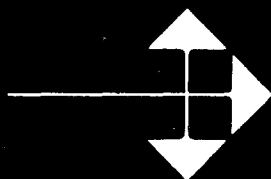


**independent  
(correspondence)  
study  
1970-72**

**university of minnesota bulletin**

**GENERAL EXTENSION DIVISION**



### THE GUIDE TO INDEPENDENT STUDY

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 which lists independent (correspondence) 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 50 cents.

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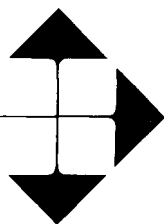
#### UNIVERSITY OF MINNESOTA BULLETIN

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independent  
(correspondence)  
study

1970-72



# UNIVERSITY OF MINNESOTA

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Municipal Reference Bureau, Dean A. Lund, 330 University Avenue S.E.  
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Rochester  
St. Paul General Extension Center, R. Kay Humphrey, 192 W. Ninth Street, St. Paul  
State Organization Service, William C. Rogers, 330 University Avenue S.E.  
World Affairs Center, William C. Rogers, 330 University Avenue S.E.

The University of Minnesota is guided by the principle that there shall be no differences in the treatment of persons because of race, sex, creed, color, or national origin, and that equal opportunity and access to facilities shall be available to all. This principle is particularly applicable in the admission of students in all colleges, and in their academic pursuits. It is also applicable in University-owned or University-approved housing, in food services, student unions, extra-curricular activities, and all other student services. It is a guiding policy 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.



*To the General Extension Division, the whole State is the campus. It permeates the educational life of a 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  
President, University of Minnesota*

*The General Extension Division student may well be the now generation. To function in his community, his family, his job, his society, the Extension student must learn new things now. He may need them for tomorrow. The General Extension Division — the open door of the University — welcomes the full-time and the part-time student to participate in the rich resources of the University.*

*Willard L. Thompson  
Dean, General Extension Division*



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## **DEPARTMENT OF INDEPENDENT STUDY**

**Address: 250 Nicholson Hall  
University of Minnesota  
Minneapolis, Minnesota 55455  
Phone: (612) 373-3256**

**Hours: 7:45 a.m. to 4:30 p.m.  
Monday through Friday**

## **HOW TO REGISTER**

(see also page 11.)

1. Choose a course. More than 300 courses are listed alphabetically by subject in this bulletin. For counseling, write the General Extension Counseling Office, 314 Nolte Center, University of Minnesota, Minneapolis, Minnesota 55455.
2. Mail registration blank from back of this bulletin and check or money order (payable to the University of Minnesota) for tuition fee to the Department of Independent Study. A study guide for the course or courses will be mailed. Out-of-state students should send an additional \$3 fee per course. If lessons are to be returned to the student by airmail, airmail postage should also be included (see page 7).
3. Check the study guide and order required texts and materials from the Department of Independent Study or purchase them at a local bookstore.

# Independent Study

## GENERAL INFORMATION

### ADMISSION REQUIREMENTS

The University's independent study courses are open to anyone who can benefit from them. There are no entrance requirements for admission to independent (correspondence) study. Registration in specific programs or classes may require prerequisite courses or experience; if so, it is noted in the course descriptions in this bulletin.

### ADVISING

General Extension advisers are available to help students select courses and programs of study leading to occupational or educational objectives. These advisers will also help students contact advisers in the resident University colleges at the appropriate stage of the educational program. A student writing for such advice should give information about past training, education, work experience, and objectives. A student wishing such aid should write General Extension Counseling Office, 314 Nolte Center, University of Minnesota, Minneapolis, Minnesota 55455.

### AIRMAIL POSTAGE

The student pays the postage on all mail sent to the University; return mail to the student is paid by the Department of Independent Study by surface mail rates. If the student wishes lessons returned to him by airmail, he should add to the registration fee:

Africa .....	\$10.00	Central America .....	\$ 5.00
Near and Far East .....	10.00	Canada .....	3.50
Europe .....	5.00	Mexico .....	3.50
South America .....	5.00	United States .....	3.50

These prices are subject to change with changes in overseas postal rates.

### BOOKS AND MATERIALS

Books and materials needed for a course and the procedure for ordering them are explained in a study guide which will be sent to the student after registering. The tuition fee does NOT cover the cost of books and materials. Course descriptions in this bulletin list approximate costs.

A student who wishes to sell his books after a course is completed should write Nicholson Hall Bookstore, Independent Study Section, University of Minnesota, Minneapolis, Minnesota 55455.

## COURSE CANCELLATION

The Department of Independent Study reserves the right to discontinue any course if materials, books, or instructors become unavailable.

## COURSE NUMBERING

The University of Minnesota has instituted a four-digit course numbering system:

0-001 to 0-998	Certificate credit and noncredit courses; certificate credit course numbers are followed by a "C"
1-000 to 1-998	Lower Division courses, primarily for freshmen and sophomores
3-000 to 3-998	Upper Division courses, primarily for juniors and seniors
5-000 to 5-998	Graduate level courses, primarily for juniors, seniors, and graduate students

Note — Independent study courses will not be accepted for credit in the University of Minnesota Graduate School.

The numbers in parentheses following most course titles are the "old" course numbers in use through 1969-1970.

A conversion table from new to old course numbers is included at the back of this bulletin.

## CREDITS

The following credit designations are used in the course descriptions in this bulletin:

1. *Degree Credit* — May be used in a degree program. A student whose objective is a degree should check the policy of his college on independent (correspondence) study credits. A student who plans to obtain a degree from the University of Minnesota should consult an adviser in his major department. See Advising and Degree sections.
2. *Certificate Credit* — 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 daytime, residence courses.
3. *Entrance Credit* — May be used to meet University admission requirements.
4. *No Credit* — Designates a course in which no credit is given, although grades may be assigned.

Credits are *quarter credits* (3 quarter credits equal 2 semester credits). Independent study credits do not count as credits in residence.

Credits earned through independent (correspondence) study are not accepted in the University of Minnesota Graduate School for graduate credit. However, these courses may be taken to make up undergraduate deficiencies in order to meet Graduate School requirements.

## DAY SCHOOL STUDENTS

A student who is regularly registered in day school classes at the University and who wishes to register for independent (correspondence) study courses is urged to clear such registration with his day school adviser or college office.

## EXAMINATIONS

To earn credit in an independent study course a student must pass the final examination.

Examinations may be taken at the following offices or under the supervision of the following individuals.

1. Department of Independent Study, 250 Nicholson Hall, University of Minnesota. All students in the Twin Cities Metropolitan area are expected to take their exams in the offices of the Department of Independent Study.
2. General Extension Offices in Minneapolis, St. Paul, or Duluth.
3. Correspondence study department of any institution affiliated with the National University Extension Association (write for list).
4. School superintendent or principal; college instructor, counselor, or administrator at an accredited institution.
5. Commissioned officers (for students in the military only).

The department reserves the right to approve or reject any supervisor. Regardless of his academic qualifications, no relative may proctor a test for a student. No proctor fees are authorized.

## FACULTY

The teaching staff of the Department of Independent Study is composed primarily of University of Minnesota faculty. In some instances faculty members from other colleges or universities teach courses. In other cases, specialists in professional and business fields may teach courses — the notation (DIS) follows the name of these instructors to show that they are Department of Independent Study faculty members only. All independent study instructors are approved by the academic departments through which classes are offered.

## FINANCIAL ASSISTANCE

**Business Firms** — Students are reminded that many employers are willing to help subsidize the education of their employees. Inquiry should be made of company personnel officers.

**Extension Loan Fund** — Limited funds are available to aid students in the Extension Division who need financial assistance to pay tuition costs. A loan cannot exceed \$50 per course and, if granted, is payable within 2 months from date of receipt. The interest charge is approximately 50 cents. Applications should be made through the Department of Independent Study at the time of registration.

**Tuition Assistance Fund** — Through the Department of Independent Study Tuition Assistance Fund a limited amount of money is available to offset the cost of tuition for those confined to institutions. Preference for assistance will be given to those confined within the state of Minnesota, but all applications will be considered. Inquiries or contributions to the fund should be sent to the Tuition Assistance Fund, Department of Independent Study, 250 Nicholson Hall, University of Minnesota, Minneapolis, Minnesota 55455.

## Department of Independent Study

**Veterans** — A G.I. Bill for Cold War Veterans (Chapter 34, Title 38, U.S. Code) providing educational 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 be reimbursed later on a quarterly basis for lessons completed.

For further information on the Cold War Veterans Bill, write the Department of Independent Study.

**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 the 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.

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

## GRADES

There are four permanent passing grades acceptable for the completion of a course: A (highest), B, C, and D (lowest). There is a permanent grade of F (failure) indicating unsatisfactory completion of a course.

**P-N Grading System** — The University is currently experimenting with a new grading system, directed toward encouraging students to take a greater variety of courses.

On the new system, P stands for "pass" and N for "no credit." Neither counts in the grade point average, but credits of P, where allowed, count toward degree or certificate completion. The dividing line between P and N is approximately the same as that between D and F.

A student not working on a degree or certificate program and not intending to use credits on such a program may elect the P-N system for any course. However, he should be aware of the many limitations on the use of the system.

Choice of the P-N system must be indicated for a particular course on the registration blank at the time of registering, and may not be changed after the third lesson. Questions about the P-N system should be referred to the General Extension Counseling Office, 314 Nolte Center, on the Minneapolis Campus of the University.



## LESSON SERVICE

The department will make every effort to provide reasonable and prompt lesson service throughout the calendar year. Insufficient postage will delay lessons at least 2 days. There may be some delay in service at certain times, owing to circumstances over which the department has no control. During the summer months or vacation periods, when some lessons must be sent to off-campus addresses, lesson returns may be slowed.

## LIBRARY FACILITIES

**Loan Library** — The Department of Independent Study operates a loan library from which required and recommended books for some courses may be rented. The study guide for each course indicates any books for loan for that course. Rental fee for 3 months is 25 percent of the list price of the books; 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 to foreign countries.

**The University Library** — Students are entitled to draw books from the University Library to be used in connection with their independent study courses, but such loans are subject to all library regulations. Books must be returned upon demand. There will be fines on overdue books. A request blank and list of library regulations are sent to each enrollee with his course materials. No library books can be sent to foreign countries. University Library books should be requested through the Department of Independent Study.

## 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. Write to the Department of Independent Study for special USAFI catalog, or to USAFI Headquarters, Madison, Wisconsin 53703.

## REGISTRATION

**Procedure** — A completed registration blank and full tuition payment, including out-of-state fee and airmail postage if desired, should be sent to the Department of Independent Study. Checks or money orders should be payable to the University of Minnesota.

**Noncredit Registration** — A student may register for noncredit by writing "noncredit" in the credits column on the application blank. Noncredit students need not complete the examinations but must pay the regular fees. See also P-N grading system under Grades.

**Work Load** — The Department of Independent Study recommends that a student enroll for no more than two courses at one time.

## Department of Independent Study

**Duration of Enrollment** — An independent study course may be started at any time, as the department operates throughout the calendar year. The student has 1 year from date of registration to complete his course. If he is working against a deadline for submission of credits he must take full responsibility for arranging the work in such a manner as to allow ample time for completing the course. Generally, a student should plan on a minimum of 2 weeks to complete each quarter-hour credit. Employing this formula, a 3-credit course would require a minimum of 6 weeks, a 4-credit course a minimum of 8 weeks, and a 5-credit course a minimum of 10 weeks. For some courses the instructors and/or departments have determined a specific lesson submission policy. For completion information on specific courses, contact the Department of Independent (Correspondence) Study. A student with special time-limit problems should seek approval of the director of the Department of Independent (Correspondence) Study prior to registration. (See also Honors Alternative.)

**Refunds** — A student who cancels a course may request a partial refund within 3 months of the date of registration and prior to the completion of half of the lessons in the course. Twenty-five percent of the cost of the course and \$2 for each lesson processed are nonrefundable from the tuition fee.

**Reinstatements** — If an independent study course is not completed in 1 year, a reinstatement can be obtained for \$5 per 6-month period.

### TRANSFER OF CREDITS

A student who wishes to transfer independent study credits to an institution other than the University should write the Transcripts Department, Window 17, 105 Morrill Hall, Minneapolis, Minnesota 55455 and give the name of the institution to which the transcript should be sent.

A student who wishes to be admitted to the University of Minnesota should write the General Extension Counseling Office, 314 Nolte Center, University of Minnesota, Minneapolis, Minnesota 55455.

A day school student who is presently enrolled at the University should request at his college window that his independent study credits be transferred to his day school record.

### TRANSFER OF REGISTRATION

A student may transfer from one independent study course to another within 3 months from the date of registration. The transfer fee is 25 percent of the course fee, and \$2 for each completed lesson. The balance of the original fee is applied to the tuition for the new course. The second course must be completed within the year from the original registration date, or be reinstated. When a transfer is recommended by this department, there is no charge, except for lessons serviced.

Transfers cannot be made from one individual to another.

### TUITION

The full amount of the tuition is payable at the time of registration. The amount of tuition for each class is listed in each course description (see

pages 37 to 73 of this bulletin). Tuition does not cover books. A check or money order must be drawn for the exact amount due and made payable to the University of Minnesota. No arrangements for partial payment can be made. A student in need of financial help should read the Financial Assistance section of this bulletin. A student living outside the state of Minnesota pays \$3 additional fee per course. Airmail postage, if desired, should be added to the tuition fee.

# SPECIAL PROGRAMS

## COMMUNITY CLASSROOM

(Independent Study methods and materials supplemented by telephone lectures or other media)

The Community Classroom Program is a special group service educational program designed to serve groups of 25 or more students practically anywhere in the state of Minnesota.

Two-way amplified long-distance telephone communication permits features of conventional classroom instruction to complement the basic independent (correspondence) study course. Additional aids may include:

- In-person lectures by the professor
- Electro-writer — remote, electronic blackboard
- Television/television tapes
- Audio-Visual Aids — tapes, slides, films
- Telephone office hours

The objective of the Community Classroom Program is to provide the structure and flexibility necessary to assure the optimum in the educational experience.

Tuition and fees for each student are \$15 per credit, the regular independent study course fee. (Depending on the size of the group, its distance from Minneapolis, and equipment used, it may in some cases be necessary to assess a nominal special fee.)

To discuss the possible establishment of a Community Classroom in your community or school, please write or call the Department of Independent (Correspondence) Study.

## CREDIT BY EXAMINATION

A person with previous knowledge of a subject, usually gained through practical experience, may be allowed a special enrollment in order to prepare himself, largely on his own, for the course examination, the passing of which will entitle him to regular course credit.

A student enrolling for credit by examination will be provided the regular course materials (including study guide, text assignments, and study questions), will purchase the texts, and will, when necessary, consult the professor. He will be allowed to submit some written work for the professor's evaluation.

This semistructured method of self-preparation will help the student reorient his practical experience to an academic framework. It should be a more efficient means of preparation for credit by examination than an entirely self-directed program of study.

A student wishing to enroll for credit by examination should write a letter to this department in which he specifies by title the course he wishes to be examined in, and explains his qualifications for such enrollment. Enrollment for special examination carries full tuition fees.

## THE HONORS ALTERNATIVE

The Honors Alternative is a course method which allows the especially able and mature student relative freedom in his course work, absolving him from the regular lesson submissions which characterize conventional independent study enrollment. The Honors Alternative is intended to equip the student for continued self-education beyond the years of his formal registration in courses. It encourages him to examine, to demonstrate, and to develop his self-reliance, his scholarship, and his academic interest to a greater extent than would be possible in either regular independent study or resident classroom courses. The student, during his honors study in this department, can expect helpful guidance from his professor, especially in the beginning of his work, but he should in the main be willing and able to forego step-by-step evaluation and control.

In the Honors Alternative, methods will in each case be determined by the student, his professor, and the Department of Independent Study in consideration of the course content and the student's abilities and interests. Some students may be required to submit very little work (see the section of Credit by Examination) and will be given almost the entire responsibility for their own preparation. Others will be required to submit a limited number of assignments and/or to undertake a research project. All students may submit any of the regular course assignments for evaluation, and they will be encouraged to consult freely with their professors.

Such freedom usually will benefit only the student whose academic ability is already proved. Often such a student wishes for a broader scope of course work than he otherwise could involve himself in or, on the other hand, a concentrated investigation of a narrower topic than is usually possible. It must be noted, however, that in order to receive credit all students must pass an examination on the course material or, in some other way suitable to the professor, demonstrate their mastery of the subject matter.

The Honors Alternative is open by invitation from individual professors who ascertain students' qualifications for such work on the basis of the first lessons submitted in regular independent study course enrollment.

Students may petition the professor to consider extending this alternative to them. Enrollment for the Honors Alternative carries full tuition fees.

## 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 program.

Twenty-two intensive certificate programs are conducted by the General Extension Division.

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 independent (correspondence) study, evening classes, day school, summer session, or any combination of these. 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 General Extension Division Certificate* and to complete an *Application for Admission to Certificate Programs* at the earliest possible time so proper counseling can be given. Both forms are available at any Extension office. Advice and information about the various programs, including transfer of credits, may be secured from the General Extension Counseling Office, 314 Nolte Center, University of Minnesota, Minneapolis, Minnesota 55455.

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

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

Group I certificates are those that can be earned *entirely* through completion of independent (correspondence) study courses.

Group II indicates programs leading to certificates that can be *partially* accomplished by independent (correspondence) study. In most instances, the student would have to earn credits in resident classes or have credits from accredited sources that would be applicable to the requirements.

## *Extension Certificate Programs*

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Group III indicates other certificate programs of the General Extension Division. Independent (correspondence) study courses can be used for some of the requirements but are least helpful in these programs. A list of the requirements 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.

### LIBERAL ARTS CERTIFICATE

(45 credits)

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

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

**ENGLISH REQUIREMENT** (12 credits):

Engl 1-001/1-002/1-003; or equivalent

**SPREAD REQUIREMENT** (24 credits): 6 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, 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.

### 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):

Comp 0-006C; or Engl 1-001

Math 1-210 — Calculus I: Calculus and Analytic Geometry (or equivalent)

Math 1-220 — Calculus II: Calculus and Analytic Geometry (or equivalent)

Math 1-230 — 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

Mechanics and Materials



## POLICE ADMINISTRATION CERTIFICATE

(45 credits)

The Police Administration Certificate program was planned by departments of the General Extension Division in cooperation with the School of Public Affairs 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 (Correspondence) Study of the University of Minnesota. The courses are marked with one asterisk (\*). Although credits may be transferred to this program from other institutions accredited by the University of Minnesota, the courses so marked (\*) must be taken at the University of Minnesota.

### ENGLISH REQUIREMENT (12 credits):

Engl 1-001/1-002/1-003 (or equivalent); or Engl 1-001, 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 1-001/1-002 — General Psychology

Soc 1-001 — Man in Modern Society

6 additional credits selected from:

Pol 1-002 — American Government and Politics

Pol 1-025 — World Politics

Hist 1-301, 1-302 — American History

\* May be taken only through the Department of Independent (Correspondence) Study.

\*\* Not offered through the Department of Independent (Correspondence) Study.

## Department of Independent Study

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### WORLD AFFAIRS CERTIFICATE

(45 credits)

This certificate is offered in cooperation with the University of Minnesota World Affairs Center, and approved by the Interdepartmental Committee on International Relations and Area Studies.

Students transferring credits to this certificate program from other accredited institutions must take a minimum of 12 credits from the University of Minnesota, including at least 9 credits in political science.

#### CORE REQUIREMENT (25 credits):

Pol 1-001, 1-002 — American Government and Politics	Hist 1-301 or 1-302 — American History I or II
Pol 1-004 — United Nations*	Hist 3-883 — History of American Foreign Policy III
Pol 1-025 — World Politics	Hist 5-266 — Modern Russia
Pol 3-094 — The Far East in International Relations*	

#### RECOMMENDED (5 credits):

Foreign language

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

Anth 1-001 or 1-002 — Introduction to Anthropology	Hist 1-001 or 1-002 or 1-003 — Introduction to Modern European History
Econ 1-001, 1-002 — Principles of Economics	Hist 3-881 — History of American Foreign Policy
Engl 1-008C — Masterpieces of World Literature*	Hist 5-274 — The Modern Near East
Pol 1-026 — American Foreign Policy	Hist 5-403 — Survey of Latin-American History
Pol 5-443 — Government and Politics of the Soviet Union	Soc 1-001 — Man in Modern Society
Pol 5-453 — Japanese Government and Politics*	Soc 5-201 — Social Psychology
	Trav 0-001 — Your Trip to Europe (Preparation for)*

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\* May be taken only through the Department of Independent (Correspondence) Study.

## Extension Certificates — Group II

The following certificate programs can be partially completed with appropriate courses from this bulletin with the exception of the Junior and Senior Business Administration Certificates, which can be almost entirely completed. Students would have to present acceptable equivalent credit for some of the required courses or sequences of courses. Each course or sequence marked with the double symbol (\*\*) is NOT offered by the Department of Independent (Correspondence) Study.

### 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 preparation for the Certified Public Accountant examinations.

#### JUNIOR ACCOUNTING CERTIFICATE

(50 credits)

Students transferring credits to this certificate program from other institutions accredited by the University of Minnesota must take a minimum of 12 credits in accounting courses 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 — Principles of Accounting  
Acct 1-026 — Principles of Accounting<sup>\*\*</sup>

Acct 3-105/3-106/3-107 — Intermediate  
Accounting<sup>\*\*</sup>  
Acct 3-220/3-221 — Cost Accounting<sup>\*\*</sup>  
Math 1-141<sup>\*\*</sup> or 1-441 — College Algebra

<sup>\*\*</sup> Not offered through the Department of Independent (Correspondence) Study.

## Department of Independent Study

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### SENIOR ACCOUNTING CERTIFICATE

(91 credits)

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

#### REQUIREMENTS:

Engl 1-001/1-002/1-003 (or equivalent)

Comp 1-027 – Advanced Writing

Math 1-140\*\* or 1-441 and 1-142\*\* or 1-210/1-220 (or equivalent)

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

Acct 1-024/1-025 – Principles of Accounting

Acct 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 100 or above

Fin 3-000 – Finance Fundamentals

QA 3-052/3-053/3-054 – Quantitative Methods for Administration\*\*

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

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\*\* Not offered through the Department of Independent (Correspondence) Study.

## BUSINESS ADMINISTRATION CERTIFICATES

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

### 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 grounding in most of the basic fields of business administration. All of the credits received in completing the junior certificate are automatically credited toward a senior certificate and represent half of its required work load.

