date of their registration to complete a course. If, however, they cannot complete the course in that period, they may reinstate their enrollment for one additional 6-month period by paying a fee of \$6.00. Students wishing an extension of time should request a reinstatement shortly before their enrollment expires. The reinstatement fee must be paid before additional lessons can be submitted. Students who do not make arrangements to reinstate within 6 months from the expiration date of their original enrollment will be considered inactive and may complete the course only by re-enrolling with full tuition fees.

If a course is not completed by the expiration date of the reinstatement, the student must receive special permission from the Director of the Department of Independent Study for a second reinstatement. Students who have been granted permission for a second reinstatement will be expected to pay the \$6.00 reinstatement fee for each 6 months (or portion thereof) beyond the expiration of their original registration.

Transfer of Registration

A student may transfer from one independent study course to another providing he does so within 3 months from the date of registration and prior to the completion of half the lessons in the course. The transfer fee is 25 percent of the cost of the first course, plus \$2.50 for each lesson evaluated. The balance of the original fee is applied to the tuition for the new course. The second course must be completed within one year from the original registration date unless the enrollment is reinstated as explained above. When a transfer is recommended by the Department of Independent Study, there is no charge except for lessons evaluated by the instructor.

Transfers are allowed only once per registration and cannot be made from one individual to another.

FINANCIAL ASSISTANCE

The following paragraphs describe some of the various programs and methods whereby financial aid for independent study can be arranged. Full-time students at the University of Minnesota should also contact the Office of Student Financial Aid, 107 Armory, University of Minnesota, Minneapolis, Minnesota 55455, regarding additional assistance opportunities.

Business Firms — Many business firms are willing to help subsidize the education of their employees. Before registering, employed students are urged to talk with their company personnel officer about possible tuition assistance for independent study.

Handicapped Students — Rehabilitation funds for the education of disabled persons are available through most State Departments of Education. Applications for aid in Minnesota should be sent to the Division of Vocational Rehabilitation, State Department of Education, Centennial Office Building, St. Paul, Minnesota 55101; telephone: (612) 221-2891.

Prisoners' Tuition Assistance Fund — The Department of Independent Study has available limited funds to help offset the cost of independent study tuition for those confined to Minnesota state correctional institutions. Persons interested in obtaining such assistance should send a letter of application to Roger Young, Director, Department of Independent Study, 33 Westbrook Hall, University of Minnesota, Minneapolis, Minnesota 55455.

Prisoners are also urged to consult their prison education officer about possible financial aid available through their own institution.

Tax Deductible Educational Expenses — Regulations of the United States Internal Revenue Service allow taxpayers to deduct certain educational expenses. In general, expenditures made by a taxpayer for his education are deductible if they are for education (including research activities) undertaken primarily for the purpose of:

- 1) maintaining or improving skills required by the taxpayer in his employment or other trade or business, or
- 2) meeting the express requirements of a taxpayer's employer or the requirements of applicable law or regulations imposed as a condition for retaining the taxpayer's present employment, salary or status.

Educational expenses are not deductible if they are undertaken primarily for the purpose of:

- 1) obtaining a new position,
- 2) general educational improvement, or
- 3) meeting the minimum requirements to qualify for or to establish a trade or business.

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Interested students should contact their local office of the Internal Revenue Service for specific information and advice. The Department of Independent Study is not authorized to interpret federal regulations or to provide advice to taxpayers.

Veterans — A G. I. Bill for Cold War Veterans (Chapter 34, Title 38, U. S. Code) providing education benefits for eligible veterans became effective June 1, 1966. Eligibility is based on active military service on or after February 1, 1955. Tuition and fees must be paid by the veteran at the time of registration. He will then be reimbursed on a quarterly basis for lessons completed. For further information on the Cold War Veterans Bill, write the Department of Independent Study, 25 Westbrook Hall, University of Minnesota, Minneapolis, Minnesota 55455 or contact your local Department of Veterans Affairs.

Under some circumstances, World War II and Korean veterans whose education benefits under Public Law 346 or 550 have been used (not interrupted) may be eligible for tuition assistance from the State of Minnesota Department of Veterans Affairs. Such veterans, if they believe themselves eligible, should contact the State of Minnesota Department of Veterans Affairs, Veterans Service Building, St. Paul, Minnesota 55101; telephone: (612) 221-2562.

Partial Payment Plan — The Department of Independent Study offers a partial payment plan for those who cannot pay full tuition at the time of registration. This plan applies only to courses with tuition of \$30.00 or more. Texts and materials ordered through the Department of Independent Study must be paid for in full at the time of purchase, as must the out-of-state fee, if applicable.

Under the plan, the student pays, at the time of registration, 1/3 of the total tuition plus a service charge of \$3.00 per course. The other 2/3 is payable in two equal monthly payments due 30 and 60 days after the date of registration.

Sample payment schedules appear below:

Tuition	1st pmt. (at registr.)	2nd pmt. (30 days)	3rd pmt. (60 days)
\$30 (2 cr at \$15.00)	\$13.00	\$10.00	\$10.00
\$45 (3 cr at \$15.00)	\$18.00	\$15.00	\$15.00
\$60 (4 cr at \$15.00/cr)	\$23.00	\$20.00	\$20.00
\$75 (5 cr at \$15.00/cr)	\$28.00	\$25.00	\$25.00

A student will not receive instruction for any lessons submitted which exceed that percentage of the course for which he has paid. Students enrolled in a 3-credit course which has 12 lessons, for example, will not receive instruction beyond lesson 4 if they have made only the first payment. Likewise, students will not receive instruction beyond lesson 8 if they have not made all three payments.

Registration will be cancelled for any student who has not paid the total amount of the tuition within 90 days of his original registration and who has not obtained special permission from the Director of the Department of Independent Study to extend his payment deadline. Once a student's registration has been cancelled, he may continue a course only by re-enrolling.

The first payment and the service charge for partial payment are nonrefundable. Students who have made the second payment may, however, request a refund or transfer to another course in line with the regular refund and transfer procedures of the Department of Independent Study. (See **Fees.**)

Students wishing to use the partial payment plan should fill in the appropriate spaces on the regular registration form and send it, along with the service charge, the first payment, and any other special fees (as appropriate), to the Department of Independent Study.

GRADES

The University of Minnesota employs two grading systems: the A-F system and the P-N system. Students must indicate on their registration form the system by which they wish to be graded in each course and may not change to another system after they have begun submitting lessons. Certain courses may not be taken on a P-N basis. If so, you will be notified upon receipt of your application and will be entitled to a full refund if you do not wish to take the course on an A-F basis. Reports of final grades earned in independent study are sent automatically to the student upon completion of each course.

A-F Grading System

In the A-F system there are four passing grades: A (highest), B, C, D (lowest). A grade of F indicates that a student did not successfully complete (or pass) the course. A grade of D, while a passing grade, reflects substandard work and must be balanced by grades of A or B in order to maintain the C average required of students wishing to graduate from the University of Minnesota. Grading procedure and requirements are left largely to the discretion of the individual instructor who is in the best position to evaluate a student's skill, knowledge and progress. Grading policies employed in specific courses are usually outlined in the study guide sent to the student upon registering for a course. Questions or problems concerning grades earned in independent study should be directed to Roger Young, Director, Department of Independent Study, 33 Westbrook Hall, University of Minnesota, Minneapolis, Minnesota 55455.

P-N Grading System

The University is continuing to experiment with the P-N grading system specifically for the purpose of encouraging students to take a variety of courses they might not otherwise take under the pressure of maintaining a certain minimum grade point average. Under the P-N system, P stands for "pass" and N for "no-credit." Neither counts in the grade point average but credits of P, when allowed, count toward degree or certificate completion. The evaluative dividing line between P and N is approximately the same as that between D and F.

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The faculty of each college of the University is responsible for determining how the P-N system will be used in their college. In general, the following restrictions apply to all colleges of the University of Minnesota.

A student may not take, on a P-N basis,

- 1) courses in his major field or courses identified by his major department or professional school as specific requirements or prerequisites (unless they are offered on P-N only);
- 2) more than 25 percent of the total course credits applicable to his degree;
- 3) courses for graduate credit; or
- 4) courses in education, public health and business administration.

In addition, there are specific exclusions in each program. Students intending to apply independent study credits taken on a P-N basis toward a degree at the University of Minnesota should contact their college office or the Extension Counseling Office, 314 Nolte Center, University of Minnesota, Minneapolis, Minnesota 55455, before enrolling.

Students working on certificate programs may take up to 25 percent of their course credits for the certificate on P-N. If, however, they intend to work toward a University degree, they must also follow the P-N degree requirements outlined above. Students not working on a degree or certificate program and not intending to later apply credits toward such a program may elect the P-N system for any course.

Withdrawals, Cancellations and Incompletes

No grade will be recorded for students, regardless of their progress in the course who cancel a course or who fail to complete their independent study work within the one-year time limit. Courses and grades for independent study are recorded only if a student is certified by his instructor as having completed the course requirements either by the regular lesson method, credit by examination or honors alternative. Students receive an unofficial transcript of their course grade from the Office of Admissions and Records soon after completing the course requirements.

GROUP STUDY (Community Classroom)

Students pursuing independent study are urged to meet and discuss their course work, on a formal or informal basis, with other students in their general geographical vicinity. For groups of 30 or more students in Minnesota, the Department of Independent Study will, upon request, coordinate a Community Classroom which usually consists of one or more lectures by the professor (either in-person or via a

two-way amplified telephone hook-up) supplemented by any of the following special aids:

- 1) remote electronic blackboard
- 2) films, slides, or overhead projections
- 3) television or audio tapes
- 4) instructor availability by telephone during specified office hours

Designed primarily as a supplement to individual study, the Community Classroom is not intended to take the place of nor diminish the flexibility or personal nature of independent study instruction. Every effort will be made to arrange group meetings at a time and place convenient to students involved, and individual lessons will still be read by the instructor and returned privately to each student.

Tuition and fees for the Community Classroom option are the same as those for regular independent study, although, depending on the size of the group, its distance from Minneapolis and equipment used, it may sometimes be necessary to assess a nominal special fee.

Students wishing to discuss the possible establishment of a Community Classroom in their school or community should call or write Roger Young, Director, Department of Independent Study, 33 Wesbrook Hall, University of Minnesota, Minneapolis, Minnesota 55455; telephone: (612) 373-3844.

GUIDANCE AND COUNSELING SERVICES

The Extension Counseling Office offers both counseling and program advising services, without fee, to all students registered in or planning to register in courses offered by Continuing Education and Extension.

Program advising is available to help students select programs of study, determine prerequisites and standing, evaluate transcripts of previous college work, choose the kind and number of courses to take and decide in what order they should be taken, evaluate the applicability of independent study credits to specific programs, and otherwise make decisions regarding participation in degree or certificate programs at the University of Minnesota.

In addition, professional counseling and testing services are available to students seeking help with personal problems, wishing to learn more about their own abilities and interests, and needing help with educational and vocational planning. A fee of \$15 is charged for students (\$25 for non-students) wishing to take a battery of tests. The Counseling Office is located at 314 Nolte Center on the Minneapolis campus of the University of Minnesota and is open for appointments daily, Monday

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through Friday, from 9:00 to 12:00 a.m. and from 1:00 to 4:00 p.m. Evening appointments are also available every Monday and Wednesday from 5:00 to 8:00 p.m. and at other specified times during the fall registration period of each academic year. Independent study students may also obtain counseling by mail by writing:

Extension Counseling Office
314 Nolte Center
University of Minnesota
Minneapolis, Minnesota 55455
Phone: (612) 373-3905

HIGH SCHOOL STUDENTS

Qualified high school students may, with permission of their local school authorities, take college-level independent study courses for enrichment or college credit. In addition, the Department of Independent Study offers approximately 50 courses for high school credit particularly suitable for students who need a specific language, science or mathematics credit for college entrance; students who have dropped out of school but wish to complete their diploma; handicapped students who cannot attend public high school; above-average students who have permission to accelerate their high school completion; or adults preparing for the General Educational Development (GED) tests for high school equivalency.

Independent study courses for high school students are approved by the State Department of Education and satisfy University of Minnesota entrance requirements. For more information and a complete list of courses, write to the Department of Independent Study for a *High School Bulletin*.

LANGUAGE LABORATORY

The University of Minnesota Language Laboratory and Instructional Resource Center houses over 5,000 audio tapes for student use. Tapes are available on cassette or reel-to-reel and include not only a wide variety of language materials but also supplemental tapes for use in music, social sciences and other disciplines. Independent study students are eligible to use the Language Laboratory and /or to borrow materials on a long-term loan basis upon presentation of a paid fee statement (the student's copy of the completed registration form). Students wishing to borrow materials by mail should fill out the request blank sent with their course materials and return it directly to the Language Laboratory. For more information regarding materials available which may be relevant to your course, check with your instructor, or contact the Language Laboratory. The address and hours of both the St. Paul and Minneapolis resource centers appear below:

Language Laboratory
218 Temporary South of Folwell
University of Minnesota
Minneapolis, Minnesota 55455

hours: 8 a.m. — 8 p.m. M-Th
8 a.m. — 6 p.m. Fri
9 a.m. — 3 p.m. Sat
Closed Sun
phone: (612) 373-2538

Instructional Resources Center
2nd Floor, Temporary South of Coffey
University of Minnesota
St. Paul, Minnesota 55101

hours: 8 a.m. — 8 p.m. M-Fri
Closed Sat and Sun
phone: (612) 373-1623

LESSON SERVICE

(See also Time Limitations)

The Department of Independent Study makes every effort to provide reasonable and prompt lesson service throughout the calendar year. Because some lapse of time is inevitable, however, in the handling and evaluation of assignments, students should allow at least one week between the time an assignment is received by the department and the time it is placed in the return mail. Students should therefore plan to complete all assignments for a course at least two weeks before taking the final examination.

Circumstances such as insufficient postage, no zip code, and the submission of a large number of lessons at one time, may delay the return of lessons beyond the one week period. In addition, at certain times of the year, especially during the summer months when many lessons must be sent to off-campus addresses, lesson return may be somewhat slower. Students have the right, however, to expect reasonably prompt lesson service. They are therefore urged to contact the Department of Independent Study regarding any lesson which has not been returned within 3 weeks from the date on which it was sent.

LIBRARY AND AUDIO-VISUAL FACILITIES

(See also Language Laboratory)

Independent study students are urged to use their local library resources for both supplementary and required reading in their courses. If, however, their local public, school, or college library is unable to supply them with needed books or materials, the following library and resource facilities are also available to them.

Loan Library — The Department of Independent Study operates a small loan library from which required and recommended books for some courses may be

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rented. The study guide for each course indicates any books available for that course from the loan library. Rental fee for 3 months is 25 percent of the new book price; the minimum charge is 50 cents. A book may be retained an additional month, if needed, for an additional 15 percent of the list price. Borrowers must observe the library courtesy of returning books when due so they may be used by other students who need them. No library books can be sent overseas.

University of Minnesota Libraries — Independent study students are entitled to borrow books from the University of Minnesota libraries. These include the St. Paul Campus Library, Walter Library on the East Bank of the Minneapolis campus, and Wilson Library on the West Bank of the Minneapolis campus. Walter Library houses materials in education, psychology, library science, music and general science. Wilson Library houses books and journals in the humanities and social sciences and the main card catalog for the Twin Cities campus libraries. Independent study students are subject to all library regulations including those covering loan periods, fines on overdue books, and the recall of books needed by other students or for course reserves. Students borrowing in person must present a current fee statement (the student's copy of the registration form) when checking out books. Students wishing to borrow by mail should fill out the request blank sent with their course materials and return it directly to the Circulation Department, Wilson Library, University of Minnesota, Minneapolis, Minnesota 55455. Library loans by mail are subject to all library regulations and must be returned upon demand. No library books can be sent overseas.

Audio Visual Extension — The Department of Audio Visual Extension provides audio visual library services for assistance in the use of nonprint and print media as a learning resource. A film library housing over 8,500 titles (20,000 prints), an audio tape library of 3,000 subjects, and a library of other nonprint subjects are available on a fee basis as an educational resource for patrons. Extensive bibliographic data and reference service are also provided on request. Limited preview facilities and equipment are available on the departmental premises. For more information and a catalog of available resources, call or write Donald Monson, Librarian, Department of Audio Visual Extension, 2037 University Avenue S. E., Minneapolis, Minnesota 55455; telephone: (612) 373-5452.

MILITARY PERSONNEL

Most of the courses in this bulletin are available under special contract with the United States Armed Forces Institute. Under this contract, eligible military personnel can save more than half of the cost of each course. Students in the Armed Services should see their Information and Education Officers or write the Department of Independent Study or USAFI headquarters, Madison, Wisconsin 53713, for a complete list of course offerings and rates.

NUEA (National University Extension Association)

The Department of Independent Study is a member of the Independent Study Division of the National University Extension Association. The division publishes a

GUIDE TO INDEPENDENT STUDY that lists independent study courses offered by 64 colleges. It is available from the National University Extension Association, One Dupont Circle, Suite 360, Washington, D. C. 20036. For single copies, the cost is 75 cents.

OFFICE HOURS

The office of the Department of Independent Study is open Monday through Friday, 7:45 a.m. to 4:30 p.m., throughout the calendar year. The Department does not observe regular academic holidays except for the following:

July 4, 1972	Independence Day
September 4, 1972	Labor Day
November 23, 1972	Thanksgiving Day
November 24, 1972	Friday after Thanksgiving
December 25, 1972	Christmas Day
December 26, 1972	Tuesday after Christmas
January 1, 1973	New Year's Day
April 23, 1973	Monday after Easter
May 29, 1973	Memorial Day

The office is also open on the first and second Tuesday evenings of every month for examinations. Students wishing to arrange for an evening examination should call 373-3256 or write the Department of Independent Study.

OVERSEAS AND FOREIGN STUDENTS

(See also Military Personnel)

The Department of Independent Study welcomes registrations from foreign students or Americans living or traveling abroad. Courses are available, however, *only in English*. Foreign students must therefore have enough facility in English to be able to read and write assignments without difficulty.

The Department of Independent Study does not employ agents abroad. The student must mail his registration form along with payment for fees, books and other materials directly to the Department of Independent Study.

The Department of Independent Study sends all books and lessons at surface mail rates unless the student encloses additional payment for airmail postage. Overseas students who do not arrange for airmail return of books and lessons should expect considerable delay and possible loss of delivery. For more complete information, see Postage under **Fees**.

Loan Library materials, records and certain other supplementary materials cannot be sent overseas. If so, this is noted in the study guide sent to each student upon registering.

General Information

PARTIAL PAYMENT PLAN

(See Financial Assistance)

POSTAGE

(See Fees)

PURCHASE OF STUDY GUIDES

Students not wishing instruction or credit for an independent study course may purchase the study guide only at a cost of \$5.00. Students wishing to purchase a guide or guides should send their request and \$5.00 for each guide to Olga Migliaccio, Office Supervisor, Department of Independent Study, Wesbrook Hall, University of Minnesota, Minneapolis, Minnesota 55455.

REFUNDS

(See Fees)

TAPES AND TAPE RECORDERS

The Department of Independent Study is in the process of developing a number of independent study courses using audio cassettes both for required and optional material and for student-instructor feedback. When tapes are available as a required or supplementary part of an independent study course, it is noted in the study guide sent to each student upon registering. In a few cases, taped materials are available only on audio cassettes. In most cases, however, the student has the option of buying pre-recorded tapes in either cassette or reel-to-reel form. Certain tapes are available only through the Department of Independent Study. If so, this is noted in the study guide sent to the student upon registering. Complete information about ordering tapes will be included with each study guide for which tapes are available.

Beginning in the summer of 1972, the Department of Independent Study will have available for loan a small number of cassette recorders for use with independent study courses. The service fee will be approximately \$10-15 for 3 months, renewable for additional months at a specified rate per month. Students will be charged a fine for use, without renewal, beyond the basic loan period and will be held responsible for any loss or damage to machines while in their possession or in transit back to the Department of Independent Study. Cassette recorders will not be sent overseas. For more information regarding cassette recorders on loan, call or write the Department of Independent Study, 69 Wesbrook Hall, University of Minnesota, Minneapolis, Minnesota 55455; telephone: (612) 373-3803.

TEACHER CERTIFICATION

Most independent study courses can be used in the acquisition and renewal of teachers' certificates. The Department of Independent Study only provides the courses and **does not evaluate teaching or educational experience for a certificate, or recommend courses.**

Questions concerning teacher certification should be directed to the State Department of Education or a similar agency. (In Minnesota—Director of Teacher Personnel, 4th Floor, Centennial Office Building, St. Paul, Minnesota 55101.)

TEXTBOOKS AND SUPPLIES

Textbooks and supplies needed for a course, and the procedure for ordering them, are explained in the study guide sent to the student upon registering. The tuition fee does not cover the cost of books and materials. Course descriptions in this bulletin list approximate book prices. Exact prices are listed in the study guide introduction, a copy of which will be sent upon request to students who wish to know more about a course before enrolling.

Textbooks and supplies may be obtained from a local library or bookstore, from the publisher, from Nicholson Hall Bookstore (Room 7) on the Minneapolis campus of the University, or by mail through the Department of Independent Study. Students who wish to purchase books by mail should fill out the book order form included with their course materials and send it to the Department of Independent Study, 45 Westbrook Hall, University of Minnesota, Minneapolis, Minnesota 55455. Minnesota residents must add 4% sales tax to the price of the books and all mail orders must include a service charge of \$1.25. Students should indicate on the book order form if they do not wish to be sent used books. Books and materials will be sent airmail upon remittance of an additional \$5.00 per course for students in the United States and Canada or \$10.00 per course for students overseas (see **Postage**).

Students who wish to sell their books after a course is completed should contact Irene Phillips, Nicholson Hall Bookstore, Room 7, University of Minnesota, Minneapolis, Minnesota 55455; telephone: (612) 373-3688. Only books in current use will be purchased. Please inquire before sending books.

TIME LIMITATIONS

One of the major advantages of independent study is that it permits the student to progress at his own pace. Although the time required for preparation varies with the course and the individual, the average time required to read and prepare a written or taped assignment is approximately 8 to 10 hours. Whether a student submits one or several assignments per week or month, he will derive more

General Information

value from the course if he completes assignments on a regular schedule. For optimum learning, students should not submit several new assignments before receiving the instructor's comments on assignments already submitted. Students should not hold assignments but should submit them as they are completed.

Students working against a credit deadline for graduation or certification must take full responsibility for arranging their course work in such a manner as to allow ample time for completing the course. Generally, students should plan on a minimum of 2 weeks to complete each quarter-hour credit. A 3-credit course, therefore, would require a minimum of 6 weeks to complete, a 4-credit course a minimum of 8 weeks and a 5-credit course a minimum of 10 weeks. In addition, students should allow at least 3 weeks from the date the course is completed for the final grade to be recorded on their transcript in the office of Admissions and Records. Students with special time limitations should check with the Department of Independent Study, **before** enrolling, about the feasibility of meeting their particular credit deadline.

An independent study course may be started at any time and students have 1 year from the date of registration to complete a course. If, for some reason, they cannot complete the course within that period, they may reinstate their enrollment for an additional 6 months by paying a fee of \$6.00. If a course is not completed by the end of the additional 6-month period, the student must receive special permission from the Director of Independent Study for a second reinstatement. Students who have not made arrangements to reinstate within 6 months from the expiration date of their original enrollment will be considered inactive and may complete the course only by re-enrolling with full tuition. For more information, see Reinstatements under **Fees**.

TRANSFERRING TO ANOTHER COURSE

A student may transfer from one independent study course to another providing he does so within 3 months from the date of registration and prior to the completion of half the lessons in the course. For more information, see Transfer of Registration under **Fees**.

TRANSCRIPTS

An unofficial transcript of his final grade is sent to each student upon completion of a course. An official transcript of work taken through independent study will be sent to other colleges and universities upon request. Students should send their name, address and the name of the institution to which the transcript should be sent to:

Extension Transcript Department
Window 17, 105 Morrill Hall
University of Minnesota
Minneapolis, Minnesota 55455

Day-class students currently enrolled at the University of Minnesota should request at their college window that credits earned through independent study be transferred to their day school record.

WITHDRAWALS

Students who wish to cancel their registration within 3 months of the date of registration and prior to the submission of half the lessons in the course may do so in line with the regular refund policy explained under **Fees** in this bulletin. Students who wish to withdraw from a course after that point may do so, in effect, by simply not submitting lessons for evaluation. No grade of any kind is recorded on a student's transcript unless he completes the work of the course.

HOW TO ENROLL IN INDEPENDENT STUDY

1. Read carefully the **General Information** section of this bulletin. You are responsible for all rules and information contained there, so it is to your advantage to read and understand it **before** enrolling.

2. Choose the course or courses in which you wish to enroll, and fill out the registration blank in the center portion of this bulletin. If you are working toward a degree or certificate and plan to apply credits earned through independent study toward that program, check, before enrolling, with your advisor, a college counselor, or the Extension Counseling Office, 314 Nolte Center, regarding the applicability of independent study credits to your particular specialization.

3. Send or bring in the completed registration blank, full or partial payment (see explanation of partial payment plan in this bulletin), and, if applicable, out-of-state fee, payment for airmail postage and other information requested for special types of enrollment to:

Department of Independent Study
45 Wesbrook Hall
University of Minnesota
Minneapolis, Minnesota 55455

Make checks or money orders payable to the University of Minnesota.

4. As soon as your enrollment is processed, you will receive lesson materials and a study guide which lists the texts and materials necessary to complete each course. Obtain required texts and materials from your local library or bookstore, from the publishers, from the Nicholson Hall Bookstore (Room 7) on the Minneapolis campus of the University, or by mail from the Department of Independent Study. When ordering from the Department of Independent Study, be sure to use the book order form included with your lesson materials.

5. If you have any questions or comments about your instructor, the study guide, lesson procedures or other aspects of your course, please call or write the Department of Independent Study. Phone: (612) 373-3256.



Special Courses and Programs

The Department of Independent Study is involved in a number of special programs designed to create flexible continuing education opportunities for special groups. The following are some of the programs which, to a greater or lesser degree, use the resources of the Department of Independent Study to extend the University into the community.

Independent Study Program for Hospital and Health Care Facility Administrators

In 1969 the first course in a three-year sequence of courses designed to improve the administration of health care delivery institutions in the Upper Midwest Region and adjoining states began at the University of Minnesota. In 1972-73 all three levels of the sequence will be offered simultaneously. The curriculum consists of learning experiences which develop and update management skills, knowledge, and attitudes in

- 1) the internal operations of health care delivery institutions (Course I);
- 2) relationships among people and groups of people who function within institutions and in areas related to institutions (Course II); and
- 3) external forces affecting health care delivery (Course III).

Each course contains all or several of the following components: residential sessions at the beginning and end of the course, seminars held in locations throughout the service region, "preceptor-student dialogues," and independent

Opposite: Most students in the Twin Cities take their examinations at the offices of the Department of Independent Study, 45 Wesbrook Hall.

Photo by Steve Murray

Special Courses and Programs

study. The independent study components consist of monthly units of study, each covering a single topic. These topics form the basis for the meetings with the preceptor-tutors as well as the content of the regional seminars. Developed by University of Minnesota faculty with the assistance of the Department of Independent Study, the units generally include a statement of learning objectives, faculty authored material, reading assignments, and performance requirements. The organization of Course III is substantially different from that of Courses I and II. For the first four months, participants complete an in-depth study of four major content areas: manpower, finance, organizing and social policy. The remainder of the year is spent pursuing one of these topics in depth through the execution of a research or demonstration project supported by a scholarly paper.

The Independent Study Program for Hospital and Health Care Facility Administrators is offered through the University of Minnesota Office of Continuing Hospital and Health Care Administration and is open only to administrators or, in some cases, assistant administrators of health care facilities. For additional information contact the Project Coordinator, Independent Study Program for Hospital and Health Care Facility Administrators, 6300 Powell Hall, Box 301, Minneapolis, Minnesota 55455.

Independent Study Program for Long Term Care Administrators

Using the program in Hospital Administration as a model, the School of Public Health has proposed an independent study program specifically for administrators of nursing homes and other long term care facilities. Scheduled to begin in September, 1972, the program will consist of 3 independent study courses covering the following content areas:

Course I: Basic Administration of Long
Term Care Facilities

Course II: Services for Long
Term Care Patients

Course III: Practicum in Long Term
Care Administration

For more information, write Center of Long Term Care Administration Education, Box 450, Powell Hall, University of Minnesota, Minneapolis, Minnesota 55455.

Paralegal Education

Recognizing the need for trained assistants in the legal profession, Continuing Education and Extension and the General College, in consultation with the American Bar Association Special Committee on Legal Assistants, have developed a multi-level program for preparing legal secretaries, legal assistants, and legal administrators. Program requirements are flexible, depending on previous education and work experience.

Special Courses and Programs

Legal Assistant. The 90-credit legal assistant program, leading to an Associate in Arts degree, can be completed entirely through extension courses. It combines legal specialty courses with general education, related business courses, and an internship experience. All of the Spread Requirement courses are offered through independent study.

I. Required Courses (63-67 credits)

A. Spread Requirement (41 credits)

Acct 1-024	4 cr.
BLaw 3-058, 3-078, 3-088	12 cr.
Engl 1-001, 1-002	8 cr.
GC 1-535—Intro to Data Processing	3 cr.
Econ 1-001	4 cr.
Pol 1-001	5 cr.
Psy 1-001	5 cr.

B. Legal Specialty Courses (20-24 credits)

GC 1-582—Real Estate	4 cr.
GC 1-581—Bus Org	4 cr.
GC 1-584—Intro to Litigation and Trial Practice	4 cr.
GC 1-583—Estate Planning and Adm.	4 cr.
GC 1-585—Income Taxation	4 cr.
Domestic Relations	4 cr.
GC 1-586—Legal Research	4 cr.

C. Individual Study Project or Internship 4-6 cr.

II. Electives (23-27 Credits) for a total of 90 credits for A. A. degree, including a minimum of 30 General College credits.

All of the legal assistant program may be applied to the B. S. legal administrator program in the General College.

Legal Secretary. The technical courses (15 credits) required to complete the 45-credit legal secretarial program are currently offered only through day school classes. The general education and business courses are available through extension courses.

Legal Administrator. The legal administrator program is a 180-credit program leading to a baccalaureate degree. The first 90 credits of this program are the same as those for the legal assistant. The second 90 credits are individually planned for each candidate. Emphasis is on business administration courses relating to the area of the candidate's interest. A wide selection of business administration courses is currently offered through Continuing Education and Extension.

For more information on any of these programs write to the Extension Counseling Office, 314 Nolte Center for Continuing Education, University of Minnesota, Minneapolis, Minnesota 55455.

Professional Development Recognition Program in Engineering and Science

The faculty of the University of Minnesota Institute of Technology has approved the development of a pilot program of Professional Development Recognition which will help plan and document the continuing education programs of individuals in science and technology. Each cycle of Professional Development Recognition will require approximately two years of effort employing a variety of educational formats. Minimum qualifications for entry to the program will be a bachelor's degree or its equivalent. Upon acceptance, a candidate will establish an individualized program of study with a Professional Development advisor. Program details and criteria will be distributed by June 15, 1972. Normally, all courses or seminars offered in fulfillment of the requirements for Professional Development Recognition will be approved in advance by a Professional Development advisor. During the initial stages of the program, an indication of intent to enter the program will permit an individual to use a course or seminar in which he is currently enrolled, in a Professional Development Recognition program subsequently approved by his advisor. Further details may be obtained by writing James E. Holte, Director, Continuing Education in Engineering and Science, 210 Nolte Center, University of Minnesota, Minneapolis, Minnesota 55455. Phone: (612) 373-5057.

University Without Walls

The University Without Walls is a program of University College designed to provide students with new opportunities in higher education leading to the baccalaureate degree.

Minnesota's UWW program is intended to serve the "educationally mature" student who has clear learning objectives, but who, for a variety of reasons, cannot realize his/her educational aims through existing programs.

Minnesota's UWW program is one of over twenty UWW units throughout the United States. The UWW program was initiated by the Union for Experimenting Colleges and Universities, headquartered at Antioch College, Yellow Springs, Ohio.

The main feature of UWW is the unusually high level of self-direction and responsibility required of its students. UWW students are expected to design and carry out their study activities without prodding from others. While in-depth advising is available to all UWW students, the primary motivation for learning must come from the student. Learning in UWW begins with the student's own educational objectives.

Admission to UWW is based on two fundamental criteria:

1. **Clear Learning Objectives**—Applicants must be able to clearly state both their short- and long-term learning objectives. Prospective students should be able to distinguish between purely vocational objectives (e.g., ". . . to

become a teacher") and their **learning** objectives. Applicants will also be expected to outline their anticipated approaches to study.

2. **Lack of Other Suitable Programs**—Persons should consider applying to UWW only if their situation is such that other educational programs either do not exist or are inappropriate to their goals. UWW is intended for students who, because of reasons of geography, time limitations, unusual interest areas, etc., are "immobilized" and therefore cannot take advantage of other programs.

Persons considering applying to UWW should consider the unusually high level of self-direction and freedom from customary external reinforcements which makes UWW a very different type of educational process. While UWW has already demonstrated wide appeal to a diversity of people, the program is not for everyone. Learning through UWW is not easy; in many respects, in fact, UWW is more demanding than most traditional programs.

There are no age requirements nor minimum educational level required for admission to UWW. (An applicant need not be, for example, a high school graduate.) Neither are students required to come to the University campus to pursue their studies. A personal interview with the UWW staff is, however, strongly recommended in order to ensure that proper action is taken on the individual's application for admission.

Additional information and/or applications may be obtained by contacting University Without Walls, 331 Nolte Center, University of Minnesota, Minneapolis, Minnesota 55455; telephone: (612) 373-3919.



Extension Certificate Programs

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

Continuing Education and Extension conducts 25 certificate programs organized at the collegiate level; students entering them should have adequate educational preparation or other experience which qualifies them to work effectively with college materials. Certificate programs consist of degree credit courses or a combination of degree and certificate credit courses. Certificate credit courses are college level in quality and represent an accelerated and specialized approach to subject matter in the areas represented. They are not, however, transferable to a degree program.

Work on a certificate may be done through independent study, evening classes, day school, summer session, or any combination of these. Except where noted, students may also transfer credit from other accredited institutions of higher education, although a minimum of 25 percent of the credits required for any certi-

Opposite: Extension Certificate Programs, such as the program in Police Administration, are designed to provide concentrated study in technical and professional areas.

Photo by Steve Murray

Extension Certificate Programs

ificate must be earned at the University of Minnesota. Core requirements must be completed by all applicants; the courses need not, however, be taken in order, except as prerequisites make it necessary.

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

Students interested in pursuing a certificate program are urged to secure a copy of *Procedures for Obtaining an Extension Certificate* and to complete an *Application for Admission to Certificate Programs* as early as possible in order to obtain proper counseling. Both forms are available at any CEE office. Advice and information about the various programs, transfer of credits, and so forth, may be secured from the Continuing Education and Extension Counseling Office, 314 Nolte Center, University of Minnesota, Minneapolis, Minnesota 55455.

Students nearing completion of the required work for a certificate must file a *Certificate Completion Form* at the beginning of the term in which the certificate is to be awarded.

Upon completion, with at least a C average, of a specified program, students are awarded a certificate. All certificates are dated and awarded as of the date of regular University commencement exercises which take place twice during the academic year. Students receiving senior certificates may participate in the June commencement exercises.

Group I certificates are those that can be earned *entirely* through completion of independent study courses.

Group II certificates are those that can be partially completed through independent study. In most instances, students will have to supplement these programs with credits earned in residence or transferred from accredited sources outside the University.

Group III indicates other certificate programs in which independent study courses can be used but for which they are the least helpful. A list of requirements for these programs will be sent on request.

Extension Certificates — Group I

All of the requirements for the following certificates can be met with courses selected from this bulletin. Certain optional or elective courses, however, are not offered through independent study.

Liberal Arts Certificate

(45 credits)

The Liberal Arts Certificate program is offered to students who wish an introduction to a liberal arts education. It is equivalent to 1 full 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 must take a minimum of 12 credits at the University of Minnesota.

English Requirement¹ (12 credits):

Engl 1-001/1-002/1-003; or equivalent

Spread Requirement (24 credits): Six credits in each of the following fields:

Communication, Language, Symbolic Systems: composition (other than freshman English), journalism, language, philosophy, mathematics, speech

Artistic Expression: art, architecture, classics, humanities, literature, music, theatre arts

Physical and Biological Sciences: astronomy, biology, chemistry, geology, physics

Man and Society: anthropology, economics, family studies, geography, history, political science, psychology, social science, sociology.

Electives: Additional liberal arts courses to make a minimum of 45 credits total for the certificate. For a listing of independent study courses applicable to the spread requirement, students should call or write the Extension Counseling Office, 314 Nolte Center, University of Minnesota, Minneapolis. 55455, 373-3905.

Extension Certificate Programs

Police Administration Certificate

(45 credits)

The Police Administration Certificate program was planned by Continuing Education and Extension in cooperation with the School of Public Affairs, police administrators, and other municipal officials. Increasing numbers of police officers are being selected from applicants with college experience. This certificate provides an organized program of study, most of which can be transferred to a degree program.

Some of the courses included in this certificate are available — and must be taken — only through the Department of Independent Study. These courses are marked with a single asterisk (*).

Credits may be transferred to this program from other institutions approved by the University of Minnesota.

English Requirement (12 credits):

Engl 1-001/1-002/1-003 or equivalent; or Engl 1-00, and 8 additional credits selected from Engl 1-002, Engl 0-008C*, Hum 1-101, Hum 1-102, Hum 1-103, Hum 1-104, Comp 0-006C.

Core Requirement (15 credits):

Soc 3-101—Elements of Criminology
PoAd 0-015C—Methods in Police Supervision*
PoAd 0-016C—Methods of Criminal
Procedure*

PoAd 0-017C—Methods of Police Planning,
Management, and Organization*
PoAd 0-018C—Methods of Criminal
Investigation*

Spread Requirement (18 credits):

Pol 1-001—American Government and
Politics
Psy 1-001—General Psychology
Soc 1-001—Introduction to Sociology

7 additional credits selected from:

Pol 1-025—World Politics
Pol 1-051—Introduction to Political Analysis
Hist 1-301, 1-302—American History
Soc 5-141—Delinquent Behavior

Mathematics and Science Certificate

(45 credits)

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

Prerequisite: Two years of algebra and 2 years of geometry including trigonometry.

Core Requirement (23-24 credits):

Comp 0-006C or Engl 1-001

Math 1-211—Calculus I: Calculus and Analytic Geometry or equivalent

Math 1-221—Calculus II: Calculus and Analytic Geometry or equivalent

Math 1-231—Calculus III: Calculus and Analytic Geometry or equivalent

Math 1-240—Calculus IV: Calculus and Analytic Geometry or equivalent

Electives: Additional credits to make a total of 45 credits, selected from the following areas:

Astronomy
Chemistry
Engineering

Geology
Physics
Aerospace Engineering and Mechanics

Extension Certificate Programs

Extension Certificates — Group II

At least half of the requirements for the following certificates can be met with courses selected from this bulletin. Courses or sequences available from the Department of Independent Study are marked with a double asterisk (**).

Accounting Certificates

The Junior Accounting Certificate program is of value to junior accounting personnel, management personnel, and businessmen who need a basic understanding of the principles of accounting and corporation finance.

The requirements for the Senior Accounting Certificate are similar to those for a 4-year degree in accounting. This program provides a good background for the Certified Public Accountant examinations.

JUNIOR ACCOUNTING CERTIFICATE

(50 credits)

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

Requirements:

Engl 1-001/1-002/1-003 or equivalent**
Econ 1-001, 1-002—Principles of Economics**
Fin 3-000—Finance Fundamentals
Acct 1-024/1-025/1-026—Principals of
Accounting**

Acct 3-105/3-106/3-107—Intermediate
Accounting
Acct 3-220/3-221—Cost Accounting
Math 1-141 or 1-441—College Algebra**
Math 1-141—Algebra, Probability, and
Pre-Calculus; or 1-201 Pre-Calculus**

SENIOR ACCOUNTING CERTIFICATE

(91 credits)

Students transferring credits to this certificate program from other institutions must take a minimum of 24 credits in accounting at the University of Minnesota.

Requirements:

Engl 1-001/1-002/1-003 or equivalent**
Comp 1-027—Intermediate Composition: Exposition**
Math 1-141—Algebra Probability and Pre-Calculus; or 1-201—Pre-Calculus or equivalent
Math 1-142—Introduction to Calculus of One and Several Variables; or 1-211/1-221** or equivalent
Econ 1-001, 1-002—Principles of Economics**
Acct 1-024/1-025/1-026—Principles of Accounting**
Acct 3-105/3-106/3-107—Intermediate Accounting
Acct 3-220/3-221—Cost Accounting
Three additional accounting courses numbered 5-000 or above
Fin 3-000—Finance Fundamentals
QA 3-050—Introduction to Management Science
BLaw 3-058—Business Law: Contracts**

Four courses from the following:

Prod 3-050—Production Management
IR 3-002—Systems of Industrial Relations: Labor Marketing**
Ins 3-100—Risk Management and Insurance**
Tran 3-054—Fundamentals of Transportation
Mktg 3-000—Principles of Marketing
Mgmt 3-001—Fundamentals of Management
Mgmt 3-004—Business Policy: Strategy Formulation and Implementation
Econ 3-101—Microeconomic Theory
Econ 3-102—Macroeconomic Theory**

Free Elective:

One Upper Division Course, inside or outside the School of Business Administration

Human Services Certificate

(45 credits)

The Human Services Certificate program was developed in response to an increasing demand for specialized certificates for paraprofessionals in community service. Paraprofessionals involved in community development agencies such as libraries, public and private schools, neighborhood health clinics, poverty agencies and housing authorities may find this certificate useful for personal development and professional advancement.

This certificate provides both general and career-related course work. Core requirements include 22-25 credits generic to all fields of human services, plus 5-8 credits of electives in the social sciences. The remaining 15 credits must be earned through supervised work experience and/or career-related projects planned by the student and his counselor. The certificate is flexible and provides a variety of educational opportunities for paraprofessionals.

Extension Certificate Programs

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

Students entering this program must arrange an appointment with an Extension counselor. Appointments may be arranged by calling or writing the Extension Counseling Office, 314 Nolte Center, University of Minnesota, Minneapolis, Minnesota 55455, (612) 373-3905.

Core Requirements (22-25 credits):

- | | |
|---|--|
| GC 1-421—Writing Lab: Personal Writing;**
or Engl 1-001—Freshman English**,
or Comm 1-001—Communication | GC 1-283—Psychology of Human
Development; or Psy 1-003—Application
of Psychology to Living |
| GC 1-461—Oral Communication: Basic
Principles; or Spch 1-301—Fundamentals
of Speech | GC 1-211—Man in Society: His Personal
Role; or Soc 1-001—Introduction to
Sociology** |
| GC 1-471—Creative Problem Solving | PubH 3-001—Personal and Community
Health** |
| GC 1-508—Man and His Work | |

Concentration Requirement in one of the following fields (15 credits):

- | | |
|---------------------|----------------------------------|
| Education | Family Work |
| Urban Problems | Welfare |
| Community Library | Family Nutrition |
| Community Organizer | Community Health |
| Day Care | Minority Studies—American Indian |
| Youth Care | Minority Studies—Afro-American |

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

- | | |
|--|---|
| GC 1-285—Cultural Anthropology; or
Anth 1-002—Cultural Anthropology** | GC 1-281—Psychology of Modern Society;
or Psy 1-001—General Psychology** |
| GC 1-295—Economic Perspectives—
General View | Psy 3-301—Child Psychology** |
| GC 1-722—Parent-Child Relationships;
or FamS 1-025—Parenthood | SSci 3-203—Structure and Dynamics of
Poverty |
| Geog 1-301—Human Geography | Rhet 1-147—Efficient Reading** |
| GC 1-233—United States; Problems of
Government; or, Pol 1-001—American
Government and Politics** | Up to 6 credits in art, music, literature or
humanities, from either General College
or the College of Liberal Arts |

Business Administration Certificates

The Business Administration 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 need an understanding of the principles and theories of business administration, and for those who want training or an opportunity for advancement in some specific field of business.

JUNIOR BUSINESS ADMINISTRATION CERTIFICATE

(47 credits)

This certificate, requiring the satisfactory completion of 47 credits of course work, represents the equivalent of 1 academic year of study. It offers a firm background 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 12 credits in business administration at the University of Minnesota.

Prebusiness Requirement (32 credits):

Engl 1-001/1-002/1-003**

Econ 1-001, 1-002—Principles of Economics**

Acct 1-024/1-025/1-026—Principles of Accounting**

* Math 1-141—Algebra, Probability, and Pre-Calculus; or 1-201—Pre-Calculus**

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

Prod 3-050—Production Management

QA 3-050—Introduction to Management Science

MIS 3-100—Basic Computer Systems

IR 3-002—Systems of Industrial Relations: Labor Marketing**

Ins 3-100—Risk Management and Insurance**

Mgmt 3-004—Business Policy: Strategy Formulation and Implementation

Mgmt 3-001—Fundamentals of Management

Math 1-142 or 1-210/1-220—Calculus I-II:

Calculus and Analytic Geometry**

Tran 3-054—Fundamentals of Transportation

Fin 3-000—Finance Fundamentals

Mktg 3-000—Principles of Marketing

BLaw 3-058—Business Law: Contracts**

Econ 3-101—Microeconomic Theory

Econ 3-102—Macroeconomic Theory

Extension Certificate Programs

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 full years of university-level study. The course program may be considered roughly equivalent to that of the sophomore and junior years of a 4-year degree program, with particular emphasis on the basic principles and theories of business administration.

Students transferring credits to this certificate program from other institutions must take a minimum of 24 credits, including 18 credits in business administration, at the University of Minnesota.

Prebusiness Requirement (37 credits):

Engl 1-001/1-002/1-003** or equivalent
Econ 1-001, 1-002—Principles of Economics**
Acct 1-024/1-025/1-026—Principles of
Accounting**

Math 1-141—Algebra, Probability and
Pre-Calculus; or 1-201—Pre-Calculus
Math 1-142—Introduction to Calculus of
One and Several Variables

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

Prod 3-050—Production Management
QA 3-050—Introduction to Management
Science
MIS 3-100—Basic Computer Systems
IR 3-002—Systems of Industrial Relations:
Labor Marketing**
Ins 3-100—Risk Management and
Insurance**
Tran 3-054—Fundamentals of Transportation

Fin 3-000—Finance Fundamentals
Mktg 3-000—Principles of Marketing
BLaw 3-058—Business Law Contracts**
Mgmt 3-001—Fundamentals of Management
Mgmt 3-004—Business Policy: Strategy
Formulation and Implementation
Econ 3-101—Microeconomic Theory
Econ 3-102—Macroeconomic Theory**

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

Other Electives: Satisfactory completion of the pre-business degree requirements in physical and biological sciences, man and society, or artistic expression, to make a minimum of 90 credits for the certificate.