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

#### PREBUSINESS REQUIREMENT (32 credits):

Engl 1-001/1-002/1-003 (or equivalent)  
Econ 1-001, 1-002 — Principles of Economics  
Acct 1-024/1-025 — Principles of Accounting

Acct 1-026 — Principles of Accounting\*\*  
Math 1-140\*\* or 1-441 — College Algebra

#### CORE REQUIREMENT (15 credits): Five courses selected from the following:

Prod 3-050 — Production Management\*\*  
QA 3-052/3-053/3-054 — Quantitative Methods for Administration\*\*  
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

\*\* Not offered through the Department of Independent (Correspondence) Study.

## Department of Independent Study

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### SENIOR BUSINESS ADMINISTRATION CERTIFICATE

(90 credits)

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

Students transferring credit from other institutions to this certificate program must take a minimum of 24 credits, including 18 credits in business administration courses, 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 — Principles of Accounting

Acct 1-026 — Principles of Accounting\*\*

Math 1-141\*\* or 1-441 — College Algebra

#### CORE REQUIREMENT (21 credits): Seven courses selected from the following:

Prod 3-050 — Production Management\*\*

QA 3-052, 3-053, 3-054 — Quantitative Methods for Administration\*\*

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 courses 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 courses, minimum of 90 credits for the certificate.

\*\* Not offered through the Department of Independent Study.

## Extension Certificate Programs

### CREDIT AND FINANCIAL MANAGEMENT CERTIFICATE

(54 credits)

The Credit and Financial Management Certificate program was developed cooperatively by the General Extension Division and the School 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.

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 (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\*\*

\*\* Not offered through the Department of Independent (Correspondence) Study.

## INDUSTRIAL RELATIONS CERTIFICATE

(48 credits)

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

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

### CORE REQUIREMENT (42 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  
IR 8-006 — Intermediate Labor Market\*\*  
IR 8-010 — Intermediate Manpower Management\*\*  
Psy 1-001/1-002 — General Psychology  
Psy 3-801 — Introduction to Statistical  
Methods\*\*  
Psy 5-125/5-126 — Differential Psychology\*\*

One of:  
Econ 5-531 — Economic History of  
Labor\*\*  
IR 5-027 — Union Government and Poli-  
cies\*\*  
One of:  
Econ 5-561 — Economics of Collective  
Bargaining\*\*  
IR 3-017 — Settlement of Industrial Rela-  
tions Disputes\*\*  
One of:  
Econ 5-534 — Economic Security  
Econ 5-537 — Labor Market Behavior and  
Regulation

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

Econ 5-531 — Economic History of Labor\*\*  
Econ 5-534 — Economic Security  
Econ 5-537 — Labor Market Behavior and  
Regulation  
Econ 5-541 — Contemporary Labor Issues\*\*  
Econ 5-561 — Economics of Collective  
Bargaining\*\*  
IR 0-001C — Supervision I  
IR 0-002C, 0-003C — Supervision II, III\*\*  
IR 3-007 — Modern Labor Relations\*\*  
IR 3-010 — Human Relations in Industry\*\*  
IR 3-017 — Settlement of Industrial Rela-  
tions Disputes\*\*  
IR 5-003 — The Employment Interview\*\*  
IR 5-027 — Union Government and Poli-  
cies\*\*  
IR 8-013 — Labor Education\*\*  
IR 8-023 — Employee Development and  
Training\*\*  
MIS 5-109 — Introduction to Computer-  
Assisted Management\*\*

Prod 3-050 — Production Management\*\*  
PA 0-068C — Administrative Communica-  
tion\*\*  
Psy 3-011 — Introduction to the Psychology  
of Learning  
Psy 5-604/5-605 — Abnormal Psychology  
Soc 5-201 — Social Psychology  
Soc 5-411 — Industrial and Occupational  
Sociology\*\*  
IE 0-100C — Industrial Engineering and  
Management\*\*  
IE 0-210C — Motion and Time Study  
IE 0-360C — Inventory and Production Con-  
trol\*\*  
IE 0-420C — Introduction to Operations Re-  
search\*\*  
IE 0-410C/0-411C — Corporate Standard  
Data\*\*  
IE 0-510C — Statistical Quality Control\*\*

\*\* Not offered through the Department of Independent (Correspondence) Study.



## 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 Design. A student holding the certificate should have a background indicating proficiency in the field of home furnishings and decorating.

Students transferring credits to this certificate program from other institutions accredited by the University of Minnesota must take a minimum of 15 credits at the University of Minnesota, including ArtS 3-131/3-132 and ArtS 5-111/5-112.

### CORE REQUIREMENT (34 credits):

- |   |  |
|---|--|
| Engl 1-001 – Freshman English<br>(or equivalent)                          | ArtS 5-112 – Seminar: Interior Design II**               |
| ArtH 1-001 – Introduction to Art  | Psy 1-003 – Application of Psychology to<br>Living**     |
| ArtS 1-111 – Use of Color**   | Spch 0-001C – Beginning Speech: Com-<br>munication**     |
| ArtS 1-112 – Layout for Interior Design; or<br>Home Design and Planning** | (or) Spch 1-102 – Communication in the<br>Modern World** |
| ArtS 3-131 – Interior Design I  | (or) Comp 0-004C – Business Correspond-<br>ence          |
| ArtS 3-132 – Interior Design II   |  |
| ArtS 3-133 – Contract Design Seminar**                                    |  |
| ArtS 5-111 – Seminar: Interior Design I**                                 |  |

SPREAD REQUIREMENT: Additional courses selected from at least four of the following groups to make a minimum of 60 credits total for the certificate.

- |  |  |
|--|--|
| 1. History of Art  | 5. MIS 0-001C – Introduction to Comput-<br>ers**                 |
| 2. Ceramics, Drawing and Painting, Sculp-<br>ture, Printmaking | (or) DaP 0-001C – Introduction to Digital<br>Computers*          |
| 3. ArtS 1-113 – Layout for Interior Design**                   | GC 1-513 – Principles of Small Business<br>Operations            |
| ArtS 3-134 – Contract Design Seminar**                         | GC 1-537 – Salesmanship  |
| ArtS 5-113/5-114 – Interior Design<br>Clinic**                 | GC 1-551 – Marketing: Retailing Sales<br>and Customer Services** |
| 4. French, Humanities, Literature                              | GC 1-552 – Marketing: Advertising and<br>Sales Promotion**       |

\*\* Not offered through the Department of Independent (Correspondence) Study.

## MANAGEMENT OF ADMINISTRATIVE SERVICES CERTIFICATES

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

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

In addition to the certificates granted by the General Extension Division on completion of the prescribed programs, the student may be entitled to certificates of the Administrative Management Society. Persons interested in the latter certificates may write to Mr. James Tait, 1072 Rome Drive, Rosemount, Minnesota 55068.

### 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 courses, at the University of Minnesota.

#### CORE REQUIREMENT (38-39 credits):

Comp 0-004C — Business Correspondence	Acct 1-026 — Principles of Accounting**
(or) Engl 1-001 — Freshman English	BLaw 3-058 — Business Law: Contracts
(or) Comp 0-003C — Review of Business English (or equivalent)	MIS 5-109 — Introduction to Computer-Assisted Management**
Econ 1-001, 1-002 — Principles of Economics	Psy 1-001 1-002 — General Psychology
Math 1-141 or 1-441 — College Algebra	Psy 3-801 — Introduction to Statistical Methods**
Acct 1-024 1-025 — Principles of Accounting	

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	Acct 3-160 — Analysis of Financial Statements*
IR 3-010 — Human Relations in Industry**	Acct 3-255 — Managerial Costs**
IR 3-012 — Systems of Industrial Relations: Manpower Management	(or) Acct 3-220 — Cost Accounting**
Ins 3-100 — Risk Management and Insurance	Fin 3-100 — Financial Management**
Tran 3-054 — Fundamentals of Transportation	Mgmt 3-001 — Fundamentals of Management**
Fin 3-000 — Finance Fundamentals	Mgmt 3-002 — Psychology in Management**
Mktg 3-000 — Principles of Marketing**	BLaw 3-088 — Business Law: Sales and Negotiable Instruments

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Not offered through the Department of Independent (Correspondence) Study.

## BASIC ENGINEERING SCIENCE CERTIFICATE

(50 credits)

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

Note that college-level physics, including laboratory, is required and not usually offered through independent (correspondence) study. Ordinarily this requirement can be satisfied only by resident classes in an accredited university or college.

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

**PREREQUISITES:** High school graduate or equivalent; 2 years of algebra and 2 years of geometry and trigonometry.

### CORE REQUIREMENT (41 credits):

Math 1-210 — Calculus I: Calculus and Analytic Geometry

Math 1-220 — Calculus II: Calculus and Analytic Geometry

Math 1-230 — Calculus III: Calculus and Analytic Geometry

EG 1-025; or EG 0-004C/EG 0-005C — Engineering Graphics

Phys 1-210, 1-220 — General Physics\*\*

Phys 1-215, 1-225 — General Physics Lab\*\*  
Engl 1-001, 1-002, 1-003 — Freshman English (or equivalent)

**ELECTIVES:** To make a minimum of 50 credits total for the certificate, the following courses from nontechnical or biological science electives must be taken. Institute of Technology nontechnical electives may be chosen from the following fields:

Anthropology, art, astronomy, botany, classics, geography, geology, history, humanities, languages (except scientific language courses), literature, music theory, philosophy, political science, psychology, religion, social science, sociology, speech, zoology.

\*\* Not offered through the Department of Independent (Correspondence) Study.

### **Extension Certificates — Group III**

Below are listed other certificate programs of the General Extension Division. Independent (correspondence) 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.

Fellow in Management of Administrative Services Certificate (90 credits)

Social Work Certificate (Bachelor's degree and 21 credits)

Alcoholism and Other Drug Abuse Counselor Certificate (9 credits and completion of internship)

Public Administration Certificate (45 credits)

Senior Engineering Science Certificate (100 credits)

Senior Civil Engineering Technician Certificate (100 credits)

Senior Electrical Engineering Technician Certificate (100 credits)

Senior Industrial Engineering Technician Certificate (99 credits)

Senior Mechanical Engineering Technician Certificate (100 credits)

## UNIVERSITY DEGREE PROGRAMS

It is possible through independent (correspondence) 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 can be taken through independent study and 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 of 1 year (45 quarter credits) residence study. 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. Moreover, many courses required for the junior and senior years in some colleges are not available through independent study. A student 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, as soon as a student has decided that he wishes to pursue a degree program he should contact a member of the Committee on Student Relations and Academic Standing by writing the General Extension Counseling Office, 314 Nolte Center, University of Minnesota, Minneapolis, Minnesota 55455.

The committee member will assist the student in:

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

To procure an official bulletin for any college, write the Service Bureau, S-1 Morrill Hall, University of Minnesota, Minneapolis, Minnesota 55455.

## SCHOOL OF BUSINESS ADMINISTRATION

225 Business Administration Building, Minneapolis Campus

To be admitted to the School of Business Administration a student must:

- A. Present approximately 90 credits, which must include all of the specific course requirements listed in the pre-business curriculum below.
- B. Have an overall average of at least "C" (2.00).

A student admitted to the School of Business spends his last 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*.

Pre-business requirements may be partially completed through independent study. The laboratory sciences required in Area II and Act 1-026 are not available.

## Department of Independent Study

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Pre-business requirements and the independent study courses which fulfill them follow.

- I. Communication, Language, Symbolic Systems
  - A. Freshman English — Engl 1-001/1-002/1-003 (12 credits)
  - B. Mathematics (15 credits)
    - Math 1-441 — College Algebra
    - Math 1-210/1-220 — 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; Psy 1-001/1-002; Soc 1-001
- IV. Artistic Expression (9 credits from the following)

ArtH 1-001; Engl 1-821/1-823, 1-938, 3-155, 3-156, 3-721/3-722/3-723, 3-827/3-828, 3-875; Hum 1-101, 1-103, 1-104
- V. Business Courses (9 credits)

Acct 1-024/1-025 — Principles of Accounting; Acct 1-026 is required but not available through Independent Study
- 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.

## COLLEGE OF EDUCATION

206 Burton Hall, Minneapolis Campus

Because of the variety of programs offered in this college 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.

## Teachers' 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 and (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. A student may take the Entrance Comprehensive Examination 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 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 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 a student has strengthened his weaknesses and broadened his perspectives in demonstrating a general knowledge in the liberal arts.

## GRADUATE SCHOOL

316 Johnston Hall, Minneapolis Campus

The University of Minnesota Graduate School will not accept independent (correspondence) 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.

## INSTITUTE OF TECHNOLOGY

107 Main Engineering, Minneapolis Campus

Institute of Technology students must have the approval of the dean to take courses through independent study.

Degrees are granted in aeronautics and engineering mechanics; agricultural, civil, electrical, geological, mechanical, metallurgical, and mineral engineering; chemistry; chemical engineering; mathematics; architecture; landscape architecture; and physics.

The first-year curriculum is the same for almost all units in the Institute:

Math 1-210/1-220/1-230 — Calculus and  
Analytic Geometry (or equivalent)

EG 1-025 — Engineering Graphics

Engl 1-001/1-002/1-003 — Freshman English

Phys 1-210/1-220 — General Physics (not  
available through independent study)

Phys 1-215/1-225 — General Physics lab  
(not available through independent  
study)

## Department of Independent Study

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Most of the required credits in liberal education may be satisfied by selecting independent study courses in history, economics, psychology, philosophy, humanities, and English. Consult the *Institute of Technology Bulletin*.

The following independent study courses may be used by petition for credit in the Institute of Technology:

Engl 1-001/1-002/1-003 — Freshman English  
EG 1-025 — Engineering Graphics  
Math 1-210 — Calculus I: Calculus and Analytic Geometry  
Math 1-220 — Calculus II: Calculus and Analytic Geometry  
Math 1-230 — Calculus III: Calculus and Analytic Geometry  
Math 1-240 — Calculus IV: Calculus and Analytic Geometry

Math 1-250 — Calculus V: Calculus, Linear Algebra, Differential Equations  
Math 1-260 — Calculus VI: Calculus, Vectors, Differential Equations  
MM 3-015 — Statics  
MM 3-036 — Dynamics  
CE 3-302 — Concrete and Concrete Materials

## COLLEGE OF LIBERAL ARTS

214 Johnston Hall, Minneapolis Campus

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

A candidate for the bachelor of arts degree completes 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 the student is in the Lower Division. In addition, many departments recommend or require that certain prerequisite courses be taken before the student begins major work. The student 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 the humanities) may be fulfilled through independent study.

When the student has completed the Lower Division requirements and is admitted to the Upper Division, he selects a major field and his studies become somewhat more concentrated. 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.

### COLLEGE OF LIBERAL ARTS COURSE REQUIREMENTS FOR ADMISSION TO UPPER DIVISION, B.A. PROGRAM

#### *Freshman English*

Engl 1-001/1-002/1-003 or Comm 1-001/1-002/1-003 or exemption from requirement

#### *Foreign Language*

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

#### *High School Study*

4 years  
3 years  
2 years  
1 year  
None

#### *Additional in College*

5 credits in same language  
10 credits in same language  
15 credits in same language  
20 credits in same language  
25 credits in one language



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

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

**Distribution**

Complete 54 credits, including:

9 credits from one area in each of groups A, B, and D;

18 credits from group C, with a minimum of 6 credits in each area;

9 credits from one of the remaining areas in groups A, B, and D or from any part of group C.

At least 3 credits must be offered from a department to count. No more than two departments may be used in each area. No more than 12 credits may be used from one department for all groups (even though courses from some departments may be used in more than one group).

Courses used for freshman English and foreign language requirements may not be used for distribution requirements.

**GROUP A: COMMUNICATION, LANGUAGE, SYMBOLIC SYSTEMS**

Area 1 Linguistics, rhetoric, logic, and philosophic analysis

Area 2 Mathematics, statistics

**GROUP B: PHYSICAL AND BIOLOGICAL SCIENCES**

Area 1 Physical universe (with lab)

Area 2 Biological universe (with lab)

(If both of these are elected, only one need be with laboratory.)

**GROUP C: MAN AND SOCIETY**

Area 1 Analysis of human behavior and institutions

Area 2 Development of civilization: historical and philosophical studies

**GROUP D: ARTISTIC EXPRESSION**

Area 1 Literature

Area 2 The Arts

See *College of Liberal Arts Bulletin* for a listing of courses under each heading.

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

The Associate in Liberal Arts degree indicates the successful completion of a 90-credit program devoted largely to general education. The program is basically equivalent to 2 regular academic years of study and is granted by the College of Liberal Arts.

At least 45 credits (1 year's work) must be earned in residence following admission to the College of Liberal Arts. Any or all of the first 45 credits may be taken through the Department of Independent Study.

Requirements for the A.L.A. degree are based on the course requirements for admission to the Upper Division of the Arts College (above).

A student must meet the freshman English requirements and complete one of the following two plans:

## Department of Independent Study

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1. A foreign language through course number 3, and 9 credits from each of groups A, B, C, and D, including work in both areas of group C
- (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. He must present an overall "C" average.

## **OTHER PROGRAMS**

Although few courses are offered in the following professional areas, pre-professional and liberal arts electives taken through independent study may often be applied toward a degree:

College of Agriculture, Forestry, and Home Economics  
215 Coffey Hall, St. Paul Campus

College of Biological Sciences  
123 Snyder Hall, St. Paul Campus

School of Dentistry  
136 Owre Hall, Minneapolis Campus

Law School  
125 Fraser Hall, Minneapolis Campus

College of Medical Sciences  
1360 Mayo Memorial Building, Minneapolis Campus

College of Pharmacy  
115 Appleby Hall, Minneapolis Campus

College of Veterinary Medicine  
256 Veterinary Science Building, St. Paul Campus

For specific information, write to the school or college, or to the General Extension Counseling Office, 314 Nolte Center, University of Minnesota, Minneapolis, Minnesota 55455.

# COURSE DESCRIPTIONS

## College Courses

### ACCOUNTING

Reuel I. Lund, Professor Emeritus of Accounting

John C. Nelson, Instructor in Business Administration (DIS)

**Acct 1-024. ELEMENTS OF ACCOUNTING** (old Acct 24). 16 lessons — \$45 — 3 degree credits — text price, \$12-16 — 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. (No prerequisite)

**Acct 1-025. PRINCIPLES OF ACCOUNTING** (old Acct 25). 16 lessons — \$45 — 3 degree credits — text price, \$12-16 — Lund

Continuation of 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: 1-024 or one beginning course in accounting at the college level)

**Acct 5-125. AUDITING PRINCIPLES AND PROCEDURES** (old Acct 125).

21 lessons — \$60 — 4 degree credits — text price, \$20-25 — 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: 1-025 or equivalent)

**Acct 5-135. INCOME TAX ACCOUNTING** (old Acct 135). 16 lessons — \$45 — 3 degree credits — text price, \$10-12 — J. C. Nelson

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: 1-025 or equivalent)

### AGRICULTURAL ECONOMICS

Truman R. Nodland, Professor of Agricultural Economics

**AgEc 3-800. FARM RECORDS AND BUSINESS ANALYSIS** (old AgEc 80). 16 lessons — \$45 — 3 degree credits — text price, \$9-12 — 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. (No prerequisite)

### AGRICULTURE

(For course listings, see Agricultural Economics, Animal Science, Entomology, Forestry, Horticultural Science)

### ANIMAL SCIENCE

Robert M. Jordan, Professor of Animal Science

**AnSc 1-600. HORSE SCIENCE** (old AnSc 40). 9 lessons — \$45 — 3 degree credits — text price, \$12-16 — Jordan

Breeds and selection, inheritance and reproduction, nutrition and management of the weanling, mare and stallion, farriery, tack and equipment, diseases and health. (No prerequisite)

## Department of Independent Study

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### ANTHROPOLOGY

Fay Cohen, Instructor in Anthropology (DIS)

**Anth 1-001. INTRODUCTION TO ANTHROPOLOGY: PREHISTORIC MAN AND CULTURE** (old Anth 1A). 27 lessons — \$75 — 5 degree credits — text price, \$5-10 — Arranged

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

**Anth 1-002. INTRODUCTION TO ANTHROPOLOGY: CULTURAL ANTHROPOLOGY** (old Anth 2A). 27 lessons — \$75 — 5 degree credits — text price, \$25-30 — Cohen

Human behavior as revealed through study of societies in all parts of the world. Scientific analysis of ways in which men organize their lives, directed toward broader understanding of human capacities and purposes. (No prerequisite)

**Anth 3-211. THE AMERICAN INDIAN** (old Anth 80). 16 lessons — \$45 — 3 degree credits — text price, \$10-15 — Cohen

Description of physical types, languages, prehistory, and cultures of the Americas. (Prerequisite: 1-002 or equivalent)

**Anth 5-361. CULTURE AND PERSONALITY** (old Anth 165). 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: 1-002 or 5-101 or consent of instructor)

### ART HISTORY

Lorenz E. A. Eitner, Professor of Art and Architecture, Stanford University

**Arth 1-001. INTRODUCTION TO ART** (old Arth 1). 21 lessons — \$60 — 4 degree credits — text price, \$5-7 — Eitner

Offers a survey of the visual arts — architecture, sculpture, painting, graphic techniques, photography, and film — combining a broad coverage of the main periods of art history with an exploration of fundamental problems of meaning, form, and style. It attempts to enable students to interpret works of art by relating them to their geographic, historical, and social origins and by explaining the aims which have motivated artists of the past and present. (No prerequisite)

### ART, STUDIO

Leah Lewis, Professor of Interior Design

Lewis G. Palmer, Assistant Professor of Graphics

Lucile S. Robinson, Instructor in Handcrafts (DIS)

**ArtS 1-114. GENERAL HANDCRAFTS I** (old ArtS 43A). 16 lessons — \$45 — 3 degree credits — text price, \$13-15 — Robinson

A practical course which includes chip carving, leather work, block printing, stenciling, and puppets. Also included are projects and gift suggestions to be made from scraps of material such as paper, tin, yarn, and wire. For teachers, occupational therapists, camp and playground workers, and homemakers. (No prerequisite: may precede or follow General Handcrafts II)

**ArtS 1-115. GENERAL HANDCRAFTS II** (old ArtS 43Ac). 6 lessons — \$15 — 1 degree credit — text price, \$3-5 — Robinson (12 lessons — \$30 — 2 degree credits)

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. (No prerequisite)

**ArtS 1-116. TEXTILE CRAFTS** (old ArtS 43Bc). 16 lessons — \$45 — 3 degree 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. (No prerequisite)

**ArtS 1-117. FREEHAND LETTERING.** 6 lessons — \$15 — 1 degree credit — text price, \$2-4 — 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. (No prerequisite)

**ArtS 1-118. DESIGN I** (old ArtS 4c). 16 lessons — \$45 — 3 credits — text price, \$5-10 — Lewis

Fundamental principles of design applied to a series of interesting and practical problems using a variety of techniques; a basic course that is useful in elementary or junior high school teaching and as a foundation for other art courses. (No prerequisite)