Note: Students contemplating working toward a degree from the School of Business Administration should choose electives that could become part of the degree program. Such students are urged to complete the pre-business degree requirements listed in the Degree Requirements section of this bulletin.

CREDIT AND FINANCIAL MANAGEMENT CERTIFICATE

(54 credits)

The Credit and Financial Management Certificate program was developed cooperatively by Continuing Education and Extension, the School of Business Administration, and the North Central Credit and Financial Management Association. The program is directed toward students seeking careers in trade credit management, commercial bank and finance company loan management, and senior executive positions in financial management.

Students transferring credits to this program from other institutions must take a minimum of 14 credits at the University of Minnesota.

Completion of the certificate qualifies the students for the Associate and Fellow Awards of the National Institute of Credit. Persons interested in these awards should telephone or write Mr. E. Norman Eck, 330 Plymouth Building, Minneapolis, Minnesota 55402, telephone 336-8356.

Core Requirement (48 credits):

Acct 1-024/1-025—Principles of Accounting**
Acct 3-160—Analysis of Financial Statements
Fin 3-000—Finance Fundamentals
Fin 0-002C—Credit and Financial
Management Problems
BLaw 3-058, 3-078, 3-088—Business Law**
Econ 1-001/1-002—Principles of Economics**

Mgmt 3-001—Fundamentals of Management
Mgmt 3-002—Psychology in Management
Mktg 3-000—Principles of Marketing
Mktg 3-087—Credits and Collections
Comp 0-004C—Business Correspondence**
Spch 0-001C—Beginning Speech/
Communication

Electives (any two courses from the following):

Acct 3-105—Intermediate Accounting
Acct 3-220—Cost Accounting
Fin 3-100—Financial Management
Econ 3-751—Money and Banking**
Ins 3-100—Risk Management and
Insurance**

Mgmt 3-003—Interpersonal Management
Problems
Mktg 3-080—Purchasing
OMgt 0-001C—Office Management
Tran 3-054—Fundamentals of Transportation
Comp 0-003C—Review of Business English

Extension Certificate Programs

Industrial Relations Certificate

(47 credits)

The Industrial Relations Certificate is arranged and coordinated 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 in keeping 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 program from other institutions must take a minimum of 15 credits at the University of Minnesota.

Core Requirement (35 credits):

Econ 1-001, 1-002—Principles of Economics**

IR 3-002—Systems of Industrial Relations:
Labor Marketing**

IR 3-012—Systems of Industrial Relations:
Manpower Management**

Psy 1-001—General Psychology**

Psy 3-801—Introduction to Statistical Methods

Psy 5-125/5-126—Differential Psychology

B. Econ 5-561—Economics of Collective
Bargaining
IR 3-017—Settlement of Industrial
Relations Disputes

C. Econ 5-537—Labor Market Behavior
and Regulation**
Econ 5-534—Economic Security**

One course from each of the following
groups:

A. Econ 5-531—Economic History of Labor
IR 5-027—Union Government and Policies

Electives (any four courses from the following):

Econ 5-541—Contemporary Labor Issues

Econ 5-531—Economic History of Labor

Econ 5-537—Labor Market Behavior and
Regulation**

Econ 5-534—Economic Security**

Econ 5-561—Economics of Collective
Bargaining

IR 3-010—Human Relations in Industry

IR 3-007—Modern Labor Relations

IR 3-017—Settlement of Industrial
Relations Disputes

IR 5-027—Union Government and Policies

IR 5-003—The Employment Interview

MIS 5-109—Introduction to Computer
Assisted Management

Prod 3-050—Production Management

PA 0-068C—Administrative Communication

Psy 3-011—Introduction to Psychology of
Learning

Psy 5-604/5-605—Abnormal Psychology**

Soc 5-201—Social Psychology**

Soc 5-411—Formal Organization

IR 0-001C, 0-002C, 0-003C—Supervision I**,
II, III

IE 0-100C—Industrial Engineering and
Management

IE 0-210C—Motion and Time Study**

IE 0-360C—Inventory and Production Control

IE 0-408C, 0-409C—Corporate Standard
Data I, II

IE 0-410C—Introduction to Operations
Research

IE 0-510C—Statistical Quality Control

Interior Design Certificate

(60 credits)

The Interior Design Certificate is awarded upon successful completion of a program of courses in interior design and related fields. The interior design courses have been approved by the American Institute of Interior Designers. Completion of the certificate indicates a proficiency in the field of home furnishings and decorating.

Students transferring credits to this program from other institutions must take a minimum of 15 credits at the University of Minnesota, including the first four courses in interior design listed under the Core Requirement.

Core Requirement (34 credits):

- | | |
|---|--|
| ArtS 3-131—Interior Design I** | Engl 1-001—Freshman English**; or |
| ArtS 3-132—Interior Design II | Comm 1-001—Communication; or |
| ArtS 5-111—Seminar: Interior Design I | Comp 0-004C—Business |
| ArtS 5-112—Seminar: Interior Design II | Correspondence** |
| ArtS 1-111—Use of Color | Psy 1-003—Application of Psychology to |
| ArtS 1-112—Layout for Interior Design, or | Living |
| ArtS 0-003C—Home Design and Planning | Spch 0-001C—Beginning Speech / |
| ArtS 3-133—Contract Design Seminar | Communication; or Spch 1-102— |
| ArtH 1-001—Principles of Art** | Communication in the Modern World |

Spread Requirement: Additional courses selected from at least three of the following groups to make a minimum of 60 credits total for the certificate.

1. Art History, French, Humanities, Literature
2. Ceramics, Drawing and Painting, Sculpture, Printmaking
3. ArtS 1-113—Layout for Interior Design
ArtS 1-119—Drafting—Basic Drafting Techniques
ArtS 1-121—Perspective and Presentation Sketches
ArtS 3-134—Contract Design Seminar
ArtS 3-135—Interior Design: Housing Analysis, Dynamics and Policy
ArtS 3-136—Interior Design: Housing and the Urban Environment
ArtS 5-113/5-114—Interior Design Clinic
4. MIS 0-001C—Introduction to Computers
GC 1-537—Salesmanship**
GC 1-513—Principles of Small Business Operations**
GC 1-551—Marketing: Retailing and Sales
GC 1-552—Marketing: Sales Promotion
Comp 0-004C—Business Correspondence**

Extension Certificate Programs

Management of Administrative Services Certificates

The Management of Administrative Services Certificate programs have been developed by Continuing Education and Extension in cooperation with the School of Business Administration and the Administrative Management Society.

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

In addition to the certificates granted by Continuing Education and Extension, students may be entitled to certificates of the Administrative Management Society. Persons interested in the latter certificates may write to: Administrative Management Society, 218 South Tenth Street, Minneapolis, Minnesota 55403, ATTN: Education Director.

ASSOCIATE IN MANAGEMENT OF ADMINISTRATIVE SERVICES CERTIFICATE

(45 credits)

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

Core Requirement (37-38 credits):

Comp 0-004C—Business Correspondence**;
or Engl 1-001—Freshman English**; or
Comp 0-003C—Review of Business
English; or Comm 1-001, or equivalent
Econ 1-001, 1-002—Principles of Economics**
Math 1-141—Algebra, Probability and Pre-
Calculus; or 1-201—Pre-Calculus**

Acct 1-024/1-025/1-026—Principles of
Accounting**
BLaw 3-058—Business Law: Contracts**
MIS 5-109—Introduction to Computer-
Assisted Management
Psy 1-001—General Psychology**
Psy 3-801—Introduction to Statistical
Methods

Electives: Additional courses to be selected from the following to make a total of 45 credits:

IR 3-002—Systems of Industrial Relations:
Labor Marketing**
IR 3-010—Human Relations in Industry
IR 3-012—Systems of Industrial Relations:
Manpower Management**
Ins 3-100—Risk Management and
Insurance**
Tran 3-054—Fundamentals of Transportation
Fin 3-000—Finance Fundamentals

Mktg 3-000—Principles of Marketing
Acct 3-160—Analysis of Financial Statements
Acct 3-255—Managerial Costs; or
Acct 3-220—Cost Accounting
Fin 3-100—Financial Management
Mgmt 3-001—Fundamentals of Management
Mgmt 3-002—Psychology in Management
BLaw 3-088—Business Law: Sales,
Bailments, and Negotiable Instruments**

FELLOW IN MANAGEMENT OF ADMINISTRATIVE SERVICES CERTIFICATE

(90 credits)

Students transferring credits to this program from other institutions must take a minimum of 24 credits, including at least 12 credits in business administration, at the University of Minnesota.

Core Requirement (40-46 credits):

Comp 0-003C—Review of Business English
and Comp 0-004C—Business
Correspondence**; or Engl 1-001/1-002/
1-003**; or, Com 1-001/1-002/1-003; or
equivalent
Econ 1-001, 1-002—Principles of Economics**
Acct 1-024/1-025/1-026—Principles of
Accounting**

BLaw 3-058—Business Law: Contracts**
MIS 5-109—Introduction to Computer
Assisted Management
Math 1-141—Algebra, Probability, and
Pre-Calculus; or Math 1-201—Pre-
Calculus; or equivalent
Psy 1-001—General Psychology**
Psy 3-801—Introduction to Statistical Methods

Group Requirements (30 credits):

Group I—At least four courses from the following (12 credits):

IR 3-002—Systems of Industrial Relations:
Labor Marketing**
Mgmt 3-002—Psychology in Management
Fin 3-000—Finance Fundamentals

Ins 3-100—Risk Management and
Insurance**
Mktg 3-000—Principles of Marketing

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

Fin 3-100—Financial Management
Tran 3-054—Fundamentals of Transportation
Acct 3-255—Managerial Costs; or
Acct 3-220—Cost Accounting
Acct 3-160—Analysis of Financial Statements
IR 3-010—Human Relations in Industry

IR 3-012—Systems of Industrial Relations:
Manpower Management**
Mgmt 3-001—Fundamentals of Management
BLaw 3-088—Business Law: Sales,
Bailments, and Negotiable Instruments**

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

Mktg 3-087—Credits and Collections
IR 0-001C, 0-002C, 0-003C—Supervision I**,
II, III
PA 0-068C—Administrative Communication
Psy 5-751—Psychology of Advertising
Accounting
Economics
Finance
Production, Management, and Industrial
Relations

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

Extension Certificate Programs

Undergraduate Development Certificates

(UDC Series in Engineering and Science)

(Formerly Engineering Science and Engineering Technician Certificates)

Continuing Education and Extension 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 engineer and engineering technician level. Interested students should study these certificate programs carefully and select the program best suited to their interests, abilities and present and future employment and educational goals.

The UDC Series in Engineering and Science, first offered in 1971-1972, represents a unification and expansion of previous Extension Certificate Programs offered in cooperation with the Institute of Technology. Students already pursuing programs in this area should have no difficulty identifying the new title of their certificate objective. Questions should be directed to the Extension Counseling Office, 314 Nolte Center, University of Minnesota, Minneapolis 55455.

The UDC certificates are intended to provide a focus for the planning of continuing education activities in particular disciplines, and to provide recognition of completion of clearly identified segments of an educational program indicative of increasing levels of technical capability. Degree credit courses offered in certificate programs may be applied, with departmental approval, toward a subsequent baccalaureate degree. If the pursuit of a degree is anticipated, early contact with the academic department and application for admission to the Institute of Technology is important.

In general, the 45-credit certificates indicate familiarity with the topical area and are equivalent to the first year of university-level study. An important feature of the UDC Series is that the number of credits required (i. e., 45, 90, 135) is included as a part of the title of the certificate (for example, **UDC in Electrical Engineering—90 Credits**). This feature will be of considerable value when the certificate is later presented to an employer or agency for consideration.

Students wishing to work toward a UDC certificate must fill out an application available at the Extension Counseling Office, 314 Nolte Center, University of Minnesota, Minneapolis 55455.

UDC IN ENGINEERING AND SCIENCE—45 CREDITS

(Formerly Basic Engineering Science Certificate)

The **UDC in Engineering and Science—45 Credits** is designed to provide students with the fundamentals of mathematics, physics, and broad technical communications skills to enable them to handle certain support assignments in any engineering field. In addition, it is designed to give them background for more specialized or advanced study either as an engineer or as an engineering technician. All courses in the **UDC in Engineering and Science—45 Credits** program carry degree credit and are equivalent to the first year of required course work for an engineering degree. These credits will be applicable to a baccalaureate degree upon admission of the student to the Institute of Technology.

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

Prerequisite: High School graduate or equivalent; 2 years of algebra and 2 years of geometry, including trigonometry.

Core Requirement (37 credits):

Math 1-211—Calculus I**

Math 1-221—Calculus II**

Math 1-231—Calculus III**

EG 1-025—Engineering Graphics, or

CICS 1-105—Introduction to Algorithm
Languages I, 11

Phys 1-271/1-275/1-281/1-285—General
Physics and Lab.

Engl 1-001/1-002—Freshman English or
equivalent**

Electives: Courses from nontechnical electives to make a minimum of 45 credits total for the certificate. Nontechnical electives may be chosen from the following fields: anthropology, art, biological sciences, botany, classics, economics, geography, history, humanities, languages (except scientific language courses), literature, music theory, philosophy, political science, psychology, religion, social science, sociology, speech, zoology and others. (See the 1971-1973 bulletin of the Institute of Technology.)

Extension Certificate Programs

UDC IN ENGINEERING AND SCIENCE—90 CREDITS

(Formerly Senior Engineering Science Certificate)

(Includes 45 credits from Undergraduate Development Certificate in Engineering and Science)

This certificate is designed for students who plan to work toward an engineering degree in one of the engineering curricula of the Institute of Technology. It will also be of value to the technician who desires to widen his technical competence.

This program interweaves in an 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 two years of all engineering curricula emphasize the basic sciences of mathematics, physics and chemistry.

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

All classes in the **UDC in Engineering and Science — 90 Credits** carry degree credit and are transferable to the Institute of Technology when admission requirements are satisfied. Refer to the introductory statement on the UDC in this section.

Students transferring credits to this program from other institutions must take a minimum of 24 credits, with at least 12 credits in the Core Requirement courses listed below, at the University of Minnesota.

Prerequisite: Completion of the UDC in Engineering and Science — 45 Credits

Core Requirement (25 cr.)

Math 1-240—Calculus IV**

Math 1-250—Calculus V**

Phys 1-230/1-235—General Physics and
Laboratory

GeCh 1-004/1-005—General Principles of
Chemistry

Spread Requirement: A minimum of 8 credits from the following courses:

Math 1-260—Calculus VI**

AEM 1-015—Statics**

AEM 3-016—Deformable Body Mechanics

AEM 3-036—Dynamics**

EE 1-500/1-501—Circuit Analysis

EE 1-700/1-701—Electrical Engineering
Laboratory

CE 3-400—Fluid Mechanics

Math 3-091—Elementary Engineering

Statistics; or Me 3-900—Introduction to
Engineering Statistics

Electives: Courses from either nontechnical or biological science electives, mathematics, chemistry, physics, Eng 3-085 (I.T.), or additional courses from the spread requirement to make a minimum of 90 credits total for the certificate. Institute of Technology nontechnical electives may be chosen from the following fields: anthropology, art, biological sciences, botany, classics, economics, geography, history, humanities, languages (except scientific language courses), literature, music theory, philosophy, political science, psychology, religion, social science, sociology, speech, zoology and others. (See 1971-1973 I.T. bulletin.)

UNDERGRADUATE DEVELOPMENT CERTIFICATE IN ELECTRICAL ENGINEERING — 90 CREDITS

(Formerly Senior Electrical Engineering Technician Certificate)

(Includes 45 credits from Undergraduate Development Certificate in Engineering and Science)

The **Undergraduate development Certificate in Electrical Engineering — 90 Credits** enables students to continue the Undergraduate Development Certificate work in mathematics and physics with an opportunity to choose technical elective courses at the third year level of an electrical engineering curriculum. It is designed to help engineering technicians assume a role of increased responsibility in working with electrical engineers. It also represents a coherent body of study in helping determine whether further work toward an electrical engineering degree should be pursued. Upon acceptance by the Institute of Technology, a student may transfer appropriate work completed in a certificate program to a bachelor's degree program.

Students transferring credits to this program from other institutions must take a minimum of 24 credits, with a minimum of 12 credits in the Core Requirement courses listed below, at the University of Minnesota.

Prerequisite: Completion of the UDC in Engineering and Science — 45 Credits

Core Requirement (minimum of 36 credits selected from the following):

Math 1-240—Calculus IV**

Math 1-250—Calculus V**

Math 1-260—Calculus VI**

EE 1-500/1-501—Circuit Analysis

EE 1-700/1-701—Electrical Engineering Laboratory (Recommended)

Phys 1-230/1-235—General Physics and Laboratory

Third Year Electrical Engineering Courses (3-XXX—5-XXX)

Electives: Courses from nontechnical or biological science electives to make a minimum of 90 credits, including those from the UDC in Engineering and Science — 45 Credits. Institute of Technology nontechnical electives may be chosen from the following fields: anthropology, art, biological sciences, botany, classics, economics, geography, history, humanities, languages (except scientific language courses), literature, music theory, philosophy, political science, psychology, religion, social science, sociology, speech, zoology and others. (See 1971-1973 I. T. bulletin.)

EXTENSION CERTIFICATES — GROUP III

Below are listed other certificate programs of Continuing Education and Extension. Independent study courses are the least helpful in meeting these requirements, but some of the courses may be offered. A list of the requirements for these certificates will be sent on request.

Social Work Post-Baccalaureate Certificate (Bachelor's degree and 25 credits)
Alcoholism and Other Drug Abuse Counselor Certificate (9 credits and completion of internship)

Public Administration Certificate (45 credits)

Information Systems Analyses and Design Certificate (58 credits)

Undergraduate Development Certificate in Civil Engineering (90 credits)

Undergraduate Development Certificate in Electrical Engineering (135 credits)

Undergraduate Development Certificate in Industrial Engineering (90 credits)

Undergraduate Development Certificate in Mechanical Engineering (90 credits)

University Degree Programs

It is possible, through independent study, to begin work on a variety of degrees from the University of Minnesota. Often, 1 year of independent study credits can be applied toward a 2-year degree, and 1 or more years of work taken through independent study can be applied toward a 4-year degree.

There are limitations on the use of independent study credits, however. The University requires of its degree candidates in all colleges a minimum number of credits in residence. Independent study credits do not count as residence credits. (Residence credits may be earned in day, evening, or summer session classes.) Some colleges require that all or nearly all credits for the senior year be earned in residence on campus. Some colleges limit the number of independent study credits that can be accepted toward a degree. Students interested in a particular field should write the department concerned to determine the best method for fulfilling its requirements.

Because it is important to follow the proper procedures while working for a degree, students wishing to pursue a degree program should contact a member of the Committee on Student Relations and Academic Standing as early as possible. They may do so by writing the Extension Counseling Office, 314 Nolte Center, University of Minnesota, Minneapolis, 55455.

The committee member will assist students in:

1. Determining their status in relation to the degree program.
2. Obtaining proper forms necessary to initiate admission to the University of Minnesota.
3. Choosing a program at the Lower Division level and securing an adviser at the Upper Division level in the appropriate college.

Note: Bulletins are essential in planning your work toward a two or four-year degree. To obtain an official bulletin for any college, write the Service Bureau, B-3 Morrill Hall, University of Minnesota, Minneapolis, Minnesota 55455.

University Degree Programs

College Of Education

206 Burton Hall, Minneapolis Campus

Because of the variety of programs offered in the College of Education, it is not possible to present a specific curriculum and to indicate appropriate independent study courses.

Students can use the 2-year program listed under the College of Liberal Arts as a guide in completing many of the preprofessional requirements of the College of Education. Some independent study courses in education are acceptable in College of Education programs. For more information, write to the College of Education, 206 Burton Hall, University of Minnesota, Minneapolis, Minnesota 55455.

Teacher's Certificate

Most independent study courses can be used in the acquisition and renewal of teachers' certificates. Note that the Department of Independent Study only provides the courses and *does not evaluate teaching or educational experience for a certificate, or recommend courses.*

Questions concerning the regulations related to teachers' certificates should be directed to the State Department of Education or a similar agency. (In Minnesota – Director of Teacher Personnel, 4th Floor, Centennial Office Building, St. Paul, Minnesota 55101.)

General College

106 Nicholson Hall, Minneapolis Campus

The General College of the University offers a 2-year program of liberal and general studies leading to the Associate in Arts degree. The academic requirements for the A. A. degree are: (1) 90 passing credits; (2) passing the General College Degree Comprehensive Examination.

Of the 90 credits required for the degree, 45 may be taken through independent study. *The remaining 45 must be taken in residence at the University of Minnesota; 30 residence credits must be taken in General College courses.*

There are no required courses in the program of the college, nor are there requirements for broad groups of courses. Instead, two kinds of comprehensive examinations are used. Students may take the Entrance Comprehensive Examination as soon as a decision to work toward completion of an Associate in Arts degree is made.

Results of this examination (which includes, for example, measures of arithmetic and language skills and of organizational and abstract reasoning abilities) help identify strengths and weaknesses in preparation for college work. Based on the test results, students plan an individual course of study with a General College adviser.

The Degree Comprehensive Examination is taken when students near completion of the required 90 credits. This examination, which is a degree requirement, covers the main curriculum areas of the college — natural sciences, social sciences, humanities, and communication skills. It centers on the relationships that exist among these areas, and is designed to measure the extent to which students have broadened their perspectives in demonstrating a general knowledge in the liberal arts. Students may arrange for taking the tests, test interpretation, and program planning in the General College office, 106 Nicholson Hall, University of Minnesota, Minneapolis, 55455; telephone 373-4104.

Institute of Technology

105 Main Engineering, Minneapolis Campus

The Institute of Technology grants degrees in approximately 11 fields of engineering and architecture, plus geophysics, geology, chemistry, physics, mathematics, and environmental design. In addition to the courses in mathematics and science required for all degrees, the Institute of Technology requires 36 credits of liberal education courses distributed as outlined in the IT bulletin. Independent Study courses may be used, by petition, to satisfy these liberal education requirements. The following Independent Study courses may also be used, by petition, to satisfy lower division requirements in English, mathematics, and science:

Engl 1-001/1-002/1-003—Freshman English
Math 1-211—Calculus I: Calculus and Analytic
Geometry
Math 1-221—Calculus II: Calculus and
Analytic Geometry
Math 1-231—Calculus III: Calculus and
Analytic Geometry
Math 1-240—Calculus IV: Calculus and
Analytic Geometry

Math 1-250—Calculus V: Linear Algebra,
Differential Equations
Math 1-260—Calculus VI: Vector Calculus and
Differential Equations
AEM 3-015—Statics
AEM 3-036—Dynamics
CE 3-302—Concrete and Concrete Materials

Although the lower division requirements for most of the major fields in the Institute of Technology are similar, students are urged to obtain a copy of the IT bulletin before planning a course of study. Bulletins are available from the Service Bureau, B-3 Morrill Hall, University of Minnesota, Minneapolis, Minnesota 55455.

Assistance in planning a course of study, and in securing acceptance or transfer of credits, is available from the Extension Counseling Office, 314 Nolte Center, University of Minnesota, Minneapolis 55455.