**ArtS 3-131. INTERIOR DESIGN I** (old ArtS 83A). 12 lessons — \$45 — 3 degree credits — text price, \$10-12 — Lewis

Subject matter includes floors and floor coverings, walls and wall treatments, interior woodwork and finishes; also, how to build a color scheme, arrange furniture, combine styles, and how to create a focal point. Furniture styles studied are the traditional styles now in use; contemporary design in furniture and in other phases of the decorative arts is studied. The design principles covered apply to residential and commercial work. Trends are considered throughout the course. It is desirable but not required for students to have some periodicals in home furnishings for reference in addition to the text. (No prerequisite)

**ArtS 3-132. INTERIOR DESIGN II** (old ArtS 84A). 9 lessons — \$45 — 3 degree credits — text price, \$18-20 — Lewis

Designed to give the student the special knowledge needed to make the right selections in a time of unlimited resources. Special emphasis is given to: the study of decorative fabrics for draperies, upholstery, and other interior use; the study of fibers and their special merits; the importance of major accessories; the use of fine arts in the home or office; window treatment; both custom-made and ready-made types of installation. How to estimate yardage is included but not required subject matter. The use of color is applied in several assignments. (Prerequisite: 3-131)

## **ASTRONOMY**

Ivan Pollicoff, Assistant Professor of Astronomy

**Ast 1-011. DESCRIPTIVE ASTRONOMY** (old Ast 11). 27 lessons — \$75 — 5 degree credits — text price, \$10-12 — Pollicoff

Designed to give accurate general information regarding the solar system and the stellar universe. Emphasizes the basic facts of the physical universe, rather than the technical details of work of a professional astronomer. A small telescope or even a field glass will be helpful but not essential. (No prerequisite)

## **BUSINESS ADMINISTRATION**

(For course listings, see Accounting, Business Law, Business Studies [General College], Finance, Industrial Relations, Insurance, Production)

## **BUSINESS LAW**

Paige Donnelly, Assistant Professor of Business Law

**BLaw 3-058. BUSINESS LAW — CONTRACTS** (old BLaw 58). 10 lessons — \$45 — 3 degree credits — text price, \$15-17 — Donnelly

Deals with the basic law of contracts: the formation, operation, effect, and discharge of contracts. Inasmuch as a knowledge of the general rules of contract law is fundamental to all work in business law, this course must precede 3-078, 3-088, 3-098. (Prerequisite: Econ 1-002 or equivalent, or consent of instructor)

## Department of Independent Study

- BLaw 3-078. BUSINESS LAW – AGENCY, PARTNERSHIPS, AND CORPORATIONS** (old BLaw 78). 10 lessons – \$45 – 3 degree credits – text price, \$15-17 – 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: 3-058)
- BLaw 3-088. BUSINESS LAW – SALES, BAILMENTS, AND NEGOTIABLE INSTRUMENTS** (old BLaw 88). 10 lessons – \$45 – 3 degree credits – text price, \$15-17 – 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: 3-058)
- BLaw 3-098. BUSINESS LAW – PROPERTY RIGHTS AND OBLIGATIONS** (old BLaw 98). 10 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: 3-058)

## BUSINESS STUDIES (General College)

David G. Fulcher, Teaching Assistant in Business Studies  
LaRoy Goodenough, Assistant Professor of Business Studies

- GC 1-513. OPERATION OF A SMALL BUSINESS** (old GC 17c). 16 lessons – \$45 – 3 degree credits – text price, \$5-7 – Fulcher  
The practical problems of operating a small business. Covers all phases of organization and management, including advertising, layout, financing, location, buying, pricing, personnel. Emphasis on retailing. (No prerequisite)
- GC 1-537. SALESMANSHIP** (old GC 18D). 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; presales 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. (No prerequisite)

## CHEMICAL ENGINEERING AND MATERIAL SCIENCE

Thomas E. Hutchinson, Associate Professor of Metallurgy  
Robert M. Oman, Instructor in Technical Studies (DIS)

- ChEn 0-001C. QUANTUM THEORY OF SOLIDS I.** 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. (Prerequisite: A knowledge of mathematics through differential equations and a familiarity with topics in modern physics)
- ChEn 0-002C. QUANTUM THEORY OF SOLIDS II.** 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: 0-001C)
- ChEn 1-003C. ELECTRON MICROSCOPY.** 6 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 pertinent 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 principles of quantum mechanics and knowledge of mathematics through differential equations)

## CHILD PSYCHOLOGY

Ada Hegion, Instructor (DIS)

Helen H. Pitts, Resident Specialist, Institute of Child Development

**CPsy 3-301. CHILD PSYCHOLOGY** (old CPsy 80). 16 lessons — \$45 — 3 degree credits — text price, \$14-16 — Hegion

Introduction to the science of child behavior. Emphasis is placed upon a critical review of theories and research in child psychology. (Prerequisite: Psy 1-001 and 1-002)

**CPsy 5-303. ADOLESCENT PSYCHOLOGY** (old CPsy 81). 16 lessons — \$45 — 3 degree credits — text price, \$12-15 — Pitts

Social, physical, mental, emotional, and personality development during adolescence. (Prerequisite: Psy 1-001 and 1-002. Cannot be used for graduate credit at the University of Minnesota)

## CHINESE

(See East Asian Languages)

## CIVIL ENGINEERING

Miles Kersten, Professor of Civil Engineering and Hydraulics

Eugene L. Skok, Jr., Assistant Professor of Civil Engineering and Hydraulics

**CE 0-001C. SOILS ENGINEERING** (old CE 54c). 16 lessons — \$45 — 3 certificate credits — text price, \$8-10 — Kersten

Intended for engineers and students who wish to become familiar with the basic principles of soil behavior: the terminology, the tests, and applications to practical problems. Soil development and maps, laboratory tests, constants, and classification; surveys, frost action, compaction, stabilization, and flexible pavement design; stress distribution, consolidation, and shear strength. (Prerequisite: 1 year of college mathematics desirable; consult instructor)

**CE 3-302. CONCRETE AND CONCRETE MATERIALS** (old CE 146). 16 lessons — \$45 — 3 degree credits — text price, \$3-5 — Skok

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. (Prerequisites: MM 1-016 [Deformable Body Mechanics] for degree credit; the prerequisite may be waived if extension credit only is desired, but a knowledge of algebra, physics, and chemistry is essential)

## CLASSICS

(See also Greek and Latin)

David F. Moke, Teaching Assistant in Classics

**Clas 1-048. TECHNICAL TERMS OF SCIENCE, MEDICINE, AND THE HUMANITIES** (old Clas 48). 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. (No prerequisite)

## Department of Independent Study

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### DATA PROCESSING

Leslie Knutson, Instructor in Data Processing (DIS)

**DaP 0-001C. INTRODUCTION TO DIGITAL COMPUTERS AND COMPUTER PROGRAMMING** (old DaP 1c). 27 lessons — \$75 — 5 certificate credits — text price \$15-18 — Knutson

Introduction to number systems, Boolean algebra, computer components (input, output, arithmetic storage and control) and programming—using both binary and decimal systems. Includes machine language, flow charting, problem solving, and common language programs. (No prerequisite)

### EAST ASIAN LANGUAGES

#### Chinese

Yaku Chang, Instructor in East and South Asian Languages

**Chin 1-101. BEGINNING CHINESE** (old Chin 1). 27 lessons — \$75 — 5 degree credits — text price, \$10-15 — Chang

Prepares for the reading and writing of colloquial Chinese (Mandarin), the language of conversation, modern fiction, and newspapers. Principles of pronunciation and intonation will be treated; principles of grammar will be implemented with ample exercises. (No prerequisite)

**Chin 3-501. ASIAN CIVILIZATION: CHINA** (old Chin 20). 16 lessons — \$45 — 3 degree credits — text price, \$10-15 — Chang

A readings course to introduce students to the 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. (No prerequisite)

#### Japanese

Amy Matsumoto, Assistant Professor of East Asian Languages

**Jpn 1-101. BEGINNING JAPANESE I** (old Jpn 1). 26 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, as well as for conversational Japanese. (No prerequisite)

### ECONOMICS

James Billings, Instructor in Economics (DIS)

Gary Fatland, Instructor in Economics (DIS)

Thomas Giddings, Instructor in Economics (DIS)

John G. Turnbull, Professor of Economics and Associate Dean, College of Liberal Arts

**Econ 1-001. PRINCIPLES OF ECONOMICS: MACROECONOMICS** (old Econ 1). 16 lessons — \$45 — 3 degree credits — text price, \$15-18 — 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. (No prerequisite)

**Econ 1-002. PRINCIPLES OF ECONOMICS: MICROECONOMICS** (old Econ 2). 16 lessons — \$45 — 3 degree credits — text price, \$15-18 — Fatland

Principles underlying economic activity and the way these principles work through our economic institutions. Demand and supply, competition and monopoly, and distribution of income. (No prerequisite)

**Econ 3-102. INTERMEDIATE ECONOMIC ANALYSIS** (old Econ 66). 16 lessons — \$45 — 3 degree credits — text price, \$7-10 — Giddings

Income and employment. Determinants of national income, employment, and price



level, with particular attention to aggregate consumption and investment. (Prerequisite: 1-002 or equivalent)

**Econ 3-751. MONEY AND BANKING** (old Econ 67). 16 lessons — \$45 — 3 degree credits — text price, \$13-15 — Giddings

Historical development, present pattern and economic role of financial institutions, with special emphasis upon commercial banks, the money supply, and the Federal Reserve System. (Prerequisite: 3-102 or equivalent)

**Econ 5-534. ECONOMIC SECURITY** (old Econ 182). 16 lessons — \$45 — 3 degree credits — text price, \$8-10 — 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: 3-501 or equivalent)

**Econ 5-537. PUBLIC POLICY: LABOR RELATIONS** (old Econ 172). 16 lessons — \$45 — 3 degree credits — text price, \$7-9 — Turnbull

Employer-employee-union relationships and their social control; legislative, executive, and judicial attempts to deal with these issues; economic and social implications. (Prerequisite: 3-501 or equivalent)

## EDUCATION

(See also Child Psychology, and Recreation and Park Administration)

Nancy Cato, Assistant Professor of Physical Education

Adrian M. Dupuis, Professor of Education, Marquette University

David Giese, Associate Professor of Mathematics and Coordinator of Research, General College

Harry C. Johnson, Professor and Head, Department of Elementary Education, Duluth

Robert B. Nordberg, Associate Professor of Education, Marquette University

Gordon I. Swanson, Professor of Agricultural Education

**Hed 1-004. INTRODUCTION TO PHILOSOPHY OF EDUCATION** (old HEd 4c). 21 lessons — \$60 — 4 degree credits — text price, \$2-4 — Nordberg

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. Note: Not offered for credit in College of Education programs. (No prerequisite)

**AgEd 1-010. RURAL EDUCATION AND COMMUNITY LEADERSHIP** (old AgEd 20). 16 lessons — \$45 — 3 degree credits — text price, \$7-10 — Swanson

Appraisal of community educational agencies; process of and responsibilities for community leadership; role of the school in the rural community; coordination of the school with nonschool educational agencies. (No prerequisite; no credit if student has taken AgEd 5-010)

**Hed 3-090. THE SCHOOL AND SOCIETY** (old HEd 90). 9 lessons — \$45 — 3 degree credits — text price, \$15-18 — 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: senior)

**PsyF 3-102. INTRODUCTION TO MEASUREMENT AND STATISTICS** (old EPsy 60). 16 lessons — \$45 — 3 degree credits — text price, \$10-12 — 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)

**PE 3-330. THE PHYSICAL EDUCATION PROGRAM IN THE ELEMENTARY SCHOOL** (old PE 84B). 9 lessons — \$45 — 3 degree credits — text price, \$8-10 — Cato

Designed to help the elementary classroom teacher assume responsibility in

## Department of Independent Study

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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)

**Hed 5-141. CRITICAL ISSUES IN CONTEMPORARY EDUCATION** (old Hed 141). 9 lessons — \$45 — 3 degree credits — text price, \$10-12 — Dupuis

The principal aim is to answer the following: What are the outstanding points of view in education today? Such practical questions as discipline, freedom, indoctrination, teacher-pupil relations, progressive methods will be treated as they relate to underlying theory; but the central objective will be to appreciate the crucial agreements and differences among leading thinkers in contemporary education. Note: Cannot be used for credit in the University of Minnesota Graduate School. (Prerequisite: senior)

**EIED 5-355. (Duluth) TEACHING MATHEMATICS — ELEMENTARY** (old EdCl 149). 16 lessons — \$45 — 3 degree credits — text price, \$15-20 — H. C. 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. Note: Cannot be used for credit in the University of Minnesota Graduate School or College of Education. This course is comparable to the course of the same number in the program at the University of Minnesota, Duluth. (Prerequisite: 9 credits in education)

## ELECTRICAL TECHNOLOGY

Sidney C. Larson, Associate Professor of Electrical Engineering

**ET 0-500C. ELEMENTS OF ELECTRIC CIRCUITS** (old ET 1c). 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 mathematics through trigonometry)

## ENGINEERING

(For course listings, see Chemical Engineering, Civil Engineering, Electrical Technology, Engineering Graphics, Industrial Engineering, Mechanical Engineering, Mechanics and Materials)

## ENGINEERING GRAPHICS

Lewis G. Palmer, Assistant Professor of Mechanical Engineering

**EG 0-001C. THE SLIDE RULE** (old EG 1). 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. (No prerequisite)

**EG 0-004C. ENGINEERING GRAPHICS** (old EG 4c). 16 lessons — \$45 — 3 certificate credits — text price, \$35-40 — Palmer

Principles and practices of communication drawings, graphical techniques, engineering geometry, orthographic, axonometric, oblique, and perspective projection systems. Symbolic representation. Size and material specifications. Detail and assembly drawings. (Note: EG 0-004C and 0-005C, which are certificate credit courses, are designed to provide an engineering drawing course sequence more directly applicable to industrial needs than EG 1-025; students who satisfactorily complete them may upon approval of the Division of Engineering Graphics petition for a comprehensive examination if credit for EG 1-025 is desired)

**EG 0-005C. ENGINEERING GRAPHICS** (old EG 5c). 16 lessons — \$45 — 3 certificate credits — text price, \$35-40 — Palmer

Advanced problems in communication drawing. Auxiliary views. Representation and solution of 3-dimensional space problems. Graphical solution of vector problems. Intersections and developments. (Prerequisite: EG 0-004C)

**EG 1-025. ENGINEERING GRAPHICS** (old EG 25). 21 lessons — \$60 — 4 degree credits — text price, \$35-40 — Palmer

Engineering representation and analysis of systems of projection; the coordinate system, graphical solution of space problems, intersections, and developments. Precision in graphics and techniques of sketching; pictorial projection systems, size description, standard and simplified practices applied to graphic communication. (Prerequisite: Math 1-210 or concurrent registration in Math 1-210)

## ENGLISH

(Composition, Communication, and Literature)

Herbert L. Carson, Assistant Professor of Humanities, Ferris Institute, Big Rapids, Michigan  
Sumner Ferris, Associate Professor of English, California State College, California, Pennsylvania

Cortlandt Frye, Instructor in English (DIS)

Richard A. Grant, Instructor in Humanities

Clifford I. Haga, Associate Professor of English

Mary K. Haney, Instructor in English, Duluth

Eugenie Klemz, Teaching Associate in English

Louise L. Klohn, Instructor in English (DIS)

James E. Korges, Instructor in English (DIS)

Alex Kurak, Associate Professor of Literature, Speech, and Writing

Toni McNaron, Associate Professor of English

Justin O'Connell, Instructor in English (DIS)

Peter H. Schneeman, Teaching Associate in English

Richard Shaw, Instructor in English

Donald Warren, Instructor in Literature, Speech, and Writing

## Composition and Communication

**Comp 0-001. PREPARATORY COMPOSITION** (old Comp X). 16 lessons — \$45 — no credit — text price, \$10-15 — Korges

Intensive drill on grammatical forms, structure, and theme writing. Recommended for those whose primary need is organization and development of themes; any passing grade admits students to Comp 1. (No prerequisite)

**Engl 1-001. FRESHMAN COMPOSITION** (old Engl 1). 21 lessons — \$60 — 4 degree credits — text price, \$15-20 — Schneeman

Concentrates upon developing the student's skill in writing exposition, with literature chiefly as a means of providing subject matter for the writing. (Prerequisite: 0-001 or a satisfactory score on the English Placement Test)

**Engl 1-002. FRESHMAN COMPOSITION** (old Engl 2). 21 lessons — \$60 — 4 degree credits — text price, \$15-20 — Schneeman

(Prerequisite: 1-001)

**Engl 1-003. FRESHMAN COMPOSITION** (old Engl 3). 21 lessons — \$60 — 4 degree credits — text price, \$15-20 — Schneeman

(Prerequisite: 1-002)

**Comp 0-002C. GRAMMAR REVIEW.** 12 lessons — \$30 — 3 certificate credits — 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. (No prerequisite)

**Comp 0-004C. BUSINESS CORRESPONDENCE.** 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

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of developing effective letterwriting habits are analyzed and presented in a study of diction, grammar, and the mechanics of letter forms. (No prerequisite)

**Comp 0-006C. BASIC TECHNICAL WRITING I.** 16 lessons — \$45 — 3 certificate credits — text price, \$10-15 — O'Connell

Review of basic English and introduction to technical writing. Designed for people in the technical industries. Includes sentence design, spelling, and punctuation. Covers basic techniques of definition, description, process, procedure, and analysis writing. Organization and correlation into text of tables, diagrams, and illustrations. Emphasis on accuracy, brevity, simplicity, and layout. (No prerequisite)

**Comp 0-009. REMEDIAL WRITING.** 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. (No prerequisite)

**Comp 0-011. THE WRITING OF POETRY.** 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: Freshman English or equivalent)

**Comp 0-012. THE ADVANCED WRITING OF POETRY.** 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: 0-011 or equivalent or permission of instructor)

**Comp 0-015C. SHORT STORY WRITING I** (old Comp 69). 16 lessons — \$45 — 3 certificate credits — text price, \$5-10 — Staff

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: 1-027/1-028)

**Comp 0-016C. SHORT STORY WRITING II** (old Comp 70). 16 lessons — \$45 — 3 certificate credits — text price, \$1-5 — Staff

(Continuation of Comp 0-015C) 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: 0-015C)

**Comp 0-017C. INDEPENDENT WRITING** (old Comp 80c). 16 lessons — \$45 — 3 certificate credits — no required text — Frye

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: 1-027/1-028 or equivalent. No prerequisite for students not wishing credit)

**Comp 0-018. SHORT MANUSCRIPT CRITICISM** (old Comp 81c). 4 lessons — \$15 — no credit — no required text — Frye

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. (No prerequisite)

**Comp 1-027. ADVANCED WRITING I — EXPOSITION** (old Comp 27). 16 lessons — \$60 — 4 degree credits — no required text — Frye

Study and writing of essays with emphasis on critical analysis, structure, and organization. Study assignments are drawn from the student's own reading and from a variety of current periodicals. The student chooses his own major essay subjects. (Prerequisite: Freshman English or equivalent)

**Comp 1-028. ADVANCED WRITING II — NARRATION AND DESCRIPTION** (old Comp 28). 16 lessons — \$60 — 4 degree credits — text price, \$10-15 — Frye

The principles of description and narration with analysis of specimens and exercises in writing. (Prerequisite: Freshman English or equivalent)

**GC 1-421. PERSONAL WRITING** (old GC 31A). 11 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. (No prerequisite)

## Literature

**Engl 0-008C. MASTERPIECES OF WORLD LITERATURE** (old Engl 4c). 12 lessons — \$30 — 2 certificate credits — text price, \$15-20 — 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 intelligent discussion. (No prerequisite)

**Engl 1-821. INTRODUCTION TO LITERATURE I** (old Engl 21). 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. Engl 1-821 includes: Chaucer to Milton, Marlowe, Spenser, Shakespeare, Bacon, Browne, and Bunyan. (Prerequisite: Freshman English)

**Engl 1-822. INTRODUCTION TO LITERATURE II** (old Engl 22). 27 lessons — \$60 — 4 degree credits — text price, \$8-10 — Grant

(Continuation of 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** (old Engl 23). 27 lessons — \$60 — 4 degree credits — text price, \$10-12 — Grant

(Continuation of 1-822) The Romantic movement and the Victorians. Wordsworth, Coleridge, Byron, Shelley, Keats, Carlyle, Tennyson, Browning, and Arnold. (Prerequisite: Freshman English)

**Engl 1-938. TWENTIETH-CENTURY LITERATURE II** (old Engl 38). 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 3-155. SHAKESPEARE I** (old Engl 55). 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)

**Engl 3-156. SHAKESPEARE II** (old Engl 56). 16 lessons — \$60 — 4 degree credits — text price, \$10-15 — Shaw

(Continuation of 3-155) Shakespeare's later career from 1600 to 1611. Tragedies, romantic comedies, romances, and one problem comedy. (Prerequisite: 3-155 or consent of instructor)

**Engl 3-721. AMERICAN LITERATURE I** (old Engl 72). 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: Freshman English and 5 additional credits, or 5 credits in 1-821/1-822/1-823)

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- Engl 3-722. AMERICAN LITERATURE II** (old Engl 73). 16 lessons — \$60 — 4 degree credits — text price, \$20-25 — Kurak  
(Continuation of 3-721) 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: 3-721)
- Engl 3-723. AMERICAN LITERATURE III** (old Engl 74). 16 lessons — \$60 — 4 degree credits — text price, \$10-15 — Kurak  
(Continuation of 3-722) 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: 3-722)
- Engl 3-827. ENGLISH NOVEL I** (old Engl 52). 16 lessons — \$60 — 4 degree credits — text price, \$10-15 — 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 will be: Defoe, Richardson, Fielding, Smollett, Sterne, Austen, and Scott. (Prerequisite: Freshman English and 5 additional credits in English)
- Engl 3-828. ENGLISH NOVEL II** (old Engl 53). 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 will be: Dickens, Thackeray, the Bronte sisters, George Eliot, Trollope, Meredith, Hardy, and Conrad. (Prerequisite: Freshman English and 5 additional credits in English)
- Engl 3-875. CHAUCER** (old Engl 75). 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 5-862. MILTON** (old Engl 162). 9 lessons — \$60 — 4 degree credits — text price, \$10-15 — McNaron  
Course covers the following minor poems: *Comus*, *Lycidas*, *Areopagitica*, *Paradise Lost*, and *Samson Agonistes*. (Prerequisite: Freshman English and 5 additional credits in English)

## ENTOMOLOGY

Basil Furgala, Associate Professor of Entomology

- Ent 0-004C. PRINCIPLES OF BEEKEEPING** (old Ent 4). 16 lessons — \$45 — 3 certificate credits — text price, \$5-7 — Furgala  
Useful to 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. (No prerequisite)