Graduate School

316 Johnston Hall, Minneapolis Campus

The University of Minnesota Graduate School will not accept independent study credits toward a Master's or Doctor's degree. Graduate students may use independent study credits to satisfy undergraduate admission requirements or foreign language requirements.

School of Business Administration

225 Business Administration Building, Minneapolis Campus

To be admitted to the School of Business Administration students must:

- A. Present approximately 90 credits, which should include *all* of the specific course requirements listed in the pre-business curriculum below.
- B. Have an overall average of at least "C" (2.20).

Students admitted to the School of Business Administration spend the second 2 years (90 credits) completing the requirements for a Bachelor of Science in Business (B.S.B.). Degree programs are outlined in the *School of Business Administration Bulletin*, available from the Service Bureau, B-3 Morrill Hall, University of Minnesota, Minneapolis, Minnesota 55455. Up to 75 credits of the pre-business requirement may be completed through independent study. The laboratory sciences required in Area II are not available through Independent Study.

Note — Acct 1-024/1-025/1-026; Econ 1-001, 1-002; Math 1-141, 1-142; Psy 1-001; Soc 1-001; the core requirement for the B.S.B.; and the 18 credits of S.B.A. elective courses cannot be taken on P-N grading.

Pre-business requirements and the independent study courses that fulfill them appear below. (For students who entered the School of Business Administration Fall Quarter, 1968, or later.)

I. Communication, Language, Symbolic Systems

A. Freshman English—Engl 1-001/1-002/1-003 (12 credits)

B. Mathematics (10 or more credits)

Math 1-201—Pre-Calculus
Math 1-211/1-221—Calculus
and Analytic Geometry

II. The Physical and Biological Sciences (9 credits)

These courses must be laboratory science courses; such courses are not available through the Department of Independent Study.

III. Man and Society (15-17 credits)

Econ 1-001, 1-002—Principles of Economics
Psy 1-001—General Psychology
Soc 1-001—Introduction to Sociology

IV. Artistic Expression (8 credits from the following)

Art History—all degree-credit courses
English Literature—all degree-credit courses
Humanities—all degree-credit courses
Music—all degree-credit courses
Foreign Literature—all degree-credit courses

V. Business Courses (9 credits)

Acct 1-024/1-025/1-026—Principles of Accounting

VI. Students who plan to enter the accounting program are required to complete Comp 1-027.

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

University Degree Programs

College of Liberal Arts

214 Johnston Hall, Minneapolis Campus

A copy of the College of Liberal Arts Bulletin is essential for students planning to earn an A.L.A. or B.A. degree. It may be obtained from the Service Bureau, B-3 Morrill Hall, University of Minnesota, Minneapolis, Minnesota 55455. In addition, students should contact the Extension Counseling Office, 314 Nolte Center, Minneapolis, 55455, for a list of independent study courses that can be used to satisfy CLA distribution requirements.

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 equivalent to 2 academic years of study and is granted by the College of Liberal Arts.

At least 45 credits (1 year's work) must be earned in residence; any or all of the other 45 credits may be taken through the Department of Independent Study. A 2.00 grade point average for the 90 credits is required.

Group distribution requirements for the A.L.A. degree are similar to those listed for admission to the Upper Division of the Arts College. (See 1970 degree requirements listed under Bachelor of Arts.)

A student must meet the freshman English requirements and complete one of the following two plans:

1. A foreign language through course number 1-XX3 and 9 credits from each of groups A, B, C, and D, including work in both areas of group C (See Group Distribution Requirements under Bachelor of Arts section.)

(Or)

2. 9 credits from group B (including lab) and 15 credits from each of groups A, C, and D, including work in both areas of group C. (See Group Distribution Requirements under Bachelor of Arts section.)

BACHELOR OF ARTS (B.A.)

A candidate for the bachelor of arts degree must complete a minimum of 180 acceptable quarter credits. The first 90 credits are taken in the Arts College

Lower Division. The following set of requirements outlines the program to be followed while students are in the Lower Division. In addition, many departments recommend or require that certain prerequisite courses be taken before students begin major work. Students should keep this in mind when planning a Lower Division program. Most Lower Division requirements and the pre-program prerequisites for many major programs (especially in the social sciences and humanities) may be fulfilled through independent study.

Most students prefer to concentrate on the Freshman English, Foreign Language, and Group Distribution requirements during their first two years, leaving the last two years free to concentrate on their major field and Upper Division electives. Though it is usually desirable to work on these requirements as early as possible, it is *not* necessary to complete them before applying for admission to CLA's Upper Division. The requirement for admission to Upper Division is at least 84 credits with an overall C average. Students can make a start on Upper Division work through independent study. Students who have chosen a major field should check with the department concerned for information on use of independent study credits.

1970 Degree Requirements

The 1970 requirements may be chosen by any student. They become compulsory for all students officially admitted to CLA and registered in classes after Spring Quarter, 1972.

Freshman English

Engl 1-001/1-002/1-003; or Comm 1-001/1-002/1-003; or exemption from requirement.

Foreign Language—Route I or Route II

Route I: Complete a minimum of 23 credits or be validated at that level by the appropriate language department. Background from high school is usually related to this requirement as follows:

High school study	Additional study in college
4 years	at least 3 cr at higher level in same language
3 years	at least 8 cr at higher level in same language
2 years	at least 13 cr at higher level in same language
1 year	at least 18 cr at higher level in same language

Students with two or more years of Latin in high school may satisfy this requirement by continuing in Latin on the above schedule to the 23 credit minimum or by taking 15 credits in another language; high school study in the other language may also count, in accordance with the schedule in Route II below.

University Degree Programs

Route II: Complete a minimum of 27 credits in the following combination:

- a. At least 15 credits in a single foreign language or be validated at that level by the appropriate language department. Background from high school is usually related to this requirement as follows:

High school study	Additional study in college
4 years	none in college
3 years	none in college if validated by department
2 years	5 credits at higher level in same language
1 year	10 credits at higher level in same language

- B. At least 12 credits in courses concerned with the country or countries that use the language in which the student completes 15 credits. (Further study in the language beyond the 15-credit level counts as part of the 12-credit requirement.) A list of eligible courses is available in CLA offices and in the Continuing Education and Extension Counseling Office, 314 Nolte Center, University of Minnesota, Minneapolis 55455. Courses elected for this purpose may not be used to satisfy the group distribution requirements.

Group Distribution Requirement

At least 48 credits in four groups, distributed as follows:

Group A--Communication, Language, Symbolic Systems

8-10 credits (normally 2 courses)

Group B--Physical and Biological Sciences

12-15 credits (normally 3 courses)

Group C--Man and Society

16-20 credits (normally 4 courses)

Group D--Artistic Expression

12-15 credits (normally 3 courses)

Special Notes on Group Distribution Requirements

1. A maximum of 12 credits from any one department may be used for group distribution requirements, even though courses from some departments may be used in more than one group.
2. Courses used for Freshman English and for language requirements (including courses used for Route II, part B) may not be used for group distribution requirements.

3. A student may earn credit, demonstrate proficiency or meet group distribution requirements by examination. (Examinations in the College Level Examination Program (CLEP) are among those which may be used to satisfy such requirements.) For information regarding examinations, students should call or write the Extension Counseling Office, 314 Nolte Center, University of Minnesota, 55455, 373-3905.
4. Honors courses or sections may be substituted for regular courses or sections unless otherwise specified.

University College

University College is designed for the student whose objectives cannot be reached through registration in any single college of the University. Each student plans a program to meet his own needs and interests, and may draw on the resources of evening classes, independent study, and several different colleges.

The degree earned may be Bachelor of Arts (B.A.) or Bachelor of Science (B.S.), depending on the individual program. The University College bulletin is available from the Service Bureau, B-3 Morrill Hall, University of Minnesota, Minneapolis, Minnesota 55455.

Inter-College Program

105 Walter Library, Minneapolis Campus

Students are usually admitted to this program for their junior and senior years, although some third-quarter sophomores are admitted.

Admission Requirements

Students must first be admitted to another college of the University and be in residence at least one quarter. The quality of work can then be determined and students can become familiar enough with the University to plan a suitable program. Transfer to U.C. requires approval of the proposed curriculum plan, a 2.00 G.P.A., and Upper Division Status.

Degree Requirements

To earn a degree, students must take at least 190 quarter credits, at least 75 of which must be Upper Division credits. Any program leading to a B.S. degree must satisfy the Council on Liberal Education distribution requirements. To qualify for a B.A. degree, U.C. students must meet the distribution requirements set by the College of Liberal Arts for graduation.

University Degree Programs

Experiment Number One

A separate unit of University College, "Experiment No. 1" is an innovative four-year college for students with strong academic motivation and initiative who want the opportunity to create their own college curricula. It was established on an experimental basis with its first freshman class in September, 1970.

Curriculum

Students in this experimental program create their own college major and curriculum and select a four-member Guidance Committee to assist them. Students develop a learning contract for each quarter's work, and must present quarterly and annual summaries of progress. Most learning contracts have heavy emphasis on individualized study through independent research, creative arts projects, off-campus learning experiences and so on. If several students in the college are interested in pursuing the same topic, they might establish a seminar in that field. Some students also take one or two courses per quarter in other colleges of the University.

Students in Experiment No. 1 must fulfill the all-University liberal education requirements, but often do so in very non-traditional ways. Graduation requirements include a recommendation from the student's Graduation Committee, which consists of four permanent members and four members of the student's own choosing.

Length of Program

Experiment No. 1 is a four-year school. Most students are admitted as freshmen. If openings are available, students may be admitted with advanced standing in their sophomore, junior or senior years.

Admission

Admission is by lottery. Names are usually drawn late in August for fall quarter admission. There is a low enrollment ceiling in Experiment No. 1 to assure individualized attention to each student's program.

Application

Students applying to Experiment No. 1 must follow a dual application process. For information on application and counseling, write or call:

Susan L. Morse or Denny J. Schapiro
Administrators
Experiment No. 1
1507 University Avenue S.E.
Minneapolis, Mn. 55414
(612) 373-9782

Preview of New Courses

In 1972-73 the Department of Independent Study will open the following new courses. For a description of each, see the course description section of this bulletin. For further information, call (612) 373-3256 or write to the Department.

Mus 1-501/ 1-511	MATERIALS AND STRUCTURE OF MUSIC/EAR TRAINING AND SIGHT SINGING.
GC 1-161	SOLAR ASTRONOMY
GC 1-162	STELLAR ASTRONOMY
GC 1-572	INTRODUCTION TO BLOCK DIAGRAMMING AND PROGRAMMING
GC 1-631	THE HELPING PROCESS IN THE SOCIAL SERVICES
GC 1-637	SUPERVISED WORK EXPERIENCE IN THE SOCIAL SERVICES
GC 1-511	INTRODUCTION TO MODERN BUSINESS
Pol 1-031	AMERICAN PUBLIC POLICY
Pol 5-737	POLITICAL PARTIES
UC 1-201	ORIENTATION TO INDEPENDENT STUDY



Course Descriptions

ACCOUNTING

Acct 1-024. PRINCIPLES OF ACCOUNTING I (1524). 16 lessons — \$45 — 3 degree credits — text price \$13-15 — Lund

Recording, reporting and interpreting business events. Use of accounting as a tool of business management. Topics: financial statements; journal, ledger and trial balance; adjusting process; receivables, payables and interest; merchandise inventory; plant assets and intangibles.

Acct 1-025. PRINCIPLES OF ACCOUNTING II (1525). 16 lessons — \$45 — 3 degree credits — text price \$16-17 — Lund

Continuation of Acct 1-024. Topics: control over cash; bank reconciliation; petty cash; voucher system, payroll records; partnership accounting; corporation accounting; manufacturing statements; process cost systems; job order cost systems; fund statement; cash-flow statement and financial statement analysis. (Prerequisite: Acct 1-024 or introductory college accounting course)

Acct 1-026. PRINCIPLES OF ACCOUNTING III (1526). 16 lessons — \$45 — 3 degree credits — text price \$10-12 — Lund

Use of accounting data in making managerial decisions. Topics: job order cost systems, manufacturing overhead variance; process cost accounting; standard cost accounting; variable costing; cost-volume-profit relationships; budget-sales-production relationships; financial planning; managerial decision-making; capital investment decision-making and price decision-making. (Prerequisite: Acct 1-025 or equivalent)

Acct 5-125. AUDITING PRINCIPLES AND PROCEDURES (1575). 21 lessons — \$60 — 4 degree credits — text price \$21-23 — Lund

A set of working papers and an audit report are prepared. The purposes and principles of auditing, and the verification and certification of published statements by public accountants are covered. Specific procedures and particular working papers are interrelated by the audit of a laboratory set calling for actual examination of records and accounts, the preparation of complete working papers, and an audit report. (Prerequisite: 15 quarter credits or 10 semester credits in accounting)

Opposite: Independent study courses are ideal for small businessmen, like Jose, who haven't the time to attend regular classes.

Photo by Steve Murray

Course Descriptions/ ADOLESCENT PSYCHOLOGY

Acct 5-135. INCOME TAX ACCOUNTING (1585). 16 lessons — \$45 — 3 degree credits — text price \$13-15 — White

The more common and important provisions of the federal income tax system as applied to individuals and corporations. Begins with a consideration of which types of income are taxable and which are not. Consideration is then given to gains and losses, dividends, and deductions. (Prerequisite: Acct 1-025 or equivalent)

ADOLESCENT PSYCHOLOGY

(See Child Psychology)

AEROSPACE ENGINEERING AND MECHANICS

AEM 1-015. STATICS (3235). 20 lessons — \$60 — 4 degree credits — text price \$20-22 — Serbyn

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 1-231—Calculus III, or equivalent)

AEM 3-036. DYNAMICS (3236). 20 lessons — \$60 — 4 degree credits — text price \$10-12 — Serbyn

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 through differential equations and linear algebra)

AGRICULTURAL ECONOMICS

AgEc 3-800. FARM RECORDS AND BUSINESS ANALYSIS (1080). 16 lessons — 3 degree credits — text price \$10-12 — Nodland

Forms and procedures for recording inventories, cash receipts and expenses, crop acreages and yields, feed consumed by livestock, and other information concerning the farm business. Calculation of measures of farm earnings and factors affecting earnings.

AGRICULTURE

Please see the following departmental listings for course offerings:

Agricultural Economics

Animal Science

Entomology

Forestry

Horticultural Science

ANIMAL SCIENCE

- AnSc 1-600. HORSE PRODUCTION** (1040). 9 lessons — \$45 — 3 degree credits — text price \$12-14 — Jordan
Breeds and selection, inheritance and reproduction, nutrition and management of the weanling, mare and stallion; farriery, tack and equipment, diseases and health.

ANTHROPOLOGY

- Anth 1-002. INTRODUCTION TO ANTHROPOLOGY** (1102). 27 lessons — \$75 — 5 degree credits — text price \$25-30 — Cohen
Human evolution and the development of modern races. Growth of cultures from the Dawn Stone Age to early city life. Study of cultures in all parts of the world, directed toward a broad understanding of how men view their world, cope with their environments, and organize their lives.
- Anth 3-211. INDIANS OF NORTH AMERICA** (1180). 17 lessons — \$75 — 5 degree credits — text price \$12-25 — Cohen
Focuses on the traditional culture of the Indians of North and Middle America. A survey of native life-ways in different regions. Opportunities for student-selected in-depth study of specific cultures are also provided. Primary emphasis is on the Indian cultures prior to extensive contacts with Europeans, but some attention is also directed toward the history of Indian-white contact and toward the contemporary Indian living on reservations or in cities. (Prerequisite: Anth 1-002) *This course is now in preparation; please inquire before enrolling.*
- Anth 5-141. CULTURE AND PERSONALITY** (1195). 16 lessons — \$45 — 3 degree credits — text price \$15-20 — Cohen
Role of culture in formation of personality. Problems of individual adjustments to demands of culture. Psychological approach to culture. (Prerequisite: Anth 1-002 or 5-101 — Principles of Cultural Anthropology, or consent of instructor)

ART HISTORY

- Arth 1-001. PRINCIPLES OF ART** (1201). 14 lessons — \$60 — 4 degree credits — text price \$5-7 — Asher
Basic problems of art. Examples from painting, sculpture, and architecture form the basis for an investigation of the nature of art, problems in design, and techniques. *This course is now in preparation; please inquire before enrolling.*

ART, STUDIO ARTS

- ArtS 0-114C. GENERAL HANDCRAFTS I** (1243). 16 lessons — \$45 — 3 certificate credits — text price \$14-15 — Robinson
A practical course that includes chip carving, leather work, block printing, stenciling, and

Course Descriptions / ASTRONOMY

puppets. Also included are projects and gift suggestions to be made from scraps of material such as paper, tin, yarn, and wire. For teachers, occupational therapists, camp and playground workers, and homemakers. (May precede or follow General Handcrafts II)

Arts 0-115C. GENERAL HANDCRAFTS II (1244/1245). 4 lessons — \$15 — 1 certificate credit — no required text (9 lessons — \$30 — 2 certificate credits) — Robinson

Similar to General Handcrafts I, but may precede or follow the first course. Lessons cover paper sculpture, stick printing, bead weaving, glass etching, clay craft, braiding, and simple block binding. Course may be taken for 1 or 2 credits.

Arts 0-116C. TEXTILE CRAFTS (1246). 15 lessons — \$45 — 3 certificate credits — text price \$1 — Robinson

A practical course in needlework and other textile crafts such as hooked rug and braided rug making, crocheting, knitting, and simple weaving. Suitable for use in homes, schools, camps, playgrounds, social service, and for those interested in adult education.

Arts 0-117C. FREEHAND LETTERING (1221). 6 lessons — \$15 — 1 certificate credit — text price \$3-4 — Palmer

Lessons in construction and spacing of single stroke vertical and inclined commercial gothic letters and numerals used in offices, stores, hospitals, libraries, schools, etc.

Arts 0-118C. DESIGN I (1204). 16 lessons — \$45 — 3 certificate credits — text price \$9-11 — Lewis

Principles of design applied to a series of interesting and practical problems using a variety of techniques; a basic course useful in elementary or junior high school teaching and as a foundation for other art courses.

Arts 3-131. INTERIOR DESIGN I (1283). 9 lessons — \$45 — 3 degree credits — text price \$12-14 — Lewis

Trends in resources for both residential and commercial uses are studied. Traditional and contemporary styles of furniture are considered, along with ways to create a focal point. Walls and wall coverings, floors and floor coverings, and methods of building a color scheme are emphasized. *This course is now in preparation; please inquire before enrolling.*

Arts 3-132. INTERIOR DESIGN II (1284). 9 lessons — \$45 — 3 degree credits — text price \$9-11 — Lewis

A continuation of Interior Design I. Styles of furniture and architecture; decorative fabrics; lighting; and the importance of texture are emphasized. Students will be asked to draw designs for a given floor plan. Housing or home furnishing publications are recommended but not required. (Prerequisite: Arts 3-131) *This course is now in preparation; please inquire before enrolling.*

ASTRONOMY

GC 1-161. PHYSICAL SCIENCE: SOLAR ASTRONOMY (1312). 16 lessons — \$75 — 5 degree credits — text price \$13-15 — Policoff

An introductory survey of the solar system, including a study of the earth, planets, satellites, asteroids, comets and meteorites. Topics include the celestial sphere, coordinate systems, time intervals, motions and physical attributes of planets in the solar system, and instruments used by the astronomer. Observations of the night sky will be required. *This course is now in preparation; please inquire before enrolling.*

GC 1-162. PHYSICAL SCIENCE: STELLAR ASTRONOMY (1313). 16 lessons — \$75 — 5 degree credits — text price \$13-16 — Policoff

An introductory survey of the large-scale structure of the universe including the definition of certain properties of stars, such as magnitude, luminosity and brightness. Topics include the sun, the spectral classification of the stars, clusters, nebulae, galaxies, quasars, cosmology and cosmogony. Observations of the night sky will be required. *This course is now in preparation; please inquire before enrolling.*

BEEKEEPING

(See Entomology)

BUSINESS ADMINISTRATION

Please see the following departmental listings for course offerings:

Accounting

Business Law

Business Studies (General College)

Finance

Industrial Relations

Insurance

Production

BUSINESS CORRESPONDENCE

(See English Composition)

BUSINESS LAW

BLaw 3-058. BUSINESS LAW — CONTRACTS (1858). 9 lessons — \$45 — 3 degree credits — text price \$16-18 — Donnelly

Deals with the basic law of contracts: formation, operation, effect, and discharge. Inasmuch as a knowledge of the general rules of contract law is fundamental to all work in business law, this course must precede BLaw 3-078, 3-088, and 3-098. (Prerequisite: Econ 1-002 or equivalent, or consent of instructor)

BLaw 3-078. BUSINESS LAW — AGENCY, PARTNERSHIPS, AND CORPORATIONS (1878).

9 lessons — \$45 — 3 degree credits — text price \$16-18 — Donnelly
The law of agency and a consideration of problems of partnerships and corporations, including business associations. Includes a study of the nature, creation, and terms of relationships, and rights and liabilities of the parties when doing business through agents, partnerships, and corporations. (Prerequisite: BLaw 3-058)

BLaw 3-088. BUSINESS LAW — SALES, BAILMENTS, AND NEGOTIABLE INSTRUMENTS (1888). 9 lessons — \$45 — 3 degree credits — text price \$16-18 — Donnelly

Law of sales of goods and law of commercial paper under the Uniform Commercial Code. Includes a study of negotiable notes, checks, drafts, etc., and rights of parties thereto. (Prerequisite: BLaw 3-058)

Course Descriptions/**BUSINESS STUDIES**

BLaw 3-098. BUSINESS LAW — PROPERTY RIGHTS AND OBLIGATIONS (1898). 8 lessons — \$45 — 3 degree credits — text price \$15-17 — Donnelly
Nature and classification of real and personal property, deeds and conveyances, landlord and tenant, recording and abstracting, Torrens titles, liens and mortgages, bankruptcy, wills, probating of estates, and duties of administrators and executors. (Prerequisite: BLaw 3-058)

BUSINESS STUDIES (General College)

(See also Data Processing)

GC 1-511. INTRODUCTION TO MODERN BUSINESS (1616). 15 lessons — \$75 — 5 degree credits — text price \$8-10 — Hower
Intended for both business and general education; provides an overview of economic environment in which business operates. Major functions of a business organization are surveyed, including production, finance, personnel, and marketing. A useful introductory course for students planning to do more work in business, but also recommended for those who want to survey the field without studying it in detail. *This course is now in preparation; please inquire before enrolling.*

GC 1-513. PRINCIPLES OF SMALL BUSINESS OPERATION (1617). 12 lessons — \$45 — 3 degree credits — text price \$14-16 — Haefner
Designed to emphasize the aspects of management uniquely important to small businesses; to provide practice in decision-making on the types of problems that small businessmen face; to help develop an understanding of the economic and social environment in which the small business operates. *This course is now in preparation; please inquire before enrolling.*

GC 1-537. SALESMANSHIP (1621). 10 lessons — \$45 — 3 degree credits — text price \$15-20 — Goodenough
Designed for the student in a sales position or interested in a sales career. Topics include attitudes, knowledge, and skills needed for success in selling; consumer motivation; pre-sales planning and approach; determining wants and needs; answering objections and completing the sale. Emphasis is on a customer-oriented approach using a problem solving method. (Concurrent employment in a selling or sales related occupation is recommended but not required)

CHEMICAL ENGINEERING AND MATERIALS SCIENCE (MINNESOTA TECHNICAL STUDY SERIES)

ChEn 0-001C. QUANTUM THEORY OF SOLIDS I (3301). 12 lessons — \$60 — 4 certificate credits — text price \$10-12 — Oman
Develops the concepts and techniques of quantum theory applied to problems dealing with properties of materials. A minimum background for profitable study is the equivalent of a bachelor's degree in engineering or science. Must have a knowledge of mathematics through differential equations and a familiarity with topics in modern physics.

ChEn 0-002C. QUANTUM THEORY OF SOLIDS II (3302). 12 lessons — \$60 — 4 certificate credits — text price \$10-12 — Oman
Continues application of elementary quantum theory to more advanced problems in properties of materials. Topics include: atoms, molecules and the periodic chart; free electron gas model for metals; energy band structure; metals, semiconductors and insulators; transport theory; semiconductor properties. (Prerequisite: ChEn 0-001C)

ChEn0-003C. ELECTRON MICROSCOPY (3303). 7 lessons — \$75 — 5 certificate credits — text price \$18-20 — Hutchinson

Embodies the theory and techniques of electron microscopy. Physical principles are applied to interaction of electrons with materials and fields as related to the understanding of electron-micrographic and diffraction information. Elements of image formation central to the understanding of micrographic data are fully treated. Application to both biological and physical problems is considered. (Prerequisite: familiarity with quantum mechanics and mathematics through differential equations)

CHILD PSYCHOLOGY

(See also Psychology)

CPsy 3-301. CHILD PSYCHOLOGY (8280). 14 lessons — \$60 — 4 degree credits — text price \$10-12 — Ludeke, R. Peterson

Designed to provide an understanding of children and their development, and the methods used by child psychologists. Topics include: personality and social behavior, infancy and personality, the development of personality, and a survey of important early work in child psychology. (Prerequisite: Psy 1-001)

CPsy 5-303. ADOLESCENT PSYCHOLOGY (8281). 13 lessons — \$60 — 4 degree credits — text price \$14-16 — Collins

Survey of the behavior and psychological development of the adolescent, including: biological considerations, cognition and creativity, moral development, parent-child relations, peers, ego identity, sexual development, school adjustment, social-cultural considerations, and the adolescent subculture. (Prerequisite: Psy 1-001)

CHINESE

(See East Asian Languages)

CIVIL ENGINEERING

CE 0-001C. SOILS ENGINEERING (2854). 16 lessons — \$45 — 3 certificate credits — text price \$10-11 — Kersten

Intended for engineers and students who wish to become familiar with the basic principles of soil behavior: the terminology, tests, and applications to practical problems. Covers soil development and maps, laboratory tests, constants, and classification; surveys, frost action, compaction, stabilization, and flexible pavement design; stress distribution, consolidation, and shear strength. (Prerequisite: 1 year of college mathematics desirable; consult instructor)

CE 0-302C. CONCRETE AND CONCRETE MATERIALS (2896). 16 lessons — \$45 — 3 certificate credits — text price \$3-5 — Skok

Includes a study of materials from which concrete is made, methods of designing a concrete mixture, the principles of air-entrained concrete, methods of measuring and controlling the air content, the chemical constitution of cement, properties of concrete, the practical aspects of proportioning, mixing, placing and curing concrete and other special related topics. (Prerequisite: basic knowledge of algebra, physics, and chemistry)

CLASSICS

Classics

Clas 1-048. TECHNICAL TERMS OF SCIENCE, MEDICINE, AND THE HUMANITIES (5248). 16 lessons — \$45 — 3 degree credits — text price \$1 — Moke
Presentation in English contexts of Greek and Latin prefixes, suffixes, and root words in modern technical vocabularies; special attention to medical terminology. No previous study of Greek or Latin is required.

Greek

Grk 1-101. BEGINNING CLASSICAL GREEK I (5901). 16 lessons — \$75 — 5 degree credits — text price \$8-10 — Kunin

An introduction to Homeric and Classical Greek language: alphabet, vocabulary, and idioms. Selected readings from *Iliad* and *Odyssey* of Homer and Classical Greek selections of moderate difficulty. Written translation exercises, oral exercises, and introduction to scansion and meter. After the successful completion of two quarters of Homeric Greek, the student may continue readings in the *Iliad* and *Odyssey*, or go on to *Classical Drama*, Hesiod, Xenophon, the New Testament, etc. *This course is now in preparation; please inquire before enrolling.*

Grk 1-102. BEGINNING CLASSICAL GREEK II (5902). 27 lessons — \$75 — 5 degree credits — text price \$5-7 — Kunin

Review of the fundamentals of Classical Greek. Readings in authentic selections from the body of ancient Greek literature, selections from Xenophon, Plato, Thucydides, New Testament and Homer. Written translation exercises, Greek to English and English to Greek, of greater extent and scope than in Grk 1-101. Successful completion of course should enable students to read Classical Greek well, and New Testament Greek very well, with the aid of a dictionary. (Prerequisite: Grk 1-101 or equivalent, or consent of instructor)

Latin

Lat 1-101. BEGINNING LATIN I (6201). 27 lessons — \$75 — 5 degree credits — text price \$5-10 — Schaffer

Basic grammar and vocabulary, practice in reading and writing Latin, workbook exercises, easy Latin readings and Roman legends.

Lat 1-102. BEGINNING LATIN II (6202). 27 lessons — \$75 — 5 degree credits — text price \$5-10 — Schaffer

Continuation of Lat 1-101. Similar in content and methods, leading to connected reading in *Fabulae Faciles (Easy Stories)*. (Prerequisite: Lat 1-101 or equivalent)

Lat 1-103. INTERMEDIATE LATIN (6203). 27 lessons — \$75 — 5 degree credits — text price \$5-7 — Peplinski

A review of the elements of Lat 1-101 and 1-102, with a shift of emphasis to longer passages of continuous reading on Roman life. A considerable amount of historical and literary background is presented in English to orient the student to the material. (Prerequisite: Lat 1-102 or equivalent)

Course Descriptions/EAST ASIAN LANGUAGES

- Lat 1-004. SELECTIONS FROM LATIN PROSE AND POETRY** (6204). 16 lessons — \$45 — 3 degree credits — text price \$5-7 — Peplinski
Includes selections from the most famous public addresses of Cicero. Through the English descriptive passages, an understanding will be gained of their importance then and now. Selections from the Tales of Ovid in the original Latin verse will acquaint students with mythology and its influence on the literature of our time. Other poets and prose writers are also included. These selections have been made from the standpoint of present-day interest. (Prerequisite: Lat 1-103 or equivalent)
- Lat 3-469. VERGIL: AENEID** (6205). 27 lessons — \$75 — 5 degree credits — text price \$7-9 — Peplinski
Readings of selections from Books I-II; background reading in Roman life and thought is included in the text. (Prerequisite: Lat 1-103 or equivalent)
- Lat 3-471. CICERO** (6206). 16 lessons — \$45 — 3 degree credits — text price \$2-4 — Peplinski
Readings from the most famous humanistic essays. (Prerequisite: Lat 1-103 or equivalent)

COMPOSITION

(See English Composition)

DATA PROCESSING

- GC 1-535. INTRODUCTION TO DATA PROCESSING** (1965). 8 lessons — \$45 — 3 degree credits — text price \$13-15 — Folz
Designed to acquaint students with fundamentals of data processing. Includes a study of the terminology, procedures, and machines used. Key punches, sorters, interpreters, reproducers, collators, accounting machines, calculators, and computers are discussed at length. Also includes a brief history of data processing, a summary of its basic applications, and an analysis of its social and economic effects.
- GC 1-572. INTRODUCTION TO BLOCK DIAGRAMMING AND PROGRAMMING** (1967). 15 lessons — \$75 — 5 degree credits — text price \$8-10 — Folz
Designed to provide an orientation to the technique of problem definition and analysis, including the formulation and use of a block diagram (flow chart). Programming techniques such as switches, branching, and use of input/output devices are examined. Also emphasized are basic elements of computers such as computer number systems, languages, various storage devices and how they are linked to a computer. (Prerequisite: GC 1-535 or equivalent, or consent of instructor) *This course is now in preparation; please inquire before enrolling.*

EAST ASIAN LANGUAGES

Chinese

- Chin 1-101. BEGINNING CHINESE I** (5501). 20 lessons — \$75 — 5 degree credits — text price \$11-14 — Na
Prepares for the reading and speaking of conversational Chinese. Introduces 312 char-

Course Descriptions/ECONOMICS

acters and the basic structure of the Chinese sentence. A series of cassette tapes, corresponding to the lessons, is provided. *This course is now in preparation; please inquire before enrolling.*

Chin 1-102. BEGINNING CHINESE II (5502). 18 lessons — \$75 — 5 degree credits — text price \$11-14 — Na

A continuation of Chin 1-101. Basic grammatical points and paragraph structure. Introduces 329 new characters. (Prerequisite: Chin 1-101) *This course is now in preparation; please inquire before enrolling.*

Chin 1-103. BEGINNING CHINESE III (5503). 15 lessons — \$75 — 5 degree credits — text price \$11-14 — Na

A continuation of Chin 1-102. Final five lessons study simplified characters used today in mainland China. (Prerequisite: Chin 1-102) *This course is now in preparation; please inquire before enrolling.*

Chin 3-501. ASIAN CIVILIZATION: CHINA (5520). 16 lessons — \$45 — 3 degree credits — text price \$10-15 — Na

A readings course to introduce students to selected materials in the fields of Chinese history, philosophy, religion, literature and art. Students are required to submit brief essays on specific problems designed to focus on the dynamics of Chinese intellectual history. A longer paper at the end of the course is also required.

Japanese

Jpn 1-101. BEGINNING JAPANESE I (6101). 20 lessons — \$75 — 5 degree credits — text price \$5-10 — Matsumoto

An introduction to reading and writing modern Japanese. Provides the basic grammar and vocabulary for learning to read modern fiction, newspapers, magazine styles, and for learning conversational Japanese.

Jpn 1-102. BEGINNING JAPANESE II (6102). 18 lessons — \$75 — 5 degree credits — text price \$5-10 — Matsumoto

A continuation of Japanese 1-101, with greater emphasis on composition. (Prerequisite: Jpn 1-101)

Jpn 1-103. BEGINNING JAPANESE III (6103). 12 lessons — \$75 — 5 degree credits — text price \$5-10 — Matsumoto

A continuation of Japanese 1-102. (Prerequisite: Jpn 1-102) *This course is now in preparation; please inquire before enrolling.*

ECONOMICS

(See also Agricultural Economics)

Econ 1-001. PRINCIPLES OF ECONOMICS: MACROECONOMICS (2101). 13 lessons — \$45 — 3 degree credits — text price \$11-12 — Billings

Principles underlying economic activity and the way these principles work through our economic institutions. National income, money and banking, business cycles, and international trade are examined. **Note:** A 4-credit revision of this course is in progress. You may enroll immediately in the 3-credit course described above or write for information on the new course.

Econ 1-002. PRINCIPLES OF ECONOMICS: MICROECONOMICS (2102). 16 lessons — \$45 — 3 degree credits — text price \$11-12 — Fatland

Principles underlying economic activity and the way these principles work through our institutions. Demand and supply, competition and monopoly, and distribution of income are examined. **Note:** A 4-credit revision of this course is in progress. You may enroll immediately in the 3-credit course described above or write for information on the new course.

Econ 3-102. MACROECONOMIC THEORY (2166). 16 lessons — \$45 — 3 degree credits — text price \$7-10 — Rao

Income and employment. Determinants of national income, employment, and price level, with particular attention to aggregate consumption and investment. (Prerequisite: Econ 1-002 or equivalent) **Note:** A 4-credit revision of this course is now in progress. You may enroll immediately in the 3-credit course described above or write for information on the new course.

Econ 3-751. MONEY AND BANKING (2167). 13 lessons — \$60 — 4 degree credits — text price \$15-17 — Rao

Money, banks, and financial intermediaries as economic institutions; the mechanics of monetary transactions; the value of money; international monetary relationships; issues relating to monetary policy. (Prerequisite: Econ 3-102 or equivalent) *This course is now in preparation; please inquire before enrolling.*

Econ 5-534. ECONOMIC SECURITY (2182). 16 lessons — \$45 — 3 degree credits — text price \$10-12 — Turnbull

Origins and development of economic and social problems of the individual worker, public and private attempts to deal with these issues; economic and social implications. (Prerequisite: Econ 3-501—Labor Economics, or Econ 3-551—Labor Economics, or equivalent, or consent of instructor)

Econ 5-537. LABOR MARKET BEHAVIOR AND REGULATION (2172). 16 lessons — \$45 — 3 degree credits — text price \$3-4 — Turnbull

Employer-employee-union relationships and their social control; legislative, executive, and judicial attempts to deal with these issues; economic and social implications. (Prerequisite: Econ 3-501—Labor Economics, or Econ 3-551—Labor Economics, or equivalent, or consent of instructor)

EDUCATION

(See also Child Psychology; Recreation and Park Administration)

Elementary Education

EIEd 5-355. (Duluth) TEACHING MATHEMATICS—ELEMENTARY (2699). 16 lessons — \$45 — 3 degree credits — text price \$19-21 — Johnson

Present practices and trends in methods, materials, and curriculum development; principles of learning, with emphasis on discovering techniques and meaningful approaches to operations with numbers; evaluation and diagnosis of difficulties, problem solving. (Prerequisite: 9 credits in education)

History and Philosophy of Education

Hed 1-004. INTRODUCTION TO PHILOSOPHY OF EDUCATION (2393). 21 lessons — \$60 — 4 degree credits — text price \$3-4 — Norberg

Course Descriptions/ELECTRICAL TECHNOLOGY

A study of the ideas influencing contemporary education in the United States. An effort will be made to show how these ideas might influence the day-to-day work of the teacher. Helps teachers clarify their thinking in respect to the many conflicting viewpoints in educational philosophy.

HED 3-090. THE SCHOOL AND SOCIETY (2690). 9 lessons — \$45 — 3 degree credits — text price \$16-18 — Dupuis
Readings in social science and philosophy give the student an opportunity to integrate points of view in thinking about the role of the school in present-day society. (Prerequisite: 135 quarter credits or equivalent)

HED 5-141. CRITICAL ISSUES IN CONTEMPORARY EDUCATION (2691). 9 lessons — \$45 — 3 degree credits — text price \$13-15 — Dupuis
The principal aim is to answer the following question: What are the outstanding points of view in education today? Such practical questions as discipline, freedom, indoctrination, teacher-pupil relations, and progressive methods will be treated as they relate to underlying theory; but the central objective will be to appreciate the crucial agreements and differences among leading thinkers in contemporary education.

Physical Education

PE 3-330. THE PHYSICAL EDUCATION PROGRAM IN THE ELEMENTARY SCHOOL (8384). 10 lessons — \$45 — 3 degree credits — text price \$8-10 — Cato
Designed to help the elementary classroom teacher assume responsibility in teaching physical education. Emphasis is on planning, methods, and selection of appropriate activities and organization. (Prerequisite: minimum of 5 credits in skills and methods courses in physical education; open to elementary teachers only)

Psychological Foundations of Education

PsyF 3-102. INTRODUCTION TO MEASUREMENT AND STATISTICS (2660). 16 lessons — \$45 — 3 degree credits — text price \$12-14 — Giese
Elementary statistical methods and their application to educational problems. The commonly used statistical terms and methods such as mean, median, mode, percentiles, graphs, standard deviation, correlation, standard scores, and test analysis are considered. An attempt is made to give the student a thorough understanding of statistics. Emphasis is placed on the intelligent use of statistical methods so that the student may interpret educational data correctly. (Prerequisite: 6 credits in psychology)

ELECTRICAL TECHNOLOGY

ET 0-500C. ELEMENTS OF ELECTRIC CIRCUITS (2901). 16 lessons — \$45 — 3 certificate credits — text price \$10-12 — Larson
Fundamental laws of direct current circuits, the magnetic field and magnetic properties of iron and steel, induced and generated electromotive forces. Fundamental laws of alternating current circuits, complex representation. Series and parallel circuits, polyphase circuits, power measurements in electric circuits. (Prerequisite: high school math through trigonometry)

ELECTRON MICROSCOPY

(See Chemical Engineering and Materials Science)

ELEMENTARY EDUCATION

(See Education)

ENGINEERING

Please see the following departmental listings for course offerings:

Aerospace Engineering and Mechanics

Chemical Engineering and Materials Science

Civil Engineering

Electrical Technology

Engineering Graphics

Industrial Engineering

ENGINEERING GRAPHICS

EG 0-001C. THE SLIDE RULE (3001). 6 lessons — \$15 — 1 certificate credit — text price \$10-12 — Palmer

Theory and computation practice necessary for those who wish to use the slide rule in ordinary computations. Drills on fundamental processes.

ENGLISH

(Composition and Literature)

Composition

Comp 0-001. PREPARATORY COMPOSITION (3500). 16 lessons — \$45 — no credit — text price \$14-15 — L. Malmshheimer

Intensive drill on grammatical forms, structure, and theme writing. Recommended for

Course Descriptions/ENGLISH

those whose primary need is organization and development of themes; any passing grade admits students to Engl 1-001.

Comp 0-002. GRAMMAR REVIEW (3505). 11 lessons — \$30 — no credit — text price \$5-7 — O'Connell

A step-by-step explanation of traditional grammar, punctuation, spelling, and vocabulary. Recommended both for those who have little or no knowledge of language fundamentals and for those, such as teachers or secretaries, who wish a systematic and complete review of basic principles.

Comp 0-004C. BUSINESS CORRESPONDENCE (3507). 16 lessons — \$45 — 3 certificate credits — text price \$8-10 — Haga

A practical course for people in business or those preparing to enter it. The ways of developing effective letter-writing habits are analyzed and presented in a study of diction, grammar, and the mechanics of letter forms.

Comp 0-009. REMEDIAL WRITING (3506). 12 lessons — \$30 — no credit — no required text — Klohn

The fundamentals of good English, with emphasis on grammar, punctuation, and spelling and their application to written composition. Cannot be substituted for Comp 0-001.

Comp 0-011. THE WRITING OF POETRY (3509). 12 lessons — \$30 — no credit — no required text — Carson

The student will be given an opportunity to write both traditional and free verse. The student's work will be evaluated by the instructor. Designed to develop an appreciation of poetry and the student's ability in the writing of poetry. (Prerequisite: consent of instructor)

Comp 0-012. THE ADVANCED WRITING OF POETRY (3510). 12 lessons — \$30 — no credit — no required text — Carson

The student will have complete independence to submit work for evaluation by the instructor. Designed to provide the student with a sympathetic yet critical appraisal of his work. (Prerequisite: consent of instructor)

Comp 0-017C. INDEPENDENT WRITING (3580). \$45 — 3 certificate credits — no required text — R. Malmshaimer

Consists of manuscript criticism. There are no assignments or lesson materials. Intended for advanced students who want criticism and suggestions on their own projects. The instructor will read approximately 16,000 words divided into lessons as the student wishes. Poetry is not covered in the course. (Prerequisite: consent of instructor)

Comp 0-018. SHORT MANUSCRIPT CRITICISM (3581). 6 lessons — \$15 — no credit — no required text — R. Malmshaimer

There are no assignments or lesson materials. The student submits up to 8,000 words for criticism and suggestions. The maximum of 8,000 words may be in one, two, three, or four submissions.

Engl 1-001. FRESHMAN ENGLISH I (3501). 12 lessons — \$60 — 4 degree credits — text price \$16-18 — R. Malmshaimer

Concentrates on developing the student's skill in writing exposition, with literature — short stories and the novella — used chiefly as a means of providing subject matter for the writing. (Prerequisite: Comp 0-001 or a satisfactory score on the English Placement Test)

Engl 1-002. FRESHMAN ENGLISH II (3502). 13 lessons — \$60 — 4 degree credits — text price \$16-18 — R. Malmshaimer

Continuation of 1-001. Emphasis is on reading, analyzing and writing about poetry and drama. (Prerequisite: Engl 1-001)

Engl 1-003. FRESHMAN ENGLISH III (3503). 12 lessons — \$60 — 4 degree credits — text price \$19-21 — R. Malmshaimer

Continuation of 1-002. Drama, specifically tragedy, is read and analyzed. A controlled research paper on the reading material is required, and is used as the final examination. (Prerequisite: Engl 1-002)

Comp 1-027. INTERMEDIATE COMPOSITION: EXPOSITION (3527). 13 lessons — \$60 — 4 degree credits — text price \$12-15 — Klemz

The fundamentals of expository writing. Emphasizes language and style as well as instruction and experience in writing paragraphs, themes of definition, themes of analysis and evaluation, themes of comparison and contrast, and persuasive essays. (Prerequisite: Freshman English or equivalent)

Comp 1-113. SHORT STORY WRITING I (3569). 16 lessons — \$60 — 4 degree credits — text price \$7-8 — L. Malmshemer

A basic study of short story technique, with emphasis on the student's completion of several original stories. Manuscripts will be carefully read, and suggestions for improvement will be offered. The textbook is the work of a successful author, and the stories studied illustrate a variety of writing methods. (Prerequisite: consent of instructor)

Comp 1-114. SHORT STORY WRITING II (3570). 16 lessons — \$60 — 4 degree credits — text price \$2-5 — L. Malmshemer

Continuation of Comp 1-113. The student will write four stories, in all approximately 10,000 words, and these stories will be carefully read and criticized. He will read a number of useful stories and consider such things as style, tone, pace, suggestion, and symbols. (Prerequisite: consent of instructor)

GC 1-421. PERSONAL WRITING (3531). 9 lessons — \$45 — 3 degree credits — text price \$20-25 — Klemz

To increase his awareness of himself, his surroundings, and his relationships with his friends and family, the student reads and writes descriptions, character sketches, and autobiographic and biographic narratives. He is encouraged to write clear, correct, and effective sentences and to overcome his own writing difficulties. He also learns about the dictionary and its resources, and briefly studies the history and development of language and its level of usage and style.

Literature

Engl 0-008C. MASTERPIECES OF WORLD LITERATURE (3604). 12 lessons — \$30 — 2 certificate credits — text price \$24-26 — Klohn

A reading course for those who want to acquaint themselves with the world's great works of fiction. The lessons help the reader to interpret, appreciate, and respond to problems raised by the authors. Of interest to anyone who wants to increase his command of reading and discussion.