## FAMILY STUDIES

Maurine M. Hansen, Instructor in Family Studies (DIS)

- FamS 1-001. DYNAMICS OF DATING, COURTSHIP, AND MARRIAGE** (old FamS 1). 16 lessons — \$45 — 3 degree credits — text price, \$9-11 — Hansen  
Application of principles from the behavioral sciences to dating, courtship, mate

selection, engagement, mixed marriages, roles of men and women, interaction of marital spouses, and marital stability. A term paper will be required. (No prerequisite)

## FINANCE

J. Russell Nelson, Professor of Finance

George W. Ulseth, Professor of Business, Wisconsin State University

**Fin 0-001C. INTRODUCTION TO INVESTMENTS** (old BFin 1c). 16 lessons — \$45 — 3 certificate credits — text price, \$12-14 — J. R. Nelson

A fundamental course for adult investors who wish a general background of information on the investment field. Covers the nature of various securities, statistical and investment analysis, vocabulary and practices of the securities business, and investment practices suitable for various investor groups. (No prerequisite)

**Fin 3-000. FINANCE FUNDAMENTALS** (old BFin 56). 16 lessons — \$45 — 3 degree credits — text price, \$12-14 — J. R. Nelson

A comprehensive introduction to the main concepts in finance and some of their applications in forecasting; money and capital markets; cost of capital, leverage, and financial policy; risk and return on investments; portfolio choice and performance measurement; cost benefit analysis. (Prerequisite: Acct 1-025)

**Fin 3-500. REAL ESTATE** (old BFin 146). 9 lessons — \$45 — 3 degree credits — text price, \$10-12 — Ulseth

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. Recommended to businessmen to whom it is open without prerequisite on a noncredit basis)

## FINNISH

(See Scandinavian Languages)

## FORESTRY

Harold Scholten, Assistant Professor of Forestry

**For 1-201. CONSERVATION OF NATURAL RESOURCES** (old For 31). 16 lessons — \$45 — 3 degree credits — text price, \$8-10 — Scholten

Current status, utilization, and sound management of natural resources with emphasis on those which are renewable. Conservation principles and their application to soil, water, forests, grasslands, wildlife, and minerals. (No prerequisite; not open to students who have taken a similar course)

## FRENCH

John E. Fadell, Instructor in French

**Fren 0-001. FRENCH FOR GRADUATE STUDENTS** (old Fren 17A). 16 lessons — \$45 — no credit — text price, \$4-6 — Fadell

Fundamentals of grammar, reading of appropriate prose. Prepares for graduate reading examination in French. (No prerequisite)

**Fren 1-001. BEGINNING FRENCH I** (old Fren 1). 27 lessons — \$75 — 5 degree credits — text price, \$10-12 — Fadell

Essentials of the French language: grammar, reading pronunciation, easy composition. (No prerequisite)

**Fren 1-002. BEGINNING FRENCH II** (old Fren 2). 27 lessons — \$75 — 5 degree credits — text price, \$10-12 — Fadell

Continuation of Fren 1-001. (Prerequisite: 1-001, or 1 year of high school French)

**Fren 1-003. INTERMEDIATE FRENCH I** (old Fren 3). 27 lessons — \$75 — 5 degree credits — text price, \$7-10 — Fadell

Review of grammar, composition, reading of representative authors. (Prerequisite: 1-002 or 2 years of high school French)

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- Fren 1-004. INTERMEDIATE FRENCH II** (old Fren 25). 27 lessons — \$75 — 5 degree credits — text price, \$10-15 — Fadell  
Continuation of Fren 1-003. (Prerequisite: 1-003 or 3 years of high school French)

## GEOGRAPHY

John E. Adams, Instructor in Geography, Duluth  
Fredric Steinhauser, Professor of Geography

- Geog 3-101. GEOGRAPHY OF THE UNITED STATES AND CANADA** (old Geog 66). 24 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 upon the ways of making a living and the location of production. Problems are considered on both the national and regional basis. (No prerequisite)
- Geog 3-111. GEOGRAPHY OF MINNESOTA** (old Geog 67). 21 lessons — \$60 — 4 degree credits — text price, \$3-5 — 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. (No prerequisite)
- Geog 3-121. GEOGRAPHY OF LATIN AMERICA** (old Geog 65). 24 lessons — \$60 — 4 degree credits — text price, \$8-10 — Adams  
The South American continent as a unit, followed by the study of major regions within individual countries. Both natural and cultural elements will be studied in their regional associations. (No prerequisite)

## GEOLOGY

Robert E. Sloan, Associate Professor of Geology and Geophysics

- Geo 1-005. PHYSICAL GEOLOGY** (old Geo 1c). 27 lessons — \$75 — 5 degree credits — text price, \$10-12 — Sloan  
A first course in geology for science majors and an introduction to the scientific method and the nature of the earth for others. Survey of the main features of the physical world and of the processes that have evoked them. (No prerequisite: high school chemistry or physics recommended)
- Geo 1-006. HISTORICAL GEOLOGY** (old Geo 2c). 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, with emphasis on the geological history of the North American continent. (Prerequisite: 1-001 or 1-005 or 1-111)

## GERMAN

Edwin F. Menze, Professor and Chairman, Department of German  
Herman Ramras, Professor of German

- Ger 0-221. GERMAN FOR GRADUATE STUDENTS** (old Ger 17A). 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 Reading Examination — is merely the first step toward that objective.) Course assumes no knowledge of 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. (No prerequisite)
- Ger 0-222. GERMAN FOR GRADUATE STUDENTS** (old Ger 17B). 21 lessons — \$60 — no credit — text price, \$6-8 — Menze  
Designed to give graduate student the experience in intensive reading of German literary texts necessary to enable him to satisfy the German language requirement for an advanced degree by achieving a grade of "B" or better in the final



examination which is part of the course. (Prerequisite: 0-221 or 1-112 or 2 years of high school German)

- Ger 1-111. BEGINNING GERMAN I** (old Ger 1). 27 lessons — \$75 — 5 degree credits — text price, \$6-8 — Ramras  
Grammar and easy composition. Aims to give the student a knowledge of the elements of German grammar, the facility to read easy German, and to write simple German sentences. (No prerequisite)
- Ger 1-112. BEGINNING GERMAN II** (old Ger 2). 27 lessons — \$75 — 5 degree credits — text price, \$6-8 — Ramras  
Continuation of 1-111. (Prerequisite: 1-111 or 1 year of high school German)
- Ger 1-113. BEGINNING GERMAN III** (old Ger 3). 27 lessons — \$75 — 5 degree credits — text price, \$7-10 — Menze  
Grammar and composition continued; selected readings in easy prose. (Prerequisite: 1-112 or 2 years of high school German)
- Ger 1-301/1-302. INTERMEDIATE GERMAN** (old Ger 4-5). 27 lessons — \$75 — 5 degree credits — text price, \$6-8 — Menze  
The combination of Ger 1-301/1-302 corresponds to the regular departmental course offerings at the intermediate German level in the College of Liberal Arts. 1-301: Intermediate German, Selected Readings from Literature (3 credits). 1-302: Intermediate German, Elementary Composition (2 credits). A student must register for both courses in the Department of Independent Study. (Prerequisite: 1-113 or 3 years of high school German)
- Ger 3-001. ELEMENTARY COMPOSITION I** (old Ger 57). 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: 1-301/1-302)
- Ger 3-002. ELEMENTARY COMPOSITION II** (old Ger 58). 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: 3-001)
- Ger 3-003. ELEMENTARY COMPOSITION III** (old Ger 59). 11 lessons — \$30 — 2 degree credits — text price, \$2-4 — Menze  
Intensive practice in the use of conversational and written German, and in the writing of original compositions. (Prerequisite: 3-002)
- Ger 3-311. DRAMA: THE CLASSICAL PERIOD** (old Ger 73). 16 lessons — \$45 — 3 degree credits — text price, \$15-20 — Menze  
Selected plays of Lessing, Schiller, and Goethe, with assigned readings and one report. (Prerequisite: 1-301/1-302 or consent of instructor)
- Ger 3-312. DRAMA: THE 19th CENTURY** (old Ger 74). 16 lessons — \$45 — 3 degree credits — text price, \$8-10 — Menze  
Selected plays of Kleist, Grillparzer, and Hebbel, with assigned readings and one report. (Prerequisite: 3-311 or consent of instructor)
- Ger 3-313. DRAMA: THE MODERN PERIOD** (old Ger 75). 16 lessons — \$45 — 3 degree credits — text price, \$6-8 — Menze  
Selected plays representing the more recent movements in German literature — naturalism, impressionism, expressionism — with assigned readings and one report. (Prerequisite: 3-312 or consent of instructor)
- Ger 3-321. GERMAN PROSE OF THE 19th CENTURY** (old Ger 76). 16 lessons — \$45 — 3 degree credits — text price, \$4-6 — Menze  
Selected novellen by Grillparzer, Stifter, Keller, and Storm, with assigned readings. (Prerequisite: 1-301/1-302 or consent of instructor)
- Ger 3-322. GERMAN PROSE OF THE 19th AND 20th CENTURIES** (old Ger 77). 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, with assigned readings. (Prerequisite: 3-321 or equivalent)

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- Ger 3-323. GERMAN PROSE OF THE 20th CENTURY** (old Ger 78). 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 midcentury prose writers, with assigned readings. (Prerequisite: 3-322 or equivalent)

## GREEK

Augustin J. Lactaen, Teaching Assistant in Classics

- Grk 1-001. BEGINNING CLASSICAL GREEK I** (old Grk 1). 27 lessons — \$75 — 5 degree credits — text price \$5-7 — Lactaen  
Introduction to the classical Greek language: alphabet, vocabulary texts, and idioms. Selected short readings of moderate difficulty in ancient Greek authors. Written translation exercises, Greek to English and English to Greek. (No prerequisite)
- Grk 1-002. BEGINNING CLASSICAL GREEK II** (old Grk 2). 27 lessons — \$75 — 5 degree credits — text price, \$5-7 — Lactaen  
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 1-001. 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 1-001 or equivalent or consent of instructor)

## HISTORY

Robert E. Bonner, Assistant Professor of History, Carleton College  
Forrest J. Harris, Director, HELP Center and Professor, General College and Center for Urban and Regional Affairs  
Tom B. Jones, Professor of History  
Maude L. Lindquist, Professor of History, Duluth  
Jeanne T. Lupton, Associate Professor of History  
Theofanis G. Stavrou, Associate Professor of History  
D. F. Warner, Vice-President for Academic Affairs, Winona State College, Winona, Minnesota

- Hist 1-001. INTRODUCTION TO MODERN EUROPEAN HISTORY I** (old Hist 1). 16 lessons — \$45 — 3 degree credits — text price, \$15-20 — Harris  
Survey of European history from 1500 to 1763. Emphasis is upon rise of the nation state. (No prerequisite)
- Hist 1-002. INTRODUCTION TO MODERN EUROPEAN HISTORY II** (old Hist 2). 16 lessons — \$45 — 3 degree credits — text price, \$15-20 — Harris  
Survey of European history from 1763 to 1870. Emphasis is placed upon the struggle for control of the state. (No prerequisite)
- Hist 1-003. INTRODUCTION TO MODERN EUROPEAN HISTORY III** (old Hist 3). 16 lessons — \$45 — 3 degree credits — text price, \$15-20 — Harris  
Survey of European history from 1870 to the present. Emphasis is placed upon impact of industrialism in 19th-century civilization and the development of the problems that have upset world civilization in the 20th century. (No prerequisite)
- Hist 1-051. HISTORY OF ANCIENT CIVILIZATION I** (old Hist 14) 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 placed upon the origin of culture and its development in complexity from the primitive to the civilized stage. Special attention is given to the civilizations of Babylonia, Egypt, Indus Valley, Syria, Palestine, and Crete. (No prerequisite)
- Hist 1-052. HISTORY OF ANCIENT CIVILIZATION II** (old Hist 15). 16 lessons — \$45 — 3 degree credits — text price, \$8-10 — Jones  
History of the rise and flowering of Greek civilization from earliest times to death of Alexander the Great in 323 B.C. Special emphasis 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; 1-051 helpful)

**Hist 1-053. HISTORY OF ANCIENT CIVILIZATION III** (old Hist 16). 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; 1-051, 1-052 helpful)

**Hist 1-061. BASIC READINGS IN ANCIENT CIVILIZATION I** (old Hist 14A). 12 lessons — \$30 — 2 degree credits — text price, \$5-10 — Jones

Introduction to ancient history as a discipline: principles of historical analysis and criticism as well as methods and techniques used in reconstruction of the past. Among topics considered are archaeological excavation; uses of evidence provided by pottery, coins, and other artifacts; type problems posed by literary sources and ancient Near Eastern literature and the Greek epic and the meaning of the Old Testament as a literary and historical document. (Prerequisite: 1-051 or concurrent registration)

**Hist 1-062. BASIC READINGS IN ANCIENT CIVILIZATION II** (old Hist 15A). 12 lessons — \$30 — 2 degree credits — text price, \$10-15 — Jones

Introduction to the major authors of the classical Greek period. Selections from the poets, the dramatists, Herodotus, Thucydides, Xenophon, the orators, Plato, and Aristotle. (Prerequisite: 1-052 or concurrent registration)

**Hist 1-063. BASIC READINGS IN ANCIENT CIVILIZATION III** (old Hist 16A). 12 lessons — \$30 — 2 degree credits — text price, \$10-15 — Jones

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: 1-053 or concurrent registration)

**Hist 1-151. ENGLISH HISTORY I** (old Hist 4). 16 lessons — \$45 — 3 degree credits — text price, \$10-15 — Bonner

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 the common law. (No prerequisite)

**Hist 1-152. ENGLISH HISTORY II** (old Hist 5). 10 lessons — \$45 — 3 degree credits — text price, \$15-20 — Bonner

English society in its emergence from the medieval into the modern world (1485-1760), dealing with such topics as the Renaissance, the Reformation, the Elizabethan age, political revolution and Civil War, the establishment of Empire, and the scientific revolution. (No prerequisite)

**Hist 1-301. AMERICAN HISTORY I** (old Hist 23). 21 lessons — \$60 — 4 degree credits — text price, \$18-20 — Lupton

Survey of the political, economic, and social history of the United States with emphasis upon forces that resulted in the emergence of modern America. Deals with the colonial and early national period, through the sectional crisis. (No prerequisite)

**Hist 1-302. AMERICAN HISTORY II** (old Hist 24). 21 lessons — \$60 — 4 degree credits — text price, \$18-20 — Lupton

(Continuation of 1-301) Covers the growth of America from Civil War to modern times. (No prerequisite)

**Hist 3-397. HISTORY OF THE FAR WEST** (old Hist 92). 16 lessons — \$45 — 3 degree credits — text price, \$10-12 — Lindquist

The discoveries, exploration, and settlement of the Far West with special emphasis on the frontiers of the cattlemen, miner, farmer, and rancher, and the Indian problems; the course of western economy and its relationship to the national scene. (Prerequisite: a basic course in American history)

## Department of Independent Study

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- Hist 3-881. HISTORY OF AMERICAN FOREIGN POLICY I** (old Hist 93). 16 lessons — \$45 — 3 degree credits — text price, \$15-20 — D. Warner  
1776-1846. Traces the early history of our foreign policy. Three principal aspects are treated: the origins and basic principles of American foreign policy, the fight for survival and recognition after the Revolution, and the drive for continental expansion. (No prerequisite)
- Hist 3-883. HISTORY OF AMERICAN FOREIGN POLICY III** (old Hist 95). 16 lessons — \$45 — 3 degree credits — text price, \$15-20 — D. Warner  
Survey of the history of American foreign policy since 1909. Principal emphasis is placed upon the causes and consequences of our entry into two world wars and our shift from isolationism to world leadership in foreign affairs. (No prerequisite)
- Hist 3-893. SURVEY OF MINNESOTA HISTORY** (old Hist 7c). 21 lessons — \$60 — 4 degree credits — text price, \$10-15 — Lindquist  
Political, social, and economic development of Minnesota from the period of European explorations to the present. Access to W. W. Folwell's *History of Minnesota* and the *Minnesota History* magazine and other publications of the State Historical Society will be required. (No prerequisite; not open to those who have completed 3-891)
- Hist 5-051. HISTORY OF THE ANCIENT NEAR EAST I** (old Hist 103A). 16 lessons — \$45 — 3 degree credits — text price, \$15-20 — Jones  
The first civilization in the Ancient Near East. Main topics: archaeology; the beginnings of agriculture and the advent of civilization; the Old Kingdom in Egypt and Sumerian period in Mesopotamia; the Egyptian Middle Kingdom; the Age of Hammurabi; characteristics of ancient Near Eastern civilization. (Prerequisite: 9 credits in history or junior standing)
- Hist 5-052. HISTORY OF THE ANCIENT NEAR EAST II** (old Hist 104A). 16 lessons — \$45 — 3 degree credits — text price, \$4-6 — Jones  
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: 9 credits in history or junior standing)
- Hist 5-053. HISTORY OF THE ANCIENT NEAR EAST III** (old Hist 105A). 16 lessons — \$45 — 3 degree credits — text price, \$10-15 — Jones  
Survey of developments in the period 1000-500 B.C. Main topics: Phoenicians, Hebrews, Assyrian Empire, Assyrian civilization, Age of Nebuchadnezzar, Saite period in Egypt, the Lydian kingdom, contacts between Greece and the Near East, the Persian Empire. (Prerequisite: 9 credits in history or junior standing)
- Hist 5-266. MODERN RUSSIA III** (old Hist 120F). 9 lessons — \$45 — 3 degree credits — text price, \$25-30 — Stavrou  
Russia in the 20th century. Treats the fall of the Russian monarchy, the 1917 revolutions, and the Soviet regime. (No prerequisite)
- Hist 5-274. THE MODERN NEAR EAST: THE OTTOMAN EMPIRE AND THE SUCCESSOR STATES** (old Hist 118G). 16 lessons — \$45 — 3 degree credits — text price, \$20-25 — Stavrou  
Covers period from the Treaty of Jassy (1792) to the Congress of Berlin (1878). (No prerequisite)
- Hist 5-403. SURVEY OF LATIN-AMERICAN HISTORY** (old 147A). 16 lessons — \$45 — 3 degree credits — text price, \$10-12 — Lupton  
Survey of the political, social, and economic development of the major nations of Latin America with particular attention to political problems and developments, and social problems such as health, education, food. Pertinent geographic factors which have influenced Latin-American experiences. Particular attention is devoted to industrial expansion and the impact of industry on society. (No prerequisite)

## HORTICULTURAL SCIENCE

Robert A. Phillips, Assistant Professor of Horticulture

- Hort 3-051. GARDEN FLOWERS AND HOME GARDENING** (old Hort 51). 16 lessons — \$45 — 3 degree credits — text price, \$1 — Phillips

## College Courses/INDUSTRIAL ENGINEERING

Principles and practices of gardening prepared for beginners but also valuable for the advanced or experienced gardener. Planting, transplanting, seeds, soils, fertilizers, preparing beds and planting areas, selecting a good garden site, controlling insects and diseases, weeding, watering, cultivating, pruning, tools, and equipment. Lists of recommended varieties of annuals, perennials, bulbs, and roses for nothern gardens will be supplied. (No prerequisite)

**Hort 3-060. HOME LANDSCAPE PLANNING** (old Hort 60). 16 lessons — \$45 — 3 degree credits — text price, \$5-10 — Phillips

Planning home grounds for greater use and enjoyment, with an introduction to the principles of landscape design. Uses an artistic approach to the problems and prospects of home landscaping. Students will plan a home plot with the guidance of the instructor. For nurserymen, teachers, homeowners, and others interested in home landscaping. (No prerequisite)

## HUMANITIES

Eugene L. Atkin, Instructor in Humanities

Clara Kanun, Associate Professor of Humanities and Director, Research Office, General Extension and Summer Session

**Hum 1-101. HUMANITIES IN THE MODERN WORLD I** (old Hum 1). 16 lessons — \$45 — 3 degree credits — text price, \$10-15 — Atkin

Study of aspirations and problems prevalent during The Enlightenment (18th 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 neoclassical 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. (No prerequisite)

**Hum 1-103. HUMANITIES IN THE MODERN WORLD III** (old Hum 3). 16 lessons — \$45 — 3 degree credits — text price, \$15-20 — Kanun

Impact of science — especially in 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. (No prerequisite)

**Hum 1-104. HUMANITIES IN THE MODERN WORLD IV** (old Hum 4). 16 lessons — \$45 — 3 degree credits — text price, \$10-15 — Kanun

Civilization between two wars; impact of psychoanalysis; a critique of communism; a prediction of the future. Period: from World War I to present. Authors: Huxley, Bellamy, Freud, O'Neill, Lenin, Malraux, Koestler. (No prerequisite)

## INDUSTRIAL ENGINEERING

Robert B. Gunderson, Instructor in Industrial Engineering (DIS)

**IE 0-210C. MOTION AND TIME STUDY ENGINEERING** (old IE 18c). 27 lessons — \$75 — 5 certificate credits — text price, \$12-14 — 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. (No prerequisite)

**IE 1-221. INDUSTRIAL PLANT LAYOUT** (old IE 17c). 21 lessons — \$75 — 5 degree credits — text price, \$10-12 — 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 in Math 1-250] and Phys 1-210)

## Department of Independent Study

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### INDUSTRIAL RELATIONS

David E. Dimick, Instructor in Industrial Relations  
Cyrus F. Smythe, Associate Professor of Industrial Relations

**IR 0-001C. SUPERVISION I** (old IR 30c). 16 lessons — \$45 — 3 certificate credits — text price, \$15-20 — Dimick

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 selection, induction and training of new employees, employee appraisal, giving orders, handling grievances, discipline, and employee morale. (No prerequisite)

**IR 3-002. SYSTEMS OF INDUSTRIAL RELATIONS: LABOR MARKETING** (old IR 52). 16 lessons — \$45 — 3 degree credits — text price, \$8-10 — Smythe

Introductory analysis of employment relationships, emphasizing economic analysis. Fundamentals of application and conservation of human resources in employment with consideration of related social and economic problems. Labor marketing, collective bargaining, unions and employer associations, industrial unrest and conflict, employment and unemployment, wage problems. (Prerequisite: Econ 1-002 or equivalent)

**IR 3-012. SYSTEMS OF INDUSTRIAL RELATIONS: MANPOWER MANAGEMENT** (old IR 72). 16 lessons — \$45 — 3 degree credits — text price, \$18-20 — Dimick

Introductory analysis of personnel management and labor relations in the development and utilization of effective work-teams within firms and agencies. Overview of policy and practice in major manpower management functions of staffing, training, communications, motivation, compensation, and morale maintenance. (Prerequisite: Econ 1-002 or equivalent)