Engl 1-018. INTRODUCTION TO MODERN LITERATURE: PROSE FICTION (3638). 16 lessons — \$60 — 4 degree credits — text price \$10-15 — Haney

The British and American novel in the 20th century: Dreiser, Lawrence, Joyce, Huxley, Faulkner, Hemingway, Steinbeck, Cary, and Bellow. (Prerequisite: Freshman English)

Engl 1-821. INTRODUCTION TO LITERATURE I (3621). 15 lessons — \$60 — 4 degree credits — text price \$10-12 — Warren

A chronological study of the leading English writers in poetry and prose and of their historical backgrounds, including an introduction to types of literature and literary ideas. The complete sequence of three terms (1-821, 1-822, 1-823) begins with Chaucer and ends with Arnold. Some knowledge of English history from Edward III to Victoria is required. English 1-821 includes: Chaucer to Milton, Marlowe, Spenser, Shakespeare, Bacon, Brown, and Bunyan. (Prerequisite: Freshman English)

Course Descriptions/ENGLISH

- Engl 1-822. INTRODUCTION TO LITERATURE II** (3622). 27 lessons — \$60 — 4 degree credits — text price \$8-10 — Grant
Continuation of Engl 1-821. The Restoration and the 18th century. Pope, Swift, Addison and Steele, Johnson, Boswell, Fielding, and Sheridan. (Prerequisite: Freshman English)
- Engl 1-823. INTRODUCTION TO LITERATURE III** (3623). 27 lessons — \$60 — 4 degree credits — text price \$10-12 — Grant
Continuation of Engl 1-822. The Romantic movement and the Victorians. Wordsworth, Coleridge, Byron, Shelley, Keats, Carlyle, Tennyson, Browning, and Arnold. (Prerequisite: Freshman English)
- Engl 3-241. SHAKESPEARE I** (3655). 16 lessons — \$60 — 4 degree credits — text price \$10-15 — Shaw
The development of Shakespeare's dramatic art is traced chronologically from the earliest plays to two of the mature tragedies. The student becomes familiar with the various types of Shakespeare's drama, comedy, tragedy, and history. (Prerequisite: Freshman English and 5 additional credits in English or consent of instructor)
- Engl 3-242. SHAKESPEARE II** (3656). 16 lessons — \$60 — 4 degree credits — text price \$10-15 — Shaw
Continuation of Engl 3-241. Shakespeare's later career from 1600 to 1611. Tragedies, romantic comedies, romances, and one problem comedy. (Prerequisite: Engl 3-241 or consent of instructor)
- Engl 3-411. AMERICAN LITERATURE I** (3672). 16 lessons — \$60 — 4 degree credits — text price \$10-15 — Kurak
The development of American literature and thought from the beginnings through the early American Renaissance. Authors studied include some from the colonial and early national periods and such major figures as Poe, Emerson, Melville and Hawthorne. (Prerequisite: completion of Freshman English requirement and 5 additional credits in English or consent of instructor)
- Engl 3-412. AMERICAN LITERATURE II** (3673). 16 lessons — \$60 — 4 degree credits — text price \$20-25 — Kurak
Continuation of English 3-411. American literature from the American Renaissance to the end of the 19th century. Among the authors studied are Thoreau, Whitman, Dickinson, Twain, James, and Crane. (Prerequisite: Engl 3-411 or consent of instructor)
- Engl 3-413. AMERICAN LITERATURE III** (3674). 16 lessons — \$60 — 4 degree credits — text price \$20-25 — Kurak
Continuation of English 3-412. American literature from the end of the 19th century to the 1960's. Authors studied include Dreiser, Frost, Eliot, O'Neill, Cather, Fitzgerald, Faulkner, and Hemingway, as well as a selection of contemporary poets. (Prerequisite: Engl 3-411 or consent of instructor)
- Engl 3-827. ENGLISH NOVEL I** (3652). 16 lessons — \$60 — 4 degree credits — text price \$20-25 — Warren
A chronological study of the major English novels from their 18th-century beginnings to the early 19th century. Emphasizes the structure and the historical development of the novel, with special emphasis on the elements of theme, plot, character, and mood. The major novelists studied are: Defoe, Richardson, Fielding, Smollett, Sterne, Austen, and Scott. (Prerequisite: Freshman English and 5 additional credits in English)
- Engl 3-828. ENGLISH NOVEL II** (3653). 16 lessons — \$60 — 4 degree credits — text price \$15-20 — Warren
A chronological study of the major English novels of the 19th century. Emphasizes the structure and the historical development of the 19th-century novel, with special emphasis on the elements of theme, plot, character, and mood. The major novelists studied are: Dickens, Thackeray, the Bronte sisters, George Eliot, Trollope, Meredith, Hardy, and Conrad. (Prerequisite: Freshman English and 5 additional credits in English)

Engl 5-221. CHAUCER (3675). 21 lessons — \$60 — 4 degree credits — text price \$8-10 — Ferris

A study of most of *The Canterbury Tales*, the last and most varied work by the founder of the English poetic tradition. Emphasizes such matters as Chaucer's skill and versatility in narrative, his ability in characterization, his place as a representative (and critic) of medieval Christianity and culture, and his relation to the great authors who preceded and followed him. Opportunity is given for additional reading and for original critical writing. The reading is done in the original early English, but only such emphasis is put on the language as serves to illuminate the quality and meaning of the poetry. (Prerequisite: Freshman English and 5 additional credits in either English or Humanities)

Engl 5-261. MILTON (3692). 9 lessons — \$60 — 4 degree credits — text price \$10-15 — McNaron
Course covers the following poems: *Comus*, *Lycidas*, *Areopagitica*, *Paradise Lost*, and *Samson Agonistes*. (Prerequisite: Freshman English and 5 additional credits in English or consent of instructor)

ENTOMOLOGY

Ent 0-004C. PRINCIPLES OF BEEKEEPING (1004). 16 lessons — \$45 — 3 certificate credits — text price \$21-23 — Furgala

Useful to both the nonexperienced and experienced beekeeper. History of beekeeping, life history and behavior of honey bees; colony and apiary management; pollination and hive products; honey bee diseases and their control.

FAMILY STUDIES

FamS 1-001. THE DYNAMICS OF DATING, COURTSHIP, AND MARRIAGE (4101). 10 lessons — \$45 — 3 degree credits — text price \$20-22 — Sprenkle

Designed to improve interpersonal relations and self-understanding. Includes a discussion of communication, dating, and love involvement, changing sex roles, human sexuality, mate selection and engagement, marital interaction, marital conflict, parenthood and the family in American society.

FINANCE

Fin 0-500C. REAL ESTATE (1796). 9 lessons — \$45 — 3 certificate credits — text price \$12-13 — Rosko

Valuation of urban real estate, problems of real estate financing, rent control, housing, land development, zoning, and other factors affecting real estate values. (Prerequisite: Econ 1-002 or equivalent; open to businessmen on a non-credit basis without prerequisite)

FINNISH

(See Scandinavian Languages)

FORESTRY

For 1-201. CONSERVATION OF NATURAL RESOURCES (4201). 16 lessons — \$45 — 3 degree credits — text price \$8-10 — Scholten
Current status, utilization, and sound management of natural resources with emphasis on those that are renewable. Conservation principles and their application to soil, water, forests, grasslands, wildlife, and minerals.

FRENCH

Fren 0-001. FRENCH FOR GRADUATE STUDENTS (5717). 16 lessons — \$45 — no credit — text price \$4-6 — O'Donnell
Fundamentals of grammar; reading of appropriate prose. Prepares for graduate reading examination in French.

Fren 1-101. BEGINNING FRENCH I (5701). 27 lessons — \$75 — 5 degree credits — text price \$10-12 — Aynesworth
Essentials of the French language: grammar, reading, pronunciation, composition.

Fren 1-102. BEGINNING FRENCH II (5702). 27 lessons — \$75 — 5 degree credits — text price \$10-12 — Aynesworth
Continuation of French 1-101: grammar, reading, and composition. (Prerequisite: French 1-101 or 1 year of high school French)

GARDENING

(See Horticultural Science)

GENERAL COLLEGE

Please see the following departmental listings for all General College course offerings:

Astronomy

Business Studies

English Composition

Data Processing

Social Studies

GEOGRAPHY

Geog 3-101. GEOGRAPHY OF THE UNITED STATES AND CANADA (4451). 18 lessons — \$60 — 4 degree credits — text price \$7-10 — Steinhauser

An introductory treatment of economic development and geographical association in the United States and Canada. Emphasis is on the ways of making a living and the location of production. Problems are considered on both a national and regional basis.

Geog 3-111. GEOGRAPHY OF MINNESOTA (4407). 19 lessons — \$60 — 4 degree credits — text price \$8-10 — Steinhauser

Provides an opportunity for study of Minnesota's physical environment, man's perception of it and the choices he has made in making a living here.

Geog 3-121. GEOGRAPHY OF LATIN AMERICA (4450). 24 lessons — \$60 — 4 degree credits — text price \$8-10 — Steinhauser

Primarily the South American continent, followed by the study of major regions within individual countries. Both natural and cultural elements will be studied in their regional associations.

GEOLOGY AND GEOPHYSICS

Geo 1-005. PHYSICAL GEOLOGY (4501). 18 lessons — \$75 — 5 degree credits — text price \$10-12 — Sloan

An introduction to general geology. Survey of the main features of the physical world and the processes that have evoked them. Topics include: maps, rock formation, weathering, soils, deserts, oceans, and the phenomena of earthquakes, glaciers, and volcanoes.

Geo 1-006. HISTORICAL GEOLOGY (4502). 16 lessons — \$45 — 3 degree credits — text price \$10-12 — Sloan

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; emphasis on the geological history of the North American continent. (Prerequisite: Geo 1-001, or 1-111)

Geo 5-151. INTRODUCTION TO PALEONTOLOGY (4551). 18 lessons — \$75 — 5 degree credits — text price (including fossil kit) \$38-40 — Sloan

An introduction to morphology and classification of major fossil groups. The use of fossils in the study of evolution, along with methods of collection and identification, are emphasized. (Prerequisite: Geo 1-002 or 1-112, or introductory college biology)

GERMAN

Ger 0-221. GERMAN FOR GRADUATE STUDENTS I (5817). 16 lessons — \$45 — no credit — text price \$15-20 — Menze

Designed to help graduate students acquire a reading knowledge of basic German as rapidly as possible. (Not intended to be preparation for the Graduate German Reading Examination, but the first step toward that objective.) Assumes no knowledge of German

Course Descriptions/*GERMAN*

on the part of the student. Grammar is reduced to an essential minimum. Progresses from intensive reading of simple, graded material to selections of moderate difficulty. Vocabulary building and word formation are emphasized.

Ger 0-222. GERMAN FOR GRADUATE STUDENTS II (5818). 21 lessons — \$60 — no credit — text price \$6-8 — Menze

Designed to give graduate students experience in intensive reading of German literary texts. Students may satisfy the German language requirement for an advanced degree by achieving a grade of "B" or better on the final examination. (Prerequisite: Ger 0-221 or 2 years of high school German)

Ger 1-111. BEGINNING GERMAN I (5801). 27 lessons — \$75 — 5 degree credits — text price \$6-8 — Ramras

Grammar and easy composition. Intended to give the student a knowledge of the elements of German grammar and the facility to read and to write simple German sentences.

Ger 1-112. BEGINNING GERMAN II (5802). 27 lessons — \$75 — 5 degree credits — text price \$6-8 — Ramras

Continuation of Ger 1-111. (Prerequisite: Ger 1-111 or 1 year of high school German)

Ger 1-113. BEGINNING GERMAN III (5803). 27 lessons — \$75 — 5 degree credits — text price \$7-10 — Menze

Grammar and composition continued; selected readings in easy prose. (Prerequisite: German 1-112 or two years of high school German)

Ger 1-301/1-302. INTERMEDIATE GERMAN (5804). 27 lessons — \$75 — 5 degree credits — text price \$6-8 — Menze

The combination of Ger 1-301/1-302 corresponds in content to the regular departmental course offerings at the intermediate level in the College of Liberal Arts. Students must register for 5 credits in Department of Independent Study. (Prerequisite: Ger 1-113 or 1-103, or 3 years of high school German)

Ger 3-011. ELEMENTARY COMPOSITION I (5857). 11 lessons — \$30 — 2 degree credits — text price \$6-8 — Menze

A review of the fundamentals of German grammar with particular attention to the idioms and characteristics of written German. Practice in writing original compositions. (Prerequisite: Ger 1-301/1-302)

Ger 3-012. ELEMENTARY COMPOSITION II (5858). 11 lessons — \$30 — 2 degree credits — text price \$6-8 — Menze

A continuation of Ger 3-011; grammar, idioms, and characteristics of written German. Further practice in writing original compositions. (Prerequisite: Ger 3-011)

Ger 3-013. ELEMENTARY COMPOSITION III (5859). 11 lessons — \$30 — text price \$2-4 — Menze

Intensive practice in the use of conversational and written German. The writing of original compositions. (Prerequisite: Ger 3-012)

Ger 3-311. DRAMA: THE CLASSICAL PERIOD (5873). 16 lessons — \$45 — 3 degree credits — text price \$15-20 — Menze

Selected plays of Lessing, Schiller, and Goethe, with assigned readings and 1 report. (Prerequisite: Ger 1-301/1-302 or consent of instructor)

Ger 3-312. DRAMA: THE 19th CENTURY (5874). 16 lessons — \$45 — 3 degree credits — text price \$8-10 — Menze

Selected plays of Kleist, Grillparzer, and Hebbel, with assigned readings and 1 report. (Prerequisite: Ger 3-311 or consent of instructor)

- Ger 3-313. DRAMA: THE MODERN PERIOD** (5875). 16 lessons — \$45 — 3 degree credits — text price \$6-8 — Menze
Selected plays representing the more recent movements in German literature — naturalism, impressionism, expressionism. Includes assigned readings and 1 report. (Prerequisite: Ger 3-312 or consent of instructor)
- Ger 3-321. GERMAN PROSE OF THE 19th CENTURY** (5876). 16 lessons — \$45 — 3 degree credits — text price \$6-8 — Menze
Selected novellen by Grillparzer, Stifter, Keller, and Storm. (Prerequisite: Ger 1-301/1-302 or consent of instructor)
- Ger 3-322. GERMAN PROSE OF THE 19th AND 20th CENTURIES** (5877). 16 lessons — \$45 — 3 degree credits — text price \$7-10 — Menze
Selected novellen by Gerhart Hauptmann, Arthur Schnitzler, Thomas Mann, Ricarda Huch, Wilhelm Schäfer, and Hermann Hesse. (Prerequisite: Ger 3-321 or equivalent)
- Ger 3-323. GERMAN PROSE OF THE 20th CENTURY** (5878). 16 lessons — \$45 — 3 degree credits — text price \$7-10 — Menze
Selected novellen by Franz Kafka, Robert Musil, Wolfgang Borchert, Heinrich Böll, and other renowned mid-century prose writers. (Prerequisite: Ger 3-322 or equivalent)

GREEK

(See Classics)

HEALTH

(See Public Health)

HISTORY

- Hist 1-001. INTRODUCTION TO MODERN EUROPEAN HISTORY I** (4701). 12 lessons — \$45 — 3 degree credits — text price \$21-23 — Harris
A survey of European history to the 18th century. Emphasis is on the rise of the nation state, and the role of Christianity and exploration in its development.
- Hist 1-002. INTRODUCTION TO MODERN EUROPEAN HISTORY II** (4702). 12 lessons — \$45 — 3 degree credits — text price \$21-23 — Harris
A survey of European history in the 18th and 19th centuries. Emphasis is on the struggle for control of the state, the Age of Reason, the French Revolution.
- Hist 1-003. INTRODUCTION TO MODERN EUROPEAN HISTORY III** (4703). 12 lessons — \$45 — 3 degree credits — text price \$23-25 — Harris
A survey of European history in the 19th and 20th centuries. Emphasis is on the impact of industrialization on 19th-century civilization and the development of the international problems of the 20th century.

Course Descriptions/HISTORY

- Hist 1-051. HISTORY OF ANCIENT CIVILIZATION I** (4714). 16 lessons — \$45 — 3 degree credits — text price \$10-12 — Jones
Survey of the rise of civilization in the Ancient Near East from the earliest times to 500 B. C. Emphasis is on 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. *See also Hist 1-061.*
- Hist 1-052. HISTORY OF ANCIENT CIVILIZATION II** (4715). 16 lessons — \$45 — 3 degree credits — text price \$10-12 — Jones
History of the rise and flowering of Greek civilization from the earliest times to the death of Alexander the Great in 323 B. C. Special emphasis is placed on Greek civilization in the fifth century (Age of Pericles) with attention to the political, social, literary, artistic, and philosophic achievements of that period. (No prerequisite; Hist 1-051 helpful in providing background for the Greek period) *See also Hist 1-062.*
- Hist 1-053. HISTORY OF ANCIENT CIVILIZATION III** (4716). 16 lessons — \$45 — 3 degree credits — text price \$15-20 — Jones
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) civilization of the ancient world at its peak, (b) rise and flowering of Roman culture, and (c) 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; Hist 1-051 and 1-052 recommended for background) *See also Hist 1-063.*
- Hist 1-061. BASIC READINGS IN ANCIENT CIVILIZATION I** (4717). 12 lessons — \$30 — 2 degree credits — text price \$5-10 — Jones
An introduction to ancient history as a discipline: the principles of historical analysis and criticism as well as the methods and techniques used in the reconstruction of the past. Among the topics considered are archaeological excavation; uses of evidence provided by pottery, coins, and other artifacts; type problems posed by literary sources; ancient Near Eastern literature, the Greek epic, and the meaning of the Old Testament as a literary and historical document. (Prerequisite: Hist 1-051 or concurrent registration)
- Hist 1-062. BASIC READINGS IN ANCIENT CIVILIZATION II** (4718). 12 lessons — \$30 — 2 degree credits — text price \$10-15 — Jones
An introduction to the major authors of the classical Greek period. Selections from poets, dramatists, Herodotus, Thucydides, Xenophon, orators, Plato, and Aristotle. (Prerequisite: Hist 1-052 or concurrent registration)
- Hist 1-063. BASIC READINGS IN ANCIENT CIVILIZATION III** (4719). 12 lessons — \$30 — 2 degree credits — text price \$10-15 — Jones
An introduction to the literature of the Hellenistic and Roman periods. Selections from poetry, drama, history, biography, science, philosophy, oratory, and letters. The New Testament and early Christian writings will be considered in their relation to pagan literature. (Prerequisite: Hist 1-053 or concurrent registration)
- Hist 1-151. ENGLISH HISTORY I** (4704). 16 lessons — \$45 — 3 degree credits — text price \$10-15 — Garland
The evolution of English society from prehistoric times through the Wars of the Roses, with emphasis on the rise and fall of feudal kingship and the development of institutions of national government, Parliament and common law.
- Hist 1-152. ENGLISH HISTORY II** (4705). 9 lessons — \$45 — 3 degree credits — text price \$15-20 — Garland
English society in its emergence from the medieval into the modern world (1485-1760). Deals with such topics as the Renaissance, the Reformation, the Elizabethan age, political revolution and Civil War, the establishment of Empire, and the scientific revolution.

- Hist 1-301. AMERICAN HISTORY I** (4723). 21 lessons — \$60 — 4 degree credits — text price \$18-20 — Lupton
A survey of the political, economic and social history of the United States with emphasis on forces that resulted in the emergence of modern America. Examines the colonial and early national period through the sectional crisis.
- Hist 1-302. AMERICAN HISTORY II** (4724). 21 lessons — \$60 — 4 degree credits — text price \$18-20 — Lupton
Continuation of 1-301. Covers the growth of America from the Civil War to modern times.
- Hist 3-881. HISTORY OF AMERICAN FOREIGN POLICY I** (4793). 9 lessons — \$45 — 3 degree credits — text price \$15-20 — Warner
Traces the early history of American foreign policy (1776-1864). Three aspects are examined: the origins and principles of American foreign policy, the fight for survival and recognition after the Revolution, and the drive for continental expansion.
- Hist 3-883. HISTORY OF AMERICAN FOREIGN POLICY III** (4795). 9 lessons — \$45 — 3 degree credits — text price \$15-20 — Warner
A survey of the history of American foreign policy since 1909. The principal emphasis is on the causes and consequences of our entry into the two world wars and our shift from isolationism to world leadership in foreign affairs.
- Hist 3-893. SURVEY OF MINNESOTA HISTORY** (4707). 21 lessons — \$60 — 4 degree credits — text price \$10-15 — Lindquist
The political, social, and economic development of Minnesota from the period of European explorations to the present. Access to W. W. Folwell's History of Minnesota and the Minnesota History magazine and other publications of the State Historical Society will be required. (Not open to those who have completed Hist 3-891)
- Hist 5-051. HISTORY OF THE ANCIENT NEAR EAST I** (4783). 16 lessons — \$45 — 3 degree credits — text price \$15-20 — Jones
The first civilizations in the Ancient Near East. Main topics: archaeology; the beginnings of agriculture and the advent of civilization in the great river valleys; the Old Kingdom in Egypt and the Sumerian period in Mesopotamia; the Egyptian Middle Kingdom; the Age of Hammurabi; characteristics of ancient Near Eastern civilization. (Prerequisite: junior or senior, or 9 credits in history)
- Hist 5-052. HISTORY OF THE ANCIENT NEAR EAST II** (4784). 16 lessons — \$45 — 3 degree credits — text price \$15-20 — Jones
The Age of Empires: 1600-1000 B. C. Main topics: the New Kingdom (Empire) in Egypt; the Hittite Empire; developments in Syria and Palestine with special attention to the Canaanites, Philistines, and Hebrews; the spread of civilization to Asia Minor and Aegean lands. (Prerequisite: junior or senior, or 9 credits in history)
- Hist 5-266. MODERN RUSSIA III** (4790). 9 lessons — \$45 — 3 degree credits — text price \$25-30 — Stavrou
Russia in the Twentieth Century: the fall of the Russian monarchy, the 1917 revolutions and the Soviet regime.
- Hist 5-274. THE MODERN NEAR EAST: THE OTTOMAN EMPIRE AND THE SUCCESSOR STATES** (4799). 16 lessons — \$45 — 3 degree credits — text price \$10-12 — Stavrou
Covers the period from the Treaty of Jassy (1792) to the Congress of Berlin (1878).
- Hist 5-396. (Duluth) THE FAR WEST** (4792). 16 lessons — \$60 — 4 degree credits — text price \$7-9 — Lindquist
The discoveries, exploration, and settlement of the Far West, with special emphasis on the frontiers of the cattleman, miner, farmer, rancher, and the Indian problems; the course of western economy and its relationship to the national scene. (Prerequisite: introductory course in American history)

HORSE PRODUCTION

(See Animal Science)

HORTICULTURAL SCIENCE

Hort 3-051. GARDEN FLOWERS AND HOME GARDENING (5151). 13 lessons — \$45 — 3 degree credits — text price \$14-16 — Phillips

Principles and practices of gardening; prepared for beginners, but also valuable for the advanced or experienced gardener. Textbook assignments and home projects in propagating plants for the garden. Topics include: planting, transplanting, seeds, soils, fertilizers, preparing beds and planting areas, selecting a good garden site, controlling insects and diseases, weeding, watering, cultivating, pruning, tools and equipment. Also discusses varieties of annuals, perennials, bulbs, and roses recommended for northern gardens.

HOSPITAL ADMINISTRATION

(See Special Courses and Programs Section)

HOW TO STUDY

(See Study Skills)

HUMANITIES

Hum 1-101. HUMANITIES IN THE MODERN WORLD I (5201). 16 lessons — \$45 — 3 degree credits — text price \$10-15 — Atkin

Study of aspirations and problems prevalent during *The Enlightenment* (eighteenth century) in Europe. The impact of Descartes, father of modern philosophy, and of Newton, father of modern science, is examined in relation to various approaches to human values, evil, concepts of human nature and of reason found in Pope, Voltaire; and Rousseau. Reflections of many of these ideas are found among the works of early new-classical and later romantic poets of the time. *Goethe's Faust* and *Tolstoy's War and Peace* serve as German and Russian reactions and extensions of the earlier English and French literature.

Hum 1-103. HUMANITIES IN THE MODERN WORLD III (5203). 16 lessons — \$45 — 3 degree credits — text price \$16-20 — Kanun

The impact of science — especially Darwinism — on philosophy, religion, and the prevailing values of western Europe from about the middle of the 19th century to the opening of World War I. Intellectual roots of existentialism. Writings by influential scientists and philosophers of the age.

Course Descriptions/INDUSTRIAL RELATIONS

Hum 1-104. HUMANITIES IN THE MODERN WORLD IV (5204). 16 lessons — \$45 — 3 degree credits — text price \$10-15 — Kanun

Civilization between two wars; the impact of psychoanalysis; a critique of communism; a prediction of the future. Covers the period from World War I to the present. Authors studied include Huxley, Bellamy, Freud, O'Neill, Lenin, Malraux, Koestler.

INDUSTRIAL ENGINEERING

IE 0-210C. MOTION AND TIME STUDY ENGINEERING (3118). 27 lessons — \$75 — 5 certificate credits — text price \$13-15 — Gunderson

Efficient plant operation and accurate wage determination; the skeletal structure of methods analysis, process analysis, operation analysis, micromotion study, motion study problems; the skeletal structure of time study, breakdown of job into elements, determination of time consumed, job rating; personal, fatigue, and delay allowances; timing techniques for typical industrial operation; time study problems.

IE 0-221C. INDUSTRIAL PLANT LAYOUT (3117). 27 lessons — \$75 — 5 certificate credits — text price \$11-12 — Gunderson

Lessons on the application of industrial engineering principles in simplifying and improving the layout of manufacturing plants, shops, and warehouses, and in planning new layouts. Topics covered include types of layouts, analysis of flow, safety factors in layout work, determination of equipment and space requirements, service facilities, buildings. (Prerequisite: Math 1-250 or concurrent registration, and Phys 1-210)

INDUSTRIAL RELATIONS

IR 0-001C. SUPERVISION I (2230). 15 lessons — \$45 — 3 certificate credits — text price \$19-20 — Krefting

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 on human relations aspects of such problems. Deals with selection, induction, and training of new employees, employee appraisal, giving orders, handling grievances, discipline, and employee morale.

IR 3-002. SYSTEMS OF INDUSTRIAL RELATIONS: LABOR MARKETING (2252). 12 lessons — \$60 — 4 degree credits — text price \$11-12 — P. Frost

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. (No prerequisite; introductory courses in the principles of economics [Econ 1-001, 1-002] will be helpful) *This course is now in preparation; please inquire before enrolling.*

IR 3-012. SYSTEMS OF INDUSTRIAL RELATIONS: MANPOWER MANAGEMENT (2272). 13 lessons — \$60 — 4 degree credits — text price \$13-15 — Krefting

Introductory analysis of personnel management and labor relations. The strengths and weaknesses of current practices in recruiting, testing, interviewing, training, and compensation. An examination of the influence of manpower management on the organization and the individual. (Prerequisite: Econ 1-002 or equivalent) *This course is now in preparation; please inquire before enrolling.*

INSURANCE

Ins 3-100. RISK MANAGEMENT AND INSURANCE (2353). 16 lessons — \$45 — 3 degree credits — text price \$12-14 — Williams

The nature and economic significance of risk. The recognition, measurement, and treatment of risk with particular emphasis on insurable risks and insurance. Application of these concepts to the property, liability, and personnel risks faced by a business firm or by a family. The risk management function in business and its relationships to other business management functions. Public policy and risk management with special emphasis on the problem of the uncompensated automobile accident victim, availability of property insurance in urban care areas, social insurance, and government regulation of insurance. (Prerequisite: Econ 1-002 or equivalent)

Ins 3-200. LIFE AND HEALTH INSURANCE (2373). 16 lessons — \$45 — 3 degree credits — text price \$8-10 — Williams

The nature and relative importance of insurable personnel risks, analysis of life and health insurance contracts, programming, estate planning, business insurance, pricing, underwriting, and marketing methods. (Prerequisite: Ins 3-100 or consent of instructor)

Ins 3-220. PROPERTY AND LIABILITY INSURANCE I (2393). 16 lessons — \$45 — 3 degree credits — text price \$10-12 — Williams

The nature and relative importance of property and liability risks, analysis of property and liability insurance contracts, insurance surveys, optimum property and liability insurance programs. (Prerequisite: Ins 3-100)

INTERIOR DESIGN

(See Art, Studio Arts)

JAPANESE

(See East Asian Languages)

JOURNALISM AND MASS COMMUNICATION

Jour 1-001. INTRODUCTION TO MASS COMMUNICATIONS (3701). 16 lessons — \$45 — 3 degree credits — text price \$10-12 — Sim

The nature, functions, and responsibilities of communication agencies, with emphasis on the newspaper. Study of audiences, determinants of news values, structure of the news story. Exercises in writing simple news stories, fact-gathering. (Prerequisite: Freshman English or equivalent)

Jour 1-101. REPORTING (3714). 16 lessons — \$45 — 3 degree credits — text price \$10-12 — Sim

Continued study of news-gathering and the writing of the "straight" news story; the human interest or feature story; analysis of newspapers; special types of reporting; advanced interviewing; the dangers of libel. Numerous writing assignments. (Prerequisite: Jour 1-001)

Course Descriptions/LIBRARY SCIENCE

Jour 3-486. RADIO AND TELEVISION SCRIPT WRITING (3786). 16 lessons — \$45 — 3 degree credits — text price \$8-10 — V. Harris

Introduces the student to both major fields of broadcasting. Starts with the simplest kind of script writing and progresses by logical steps to more complex radio and television work. Numerous writing assignments are made, and optional exercises are provided for additional experience. (Prerequisite: Freshman English or consent of instructor)

Jour 5-549. PUBLIC RELATIONS (3790). 16 lessons — \$45 — 3 degree credits — text price \$10-15 — Thompson

Theories and principles of the public relations function; their application in industry, government, education, social agencies, and other institutions; pertinence of social science research and journalistic implications in the public relations process. Case studies and analysis. (Prerequisite: 15 credits in social sciences or consent of instructor)

LATIN

(See Classics)

LAW

(See Business Law)

LIBRARY SCIENCE

The courses in library science do not earn credit in the University of Minnesota Library School, which is a graduate program leading to a Master's degree. The credits are acceptable in other undergraduate colleges at Minnesota, usually as electives. Most states will accept the credits for teacher certification. If you have questions about the transfer of credits write to your state's Department of Education or similar agency.

Because of the difficulties in shipping the texts that must be loaned with these courses, no registrations can be accepted from students overseas.

Lib 1-401. DESCRIPTIVE CATALOGING (7152). 16 lessons — \$45 — 3 degree credits — text price \$19-21 — Davenport

The forms and principles involved in making a dictionary card catalog. Based primarily on *Akers Simple Library Cataloging*. Directions for the use of printed cards by the Wilson Company and the Library of Congress.

Lib 1-402. ELEMENTARY CLASSIFICATION AND SUBJECT HEADING (7154). 16 lessons — \$45 — 3 degree credits — text price \$27-29 — Davenport

Based on the abridged edition of the *Dewey Decimal Classification* and *Sears List of Subject Headings for Small Libraries*. Aims to give an understanding of methods of classification and the principles of assigning subject headings to books in a library. Attention is given to modifications and adaptations useful in school or small public libraries. Includes use of Cutter-Sanborn author numbers and preparation of a shelf list. (No prerequisite; Lib 1-401 recommended)

MANAGEMENT

(See Industrial Relations; Production)

MATHEMATICS

It is essential that students have the prerequisite knowledge for each course as well as credit for the courses listed as prerequisites. If there has been a time lapse since the previous course in mathematics, students should review thoroughly or repeat the prerequisite. It is impossible to make progress in mathematics without a sound knowledge of previous concepts and applications. For independent study courses in high school mathematics, write for the bulletin, *Independent Study for High School Students*, University of Minnesota, Department of Independent Study, 25 Westbrook Hall, Minneapolis, Minnesota 55455.

Note: In addition to the following non-credit courses in mathematics, certain courses available through the High School program of the Department of Independent Study also fulfill entrance requirements of I.T. and other colleges.

Math 0-001. BASIC MATHEMATICS REVIEW I (7201). 16 lessons — \$45 — no credit — text price \$5-7 — Giese

A thorough review of arithmetic, and a good foundation in elementary algebra, including the fundamental operations involving positive and negative numbers, fractions, the solution of simple equations and fractional equations, exponents, symbols of grouping, special products and factoring, and simplification of fractional expressions.

Math 0-002. BASIC MATHEMATICS REVIEW II (7203). 16 lessons — \$45 — no credit — text price \$5-7 — Giese

Continuation of the development of algebra and an introduction to the numerical part (mensuration) of plane geometry, solid geometry, and trigonometry. In algebra: simultaneous linear equations; exponents and radicals; solution of quadratic equations, irrational equations; ratio, proportion, variation; graphical representation of statistical data and of equations; and the use of formulas. In geometry: formulas from plane and solid geometry and how to apply them. In trigonometry: logarithms and how to use them; the trigonometric functions; and solution of right and oblique triangles. (Prerequisite: Math 0-001 or equivalent)

Math 0-009. PREPARATORY MATHEMATICS (7209). 16 lessons — \$45 — no credit — text price \$10-12 — Giese

Covers material of high school higher algebra courses: fundamental operations, number theory, factoring, fractions, functions and graphs, linear equations, inequalities, exponents and radicals, quadratic equations, ratio and variation, progressions, binomial theorem, logarithms. (Prerequisite: 1 year high school elementary algebra or equivalent) *This course is now in preparation; please inquire before enrolling.*

Math 0-012C. COLLEGE ALGEBRA AND TRIGONOMETRY (7212). 16 lessons — \$75 — 5 certificate credits — text price \$10-12 — Giese

Trigonometric functions, right triangles, oblique triangles, radian measure. Trigonometric formulas and identities, trigonometric curves, inverse trigonometric functions, trigonometric equations. Inequalities, exponential and logarithmic functions, complex numbers. (Prerequisite: Math 0-009 or equivalent) *This course is now in preparation; please inquire before enrolling.*

Course Descriptions/MATHEMATICS

Math 1-008. TRIGONOMETRY (7200). 16 lessons — \$45 — 3 degree credits — text price \$9-11 — Giese

Analytic trigonometry emphasizing identities, equations, and properties of the functions; right and oblique triangles without logarithmic computation. No credit for those who have taken Math 0-012. (Prerequisite: plane geometry, or Math 0-009, or Math 0-011 or high school higher algebra or consent of instructor) Credit is given for this course in all colleges except I.T.

Math 1-119. MATHEMATICS OF INVESTMENT (7220). 27 lessons — \$75 — 5 degree credits — text price \$9-10 — Kroll

Simple interest and simple discount, compound interest, annuities with simple data, extinction of debts by periodic installments; bonds, depreciation, perpetuities, capitalization, general annuity formulas. (Prerequisite: Math 1-111 or Math 1-201 or equivalent)

Math 1-201. PRECALCULUS (7215). 27 lessons — \$75 — 5 degree credits — text price \$8-10 — Ekstrand

(May be substituted for Math 1-141) Functions and graphs, quadratic equations in one and two variables, progressions, complex numbers, inequalities, theory of equations, permutations and combinations, binomial theorem probability, mathematical induction, determinants. (Prerequisite: Math 0-011 or high school higher algebra, and Math 1-008 or high school trigonometry)

Math 1-211. CALCULUS I: CALCULUS AND ANALYTIC GEOMETRY (7221). 27 lessons — \$75 — 5 degree credits — text price \$10-12 — Giese

Inequalities, relations and functions, graphs, line, linear inequalities, preview of calculus, limits, continuity, differentiation of algebraic functions, application of differential calculus, and an introduction to integration. (Prerequisite: Math 0-012 — College Algebra and Trigonometry, or 2 years each of high school algebra and geometry, including solid geometry and trigonometry)

Math 1-221. CALCULUS II: CALCULUS AND ANALYTIC GEOMETRY (7222). 27 lessons — \$75 — 5 degree credits — text price \$10-12 — Giese

Continuation of Math 1-211. Topics include: definite integral; lines and circles, conics; calculus of trigonometric, exponential, logarithmic, and hyperbolic functions. (Prerequisite: Math 1-211)

Math 1-231. CALCULUS III: CALCULUS AND ANALYTIC GEOMETRY (7223). 27 lessons — \$75 — 5 degree credits — text price \$10-12 — Giese

Continuation of Math 1-211 and 1-221. Topics include a review of theory of equations, complex numbers; parametric equations, arc length, polar coordinates; formulas and methods of integration, applications. (Prerequisite: Math 1-221)

Math 1-240. CALCULUS IV: CALCULUS AND ANALYTIC GEOMETRY (7231). 27 lessons — \$75 — 5 degree credits — text price \$10-12 — Serbyn

Study of solid analytic geometry and vectors in space involving dot and cross products, planes, quadric surfaces, derivatives of vector functions. Definitions of double and triple integrals. Iterated integrals in rectangular, polar, cylindrical, and spherical coordinates. Applications to moments and centroids. Partial differentiation including the chain rule, implicit functions, directional derivatives, maxima and minima. (Prerequisite: Math 1-231)

Math 1-250. CALCULUS V: CALCULUS, LINEAR ALGEBRA, DIFFERENTIAL EQUATIONS (7232). 27 lessons — \$75 — 5 degree credits — text price \$12-14 — Serbyn

Standard topics of infinite series including tests for convergence and divergence. Power series and Taylor expansions. Introduction to linear algebra. Matrices determinants, and theorems on systems of algebraic equations. Differential equations involving the standard first order types plus higher order linear equations with constant coefficients. (Prerequisite: Math 1-240)

Math 1-260. CALCULUS VI: VECTOR CALCULUS AND DIFFERENTIAL EQUATIONS (7233). 27 lessons — \$75 — 5 degree credits — text price \$12-14 — Serbyn

Functions defined by integrals, differentiation under the integral sign, improper integrals.

Course Descriptions/MUSIC

the Gamma function. Vector field theory, divergence and curl, surface integrals, Green's and Stokes' and Divergence theorems. Linear systems of differential equations with constant coefficients, matrix methods. Series solutions of differential equations. (Prerequisite: Math 1-250)

Math 3-066. DIFFERENTIAL EQUATIONS (7296). 16 lessons — \$60 — 4 degree credits — text price \$6-8 — Marchand

Equations of first order, singular solutions; linear equations with constant coefficients, simultaneous equations, integration in series. (Prerequisite: Math 1-260 or Math 1-201)

MOTION AND TIME STUDY ENGINEERING

(See Industrial Engineering)

MUSIC

Mus 1-041. HARMONY I (7304). 16 lessons — \$45 — 3 degree credits — text price \$7-10 — Oberg
Intervals, triads, major and minor scales, the structure and progression of four-part chords based upon the triad and its inversions, part-writing, melody harmonization, modulation, analysis.

Mus 1-042. HARMONY II (7305). 16 lessons — \$45 — 3 degree credits — text price \$11-13 — Oberg

Continuation of Mus 1-041, with the addition of nonharmonic tones and diatonic seventh chords.

Mus 1-043. HARMONY III. (7306). 16 lessons — \$45 — 3 degree credits — text price \$11-13 — Oberg

Continuation of Mus 1-042, with the addition of chromatically altered nonharmonic tones, chromatically altered chords, and modes.

Mus 1-501/1-511. MATERIALS AND STRUCTURE OF MUSIC I/EAR TRAINING AND SIGHT SINGING I (7311). (Equivalent to and will replace Mus 1-041, 1-042, 1-043) 14 lessons — \$60 — 4 degree credits — text price \$15-17 — Oberg

An integrated and programmed course in music theory incorporating sight singing, spelling, writing and playing of melodic and harmonic patterns. Topics include notation, aural perception, playing of rhythms in simple and compound time, and the basic rules for four-voice part-writing. Can be taken by music and music education majors (for whom it is required) and by high school students or adults who wish to augment their private music study, enhance their participation in a musical ensemble, or increase their understanding and listening enjoyment of music. Also covers the rudiments of music required of all elementary education majors. *This course is now in preparation; please inquire before enrolling.*

Mus 3-541. COUNTERPOINT (7309). 16 lessons — \$45 — 3 degree credits — text price \$7-9 — Fetter

Counterpoint is the creative study of writing two or more independent melodies against each other in a strict style, and is particularly valuable to the student of composition. Course is based directly on 16th-century polyphony; works of Lassus and Palestrina are examined and the rules for writing formulated accordingly. An elementary course in which the student learns the writing of good melodic lines and gradually continues with two-voice counterpoint. The writing of canon is an important part of this course. (Prerequisite: general knowledge of music theory)

NORWEGIAN

(See Scandanavian Languages)

ORIENTATION TO INDEPENDENT STUDY

(See Study Skills)

PARLIAMENTARY PROCEDURE

(See Rhetoric)

PHILOSOPHY

Phil 1-001. LOGIC (7602). 10 lessons — \$45 — 3 degree credits — text price \$7-10 — Zanoni (18 lessons — \$75 — 5 degree credits)

Rules and procedures of sound argument and valid inference. Relationship of formal patterns of reasoning to such uses of ordinary language as argument, propaganda, and persuasion. How formal logic can be employed as a tool for critical thinking. Course may be taken for either 3 or 5 credits. Students who take the 3-credit course can register later for the additional 2 credits, pay the \$30 fee, and complete eight more lessons and a final examination.

Phil 1-002. PROBLEMS OF PHILOSOPHY (7425). 16 lessons — \$45 — 3 degree credits — text price \$9-10 — Ahlen

Is there any principle or set of principles in terms of which we can understand man, experience, and the world? Does life have a meaning? What, if anything, can we know? What are good and evil? Is the nature of reality discoverable? Is political organization a purely natural development, or is it an artificial invention? Is there any "ideal" form of social organization? How, if at all, are religion, science, art, and politics interrelated? Attempts to answer these questions are considered. Proposed solutions by the world's great minds, ancient and modern, are examined. Students are encouraged to do critically reflective thinking concerning these basic issues.

Phil 1-003. ETHICS (7603). 16 lessons — \$45 — 3 degree credits — text price \$15-20 — Ahlen

A study of the principles and problems of right and wrong in human relationships. The course will include such topics as: the history of moral development, the ethical theories of classical philosophy, the problems of free will, the nature of man, the ethical problem involved in international relations and in other social problems, the relationship of religion to ethics.

Phil 1-011. SCIENCE AND RELIGION (7610). 12 lessons — \$30 — 2 degree credits — text price \$4-6 — Zanoni

A historical and philosophical inquiry into the conflict between modern science and religion, attempting to find grounds of conflict and/or reconciliation.

Phil 3-001. GENERAL HISTORY OF WESTERN PHILOSOPHY: GREEK PHILOSOPHY (7650).

20 lessons — \$60 — 4 degree credits — text price \$6-10 — Kielkopf
Greek philosophy, an introduction to early Western thought; emphasizes Socrates, Plato, and Aristotle.

Course Descriptions/PHYSICAL EDUCATION

Phil 3-003. GENERAL HISTORY OF WESTERN PHILOSOPHY: DESCARTES THROUGH HUME (7652). 21 lessons — \$60 — 4 degree credits — text price \$5-8 — Kielkopf
Philosophical thought from Descartes through Hume. The impact of science; backgrounds of contemporary philosophical problems.

Phil 3-004. GENERAL HISTORY OF WESTERN PHILOSOPHY: KANT THROUGH NIETZSCHE (7653). 21 lessons — \$60 — 4 degree credits — text price \$8-10 — Kielkopf
Philosophical thought from Kant through Nietzsche. Contains lessons on Hegel, Marx, Mill, Comte, Schopenhauer, and Kierkegaard.

PHYSICAL EDUCATION

(See Education; Recreation and Park Administration)

PHYSICS

(See also Chemical Engineering and Materials Science)

Phys 1-010. INTRODUCTORY PHYSICS I (7701). 9 lessons — \$45 — 3 degree credits — text price \$16-18 — Christensen
A study of the basic physical laws and principles relative to mechanics and molecular physics. Topics: motion, force, friction, work, rotation, and energy. A liberal amount of problem solving is required. (Prerequisite: high school elementary algebra and plane geometry)

Phys 1-020. INTRODUCTORY PHYSICS II (7702). 16 lessons — \$45 — 3 degree credits — text price \$11-13 — Christensen
Topics: heat, wave motion, sound, electricity, and magnetism. (Prerequisite: Phys 1-010)

Phys 1-030. INTRODUCTORY PHYSICS III (7703). 16 lessons — \$45 — 3 degree credits — text price \$11-13 — Christensen
Topics: light, Bohr atom, the methods of quantum mechanics, solids, radioactivity, the nucleus, and modern physics.

POLICE ADMINISTRATION

PoAd 0-015C. METHODS IN POLICE SUPERVISION (7815). 16 lessons — \$45 — 3 certificate credits — text price \$10-12 — Bennett
Principles of supervision and leadership. Survey of the problems of supervision with emphasis on human relations. Various types of supervisory positions. Delegation problems of the supervisor. Designed to assist those who are already supervisors in police departments and those who desire to become supervisors.

PoAd 0-016C. METHODS IN CRIMINAL PROCEDURE (7816). 16 lessons — \$45 — 3 certificate credits — text price \$8-10 — Bennett
Analysis of the current code and criminal court procedure, adaptable to other state codes and statutes. Emphasis is on the understanding of the elements of offenses. Arrest,

Course Descriptions/POLITICAL SCIENCE

search, and evidence procedures are discussed. Especially useful for those engaged in law enforcement at state, county, and local levels.

PoAd 0-017C. METHODS OF POLICE PLANNING, MANAGEMENT, AND ORGANIZATION (7817). 16 lessons — \$45 — 3 certificate credits — text price \$10-12 — Bennett

Emphasis is on the major factors of the planning, management, and organization functions of police departments. Each division of the police department is examined in detail. Students of police operations will find the information especially helpful. The information is as useful for the patrolman in understanding the total department operation as it is for those in command functions in understanding their responsibilities.

PoAd 0-018C. METHODS OF CRIMINAL INVESTIGATION (7818). 16 lessons — \$45 — 3 certificate credits — text price \$10-12 — Bennett

Investigation of the techniques of criminal offense commission and the best methods of solving various crimes. Report writing, search procedures, interrogation procedures, court processes, identification technique, scientific aids to investigation, and investigative operational procedures are emphasized.

POLISH

(See Slavic and East European Languages)

POLITICAL SCIENCE

Pol 1-001. AMERICAN GOVERNMENT AND POLITICS (7903). 16 lessons — \$75 — 5 degree credits — text price \$17-19 — Scott

Analysis of principles and processes of national, state, and local government in the United States. The relationships of political forces and philosophies. Topics include: the Constitution, civil liberties, public opinion, interest groups and political parties, Congress, the judiciary, and the presidency. *This course is now in preparation; please inquire before enrolling.*

Pol 1-025. WORLD POLITICS (7925). 16 lessons — \$45 — 3 degree credits — text price \$9-11 — Rogers

An introduction to world affairs. Development of the state system. The facts of power in international relations. The causes of war and the forces that make for peace. Introduction to the foreign policies of the United States, the Soviet Union, and China.

Pol 1-026. AMERICAN FOREIGN POLICY (7926). 16 lessons — \$45 — 3 degree credits — text price \$10-12 — Rogers

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.