### INSURANCE

C. Arthur Williams, Jr., Professor of Economics and Insurance

**Ins 3-100. RISK MANAGEMENT AND INSURANCE** (old Ins 53). 16 lessons — \$45 — 3 degree credits — text price, \$10-12 — Williams

The nature and economic significance of risk. The recognition, measurement, and treatment of risk with particular emphasis upon 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 relationship to other business management functions. Public policy and risk management with special emphasis on automobile insurance problems, availability of property insurance in urban core areas, social insurance, and government regulation of insurance. (Prerequisite: Econ 1-002 or equivalent)

**Ins 3-200. LIFE AND HEALTH INSURANCE** (old Ins 73). 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: 3-100 or consent of instructor)

**Ins 3-220. PROPERTY AND LIABILITY INSURANCE I** (old Ins 93). 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: 3-100 or consent of instructor)

### JAPANESE

(See East Asian Languages)

### JOURNALISM

John C. Sim, Professor of Journalism

Willard L. Thompson, Professor of Journalism and Dean, General Extension Division and Summer Session

- Jour 1-001. INTRODUCTION TO MASS COMMUNICATIONS** (old Jour 1). 16 lessons — \$45 — 3 degree credits — text price, \$10-12 — Sim  
Nature, functions, and responsibilities of communication agencies, with emphasis upon 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. NEWSPAPER REPORTING I** (old Jour 14). 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, dangers of libel. Numerous writing assignments. (Prerequisite: 1-001)
- Jour 3-486. RADIO AND TELEVISION SCRIPT WRITING** (old Jour 86). 16 lessons — \$45 — 3 degree credits — text price, \$8-10 — Staff  
Introduces student to the lines of experience in both major fields of broadcasting. Starts with simplest kind of scriptwriting 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 PRINCIPLES** (old Jour 149). 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 analyses. (Prerequisite: 3-178 or 5-501 or consent of instructor)

## LATIN

Scott S. Bowers, Teaching Associate in Classics

- Lat 1-001. BEGINNING LATIN I** (old Lat 1). 27 lessons — \$75 — 5 degree credits — text price, \$5-10 — Arranged  
Basic grammar and vocabulary, practice in reading and writing Latin, workbook exercises, easy Latin readings, and Roman legends. (No prerequisite)
- Lat 1-002. BEGINNING LATIN II** (old Lat 2). 27 lessons — \$75 — 5 degree credits — text price, \$5-10 — Arranged  
(Continuation of Lat 1-001) Similar in content and method, leading to connected reading in *Fabulae Faciles* (Easy Stories). (Prerequisite: 1-001 or equivalent)
- Lat 1-003. INTERMEDIATE LATIN READINGS** (old Lat 3). 27 lessons — \$75 — 5 degree credits — text price, \$5-7 — Bowers  
Review of Lat 1-001, 1-002, 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: 1-002 or equivalent)
- Lat 1-004. SELECTIONS FROM LATIN PROSE AND POETRY** (old Lat 4). 16 lessons — \$45 — 3 degree credits — text price, \$5-7 — Bowers  
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 upon the literature of our time. Other poets and prose writers also included. (Prerequisite: 1-003 or equivalent)
- Lat 3-469. VIRGIL'S AENEID** (old Lat 5). 27 lessons — \$75 — 5 degree credits — text price, \$7-9 — Bowers  
Readings of selections from Books I-II; background reading in Roman life and thought. (Prerequisite: 1-003 or equivalent)
- Lat 3-471. CICERO** (old Lat 6). 16 lessons — \$45 — 3 degree credits — text price, \$2-4 — Bowers  
Readings from the most famous humanistic essays. (Prerequisite: 1-003 or equivalent)

## Department of Independent Study

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### LIBRARY SCIENCE

Joyce Davenport, Instructor in Library Science (DIS)

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. Questions about the transfer of credits should be referred to the state's Department of Education or similar agency.

Because of the difficulties in shipping the texts which must be loaned with these courses, no registrations can be accepted from students in foreign countries.

**Lib 1-401. DESCRIPTIVE CATALOGING** (old Lib 52). 16 lessons — \$45 — 3 degree credits — text price, \$15-20 — 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. (No prerequisite)

**Lib 1-402. ELEMENTARY CLASSIFICATION AND SUBJECT HEADING** (old Lib 54). 16 lessons — \$45 — 3 degree credits — text price, \$45-50 — Davenport

Based on the unabridged edition of the Dewey Decimal Classification and Sears List of Subject Headings for Small Libraries. Aims to give an understanding of methods of classification and the principles of assigning subject headings to books in a library. Attention is given to modifications and adaptations useful in school or small public libraries. Includes use of Cutter-Sanborn author numbers and preparation of a shelf list. (No prerequisite; 1-401 recommended)

### MATHEMATICS

David Ekstrand, Instructor in Mathematics (DIS)

David L. Giese, Associate Professor and Coordinator of Research, General College

Patrick Kroll, Instructor in Mathematics

Margaret O. Marchand, Professor of Mathematics, Wisconsin State University at Superior

William D. Serbyn, Instructor in Mathematics

It is essential that the student have a working knowledge of the prerequisites to each course as well as credit for them. If there has been a time lapse since the previous course in mathematics, the student should review thoroughly or repeat the prerequisite. It is impossible to make progress in mathematics without a sound knowledge of previous concepts and applications.

**Math 0-002. BASIC MATHEMATICS REVIEW I** (old Math 1c). 16 lessons — \$45 — no credit — text price, \$4-6 — Giese

A thorough review of grade school arithmetic, square and cube root. A good foundation in elementary algebra, the fundamental operations involving positive and negative numbers, fractions, the solution of simple equations and fractional equations, exponents, symbols of grouping, special products and factoring, and simplification of fractional expressions. (No prerequisite)

**Math 0-003. BASIC MATHEMATICS REVIEW II** (old Math 3c). 16 lessons — \$45 — no credit — text price, \$4-6 — Giese

Covers the material of the second semester of high school algebra and the numerical part (mensuration) of plane and solid geometry, plus numerical trigonometry and logarithms. *In algebra*: simultaneous linear equations; exponents and radicals; solution of quadratic equations, irrational equations; ratio, proportion, variation; graphical representation of statistical data and of equations; and the use of formulas. *In geometry*: formulas from plane and solid geometry and how to apply them. *In trigonometry*: logarithms and how to use them; the trigonometric functions; and solution of right and oblique triangles. (Prerequisite: equivalent of 0-002)



- Math 0-008. SOLID GEOMETRY (High School)** (old Math 8). 20 lessons — \$32.50 —  $\frac{1}{2}$  entrance unit — text price, \$5-7 — Giese  
Lines, planes, dihedral and polyhedral angles, polyhedrons, surfaces, prisms, cylinders, cones, prisms, and spheres. Three-dimensional visualization and sketching. Numerical exercises in areas, volumes, weights. (Prerequisite: Plane Geometry A-B or 1 year high school plane geometry)
- Math 0-011. INTERMEDIATE ALGEBRA** (old Math 11). 27 lessons — \$75 — 1 entrance unit — text price, \$5-7 — Giese  
Fundamental operations, factoring, fractions, functions and graphs, linear equations, exponents and radicals, quadratic equations, ratio and variation, progressions, binomial theorem, logarithms. (Prerequisite: 1 year elementary algebra in high school, or equivalent)
- Math 0-012. COLLEGE ALGEBRA AND TRIGONOMETRY** (old Math 12). 27 lessons — \$75 — 1 entrance unit — text price, \$10-15 — 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: 0-011 or equivalent)
- Note — Math 0-008, 0-011 and 0-012 fulfill the present entrance requirements in mathematics for the Institute of Technology (engineering courses).
- Math 1-008. TRIGONOMETRY** (old Math T). 16 lessons — \$45 — 3 degree credits — text price, \$8-10 — Giese  
Analytic trigonometry emphasizing identities, equations, and properties of the functions; right and oblique triangles without logarithmic computation. (Prerequisite: plane geometry and 0-011 or high school higher algebra)
- Math 1-119. MATHEMATICS OF INVESTMENT** (old Math 20). 27 lessons — \$75 — 5 degree credits — text price, \$8-10 — 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: 1-110 or 1-441)
- Math 1-441. COLLEGE ALGEBRA** (old Math 15). 27 lessons — \$75 — 5 degree credits — text price, \$8-10 — Ekstrand  
(May be substituted for Math 1-110) 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: 0-011 or high school higher algebra and 1-008 or high school trigonometry)
- Math 1-210. CALCULUS I: CALCULUS AND ANALYTIC GEOMETRY** (old Math 21). 27 lessons — \$75 — 5 degree credits — text price, \$10-12 — Giese  
Review of algebra, inequalities, relations and functions, graphs, line, linear inequalities, preview of calculus, limits, continuity, differentiation of algebraic functions, applications, differential. (Prerequisite: 0-012 or 4 years of high school mathematics divided approximately into 2 years of algebra and 2 years of geometry, including solid geometry and trigonometry)
- Math 1-220. CALCULUS II: CALCULUS AND ANALYTIC GEOMETRY** (old Math 22). 27 lessons — \$75 — 5 degree credits — text price, \$10-12 — Giese  
Trigonometric review. Definite integral; lines and circles, conics; calculus of trigonometric, exponential, logarithmic, and hyperbolic functions. (Prerequisite: 1-210)
- Math 1-230. CALCULUS III: CALCULUS AND ANALYTIC GEOMETRY** (old Math 23). 27 lessons — \$75 — 5 degree credits — text price, \$10-12 — Giese  
Review of theory of equations, complex numbers; parametric equations, arc length, polar coordinates; formulas and methods of integration; applications. (Prerequisite: 1-220)
- Math 1-240. CALCULUS IV: CALCULUS AND ANALYTIC GEOMETRY** (old Math 31). 27 lessons — \$75 — 5 degree credits — text price, \$12-14 — 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

## Department of Independent Study

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spherical coordinates. Applications to moments and centroids. Partial differentiation including the chain rule, implicit functions, directional derivatives, maxima and minima. (Prerequisite: 1-230)

**Math 1-250. CALCULUS V: CALCULUS, LINEAR ALGEBRA, DIFFERENTIAL EQUATIONS** (old

Math 32). 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: 1-240)

**Math 1-260. CALCULUS VI: VECTOR CALCULUS AND DIFFERENTIAL EQUATIONS** (old

Math 33). 27 lessons — \$75 — 5 degree credits — text price, \$12-14 — Serbyn  
Functions defined by integrals, differentiation under the integral sign, improper integrals, the Gamma function. Vector field theory, divergence and curl, surface integrals, Green's and Stokes's and divergence theorems. Linear systems of differential equations with constant coefficients, matrix methods. Series solutions of differential equations. (Prerequisite: 1-250)

**Math 5-506. DIFFERENTIAL EQUATIONS** (old Math 106). 16 lessons — \$45 — 3 degree

credits — text price, \$6-8 — Marchand  
Equations of first order, singular solutions; linear equations with constant coefficients, simultaneous equations, integration in series. (Prerequisite: 1-260 or old 44)

## MECHANICAL ENGINEERING

Robert E. Summers, Dean of Special Assignments and Engraving and Professor of Mechanical Engineering

**ME 0-442C. STEAM POWER PLANTS I** (old ME 1c). 16 lessons — \$45 — 3 certificate credits — text price, \$14-16 — Summers

For boiler users or operators. Elementary theory applicable to steam generation, principles of equipment selection, and solution of related problems of power boilers. Fuels, combustion and combustion equipment, furnaces and firing, steam generators, pumps, pipes and fittings, insulation. Boiler room practices; operation and safety. Properties of steam; boiler-water conditioning. (Prerequisite: proficiency in arithmetic)

## MECHANICS AND MATERIALS

William D. Serbyn, Instructor in Mathematics

**MM 3-015. STATICS** (old MM 35). 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 1-240, or concurrent registration in Math 1-240; and Phys 1-210 or consent of instructor; MM 3-015 may be substituted for MM 3-092)

**MM 3-036. DYNAMICS** (old MM 36). 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 1-250, or concurrent registration in Math 1-250; Phys 1-210)

## MUSIC

Paul Fetler, Professor of Music

Paul M. Oberg, Professor of Music

**Mus 1-041. HARMONY I** (old Mus 4). 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. (No prerequisite)

**Mus 1-042. HARMONY II** (old Mus 5). 16 lessons — \$45 — 3 degree credits — text price, \$10-12 — Oberg

Continuation of 1-041, with the addition of nonharmonic tones and diatonic seventh chords. (Prerequisite: 1-041)

**Mus 1-043. HARMONY III** (old Mus 6). 16 lessons — \$45 — 3 degree credits — text price, \$10-12 — Oberg

Continuation of 1-042, with the addition of chromatically altered nonharmonic tones, chromatically altered chords, and modes. (Prerequisite: 1-042)

**Mus 3-041. COUNTERPOINT** (old Mus 9c). 16 lessons — \$45 — 3 degree credits — text price, \$10-15 — Fetter

Counterpoint is the creative study of writing one 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; writing of canon also studied. (Prerequisite: general knowledge of music theory)

## NORWEGIAN

(See Scandinavian Languages)

## PHILOSOPHY

Carl A. Ahlen, Professor Emeritus of Philosophy, Northwest Lutheran Theological Seminary  
Charles Kielkopf, Associate Professor, Ohio State University  
Candido P. Zanoni, Assistant Professor, General College

**Phil 1-001A. PROBLEMS OF PHILOSOPHY** (old Phil 1A). 16 lessons — \$45 — 3 degree credits — text price, \$8-10 — Ahlen

Are there any principles or set of principles in terms of which we can understand man, experience, and the world? Does life have a meaning? What, if anything, can we know? What are good and evil? Is the nature of reality discoverable? Is political organization a purely natural development, or is it an artificial human invention? Is there any "ideal" form of social organization? How, if at all, are religion, science, art, and politics interrelated? Attempts to answer these questions are considered. Proposed solutions by the world's great minds, ancient and modern, are examined. The student is encouraged to do critically reflective thinking of his own concerning these basic issues. (No prerequisite)

**Phil 1-002A. LOGIC** (old Phil 2A). 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.

Note — Interested 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 1-003A. ETHICS** (old Phil 3A). 16 lessons — \$45 — 3 degree credits — text price, \$15-20 — Ahlen

Principles and problems of right and wrong in human relationships. Includes such topics as: history of moral development, ethical theories of classical philosophy, problems of free will, nature of man, ethical problems involved in international relations and in other social problems, relationship of religion to ethics. (No prerequisite)

**Phil 1-011. SCIENCE AND RELIGION** (old Phil 10). 12 lessons — \$30 — 2 degree credits — text price, \$4-6 — Zanoni

## Department of Independent Study

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A historical and philosophical inquiry into the conflict between modern science and religion, attempting to find grounds of conflict and/or reconciliation. (No prerequisite)

**Phil 3-001. GREEK PHILOSOPHY** (old Phil 50). 21 lessons — \$60 — 4 degree credits — text price, \$5-10 — Kielkopf

Greek philosophy; an introduction to early Western thought; emphasizes Socrates, Plato, and Aristotle. (No prerequisite)

**Phil 3-003. EARLY MODERN PHILOSOPHY** (old Phil 52). 21 lessons — \$60 — 4 degree credits — text price, \$5-10 — Kielkopf

Philosophical thought from Descartes through Hume. The impact of science; backgrounds of contemporary philosophical problems. (No prerequisite)

**Phil 3-004. LATER MODERN PHILOSOPHY** (old Phil 53). 21 lessons — \$60 — 4 degree credits — text price, \$10-15 — Kielkopf

Philosophical thought from Kant through Nietzsche. Contains lessons on Hegel, Marx, Mill, Comte, Schopenhauer, and Kierkegaard. (No prerequisite)

## PHYSICS

F. E. Christensen, Associate Professor of Physics, St. Olaf College, Northfield, Minnesota

**Phys 1-010. INTRODUCTION TO PHYSICAL SCIENCE I** (old Phys 1). 12 lessons — \$45 — 3 degree credits — text price, \$15-20 — Christensen

A study of the basic physical laws and principles relative to the 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. INTRODUCTION TO PHYSICAL SCIENCE II** (old Phys 2). 16 lessons — \$45 — 3 degree credits — text price, \$8-10 — Christensen

Topics: heat, wave motion, sound, electricity, and magnetism. (Prerequisite: 1-010)

**Phys 1-030. INTRODUCTION TO PHYSICAL SCIENCE III** (old Phys 3). 16 lessons — \$45 — 3 degree credits — text price, \$8-10 — Christensen

Topics: light, Bohr atom, methods of quantum mechanics, solids, radioactivity, the nucleus, and modern physics. (Prerequisite: 1-020)

## POLICE ADMINISTRATION

Wayne Bennett, Instructor in Police Administration (DIS)

**PoAd 0-015C. METHODS IN POLICE SUPERVISION** (old PoAd 15c). 16 lessons — \$45 — 3 certificate credits — text price, \$10-12 — Bennett

Basic 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 department and those who desire to become supervisors. (No prerequisite)

**PoAd 0-016C. METHODS IN CRIMINAL PROCEDURE** (old PoAd 16c). 16 lessons — \$45 — 3 certificate credits — text price, \$1-3 — 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, search, and evidence procedures are discussed. Especially useful for those engaged in law enforcement at state, county, and local levels. (No prerequisite)

**PoAd 0-017C. METHODS OF POLICE PLANNING, MANAGEMENT, AND ORGANIZATION** (old PoAd 17c). 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. (No prerequisite)

- PoAd 0-018C. METHODS OF CRIMINAL INVESTIGATION** (old PoAd 18c). 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 the various crimes. Report writing, search procedures, interrogation procedures, court processes, identification techniques, scientific aids to investigation, and investigative operational procedures are emphasized. (No prerequisite)

## POLISH

(See Slavic Languages)

## POLITICAL SCIENCE

Dorothy Dodge, Lecturer in Political Science, General Extension Division

Geoffrey Lambert, Instructor in Political Science (DIS)

William Rogers, Professor of Political Science, and Director of the World Affairs Center, General Extension Division

Thomas M. Scott, Associate Professor of Political Science

- Pol 1-001. AMERICAN GOVERNMENT AND POLITICS I** (old Pol 1). 16 lessons — \$45 — 3 degree credits — text price, \$15-17 — Scott  
Designed to provide an intelligent understanding of certain fundamental features of our national, state, and local governments: the nature of the constitution, the protection of individual rights and liberties, political parties, public opinion, nominations, and elections. (No prerequisite)
- Pol 1-002. AMERICAN GOVERNMENT AND POLITICS II** (old Pol 2). 16 lessons — \$45 — 3 degree credits — text price, \$15-17 — Scott  
The formal legal structure and operation of the legislative, executive, judicial, and administrative departments of government, and the informal and extra-legal practices that determine its vital character. Problems related to all branches of the government. (No prerequisite)
- Pol 1-004. THE UNITED NATIONS** (old Pol 4c). 16 lessons — \$45 — 3 degree credits — text price, \$6-8 — Dodge  
For students, community leaders, teachers, and others interested in learning more about the functions and activities of the United Nations. Comprehensive survey of the economic, political, and social programs of the UN — their successes and failures. Useful for discussion or study groups. (No prerequisite)
- Pol 1-025. WORLD POLITICS** (old Pol 25). 16 lessons — \$45 — 3 degree credits — text price, \$10-12 — Rogers  
Introduction to world affairs. Development of the state system. Facts of power in international relations. Causes of war, and forces which make for peace. Introduction to the foreign policies of the United States, the Soviet Union, and China. (No prerequisite)
- Pol 1-026. AMERICAN FOREIGN POLICY** (old Pol 26). 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. (No prerequisite)
- Pol 3-094. THE FAR EAST IN INTERNATIONAL RELATIONS** (old Pol 94). 16 lessons — \$45 — 3 degree credits — text price, \$12-14 — Dodge  
World War II expansion of our conception of the "Far East," adding (to China, Japan, and Korea) Thailand and the new states which were regarded formerly as parts of colonial Southeast Asia. Includes the postwar position and foreign policies of Japan, the two Chinas, Korea, the Philippines, Vietnam, Malaya, Burma, Thailand, and Indonesia. (No prerequisite)
- Pol 5-443. GOVERNMENT AND POLITICS OF THE SOVIET UNION** (old Pol 143). 16 lessons — \$45 — 3 degree credits — text price, \$9-11 — Lambert  
Analysis of the government and politics of Soviet Russia that seeks to explain rise of Bolshevism; sources and nature of its ideology; history of the communist

## Department of Independent Study

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regime and its institutional character; organization of power; role of the party; foreign, economic, and cultural policies; significance for Western civilization. (No prerequisite)

**Pol 5-448. AFRICAN GOVERNMENT AND POLITICS** (old Pol 148). 16 lessons — \$45 — 3 degree credits — text price, \$5-10 — Dodge

Survey of the governments and politics of the newly emerging African states; patterns of political organization, one-party and multi-party states, internal and international problems. Emphasis on the Africa south of the Sahara. (No prerequisite)

**Pol 5-453. JAPANESE GOVERNMENT AND POLITICS** (old Pol 153). 16 lessons — \$45 — 3 degree credits — text price, \$5-7 — Dodge

Survey of political development in Japan, with emphasis upon the postwar period. Topics included are the emperor, cabinet and civil service, parliament, courts, political parties and elections, and local government. Deals with the transition from feudalism to constitutional government, the struggle between democratic elements and militarism, the reforms of the postwar occupation, and recent changes. (No prerequisite)

**Pol 5-454. CHINESE GOVERNMENT AND POLITICS** (old Pol 54). 16 lessons — \$45 — 3 degree credits — text price, \$3-5 — Dodge

Survey of political development in China from imperial times to the present day. Recent and contemporary systems of government. Political ideas, parties, personalities, and social, economic, and foreign policies. (No prerequisite)

## PRODUCTION

Elvin L. Peterson, Lecturer in Management

**Prod 0-050C. MANUFACTURING MANAGEMENT.** 16 lessons — \$45 — 3 certificate credits — text price, \$10-12 — 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. (No prerequisite)

## PSYCHOLOGY

Dorothy M. Bird, Professor of Psychology (DIS)

Harold Gilberstadt, Instructor in Psychology (DIS)

**Psy 1-001. GENERAL PSYCHOLOGY I** (old Psy 1). 9 lessons — \$45 — 3 degree credits — text price, \$10-15 — 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 advanced courses in psychology. (No prerequisite)

**Psy 1-002. GENERAL PSYCHOLOGY II** (old Psy 2). 9 lessons — \$45 — 3 degree credits — text price, \$10-15 — 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: 1-001)

**Psy 5-104. PSYCHOLOGY OF PERSONALITY** (old Psy 119A). 16 lessons — \$45 — 3 degree credits — text price, \$15-20 — Gilberstadt

Personality growth, dynamics, and variations viewed from an eclectic approach to developmental theories of intraindividual and interpersonal factors influencing character and personality from conception to maturity. (Prerequisite: 1-002)

**Psy 5-604. ABNORMAL PSYCHOLOGY I** (old Psy 144). 16 lessons — \$45 — 3 degree credits — text price, \$15-20 — Gilberstadt

A comparison of normal and abnormal behavior. The nature of personality maladjustments with emphasis on the dynamics and social determinants of behavioral disorders. Study of the functional psychoses. (Prerequisite: 9 credits in psychology, or 6 credits in psychology with consent of instructor)

## College Courses/RECREATION AND PARK ADMINISTRATION

- Psy 5-605. ABNORMAL PSYCHOLOGY II** (old Psy 145). 18 lessons — \$45 — 3 degree credits — text price, \$15-20 — Gilberstadt  
(Continuation of Psy 5-604) Emphasis on the psychoneuroses, organic psychoses, and associated personality disorders. Consideration of therapeutic methods. (Prerequisite: 5-604 or consent of instructor)

### PUBLIC ADMINISTRATION

George A. Warp, Professor of Public Administration

- PA 0-060C. ORGANIZATION AND MANAGEMENT** (old PA 60). 16 lessons — \$45 — 3 certificate credits — text price, \$8-10 — Warp  
Study of the traditional technical aspects of administration — organization, finance, and personal — with emphasis both on formal content and on the realities of the administrative process. Attention is given to administrative planning, leadership, decision making, organization and management, and automation. (No prerequisite)

### PUBLIC HEALTH

Murray Bates, University Health Clinic Physician

- PubH 1-001. PERSONAL HEALTH** (old PubH 3). 12 lessons — \$30 — 2 degree credits — text price, \$7-10 — Bates  
Elementary principles of normal body function, predisposing and actual causes of disease, ways in which disease may be avoided. (No prerequisite; not open to students who have taken old GC 10C (Human Biology) in General College or old PubH 2, 4, 5, 50 or 51)
- PubH 3-001. PERSONAL AND COMMUNITY HEALTH** (old PubH 50). 16 lessons — \$45 — 3 degree credits — text price, \$7-10 — Bates  
Causes of diseases and of physical defects, fundamental principles and working methods of health conservation and disease prevention. (No prerequisite; not open to students who have taken old GC 10C in General College or old PubH 2, 3, 4, 5 or 51)

### RECREATION AND PARK ADMINISTRATION

Fred M. Chapman, Professor of Recreation and Park Administration

Gordon K. Starr, Assistant Professor of Recreation and Park Administration and Director of Planning, University Student Unions

- Rec 1-520. INTRODUCTION TO RECREATION AND PARKS** (old Rec 20). 16 lessons — \$30 — 2 degree credits — text price, \$15-18 — Starr  
History and development of the park and recreation movement. Makes possible a better understanding of the world of leisure and recreation. A helpful orientation to careers in the field. (No prerequisite)
- Rec 1-650. SOCIAL ASPECTS OF LEISURE** (old Rec 49). 16 lessons — \$45 — 3 degree credits — text price, \$15-20 — 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 upon leisure and recreation as parts of daily living, and as products of our social progress. (No prerequisite)
- Rec 5-170. CAMP ADMINISTRATION** (old Rec 107). 16 lessons — \$45 — 3 degree credits — text price, \$5-7 — 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 the University of Minnesota Graduate School)
- Rec 5-210. INTRODUCTION TO THERAPEUTIC RECREATION** (old Rec 141). 9 lessons — \$45 — 3 degree credits — text price, \$10-15 — Chapman  
Introductory principles of therapeutic recreation. Types of hospitals and patients'

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activity programs. Philosophy and purposes of institutional recreation, program content. Featured are beginning methods in the leadership and supervision of recreation programs for the ill and disabled. (No prerequisite; cannot be used for credit in the University of Minnesota Graduate School)

**Rec 5-330. METHODS IN RECREATION AND PARK LEADERSHIP** (old Rec 113). 16 lessons — \$30 — 2 degree credits — text price, \$4-6 — 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. (Prerequisite: 1-520 or consent of instructor; cannot be used for credit in the University of Minnesota Graduate School)

## RHETORIC

Ralph E. Miller, Professor of Rhetoric

**Rhet 1-225. PARLIAMENTARY PROCEDURE** (old Rhet 25). 12 lessons — \$30 — 1 degree credit — text price, \$5-7 — Miller

Fundamental principles and practices of parliamentary procedure. Designed to fill need for leadership training of 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. (No prerequisite)

## ROMANCE LANGUAGES

(See French, Spanish)

## RUSSIAN

(See Slavic Languages)

## SCANDINAVIAN LANGUAGES

### Finnish

Seppo Lahti, Instructor in Finnish (DIS)

**Fin 1-101. BEGINNING FINNISH** (old Fin 17). 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. (No prerequisite)

### Norwegian

John H. Gundersen, Instructor in Scandinavian Languages

**Nor 1-101. BEGINNING NORWEGIAN I** (old Nor 1). 27 lessons — \$75 — 5 degree credits — text price, \$5-10 — Gundersen

Complete survey of Norwegian grammar, plus composition and the reading of easy prose. (No prerequisite)

**Nor 1-102. BEGINNING NORWEGIAN II** (old Nor 2). 27 lessons — \$75 — 5 degree credits — text price, \$3-5 — Gundersen

Study of folk tales and short stories; composition. (Prerequisite: 1-101 or equivalent)

### Swedish

Lillemor Saether, Instructor in Scandinavian Languages

**Swed 1-101. BEGINNING SWEDISH I** (old Swed 1). 27 lessons — \$75 — 5 degree credits — text price, \$4-6 — Saether

Grammar and composition; selected readings in easy prose and verse. (No prerequisite)



## SLAVIC LANGUAGES

### Polish

Kristina Trendota, Professor of Foreign Languages, College of St. Catherine

**Pish 1-101. BEGINNING POLISH I** (old Pish 1). 27 lessons — \$75 — 5 degree credits — text price, \$6-8 — Trendota

Introduction to the Polish language. Students will acquire a working knowledge of the structure of the language and facility in reading selected works of Polish prose. (No prerequisite)

**Pish 1-102. BEGINNING POLISH II** (old Pish 2). 27 lessons — \$75 — 5 degree credits — text price, \$4-6 — Trendota

(Continuation of Pish 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: 1-101 or equivalent and consent of instructor)

### Russian

Tatiana Prokopov, Instructor in Russian Languages and Literature

**Russ 1-101. BEGINNING RUSSIAN I** (old Russ 1). 27 lessons — \$75 — 5 degree credits — text price, \$8-10 — Prokopov

Prepares for reading and writing knowledge of the Russian language. Acquaints the student with Russian script, pronunciation, essentials of grammar, translations from Russian and into Russian. (No prerequisite)

**Russ 1-102. BEGINNING RUSSIAN II** (old Russ 2). 27 lessons — \$75 — 5 degree credits — text price, \$8-10 — Prokopov

Continuation of Russ 1-101.

**Russ 1-221. SCIENTIFIC RUSSIAN I** (old Russ 24c). 27 lessons — \$75 — 5 degree credits — text price, \$6-8 — Prokopov

Introduction to basic grammar and structure of the Russian language, using a vocabulary common to various sciences. Prepares for the development of ability to read Russian scientific texts. (No prerequisite)

**Russ 1-222. SCIENTIFIC RUSSIAN II** (old Russ 25c). 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: 1-221)

**Russ 1-223. SCIENTIFIC RUSSIAN III** (old Russ 26c). 12 lessons — \$30 — 2 degree credits — no required text — Prokopov

Continuation of Russ 1-222.

### Serbo-Croatian

Marilyn J. Sjoberg, Assistant Professor of Slavic Languages

**Serb 1-101. BEGINNING SERBO-CROATIAN** (old Serb 1). 26 lessons — \$75 — 5 credits — text price, \$5-7 — Sjoberg

Introductory course. Objectives are the mastery of the essentials of grammar, facility in reading easy texts in both the Cyrillic and the Latin alphabet, and the ability to write simple themes in Serbo-Croatian. (No prerequisite)

## SOCIAL WORK

Eleanor S. Otterness, Instructor in Social Work

**SW 3-001. AMERICAN SOCIAL WELFARE** (old Soc 90). 16 lessons — \$45 — 3 degree credits — text price, \$15-20 — Otterness

Survey of social service with consideration of areas of social needs, social agencies, their purpose and function, and methodology and philosophy of social work practice. (Prerequisite: 1-003 or consent of instructor)

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### SOCIOLOGY

John K. Donohue, Instructor in Sociology (DIS)  
Caroline Rose, Professor of Sociology

- Soc 1-001. MAN IN MODERN SOCIETY (INTRODUCTION TO SOCIOLOGY)** (old Soc 1). 15 lessons — \$45 — 3 degree credits — text price, \$10-12 — Rose  
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 student to the fundamental concepts of sociology and gives him a better understanding of the contemporary social order. (No prerequisite)
- Soc 3-101. ELEMENTS OF CRIMINOLOGY** (old Soc 53). 16 lessons — \$45 — 3 degree credits — text price, \$4-6 — Donohue  
General survey course. Analyzes the factors associated with the development of criminal behavior and reviews the methods of treating the adult offender. Gives attention to affiliated problems of crime control and prevention. (Prerequisite: 1-001 or consent of instructor)
- Soc 5-201. SOCIAL PSYCHOLOGY** (old Soc 120). 16 lessons — \$45 — 3 degree credits — text price, \$10-12 — Rose  
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; psychology courses are not adequate prerequisites)
- Soc 5-501. THE FAMILY** (old Soc 141). 16 lessons — \$45 — 3 degree credits — text price, \$10-12 — Rose  
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: 1-001 or consent of instructor)
- Soc 5-951. MINORITY GROUP RELATIONS** (old Soc 123). 16 lessons — \$45 — 3 degree credits — text price, \$10-12 — Rose  
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: 1-001 or consent of instructor)

### SPANISH

Marilyn Cuneo, Instructor in Spanish  
Santiago Cuneo, Associate Professor Emeritus of Romance Languages  
Robert F. Estelle, Assistant Professor of Spanish and Portuguese, Director of Language Laboratory

- Span 0-221. SPANISH FOR GRADUATE STUDENTS** (old Span 17A). 16 lessons — \$45 — no credit — text price, \$5-7 — Estelle  
Prepares student primarily for reading and especially for general and technical nonliterary prose. Prepares for graduate reading examinations in Spanish. (No prerequisite)
- Span 1-101. BEGINNING SPANISH I** (old Span 1). 22 lessons — \$75 — 5 degree credits — text price, \$15-20 — M. 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 on cultural approach and practical knowledge of Spanish. (No prerequisite)
- Span 1-102. BEGINNING SPANISH II** (old Span 2). 24 lessons — \$75 — 5 degree credits — text price, \$5-10 — M. Cuneo  
Continues the conversational and cultural training begun in Span 1-101. Reviews grammar principles in a more detailed manner. (Prerequisite: 1-101 or equivalent)

- Span 1-103. BEGINNING SPANISH III** (old Span 3). 24 lessons — \$75 — 5 degree credits — text price, \$5-10 — M. Cuneo  
Continues with review of grammar. More emphasis on composition. Reading of short plays. Study of the Spanish-speaking nations. (Prerequisite: 1-102 or equivalent)
- Span 1-104. INTERMEDIATE SPANISH** (old Span 25). 27 lessons — \$75 — 5 degree credits — text price, \$7-10 — M. Cuneo  
Study of Spanish grammar in Spanish. Student begins to think in Spanish. Wide cultural vocabulary: geography, history, customs, art, literature, music, etc. Questions and answers in Spanish. (Prerequisite: 1-103 or equivalent)
- Span 3-009. SPANISH COMMERCIAL CORRESPONDENCE** (old Span 50). 27 lessons — \$75 — 5 degree credits — text price, \$5-10 — S. Cuneo  
Specialized material in Spanish commercial correspondence. Main parts of a Spanish letter; various kinds of commercial letters; commercial documents; Spanish abbreviations used in Spanish correspondence; business vocabulary. Spanish composition. Prerequisite: 1-103 or equivalent)
- Span 3-011. ELEMENTARY SPANISH COMPOSITION** (old Span 54). 16 lessons — \$45 — 3 degree credits — text price, \$5-10 — M. Cuneo  
Connected prose composition. Reading and grammar. Practice in writing Spanish. (Prerequisite: 1-103 or equivalent)
- Span 3-014. ADVANCED SPANISH COMPOSITION** (old Span 57). 16 lessons — \$45 — 3 degree credits — text price, \$5-10 — M. Cuneo  
Continuation of 3-011. (Prerequisite: 3-011)
- Span 3-511. LATIN-AMERICAN CULTURE** (old Span 63). 16 lessons — \$45 — 3 degree credits — text price, \$8-10 — S. Cuneo  
Offers a panoramic view of Latin-American culture. Attempts to interpret the land, the people, and their history; the political, social, and economic organization; the cultural and literary traditions to give a unified picture of the 20 countries of Latin America. Readings in English; knowledge of Spanish not necessary. (No prerequisite)

## STUDY SKILLS

Louise Klohn, Instructor in Reading (DIS)  
David M. Wark, Associate Professor, Student Counseling Bureau

- PO 1-001. HOW TO STUDY** (old PO 1). 12 lessons — \$30 — 2 degree credits — text price, \$10-15 — Wark  
Practical assistance in developing efficient methods of study and concentration, organizing material, preparing for examinations, and improving reading rate, comprehension, and vocabulary. Attention to the orientation of students in their attitudes and motivation, and the relation of these to satisfactory performance. (No prerequisite; credit must be added to degree requirement at the University of Minnesota)
- SSK 0-001C. VOCABULARY BUILDING.** 16 lessons — \$45 — 3 certificate credits — text price, \$5-10 — Klohn  
Designed to increase speaking and reading vocabulary. The lessons and exercises stimulate interest and afford practice in proper use of words, provoke word collecting, and suggest substitutes for overworked words. (No prerequisite)
- SSK 0-012. GUIDED READING.** 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. (No prerequisite)
- SSK 0-013C. SELECTING BOOKS FOR CHILDREN.** 12 lessons — \$30 — 2 certificate credits — text price, \$10-12 — Klohn  
Introductory course for parents, teachers, and others interested in guiding children's reading. Surveys the field of children's literature from preschool age through the teens. (No prerequisite)

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**SSk 0-014. USING BOOKS AND LIBRARIES.** 12 lessons — \$30 — no credit — text price, \$1 — Kohn

For anyone interested in books and information. Increases efficiency in finding information, broadens knowledge of library resources, and suggests methods for personal enrichment through books and library materials. (No prerequisite)

## SWEDISH

(See Scandinavian Languages)

## THEATRE ARTS

Herbert L. Carson, Assistant Professor of Humanities, Ferris Institute

**Th 0-001C. INDEPENDENT PLAYWRITING** (old Th 180c). 16 lessons — \$45 — 3 certificate credits — no required text — Carson

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: 5-115 and consent of instructor)

**Th 5-115. PLAYWRITING** (old Th 115). 16 lessons — \$45 — 3 degree credits — no required text — Carson

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 1-101 or consent of instructor)

## TRAVEL

Vernie Wolfsberg, Instructor in Travel (DIS)

**Trav 0-001. YOUR TRIP TO EUROPE.** 16 lessons — \$45 — no credit — text price, \$7-9 — Wolfsberg

Offers information on sightseeing, shopping, and travel techniques in addition to a broad coverage of the cultural aspects, economy, government, and life today in the various countries. Covers the relations of these countries with the United States. Students will acquire not only practical information but also such knowledge as will add to their enjoyment, understanding, and appreciation of their travel in Europe, and of the Europeans whom they meet. (No prerequisite)

## High School Courses

Complete course descriptions of the following high school courses are contained in a special high school bulletin which is published by the Department of Independent Study and will be sent free on request.

These courses, with the approval of the local school authorities, may be used toward the completion of requirements for graduation from high school. The high school diploma is granted by the local school board only, NOT by the Department of Independent Study.

Rates for these high school courses are \$30 for non-credit courses, \$32.50 for  $\frac{1}{2}$  unit courses.

Students may also enroll for college level courses under the following conditions: Students who desire high school or college credit must have the approval of their high school and of the Department of Independent Study. Students who do not desire credit may take any college course in this bulletin for which they are prepared. Fees for the college courses are \$15 per quarter credit.

### BIOLOGY

**BIOLOGY, PART A** ( $\frac{1}{2}$  unit — 20 lessons)

**BIOLOGY, PART B** ( $\frac{1}{2}$  unit — 20 lessons)

### BOOKKEEPING

**BOOKKEEPING, PART A** ( $\frac{1}{2}$  unit — 20 lessons)

**BOOKKEEPING, PART B** ( $\frac{1}{2}$  unit — 20 lessons)

### BUSINESS

**GENERAL BUSINESS, PART A** ( $\frac{1}{2}$  unit — 20 lessons)

**GENERAL BUSINESS, PART B** ( $\frac{1}{2}$  unit — 20 lessons)

### ENGLISH

**NINTH GRADE ENGLISH, PART A** ( $\frac{1}{2}$  unit — 20 lessons)

**NINTH GRADE ENGLISH, PART B** ( $\frac{1}{2}$  unit — 20 lessons)

**TENTH GRADE ENGLISH, PART A** ( $\frac{1}{2}$  unit — 20 lessons)

**TENTH GRADE ENGLISH, PART B** ( $\frac{1}{2}$  unit — 20 lessons)

**ELEVENTH GRADE ENGLISH, PART A** ( $\frac{1}{2}$  unit — 20 lessons)

**ELEVENTH GRADE ENGLISH, PART B** ( $\frac{1}{2}$  unit — 20 lessons)

**TWELFTH GRADE ENGLISH, PART A** ( $\frac{1}{2}$  unit — 20 lessons)

**TWELFTH GRADE ENGLISH, PART B** ( $\frac{1}{2}$  unit — 20 lessons)

**REMEDIAL WRITING** (Prerequisite: consent of counselor and Department of Independent Study — no credit — 12 lessons)

**VOCABULARY BUILDING** (Prerequisite: consent of instructor —  $\frac{1}{2}$  unit — 16 lessons)

**MASTERPIECES OF WORLD LITERATURE** (Prerequisite: consent of counselor and Department of Independent Study —  $\frac{1}{2}$  unit — 12 lessons)

**GRAMMAR REVIEW** (No credit — 12 lessons)

## LANGUAGES

Note — Courses marked with a star may be taken for college credit by able high school students upon approval by the appropriate high school authority and the Independent Study Department. Please consult the college bulletin for a complete listing of available courses.

### French

- ★ BEGINNING FRENCH I AND II (1 unit each — 27 lessons each)

### German

- ★ BEGINNING GERMAN I, II, AND III (1 unit each — 27 lessons each)

### Latin

Note — See Latin in the College Courses section for courses in Vergil and Cicero.

ELEMENTARY LATIN I, PART A ( $\frac{1}{2}$  unit — 20 lessons)

ELEMENTARY LATIN I, PART B (Prerequisite: Latin IA or 1 semester of high school Latin —  $\frac{1}{2}$  unit — 20 lessons)

Note — Course B is in preparation. Write for information before registering.

ELEMENTARY LATIN II (Prerequisite: Latin IB or 1 year of high school Latin —  $\frac{1}{2}$  unit — 20 lessons)

### Norwegian

- ★ BEGINNING NORWEGIAN I AND II (1 unit each — 27 lessons each)

### Russian

- ★ BEGINNING RUSSIAN I AND II (1 unit each — 27 lessons each)

### Spanish

- ELEMENTARY SPANISH A AND B ( $\frac{1}{2}$  unit each — 20 lessons each)

### Swedish

- ★ BEGINNING SWEDISH I (1 unit — 27 lessons)

## MATHEMATICS

ELEMENTARY ALGEBRA, PART A ( $\frac{1}{2}$  unit — 20 lessons)

Note — Course A is in preparation. Write for information before registering.

ELEMENTARY ALGEBRA, PART B (Prerequisite: Algebra, Part A —  $\frac{1}{2}$  unit — 20 lessons)

Note — Course B is in preparation. Write for information before registering.

PLANE GEOMETRY, PART A (Prerequisite: Elementary Algebra, Part A and B —  $\frac{1}{2}$  unit — 20 lessons)

TRIGONOMETRY (Prerequisite: Higher Algebra A and Plane Geometry B —  $\frac{1}{2}$  unit — 20 lessons)

SOLID GEOMETRY (Prerequisite: 1 year of Plane Geometry or equivalent —  $\frac{1}{2}$  unit — 20 lessons)

**HIGHER ALGEBRA, A** (Prerequisite: Elementary Algebra, Part A and B —  $\frac{1}{2}$  entrance unit — 20 lessons)

**HIGHER ALGEBRA, B** (Prerequisite: Higher Algebra, A —  $\frac{1}{2}$  entrance unit — 20 lessons)

## PHYSICS

**PHYSICAL SCIENCE** ( $\frac{1}{2}$  unit — 20 lessons)

## SHORTHAND

**SHORTHAND, PART A** ( $\frac{1}{2}$  entrance unit — 20 lessons)

**SHORTHAND, PART B** (Prerequisite: Shorthand, Part A —  $\frac{1}{2}$  entrance unit — 20 lessons)

Note — Course B is in preparation. Write for information before registering.

## SOCIAL STUDIES

**PROBLEMS OF AMERICAN DEMOCRACY, PART A** ( $\frac{1}{2}$  entrance unit — 20 lessons)

**PROBLEMS OF AMERICAN DEMOCRACY, PART B** ( $\frac{1}{2}$  entrance unit — 20 lessons)

**WORLD HISTORY, PART A** ( $\frac{1}{2}$  entrance unit — 20 lessons)

**WORLD HISTORY, PART B** ( $\frac{1}{2}$  entrance unit — 20 lessons)

**AMERICAN HISTORY, PART A** ( $\frac{1}{2}$  entrance unit — 20 lessons)

**AMERICAN HISTORY, PART B** ( $\frac{1}{2}$  entrance unit — 20 lessons)

## TYPING

**TYPING I** ( $\frac{1}{2}$  entrance unit — 20 lessons)

**TYPING II** (Prerequisite: Typing I —  $\frac{1}{2}$  entrance unit — 20 lessons)

## Conversion Table for New Numbers

\*\* Indicates courses not offered by Department of Independent Study but mentioned in this bulletin.