Pol 1-031. AMERICAN PUBLIC POLICY (7931). 14 lessons — \$60 — 4 degree credits — text price \$9-11 — Eyestone

How American public policies are made — the development of issues, actors and decision techniques, evaluation of policies. Analysis of current issues in the areas of civil rights, environmental concerns, foreign policy, welfare, and labor, business, and the economy. Emphasis throughout on the policy process and on alternative solutions to current policy problems, primarily at the national level. *This course is now in preparation; please inquire before enrolling.*

Course Descriptions/PRODUCTION

Pol 5-443. GOVERNMENT AND POLITICS OF THE SOVIET UNION (7955). 16 lessons — \$45 — 3 degree credits — text price \$10-12 — Lambert

An analysis of the government and politics of Soviet Russia that seeks to explain the rise of Bolshevism; sources and nature of its ideology; history of the communist regime and its institutional character; organization of power; role of the party; foreign, economic, and cultural policies; significance for Western civilization. (Prerequisite: 12 credits in social sciences or consent of instructor)

Pol 5-448. GOVERNMENT AND POLITICS OF AFRICAN COUNTRIES (7978). 12 lessons — \$60 — 4 degree credits — text price \$8-10 — Dodge

Political institutions and behavior of sub-Saharan African countries in their social and cultural settings; influence of class and tribal structure; parties and elections; source and nature of ideologies; economics and social policies. (Prerequisite: 12 credits in social sciences or consent of instructor) *This course is now in preparation; please inquire before enrolling.*

Pol 5-454. CHINESE GOVERNMENT AND POLITICS (7984). 16 lessons — \$60 — 4 degree credits — text price \$4-6 — Dodge

Analysis of the political system of Communist China with particular emphasis on Maoist ideology; party organization and behavior; developmental economic and social policies; foreign policy goals and strategies. (Prerequisite: 12 credits in social sciences or consent of instructor) *This course is now in preparation; please inquire before enrolling.*

Pol 5-737. POLITICAL PARTIES (7987). 14 lessons — \$60 — 4 degree credits — text price \$9-11 — Eyestone

Party activities in the United States — recruiting, nominating, and campaigning. Parties in power. Party organization and membership, party identification, third parties and independents. Party reform and the functions of parties. Attention throughout to the impact of parties on democratic government. (Prerequisite: Pol 1-001 or consent of instructor) *This course is now in preparation; please inquire before enrolling.*

PRODUCTION

Prod 0-050C. MANUFACTURING MANAGEMENT (1650). 16 lessons — \$45 — 3 certificate credits — text price \$12-13 — E. Peterson

The functional departments in a company and their relationship to the total organization. Organization fundamentals, policies, manufacturing economics, plant location and layout, materials handling, personnel relations, time study, quality control, production and inventory control, and related areas of management.

PSYCHOLOGICAL FOUNDATIONS OF EDUCATION

(See Education)

PSYCHOLOGY

(See also Child Psychology)

Course Descriptions/PUBLIC HEALTH

Psy 1-001. GENERAL PSYCHOLOGY (8101). 9 lessons — \$45 — 3 degree credits — text price \$11-15 — Bird

Introduction to the study of human behavior with emphasis on its development. Includes motivation, emotion, learning, memory, and the neural basis of behavior. Prerequisite for all advanced courses in psychology. (Prerequisite: sophomore, 3rd quarter freshman with a B average, or consent of instructor)

Psy 1-002. GENERAL PSYCHOLOGY II (8102). 9 lessons — \$45 — 3 degree credits — text price \$11-15 — Bird

Continuative study of human behavior. Factors which determine individual differences in personality. Measurement of personality traits. Consideration of behavior disorders and determinants of social adjustment. Prerequisite for all advanced courses in psychology at the University of Minnesota. (Prerequisite: Psy 1-001)

Psy 1-001. GENERAL PSYCHOLOGY (8101). (Equivalent to and will replace General Psychology 1-001 and General Psychology 1-002) 18 lessons — \$75 — 5 degree credits — text price \$11-15 — Bird

Introduction to the study of human behavior with emphasis on its development. Includes motivation, emotion, learning, and the neural basis of behavior. Factors which determine individual differences in personality. Measurement of personality traits. Consideration of behavior disorders and determinants of social adjustment. Principles of social and political psychology including techniques of political persuasion and an evaluation of opinion polls. Prerequisite for all advanced courses in psychology. (Prerequisite: sophomore, 3rd quarter freshman with a B average, or consent of instructor) *This course is now in preparation; please inquire before enrolling.*

Psy 5-604. ABNORMAL PSYCHOLOGY I (8194). 16 lessons — \$45 — 3 degree credits — text price \$18-20 — Gilbertstadt

A comparison of normal and abnormal behavior. The nature of personality maladjustments with emphasis on the dynamics and social determinants of behavioral disorders. Study of the functional psychoses. (Prerequisite: 9 credits in psychology or 12 credits in social sciences or consent of instructor)

Psy 5-605. ABNORMAL PSYCHOLOGY II (8195). 16 lessons — \$45 — 3 degree credits — text price \$18-20 — Gilbertstadt

Continuation of Psy 5-604. Emphasis on the psychoneuroses, organic psychoses, and associated personality disorders. Consideration of therapeutic methods. (Prerequisite: Psy 5-604 or consent of instructor)

PUBLIC HEALTH

PubH 3-001. PERSONAL AND COMMUNITY HEALTH (4650). 16 lessons — \$45 — 3 degree credits — text price \$7-10 — Bates

Causes of diseases and of physical defects; principles and working methods of health conservation and disease prevention. (Not open to students who have taken old GC-10C, old PubH 2, or PubH 1-001, 1-002, 3-001, 3-002). This course does not meet the alcohol and drug abuse requirement of the University of Minnesota College of Education or the Minnesota State Department of Education. To meet this requirement, students must take PubH 3-033—Fundamentals of Alcohol and Drug Abuse, or PubH 3-004—Basic Concepts in Personal and Community Health.

QUANTUM THEORY OF SOLIDS

(See Chemical Engineering and Materials Science)

READING, EFFICIENT

(See Study Skills)

REAL ESTATE

(See Finance)

RECREATION AND PARK ADMINISTRATION

Rec 1-650. SOCIAL ASPECTS OF LEISURE (8449). 16 lessons — \$45 — 3 degree credits — text price \$9-11 — Chapman

Leisure and recreation as basic forces in the social and economic structure of our society. Stresses the nature of leisure and recreation, with particular reference to their relationship to each other. Attention is focused on leisure and recreation as parts of daily living, and as products of our social progress.

Rec 5-170. CAMP ADMINISTRATION (8487). 16 lessons — \$45 — 3 degree credits — text price \$7-9 — Chapman

Covers all aspects of administration for group camps; objectives, camp settings, organization and structure, facilities and equipment, the director, staff selection and supervision, programs, health and safety, and public relations. (Prerequisite: organized camp experience desirable; cannot be used for credit in University of Minnesota Graduate School)

Rec 5-210. INTRODUCTION TO THERAPEUTIC RECREATION (8491). 9 lessons — \$45 — 3 degree credits — text price \$10-15 — Chapman

Introductory principles of therapeutic recreation. Types of hospitals and their patients' activities programs. Philosophy and purposes of institutional recreation; program content. Beginning methods in the leadership and supervision of recreation programs for the ill and disabled. (Cannot be used for credit in the University of Minnesota Graduate School)

Rec 5-330. METHODS IN RECREATION AND PARK LEADERSHIP (8448). 7 lessons — \$30 — 2 degree credits — text price \$4-5 — Chapman

Leadership methodology in all aspects of recreation. The necessary in-service training devices and supervisory techniques common to recreation programs in various recreation and group settings. Useful to those who wish to deal effectively with personnel in the staff relationship situation. (Cannot be used for credit in the University of Minnesota Graduate School)

RELIGION

(See Humanities; Philosophy)

RHETORIC

(See also Study Skills)

Rhet 1-225. PARLIAMENTARY PROCEDURE (7425). 12 lessons — \$15 — 1 degree credit — text price \$6-7 — Miller

Principles and practices of parliamentary procedure. Provides leadership training for presiding officers and members of various rural and urban organizations. How to open and close a meeting, draft a constitution, discuss unfinished business and introduce new business, entertain motions in order of their precedence, handle amendments, appoint committees, dispose of committee reports, and nominate and elect officers.

RUSSIAN

(See Slavic and East European Languages)

SALESMANSHIP

(See Business Studies [General College])

SCANDINAVIAN LANGUAGES

Finnish

Fin 1-101. BEGINNING FINNISH (5617). 27 lessons — \$75 — 5 degree credits — text price \$5-10 — Lahti

For beginners with little or no previous knowledge of Finnish. Stresses fundamentals of grammar, the facility to read and write easy Finnish.

Norwegian

Nor 1-101. BEGINNING NORWEGIAN I (6301). 27 lessons — \$75 — 5 degree credits — text price \$12-15 — Gunderson

A complete survey of Norwegian grammar, plus composition and the reading of easy prose.

Nor 1-102. BEGINNING NORWEGIAN II (6302). 27 lessons — \$75 — 5 degree credits — text price \$12-14 — Gunderson

Continuation of Nor 1-101, but with primary emphasis on reading and writing. Short stories, poems, and folk tales are used for reading assignments. (Prerequisite: Nor 1-101 or equivalent) *This course is now in preparation; please inquire before enrolling.*

Swedish

Swed 1-101. BEGINNING SWEDISH I (6901). 27 lessons — \$75 — 5 degree credits — text price \$4-6 — Saether
Grammar and composition; selected readings in easy prose and verse.

SERBO-CROATIAN

(See Slavic and East European Languages)

SLAVIC AND EAST EUROPEAN LANGUAGES

Polish

Plsh 1-101. BEGINNING POLISH I (6401). 27 lessons — \$75 — 5 degree credits — text price \$6-8 — Kondy
An introduction to the Polish language. Students will acquire a working knowledge of the structure of the language and ability in reading selected works of Polish prose.

Plsh 1-102. BEGINNING POLISH II (6402). 27 lessons — \$75 — 5 degree credits — text price \$4-6 — Kondy
Continuation of Plsh 1-101. Stress is on vocabulary building and comprehension. Reading material consists mainly of easy short stories. A contemporary play is studied to promote conversational abilities. Review and continuation of grammar. (Prerequisite: Plsh 1-101, or equivalent and consent of instructor)

Russian

Russ 1-101. BEGINNING RUSSIAN I (6601). 27 lessons — \$75 — 5 degree credits — text price \$8-10 — Prokopov
Provides a reading and writing knowledge of the Russian language. Acquaints students with Russian script, pronunciation, and essentials of grammar; translations from Russian and into Russian.

Russ 1-102. BEGINNING RUSSIAN II (6602). 27 lessons — \$75 — 5 degree credits — text price \$8-10 — Prokopov
Continuation of Russ 1-101: reading, writing, pronunciation, and grammar. (Prerequisite: Russ 1-101)

Russ 1-221. SCIENTIFIC RUSSIAN I (6624). 27 lessons — \$75 — 5 degree credits — text price \$6-8 — Prokopov
An introduction to the basic grammar and structure of the Russian language, using a vocabulary common to various sciences. Provides ability to read Russian scientific texts.

Course Descriptions/SOCIAL WORK

Russ 1-222. SCIENTIFIC RUSSIAN II (6625). 12 lessons — \$30 — 2 degree credits — text price \$4-6 — Prokopov

Directed reading and translation of Russian scientific texts in a field of the student's choice. Students may satisfy the graduate language requirement by passing Russ 1-222 with a grade of B. (Prerequisite: Russ 1-221)

Russ 1-223. SCIENTIFIC RUSSIAN III (6626). 12 lessons — \$30 — 2 degree credits — no required text — Prokopov

Continuation of Russ 1-222: reading and translating scientific texts. (Prerequisite: Russ 1-222)

Serbo-Croatian

Serb 1-101. BEGINNING SERBO-CROATIAN (6701). 26 lessons — \$75 — 5 degree credits — text price \$5-7 — Sjoberg

Introductory course. Objectives are the mastery of the essentials of grammar, ability to read easy texts in both the Cyrillic and the Latin alphabet, and the ability to write simple themes in Serbo-Croatian.

SOCIAL STUDIES (General College)

GC 1-631. THE HELPING PROCESS IN THE SOCIAL SERVICES (8631). 10 lessons — \$45 — 3 degree credits — text price \$8-10 — Bloom

Dynamics of working effectively with people and institutions. Focuses on actual procedure of the helping process; includes development of frame of mind or attitude to help students communicate better with people and bureaucratic structures. Also intended to help students develop beginning skills in the helping professions as well as to evaluate their own interests and potential in the field. (Prerequisite: concurrent registration in GC 1-637 or field experience in a human services setting)

GC 1-637. SUPERVISED WORK EXPERIENCE IN THE SOCIAL SERVICES (8637). variable lessons — \$15-75 — 1-5 degree credits — no required text — Stewart

Course objective is to gain practical experience in developing goals and objectives. Specific steps of implementation and evaluation procedures for the individual learning process of the student and his competence in working with others. The student will be jointly supervised by his University instructor and a supervisor in his area of work or "awareness" experience. Students must submit a description of their proposed experience before enrolling. May be repeated for credit. (Prerequisite: GC 1-631 or concurrent registration)

SOCIAL WORK

(See also Social Studies [General College])

SW 3-001. AMERICAN SOCIAL SERVICES (8690). 16 lessons — \$75 — 5 degree credits — text price \$15-20 — Wiebler

Survey of social services and their components, including many fields of practice, multiple auspices and dependencies, numerous levels of participation, differing ideologies and

Course Descriptions/SOCIOLOGY

methods of approach to social problems, and the dynamics of change from social movements to institutionalizations inherent in American social service delivery systems. Course is primarily about the "frames of reference" within which help is offered in American social services, public and private. The uneasy relationship between social service policies and professional social work practice. Course is seen as a prerequisite for practice methods courses. *This course is now in preparation; please inquire before enrolling.*

SOCIOLOGY

Soc 1-001. INTRODUCTION TO SOCIOLOGY (8601). 14 lessons — \$60 — 4 degree credits — text price \$10-12 — Rose, Rickson

A survey of the fundamental social institutions for nonprospective sociology majors. Considers the family and the church; the development and decline of social institutions; change in the institutional functions and social disorganization. Introduces students to the fundamental concepts of sociology and provides a better understanding of the contemporary social order.

Soc 3-101. ELEMENTS OF CRIMINOLOGY (8653). 16 lessons — \$60 — 4 degree credits — text price \$4-6 — Donohue

A general survey course. Analyzes the factors associated with the development of criminal behavior and reviews the methods of treating the adult offender. Affiliated problems of crime control and prevention. (Prerequisite: Soc 1-001 or consent of instructor)

Soc 5-201. INTRODUCTION TO SOCIAL PSYCHOLOGY (8670). 16 lessons — \$60 — 4 degree credits — text price \$9-11 — Rose, Rickson

Historical development of the field; analysis of important current schools of thought; reports on current research. Emphasis on the concepts of socialization and collective behavior. (Prerequisite: a recent course in introductory sociology)

Soc 5-501. THE FAMILY (8681). 16 lessons — \$60 — 4 degree credits — text price \$11-13 — Rose, Rickson

Origin of family life; variability and change of family institutions and mating customs; contemporary parent-child relationships; adolescence, mate finding, marital adjustments; divorce and other family problems; prediction of marital success; theories of family reform. (Prerequisite: Soc. 1-001 or consent of instructor)

Soc 5-951. MINORITY GROUP RELATIONS (8673). 16 lessons — \$60 — 4 degree credits — text price \$11-13 — Rose, Rickson

Interaction of social and cultural groups in America, with particular reference to the Negro. Processes leading to group contact; characteristics and contributions 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: Soc 1-001 or consent of instructor)

SPANISH

Span 0-221. SPANISH FOR GRADUATE STUDENTS (6817). 16 lessons — \$45 — no credit — text price \$5-7 — Estelle

Prepares students primarily for reading, and especially for reading general and technical nonliterary prose. Prepares for graduate reading examinations in Spanish.

Course Descriptions/SPEECH, COMMUNICATION, THEATRE ARTS

Span 1-101. BEGINNING SPANISH I (6801). 22 lessons — \$75 — 5 degree credits — text price \$15-20 — S. Cuneo

Fundamentals of Spanish grammar. Developing good ear training by means of records or tapes; learning to read and write simple Spanish. Question and answer method used in connection with the reader. Emphasis is on a cultural approach and a practical knowledge of Spanish.

Span 1-102. BEGINNING SPANISH II (6802). 24 lessons — \$75 — 5 degree credits — text price \$5-10 — S. Cuneo

Continues the conversational and cultural training begun in Span 1-101. Reviews the grammar principles in a more detailed manner. (Prerequisite: Span 1-101 or equivalent)

Span 1-103. BEGINNING SPANISH III (6803). 18 lessons — \$75 — 5 degree credits — text price \$6-8 — S. Cuneo

A review and more detailed study of the principles of written Spanish. More emphasis on composition. Reading a short play. Study of the Spanish-speaking nations. (Prerequisite: Span 1-102 or equivalent)

Span 1-104. INTERMEDIATE SPANISH (6825). 18 lessons — \$75 — 5 degree credits — text price \$9-11 — S. Cuneo

Study of Spanish grammar and the process of thinking in Spanish. Emphasis on pattern; introduces the subjunctive. Questions and answers in Spanish. (Prerequisite: Span 1-103 or equivalent)

Span 1-105. READING AND COMPOSITION (6830). 18 lessons — \$75 — 5 degree credits — text price \$8-10 — M. Cuneo

Concentrates on developing reading skills, expanding vocabulary, and improving written expression. Materials include a book of essays on contemporary subjects, plus two novels: one deals with life in a small Spanish town at the outbreak of civil war; the other is an Argentine mystery story. (Prerequisite: Span 1-104) *This course is now in preparation; please inquire before enrolling.*

Span 1-503. CULTURE, CIVILIZATION OF SOUTH AMERICA (6843). 12 lessons — \$60 — 4 degree credits — text price \$11-12 — M. Cuneo

Offers a panoramic view of South American culture. Attempts to interpret the land, the people, and their history; the political, social, and economic organization; the cultural and literary traditions in such a way as to give the North American a unified picture of the 12 countries of South America. Readings in English; knowledge of Spanish not necessary. Not to be used for Spanish or Portuguese major credit; may be used to satisfy Route II requirements. *This course is now in preparation; please inquire before enrolling.*

Span 3-007. ELEMENTARY SPANISH COMPOSITION (6854). 16 lessons — \$45 — 3 degree credits — text price \$5-10 — M. Cuneo

Connected prose composition. Reading and grammar. The objective is the ability to write Spanish. (Prerequisite: Span 1-104 or equivalent)

Span 3-008. ADVANCED SPANISH COMPOSITION (6857). 16 lessons — \$45 — 3 degree credits — text price \$8-10 — M. Cuneo

Continuation of Span 3-007: reading, grammar, and composition of Spanish prose. (Prerequisite: Span 3-007)

SPEECH, COMMUNICATION, AND THEATRE ARTS

TH 0-001C. INDEPENDENT PLAYWRITING (4080). 16 lessons — \$45 — 3 certificate credits — no required text — W. Frost

Course Descriptions/STATISTICS

Specifically designed for advanced students. Student is given complete freedom. Plays in any stage of development will receive detailed criticism. Course work consists of two full-length plays or approximately the same amount of writing made up of shorter dramatic forms. (Prerequisite: consent of instructor)

TH 5-115. PLAYWRITING (4075). 16 lessons — \$45 — 3 degree credits — no required text — W. Frost

Reading assignments as an introduction to dramatic form and content. Practice in writing dramatic plots, characters, themes, and dialogue. Writing exercises will include scenario, rough draft, and final revision of a one-act play (approximately 15 typed pages or 30 minutes in playing time). (Prerequisite: typed manuscript and TH 1-321—Beginning Acting: Creative Approach, or consent of instructor)

STATISTICS

(See Education)

STUDY SKILLS

SSk 0-001C. VOCABULARY BUILDING (4001). 16 lessons — \$45 — 3 certificate credits — text price \$5-10 — Klohn

A practical course for those who want to increase their speaking and reading vocabulary. The lessons and exercises stimulate interest and afford practice in the proper use of words, provoke word collecting, and suggest substitutes for overworked words.

SSk 0-012. GUIDED READING (3201). 12 lessons — \$30 — no credit — no required text — Klohn

Offers a systematic plan of reading to help the average reader become better informed on subjects of current interest, such as science, art, history, biography. Instructions are provided on how to get the most from reading and how to discuss with others what one has read. Books may be borrowed from the University Library.

SSk 0-013C. SELECTING BOOKS FOR CHILDREN (3902). 12 lessons — \$30 — 2 certificate credits — text price \$10-12 — Klohn

An introductory course for parents, teachers, and others interested in guiding children's reading. It surveys the field of children's literature from preschool age through the teens.

SSk 0-014. USING BOOKS AND LIBRARIES (3904). 11 lessons — \$30 — no credit — text price \$1 — Klohn

For anyone interested in books and libraries, this course increases efficiency in finding information, broadens knowledge of library resources, and suggests methods for personal enrichment through books and library materials.

PO 1-001. HOW TO STUDY (3801). 6 lessons — \$30 — 2 degree credits — text price \$11-13 — Wark

Guided practice in developing an efficient approach to studying, founded on research in human learning. Using this background, students are taught to develop their concentration, improve their listening and note-taking by using audio tapes, schedule their time effectively for study, prepare for and take exams, and prepare research papers. Qualified students may be exempt from parts of the last lesson. The course stresses practice in all the above skills, as well as in rapid reading, vocabulary development and effective underlining. (This course does not count as part of the 180-credit degree requirement at the University of Minnesota)

Course Descriptions/*STUDY SKILLS*

Rhet 1-147. EFFICIENT READING (3947). 9 lessons — \$45 — 3 degree credits — texts and materials \$50 — Brown

Designed to increase reading rate, comprehension, and vocabulary. Includes the use of cassette tapes for instruction and pacing activities. Useful for anyone who wants to achieve and maintain superior reading improvement. Not a remedial course. (**Note:** cassette tape recorders are available on a rental or purchase basis for use with this course)

UC 1-201. ORIENTATION TO INDEPENDENT STUDY: OBSERVATION (3812). 6-10 lessons — \$45 — 3 degree credits — no required text — Hickman

Designed to help students improve their powers of observation through structured observational experiences. Includes both taped and written assignments relating to small-group, one-to-one, comparative and cross-cultural observation. May be taken on P-N basis only.

UC 1-201. ORIENTATION TO INDEPENDENT STUDY: ASKING QUESTIONS (3811). 4 lesson — \$45 — 3 degree credits — text price \$5-6 — J. Johnson

A module designed to provide both a structure for asking and examining questions and a broad theoretical framework relating to the question-asking approach to learning. Emphasizes the influence of media, "technocracy," and change on question-asking behavior. May be taken on P-N basis only.



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Opposite: Like Forrest Harris, most independent study instructors are also full-time faculty members at the University of Minnesota.

Photo by Steve Murray

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Teachers who keep in touch — with their students and with their profession — will find the following courses both interesting and informative:

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HEd 5-141	CRITICAL ISSUES IN CONTEMPORARY EDUCA- TION (See History of Educa- tion)
CPsy 3-301	CHILD PSYCHOLOGY
CPsy 5-503	ADOLESCENT PSYCHOLOGY
Geog 3-111	GEOGRAPHY OF MINNESOTA
Soc 5-951	MINORITY GROUP RELA- TIONS (See Sociology)
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BLaw	BUSINESS LAW
GC 1-513	OPERATION OF A SMALL BUSINESS (See Business Studies)
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Ins 3-220	PROPERTY AND LIABILITY INSURANCE (See Insurance)
Ins 3-100	RISK MANAGEMENT AND INSURANCE (See Insurance)
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Feel free to suggest any topics of interest to you — from the purely academic to the do-it-yourself variety.

We look forward to hearing from you!

Curriculum Coordinator
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69 Wesbrook Hall
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Minneapolis, MN. 55455

I am interested in the following courses not offered through your department:

1. _____

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Address _____
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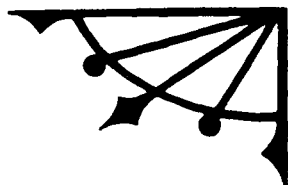
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