Department, Prefix, and New Number		Old Number
<b>ACCOUNTING</b>		
Acct	1-024	24
	1-025	25
	1-026**	26
	3-105**	105A
	3-106**	105B
	3-107**	105C
	3-160**	55D
	3-220**	115A
	3-221**	115B
	3-255**	55C
	5-125	125
	5-135	135
<b>AGRICULTURAL ECONOMICS</b>		
Ag Ec	3-800	80
<b>ANIMAL SCIENCE</b>		
AnSc	1-600	Ag 40
<b>ANTHROPOLOGY</b>		
Anth	1-001	1A
	1-002	2A
	3-211	80
	5-101**	100
	5-361	165
<b>ART HISTORY</b>		
ArtH	1-001	1
<b>ART, STUDIO</b>		
ArtS	1-111**	37
	1-112**	48
	1-113**	49
	1-114	43Ac
	1-115	43Ac
	1-116	43Bc
	1-117	-
	1-118	4c
	3-131	83A
	3-132	84A
	3-133**	96
	3-134**	97
	5-111**	103A
	5-112**	104A
	5-113**	105
	5-114**	106
<b>ASTRONOMY</b>		
Ast	1-011	11
<b>BUSINESS LAW</b>		
BLaw	3-058	58
	3-078	78
	3-088	88
	3-098	98

Department, Prefix, and New Number		Old Number
<b>CHEMICAL ENGINEERING AND MATERIAL SCIENCE</b>		
ChEn	0-001C	MTSS 1
	0-002C	MTSS 2
	0-003C	MTSS 3
<b>CHILD PSYCHOLOGY</b>		
CPsy	3-301	80
	5-303	81
<b>CIVIL ENGINEERING</b>		
CE	0-001C	54c
	3-302	146
<b>CLASSICS</b>		
Clas	1-048	48
<b>DATA PROCESSING</b>		
DaP	0-001C	1c
<b>EAST ASIAN LANGUAGES</b>		
Chin	1-101	1
	3-501	20
Jpn	1-101	1
<b>ECONOMICS</b>		
Econ	1-001	1
	1-002	2
	3-101**	65
	3-102	66
	3-501**	62
	3-751	67
	5-531**	152
	5-534	182
	5-537	172
	5-541**	102
	5-561**	192
<b>EDUCATION</b>		
HEd	1-004	4c
AgEd	1-010	20
HEd	3-090	90
PsyF	3-102	EPsy 60
PE	3-330	84B
AgEd	5-010**	120
HEd	5-141	141
EEd	5-355	EdCI 149
<b>ELECTRICAL TECHNOLOGY</b>		
ET	0-500C	1c
<b>ENGINEERING GRAPHICS</b>		
EG	0-001C	1
	0-004C	4c
	0-005C	5c
	1-025	25



Department, Prefix, and New Number		Old Number
<b>ENGLISH</b>		
Comp	0-001	X
	0-002C	—
	0-004C	—
	0-006C	—
	0-009	—
	0-011	—
	0-012	—
	0-015C	69
	0-016C	70
	0-017C	80c
	0-018	81c
	1-027	27
	1-028	28
Engl	0-003C**	—
	0-008C	4c
	1-001	1
	1-002	2
	1-003	3
	1-821	21
	1-822	22
	1-823	23
	1-938	38
	3-155	55
	3-156	56
	3-721	72
	3-722	73
	3-723	74
	3-827	52
	3-828	53
	3-875	75
	5-862	162
<b>ENTOMOLOGY</b>		
Ent	0-004C	Ag 4
<b>FAMILY STUDIES</b>		
FamS	1-001	1
<b>FINANCE</b>		
Fin	0-001C	1c '66
	3-000	56
	3-100**	57
	3-500	146
<b>FORESTRY</b>		
For	1-201	31
<b>FRENCH</b>		
Fren	0-001	17A
	1-001	1
	1-002	2
	1-003	3
	1-004	25
<b>GENERAL COLLEGE</b>		
GC	1-421	31A
	1-513	17C
	1-537	18D
	1-551**	18A
	1-552**	18B
<b>GEOGRAPHY</b>		
Geog	3-101	66
	3-111	67
	3-121	65

Department, Prefix, and New Number		Old Number
<b>GEOLOGY</b>		
Geo	1-001**	1
	1-005	1c
	1-006	2c
	1-111**	11
<b>GERMAN</b>		
Ger	0-221	17A
	0-222	17B
	1-111	1
	1-112	2
	1-113	3
	1-301	4
	1-302	5
	3-001	57
	3-002	58
	3-003	59
	3-311	73
	3-312	74
	3-313	75
	3-321	76
	3-322	77
	3-323	78
<b>GREEK</b>		
Grk	1-001	1
	1-002	2
<b>HISTORY</b>		
Hist	1-001	1
	1-002	2
	1-003	3
	1-051	14
	1-052	15
	1-053	16
	1-061	14A
	1-062	15A
	1-063	16A
	1-151	4
	1-152	5
	1-301	23
	1-302	24
	3-397	92
	3-881	93
	3-883	95
	3-891**	97
	3-893	7c
	5-051	103A
	5-052	104A
	5-053	105A
	5-266	120F
	5-274	118G
	5-403	147A
<b>HORTICULTURAL SCIENCE</b>		
Hort	3-051	51
	3-060	60
<b>HUMANITIES</b>		
Hum	1-101	1
	1-102	2
	1-103	3
	1-104	4

	Department, Prefix, and New Number	Old Number
<b>INDUSTRIAL ENGINEERING</b>		
IE	0-100C* <sup>o</sup>	—
	0-210C	18c
	0-360C <sup>o</sup> *	—
	0-410C <sup>o</sup> *	—
	0-411C* <sup>o</sup>	—
	0-420C <sup>o</sup> *	—
	0-510C <sup>o</sup> *	—
	1-221	17c
<b>INDUSTRIAL RELATIONS</b>		
IR	0-001C	30c
	3-002	52
	3-007 <sup>o</sup> *	82
	3-010 <sup>o</sup> *	62
	3-012	72
	3-017 <sup>o</sup> *	142
	5-003* <sup>o</sup>	175
	5-027 <sup>o</sup> *	162
	8-006 <sup>o</sup> *	182A
	8-010 <sup>o</sup> *	182B
	8-013 <sup>o</sup> *	212A
	8-023* <sup>o</sup>	212B
<b>INSURANCE</b>		
Ins	3-100	53
	3-200	73
	3-220	93
<b>JOURNALISM</b>		
Jour	1-001	1
	1-101	14
	3-178* <sup>o</sup>	78
	3-486	86
	5-501 <sup>o</sup> *	112
	5-549	149
<b>LATIN</b>		
Lat	1-001	1
	1-002	2
	1-003	3
	1-004	4
	3-469	5
	3-471	6
<b>LIBRARY SCIENCE</b>		
Lib	1-401	52
	1-402	54
<b>MANAGEMENT</b>		
Mgmt	3-001 <sup>o</sup> *	70
	3-002 <sup>o</sup> *	80
	3-004 <sup>o</sup> *	60
	MIS 5-109* <sup>o</sup>	109
<b>MARKETING</b>		
Mktg	3-000 <sup>o</sup> *	57
<b>MATHEMATICS</b>		
Math	0-002	1c
	0-003	3c
	0-008	8
	0-011	11
	0-012	12

	Department, Prefix, and New Number	Old Number
	1-008	T
	1-119	20
	1-141 <sup>o</sup> *	10A
	1-142 <sup>o</sup> *	40A
	1-210	21
	1-220	22
	1-230	23
	1-240	31
	1-250	32
	1-260	33
	1-441	15
	5-506	106
<b>MECHANICAL ENGINEERING</b>		
ME	0-442	1c
<b>MECHANICS AND MATERIALS</b>		
MM	1-016* <sup>o</sup>	37
	3-015	35
	3-036	36
	3-092 <sup>o</sup> *	92
<b>MUSIC</b>		
Mus	1-041	4
	1-042	5
	1-043	6
	3-041	9c
<b>PHILOSOPHY</b>		
Phil	1-001A	1A
	1-002A	2A
	1-003A	3A
	1-011	10
	3-001	50
	3-003	52
	3-004	53
<b>PHYSICS</b>		
Phys	1-010	1
	1-020	2
	1-030	3
	1-215* <sup>o</sup>	21A
	1-225* <sup>o</sup>	22A
<b>POLICE ADMINISTRATION</b>		
PoAd	0-015C	15c
	0-016C	16c
	0-017C	17c
	0-018C	18c
<b>POLITICAL SCIENCE</b>		
Pol	1-001	1
	1-002	2
	1-004	4c
	1-025	25
	1-026	26
	3-094	94
	5-443	143
	5-448	148
	5-453	153
	5-454	54
<b>PRODUCTION</b>		
Prod	0-050C	—
	3-050 <sup>o</sup> *	50

Department, Prefix, and New Number		Old Number
<b>PSYCHOLOGY</b>		
Psy	1-001	1
	1-002	2
	1-003**	1A
	3-011**	75
	3-801**	90
	5-104	119A
	5-125**	125
	5-126**	126
	5-604	144
	5-605	145
<b>PUBLIC ADMINISTRATION</b>		
PA	0-060C	60
	0-068C**	68
<b>PUBLIC HEALTH</b>		
PubH	1-001	3
	3-001	50
<b>QUANTITATIVE ANALYSIS</b>		
QA	MIS 0-001C**	—
	3-052**	52
	3-053**	53
	3-054**	54
	MIS 3-100**	62
<b>RECREATION AND PARK ADMINISTRATION</b>		
Rec	1-520	20
	1-650	49
	5-170	107
	5-210	141
	5-330	113
<b>RHETORIC</b>		
Rhet	1-225	25
<b>SCANDINAVIAN LANGUAGES</b>		
Fin	1-101	17
Nor	1-101	1
	1-102	2
Swed	1-101	1
<b>SLAVIC LANGUAGES</b>		
Plsh	1-101	1
	1-102	2

Department, Prefix, and New Number		Old Number
Russ	1-101	1
	1-102	2
	1-221	24c
	1-222	25c
	1-223	26c
Serb	1-101	1
<b>SOCIAL WORK</b>		
SW	3-001	Soc 90
<b>SOCIOLOGY</b>		
Soc	1-001	1
	3-101	53
	5-201	120
	5-411**	146
	5-501	141
	5-951	123
<b>SPANISH</b>		
Span	0-221	17A
	1-101	1
	1-102	2
	1-103	3
	1-104	25
	3-009	50
	3-011	54
	3-014	57
	3-511	63
<b>SPEECH</b>		
Spch	1-102**	2
<b>STUDY SKILLS</b>		
SSk	(PO) 1-001	1
	0-001C	Spch 1c
	0-012	Rdg 1c
	0-013	Rdg 2c
	0-014	Rdg 4c
<b>THEATRE ARTS</b>		
Th	0-001C	180c
	1-101**	11
	5-115	115
<b>TRANSPORTATION</b>		
Tran	3-054**	54
<b>TRAVEL</b>		
Trav	0-001	—

Fees must be paid at the time of registration. Make money orders, drafts or checks payable to the University of Minnesota. Complete both sides of the following *Application for Registration* and send it to the Department of Independent Study, University of Minnesota, Minneapolis, Minnesota 55455. Total the amount of tuition, \$3 out-of-state fee (if applicable) and air-mail postage (if desired). Make check for exact amount of total. Remember, there is a \$3 per course fee for all registrations originating outside Minnesota, except for military personnel.

**UNIVERSITY OF MINNESOTA**  
**General Extension Division**  
**Department of Independent Study**

Soc. Sec. No. \_\_\_\_\_ Date \_\_\_\_\_  
 \_\_\_\_\_ **Application for Registration** Phone \_\_\_\_\_

Please Print \_\_\_\_\_  
 (Mr., Mrs., Miss) First Name Middle or Maiden Last

Mailing Address \_\_\_\_\_  
 Street Address

City County State Country Zip Code

Are you currently attending any division of the University of Minnesota? \_\_\_\_\_  
 Yes No

What division? \_\_\_\_\_ How many hours? (credit)? \_\_\_\_\_  
 Title of courses for which you are registering (no more than two at one time)

Dept.	Course No.	Descriptive Title	Credits

Dept.	Course No.	Descriptive Title	Credits

Courses you have completed which meet prerequisites \_\_\_\_\_

(See reverse side for remainder of form and signature requirement)

Permanent Address \_\_\_\_\_  
(To which mail may be sent at any time with certainty of delivery)

Date of Birth \_\_\_\_\_

Money Enclosed: Tuition fee \$\_\_\_\_\_; Out-of-State fee \$\_\_\_\_\_ (at \$3.00 per course); Airmail postage (if desired) \$\_\_\_\_\_

Total money enclosed \$\_\_\_\_\_ (Make checks or money orders payable to the "University of Minnesota")

NOTICE—25% of the cost of each course and \$2.00 for each lesson serviced are nonrefundable. No fees refunded after 3 months from date of registration. No money will be returned after one-half of the course is completed regardless of date of registration.

Date \_\_\_\_\_ Signature \_\_\_\_\_

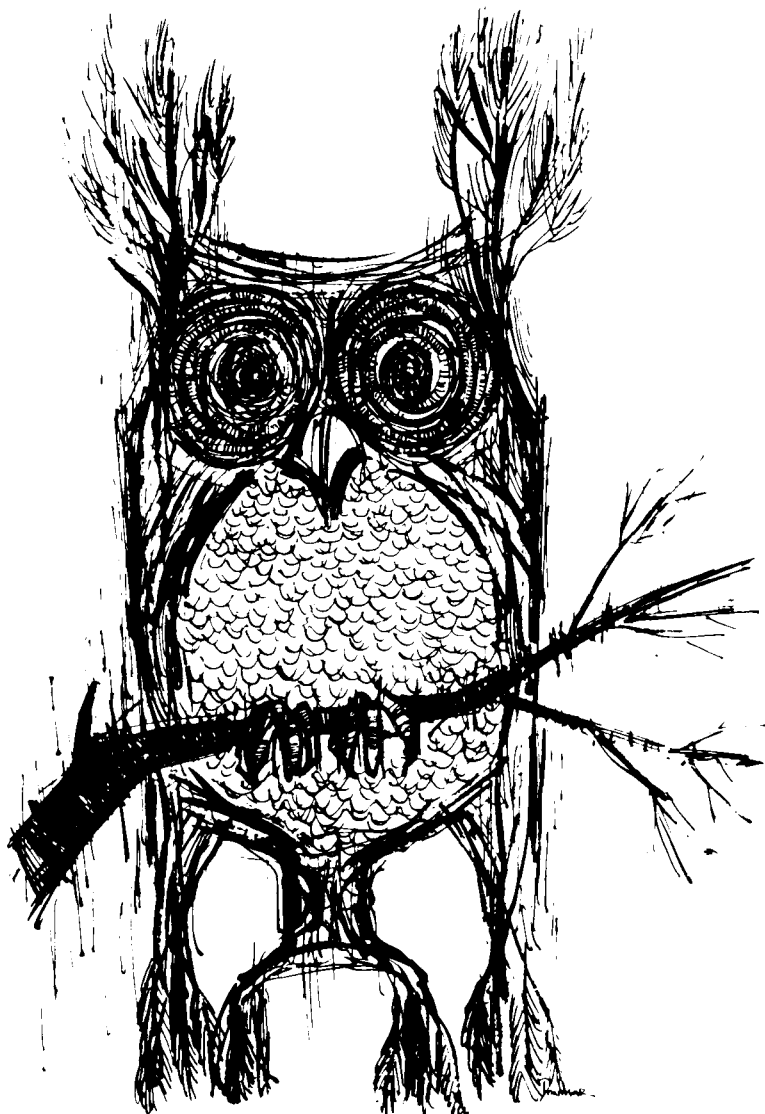
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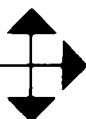
JULY 31, 1970

# university of minnesota bulletin

**Evening and Special Classes 1970 -1971**

**Twin Cities**

**General Extension Division**



**Evening and Special Classes**

**1970-71 TUITION INFORMATION**

**TUITION: \$14 per credit**

Tuition is \$14 per credit. Fees (when required) are listed after the course title and are in addition to the tuition.

Owl design by Marlon Davidson, Donmar Studio, St. Paul

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Volume LXXIII

Number 14

July 31, 1970

**UNIVERSITY OF MINNESOTA BULLETIN**


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

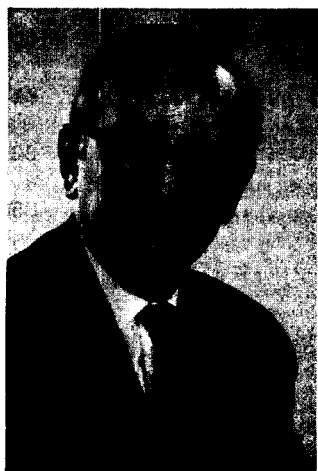
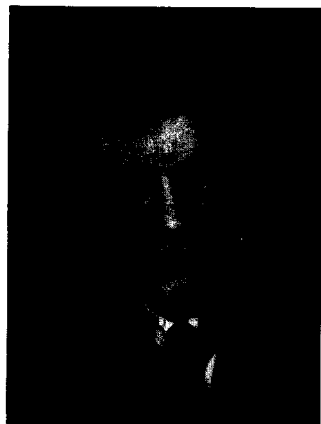
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To the General Extension Division, the whole State is the campus. It permeates the educational life of the metropolitan area and, at the same time, carries the resources of the University to Minnesotans throughout the State. We are proud of our Extension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



Malcolm Moos  
President, University of Minnesota



The General Extension Division student may well be the NOW generation. To function in his community, his family, his job, his society, the Extension student must learn new things now. He may need them for tomorrow. The General Extension Division — the open door of the University — welcomes the full-time and the part-time student to participate in the rich resources of the University.



Willard L. Thompson  
Dean, General Extension Division

# UNIVERSITY OF MINNESOTA

## Board of Regents

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## GENERAL EXTENSION DIVISION

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Keith D. Buckley, Counselor  
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### Other Extension Departments and Directors

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Civil Defense Education, Robert J. Elliott, 1633 Eustis Street, St. Paul  
Conferences and Institutes, Harold A. Miller, 136 Nolte Center for Continuing Education  
Continuation Medical Education, to be appointed, 5417 Powell Hall  
Continuing Education in Art, Huldah Curl, 316 Nolte Center for Continuing Education  
Continuing Business Education, Peter Rosko, 1235 Business Administration Building

Continuing Education in Dentistry, Robert D. Jeronimus, 4 Owre Hall  
Continuing Education in Engineering and Science, James E. Holte, 210 Nolte Center for Continuing Education  
Continuing Education in Music, Richard E. Sieber, MacPhail Center for the Performing Arts  
Continuing Education in Social Work, William Hoffman, 321 Nolte Center for Continuing Education  
Continuing Education in Urban Affairs, William C. Rogers, 3300 University Avenue S.E.  
Continuing Education for Women, Gertrude B. Roff, 315 Nolte Center for Continuing Education  
Continuing Legal Education, John B. Wirt, 338 Nolte Center for Continuing Education  
Continuing Pharmacy Education, William J. Hodapp, 118 Appleby Hall  
Divisional Relations, John A. Carlson, 331 Nolte Center for Continuing Education  
Drama Advisory Service, Dale D. Huffington, 320 Westbrook Hall  
Duluth Conferences and Institutes, Cyril M. Milbrath, 106 Laboratory School, Duluth Campus  
Duluth Evening Programs, to be appointed, 104 Laboratory School, Duluth Campus  
Independent Study, Roger G. Young, 252 Nicholson Hall  
Indian Upward Bound, Gene A. Eckstein, 2001 Riverside Avenue  
Labor Education Service, John J. Flagler, 417 Business Administration Building  
MacPhail Center for the Performing Arts, William G. MacPhail, 1128 LaSalle Avenue, Minneapolis  
Minnesota Management Development Program, Stoddard G. Cortelyou, 335 Nolte Center  
Morris Extension Programs, Arnold E. Henjum, 200D Education, Morris Campus  
Municipal Reference Bureau, Dean A. Lund, 3300 University Avenue S.E.  
Parent and Family Life Education, Elizabeth F. Peterson, 211 Nolte Center for Continuing Education  
Radio and Television, Burton Paulu, 1 Eddy Hall  
Research, Clara Kanun, 305 Nolte Center for Continuing Education  
Rochester Extension Programs, Wilbur L. Wakefield, 2120 East Center Street, Building 4, Rochester  
St. Paul General Extension Center, R. Kay Humphrey, 192 West Ninth Street, St. Paul  
State Organization Service, William C. Rogers, 3300 University Avenue S.E.  
World Affairs Center, William C. Rogers, 3300 University Avenue S.E.

The University of Minnesota is guided by the principle that there shall be no differences in the treatment of persons because of race, sex, creed, color, or national origin, and that equal opportunity and access to facilities shall be available to all. This principle is particularly applicable in the admission of students in all colleges, and in their academic pursuits. It is also applicable in University-owned or University-approved housing, in food services, student unions, extracurricular activities, and all other student services. It is a guiding policy 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.

# 10 Ways to Earn Credits Through Extension

1. Register for an evening or special class. Select from over 1,000 classes. Evening classes are offered at seven major locations throughout the metropolitan area. See page 13. A special class can be arranged at a location selected by a particular group. See page 77.
2. If you find it difficult to come to campus or to schedule a particular course, you may earn credits by taking correspondence courses, in which you work at your own speed. See page 22.
3. You may earn credits by taking examinations for credit in fields in which you've gained knowledge elsewhere. There is a fee for this. See page 22.
4. You may earn credits as well as exemption from College of Liberal Arts (CLA) distribution requirements by taking the College Level Examination Program (CLEP) exams offered by the College Entrance Examination Board. There is a small fee. See page 21.
5. 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 Evening and Special Classes Bulletin. See page 22.
6. You may register for and earn extra credits—an X registration—in a particular course if you are willing to do extra course work. See page 22.
7. You may earn up to 15 credits for an independent project done outside the confines of formal course by registering for University College 3-075 (old UC 75). See page 23.
8. Although the usual registration is under the A to F grading system, you may choose to register under the P (pass)-N (no grade) grading system. There are limitations on P-N imposed by the various degree-granting colleges. See page 25.
9. Radio-Television. Credits may be earned via radio and television, see pages 81, 117 and 150.
10. Women's Continuing Education Program offers daytime liberal arts seminars for credit. See page 79.

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

## Who May Take Evening and Special Classes?

Anyone interested in taking courses may register in evening and special classes. There are no entrance examinations, and it is not necessary to be a high school graduate. Many evening classes have no prerequisites. Some of the advanced courses list a prerequisite of previous subject knowledge or background experience. If you need advice about a course, call the Extension counseling department, 373-3905.

## To Register by Mail is The Easiest Way

The most convenient way to register for classes is by mail. Complete the postcard in the back of the bulletin, add postage, and drop it in the mail. A complete packet of registration forms and instructions will be mailed to you.

**NOTE: IF YOU ARE REGISTERING FOR LIMITED CLASSES** (classes in which number of students is limited), you must mail your postcard so that it is received in the Evening Classes office on specific dates. Be sure to read "Dates For Registering by Mail in Limited Classes," page 29. Enclose your check with registration forms. Do not include check with postcard.

## Campus Activities Open To Evening and Special Classes Students

Evening students are encouraged to take advantage of the wide variety of cultural, entertainment, athletic events and facilities available to them. Consult the following alphabetical listings in the General Information section of this bulletin:

**Art Rentals**  
**Athletic Facilities**  
**Athletic Tickets**  
**Minnesota Orchestra**  
**Theatre, Artists Course, and Special Lectures**

A Twin Cities Campus Calendar of Events is available for the asking. The calendar, printed monthly, lists University theatre offerings, lectures, art exhibits, music performances, convocations, KUOM broadcasts, athletic events, and the like. To receive this calendar, call University Relations, 373-2126, and have your name placed on the mailing list.

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.





# 1970-71 Registration Dates Registration Hours Calendar of Evening 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 scheduled by individual instructors.

Evening classes are rarely canceled for any reason. However, in the event that evening classes are to be canceled, 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.

Fall Quarter — September 28-December 19  
Fall Semester — September 28-January 30  
Winter Quarter — January 4-March 20  
Spring Semester — February 15-June 12  
Spring Quarter — March 29-June 12

## Fall Quarter

September 28 - December 19

August 24	Monday	First day for receipt in Evening Classes Office of mailed post card requesting limited class reservation card. See page 29. Registration forms for nonlimited classes available by mail.
September 10	Thursday	Fall Quarter in-person registration begins.

### REGISTRATION HOURS

Campus Office (211 Nicholson Hall), MacPhail Office, and St. Paul Office:

September 10-18 ..... 12 noon to 8 p.m.

Closed Saturday

Roseville District Office, Roseville; Richfield Senior High School; Sandburg Junior High School, Golden Valley; and Minneapolis Central Community School:

September 16 ..... 8:30 a.m. to 4 p.m.

September 17-18 ..... 8:30 a.m. to 8 p.m.

Closed Saturday

September 18	Friday	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 30).
		<b>ATTENTION, MAIL REGISTRANTS:</b> If you are mailing your registration following the close of official registration, please see Late Registrations, page 28.
September 21-22		Late Registration Dates (\$3 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 23-26		All offices closed to process registrations.
September 28	Monday	Fall Quarter classes begin. All offices resume regular office hours, listed on page 13. Late registration resumes with late fees. Late registrations made September 28 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 13.
November 6	Friday	Last day for official cancellation of classes without grade.
November 26	Thursday	Thanksgiving Day, holiday.
November 27-28		Classes dismissed; all offices closed.
December 14-19		Final examination period.
December 19	Saturday	Last day of Fall Quarter.

## Fall Semester

September 28 - January 30

August 24	Monday	First day for receipt in Evening Classes Office of mailed post card requesting limited class reservation card. See page 29. Registration forms for nonlimited classes available by mail.
September 10	Thursday	Fall Semester in-person registration begins.

### REGISTRATION HOURS

Campus Office (211 Nicholson Hall), MacPhail Office, and St. Paul Office:

September 10-18 ..... 12 noon to 8 p.m.

Closed Saturday

Roseville District Office, Roseville; Richfield Senior High School; Sandburg Junior High School, Golden Valley; and Minneapolis Central Community School:

September 10-16 ..... 8:30 a.m. to 4 p.m.

September 17-18 ..... 8:30 a.m. to 8 p.m.

Closed Saturday

September 18	Friday	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 30). <b>ATTENTION, MAIL REGISTRANTS:</b> If you are mailing your registration following the close of official registration, please see Late Registrations, page 28.
September 21-22		Late Registration Dates (\$3 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 23-26		All offices closed to process registrations.
September 28	Monday	Fall Semester classes begin. All offices resume regular office hours, listed on page 13. Late registration resumes with late fees. Late registrations made September 28 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 13.
November 25	Wednesday	Last day for official cancellation of classes without grade.
November 26	Thursday	Thanksgiving Day, holiday.
November 27-28		Classes dismissed; all offices closed.
December 19	Saturday	Christmas recess begins; classes dismissed until January 4.
December 24-28		Christmas holidays. All offices closed.
January 1	Friday	New Year's Day, holiday.
January 4	Monday	Fall Semester classes resume.
January 25-30		Final examination period.
January 30	Saturday	Last day of Fall Semester.

## Winter Quarter

January 4 - March 20

November 23	Monday	First day for receipt in Evening Classes Office of mailed post card requesting limited class reservation card. See page 29. Registration forms for nonlimited classes available by mail.
December 14	Monday	Winter Quarter in-person registration begins.

### REGISTRATION HOURS

Campus Office (hall outside 150 Nicholson Hall), MacPhail Office, and St. Paul Office:

December 14-15 ..... regular office hours (see page 13).

December 16-18 and 21-23:

Campus Office ..... 7:45 a.m. to 4:30 p.m.

MacPhail Office ..... 8:30 a.m. to 4:30 p.m.

St. Paul Office ..... 8 a.m. to 4:30 p.m.

Closed Saturday

Roseville District Office, Roseville; Richfield Senior High School; Sandburg Junior High School, Golden Valley; and Minneapolis Central Community School:

December 14-23 ..... 8:30 a.m. to 4 p.m.

Closed Saturday

December 24-28		All offices closed.
December 29	Tuesday	Registration continues at Campus Office, MacPhail Office, and St. Paul Office at regular office hours (see page 13). Registration continues at Roseville District Office, Roseville; Richfield Senior High School; Sandburg Junior High School, Golden Valley; and Minneapolis Central Community School: 8:30 a.m. to 8 p.m. 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 30).
December 30, 31, January 1, 2		<b>ATTENTION, MAIL REGISTRANTS:</b> If you are mailing your registration following the close of official registration, please see Late Registrations, page 28.
January 4	Monday	All offices closed to process registrations. Winter Quarter classes begin. All offices resume regular office hours, listed on page 13. Late registration resumes with late fees. Late registrations made January 4 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 13.
February 11-13		All offices closed to process registrations.
February 15	Monday	Last day for official cancellation of classes without grade.
March 15-20		Final examination period.
March 20	Saturday	Last day of Winter Quarter.

## Spring Semester

February 15 - June 12

January 11	Monday	First day for receipt in Evening Classes Office of mailed post card requesting limited class reservation card. See page 30. Registration forms for nonlimited classes available by mail.
February 1	Monday	Spring Semester in-person registration begins.

### REGISTRATION HOURS

Campus Office (hall outside 150 Nicholson Hall), MacPhail Office, and St. Paul Office:

February 1-4	12 noon to 8 p.m.
February 5	12 noon to 4:30 p.m.
February 8-10	12 noon to 8 p.m.
Closed Saturday	

Richfield Senior High School and Sandburg Junior High School, Golden Valley:

February 1-10	8:30 a.m. to 4 p.m.
Closed Saturday	

February 10	Wednesday	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 30).  <b>ATTENTION, MAIL REGISTRANTS:</b> If you are mailing your registration following the close of official registration, please see Late Registrations, page 28.
February 11-13		All offices closed to process registrations.
February 15	Monday	Spring Semester classes begin. All offices resume regular office hours, listed on page 13.  Late registration resumes with late fees.  Late registrations made February 15 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 13.
March 20	Saturday	Spring Semester recess begins.
March 25-27		All offices closed to process registrations.
March 29	Monday	Spring Semester classes resume.
April 9	Friday	Good Friday, holiday.
April 23	Friday	Last day for official cancellation of classes without grade.
May 31	Monday	Classes dismissed; all offices closed.
June 7-12		Final examination period.
June 12	Saturday	Last day of Spring Semester.

# Spring Quarter

March 29 - June 12

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|-------------|--------|--|
| February 22 | Monday | First day for receipt in Evening Classes Office of mailed post card requesting limited class reservation card. See page 30. Registration forms for nonlimited classes available by mail. |
| March 15    | Monday | Spring Quarter in-person registration begins.  |

### REGISTRATION HOURS

Campus Office (hall outside 150 Nicholson Hall), MacPhail Office, and St. Paul Office:

March 15-24 ..... regular office hours (see page 13).  
Closed Saturday

Roseville District Office, Roseville; Richfield Senior High School; Sandburg Junior High School, Golden Valley; and Minneapolis Central Community School:

March 15-22 ..... 8:30 a.m. to 4 p.m.  
March 23-24 ..... 8:30 a.m. to 8 p.m.  
Closed Saturday

- |          |           |  |
|----------|-----------|--|
| March 24 | Wednesday | 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 30). |
|----------|-----------|--|

**ATTENTION, MAIL REGISTRANTS:** If you are mailing your registration following the close of official registration, please see Late Registrations, page 28.

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|-------------|--|--|
| March 25-27 |  | All offices closed to process registrations. |
|-------------|--|--|

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| March 29 | Monday | Spring Quarter classes begin. All offices resume regular office hours, listed on page 13. |
|----------|--------|---|

Late registration resumes with late fees.

Late registrations made March 29 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 13.

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|-----------|----------|--|
| April 9   | Friday   | Good Friday, holiday.  |
| May 7     | Friday   | Last day for official cancellation of classes without grade. |
| May 31    | Monday   | Classes dismissed; all offices closed.                       |
| June 7-12 |          | Final examination period.                                    |
| June 12   | Saturday | Last day of Spring Quarter.                                  |

# Offices\* and Office Hours Evening and Special Classes

NOTE: Registration hours differ from the office hours listed below. For registration hours see page 7.

**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 26-September 9, 1970 ..... 7:45 a.m. to 4:30 p.m.  
June 14-25, 1971 ..... 7:45 a.m. to 6 p.m.  
June 28-September 8, 1971 ..... 7:45 a.m. to 4:30 p.m.  
Saturday ..... CLOSED

**MacPhail Office (downtown Minneapolis):** 1128 LaSalle Avenue, Minneapolis, Minnesota 55403; telephone 332-4424.

## 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 8 p.m.  
Monday through Friday (July, August) ..... 8 a.m. to 4:30 p.m.  
Saturday ..... CLOSED  
(May be closed without notice for short periods of time during summer)

**The offices below are open for registration during registration hours only. See registration hours, page 7.**

**Minneapolis Central Community School Office:** Minneapolis Central High School, E. 34th Street and 4th Avenue South, Minneapolis, Minnesota 55408; telephone 823-5313.  
Registrations will be taken at Minneapolis Central High School only for classes being taught there.

**Richfield Extension Center Office:** Richfield Senior High School, 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.

\* 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.

**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:** District Office, 1251 West County Road B2, St. Paul, Minnesota 55117; telephone 633-8150, ext. 45.  
Registrations will be taken at the District Office only for classes being taught at the Kellogg Senior High School, 15 East County Road B2, Roseville.

### **Out-State Offices**

**Duluth Office:** 106 Laboratory School Building, 2205 East Fifth Street, Duluth, Minnesota 55812; telephone 724-8996. (Courses offered in Duluth are listed in separate bulletin, which may be obtained from the Duluth Office.)

**Morris Office:** 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:** General Extension Division, 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.)





# Registration Procedures and Information

This section contains

- A** Procedures for registering by mail.
- B** Procedures for registering in person.
- C** Alphabetical listing of information pertaining to registration. In the box below are the subject headings. Full information in alphabetical arrangement begins on page 18. (See also the section on General Information, page 35.)

- |  |                                    |
|--|------------------------------------|
| ● Active Duty Military Personnel   | ● Financial Aids and Loans         |
| ● Admission Requirements   | ● Grades—A-F and P-N               |
| ● Advising and Counseling  | ● Grade Reports and Transcripts    |
| ● Auditors   | ● Graduate Credit                  |
| ● Cancellation of, or Change in, Scheduled Classes (made by department of Evening and Special Classes) | ● Late Registrations and Additions |
| ● Cancellations (how to cancel or drop a course)   | ● Limited Class Registration       |
| ● Course Numbering   | ● Nonlimited Class Registration    |
| ● Credits  | ● Probation                        |
| ● Credits Obtainable Without Required Class Attendance   | ● Prerequisites                    |
|  | ● Refunds                          |
|  | ● Symbols                          |
|  | ● Transferring Classes             |
|  | ● Tuition and Fees                 |

## PROCEDURES FOR REGISTERING BY MAIL

1. The most convenient way to register is by mail. Complete the postcard in the back of this bulletin. Add postage and drop in the mail.
2. A complete packet of registration forms and instructions will be mailed to you. Include payment when you return your completed registration forms. You need not come to campus.

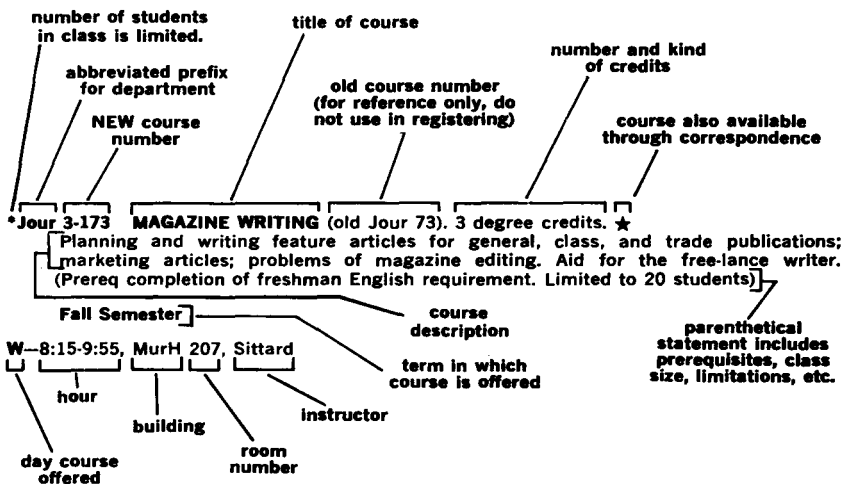
## PROCEDURES FOR REGISTERING IN PERSON

1. Obtain the correct registration and grade report form from any of the Evening and Special Classes offices (listed on page 13), no sooner than two weeks prior to the official opening of the registration period.

Forms are different colors for semester courses, quarter courses, special term courses, or special class courses. (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 (150 Nicholson Hall). 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

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DEPARTMENT OF EVENING AND SPECIAL CLASSES									
UNIVERSITY OF MINNESOTA—GENERAL EXTENSION DIVISION									
REGISTRATION AND GRADE REPORT									
DEPART- MENT	COURSE NO.	NAME OF COURSE	CR*	SEC. NO.	DAY	HOUR	BLDG. & ROOM NO.	GRADE	
Jour	3-173	Magazine Writing	3	-	W	8:15	Mr 4207		

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

TOTAL FEES: Tuition \$42. Spec. \_\_\_\_\_ Mtl. or Lab. \_\_\_\_\_ Late \_\_\_\_\_ Grand Total Fees \$42.

ENROLLMENT PERIOD - Semester: Fall  Spring  19 70

IDENTIFICATION

(REQUIRED FOR OFFICE OF ADMISSIONS AND RECORDS)

1. Birthdate: 3/17/44

2. Birthplace: Baxter, Minn.  
CITY STATE

3. High School: Baxter, Minn.  
NAME 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  
 Evening classes  
 Correspondence courses.

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

P L E A S E P R I N T

M A R Y	J A N E	J O N E S
(FIRST NAME)	(MIDDLE OR MAIDEN NAME)	(LAST NAME)
1234	C E D A R	AV E.
(STREET ADDRESS)	(CITY)	(STATE)
M I N N E A P O L I S	M I N N.	5 5 4 5 5
(CITY)	(STATE)	(ZIP CODE)

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

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

SEMESTER

# ALPHABETICAL LISTING OF REGISTRATION INFORMATION

## Active Duty Military Personnel

(See also Veterans Information, page 42)

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 Evening and Special Classes. Under these programs, eligible military personnel may be entitled to tuition assistance of \$10.50 per quarter credit hour for approved classes. (All classes in this *Evening and Special 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 and fees must be made. Military personnel who do not have the necessary authorization at the time of registration will be required to pay in full for their registration. When the government authorization is received, a refund for the authorized amount will be made. Registration must be made in person at 56 Nicholson Hall, Minneapolis Campus.

## Admission Requirements

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

Registration in specific programs or classes may require prerequisite courses or experience. (See Prerequisites, page 31)

Students wishing to register for graduate credit, refer to page 26.

## Advising and Counseling

The Counseling Office of the General Extension Division offers both counseling and program advising services, without fee, to Extension students and others anticipating registering for evening classes. The office is in 314 Nolte Center; telephone 373-3905.

**Counseling**—Professional counseling and testing services are available to evening 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 decide in what order they should be taken, arrange for examinations for credit or advanced standing, and to handle other academic matters.

During the registration hours (page 7), advisers will be available without appointment in the campus office, 314 Nolte Center and the St. Paul Extension Center office, 192 W. Ninth Street. In the MacPhail Center, 1128 LaSalle Avenue, Minneapolis, advisers are available without appointment during the fall registration periods, from 5 p.m. to 8 p.m., Monday through Friday; please telephone (332-4424) for days and hours during other registration periods.

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

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

## **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 Evening and Special Classes campus office, 57 Nicholson Hall. 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 2 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.

## **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 Evening and Special 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 grade on his grade report. If a student officially cancels from a class before or during the ninth week of any semester, or the sixth week of any quarter, or 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. If he is doing failing work, the instructor may give a grade of "F" (failure). 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 office, regardless of the date of the student's last attendance. 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.

## **Cancellation of, or Change in, Scheduled Classes (made by Department of Evening and Special Classes)**

Classes listed in this *Evening and Special 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.

## **Cancellation of Classes Because of Weather**

(See page 37)

## **Course Numbering**

All University courses for 1970-71 will carry new 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:

- 0-001C Certificate course
- 0-001 No credit course
- 1-001 Degree credit course primarily for freshmen and sophomores (Lower Division)
- 3-001 Degree credit course primarily for juniors and seniors (Upper Division)
- 5-001 Degree credit course for juniors, seniors, and graduate level students
- 8-001 Degree credit course open only to students admitted to the Graduate School

If you wish to take a course beginning with the numeral 5 (degree credit course for juniors, seniors, and graduate level students) for graduate credit, please refer to Graduate Credit, page 26. Graduate students in Part 1 of the MBA program should read page 104.

## 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 evening and special classes must be submitted at time of admission to the college from which the degree is sought.
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.

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

**Residence**—Credits earned in undergraduate evening classes are residence credits; 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 68.

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

## CREDITS OBTAINABLE WITHOUT REQUIRED CLASS ATTENDANCE

### ● *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 evening class students who may be considering entering certain degree programs. A student may receive credit upon passing one or more tests, provided he has not yet completed requirements in the appropriate area. A satisfactory score earns 3 credits in a field as well as exemption from that particular distribution requirement. A total of 9 credits may be earned by any one student through these CLEP examinations. The examinations are given only once per quarter. For information and referral, contact the Counseling Office, 314 Nolte Center, telephone 373-3905.

### ● *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 taken. 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. Registration is indicated by adding a capital "X" after the course number. For assistance in making an X registration, consult the Counseling Office, 314 Nolte Center, telephone 373-3905.

### ● *Independent Study (Correspondence) Courses*

A large selection of independent study courses is available through the General Extension Division. Courses marked in this bulletin with a ★ are also taught through the Independent Study Department. Most University undergraduate degree programs accept independent study credits as partial fulfillment of requirements; all Extension certificate programs accept such credits. The *Independent Study Bulletin* is available from the Evening and Special Classes offices on campus, at MacPhail, and the St. Paul Center, or from the Department of Independent Study, 254 Nicholson Hall, University of Minnesota, Minneapolis, Minnesota 55455, telephone 373-3256.

### ● *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. Students must complete all the work of the class, including reading, written work, and examinations, meeting the same deadlines the class is meeting. Arrangements can be made for any course so listed by an academic department, whether offered in day or evening hours. Registration is indicated by adding a capital "Y" after the course number. For assistance in making a Y registration, consult the Counseling Office, 314 Nolte Center, telephone 373-3905.

### ● *Radio and Television Courses*

The General Extension Division periodically offers courses via University Radio KUOM (770) or over local television stations. Students who meet prerequisites may register for them through the Department of Evening and Special Classes. For additional information, telephone 373-3195.

### ● *Special Examination*

A student who, through independent study, experience, or study at a non-accredited institution, has gained knowledge which is equivalent to that covered by a particular University course may establish credit for such course by passing a special examination on the subject matter covered by the course, provided he is a University evening student at the time he takes the examination and the department offering the course consents. There is a \$20 fee. Please contact the Counseling Office for assistance, 314 Nolte Center, telephone 373-3905.



### ● *University College Independent Study (UC 3-075 [old UC 75])*

University College is empowered to 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 to supervise his project. Ordinarily, projects that can be done through departmental readings courses or directed studies projects are not acceptable for UC 75. Further information may be obtained from the Counseling Office, 314 Nolte Center, telephone 373-3905; or from the University College Office, 106 Nicholson Hall, telephone 373-4638.

## **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 Active Duty Military Personnel, page 18.

Students registering under the authority of the Cold War Veterans Bill (Chapter 34, Title 38, U.S. Code), should refer to page 42.

**Business Firms**—Students are reminded that many employers are willing to help subsidize the education of their employees. Inquiry should be made of company personnel officers.

When requesting registration material, specify whether for semester, quarter, or special term classes; telephone 373-3930.

**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 evening classes. Interested students should inquire at the Counseling Office, 314 Nolte Center, telephone 373-3905.

**Extension Loan Fund**—Extension students who require financial assistance to pay tuition costs may be eligible for a loan not to exceed \$50 in any semester, quarter, or special term. Such loans if granted are payable within 2 months from date of receipt. The interest charge is approximately 50 cents. Applications should be made during any official registration period at any Extension office. Because only limited funds are available, students who need assistance should inquire as soon as possible during the registration periods.

**Federally Insured Loans**—Under the Federally Insured Loan Program a student registered for at least 8 credits in day or evening 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.

## **Grades — A-F and P-N**

**A-F Grading System**—Four permanent passing grades, A (highest), B, C, and D (lowest), indicate acceptable completion of a course. The permanent grade of F (failure) indicates unsatisfactory completion of a course. A student who cancels officially or drops out of class after the midpoint of any semester, quarter, or special term and is failing at the time will receive an F.

A registration symbol of I (incomplete) will be assigned when a student neither earns a final grade by completing a course nor qualifies for a W (withdrawal or cancellation) as defined below. It indicates that the instructor has insufficient information to assign a permanent grade, that some required work is unfinished, or that the student did not attend or left without officially canceling. A student may earn a permanent grade in place of an I with permission of the instructor (or of the department, in the absence of the instructor). For the convenience of both students and instructors, I's should be made up as soon as possible. Students do not have to be registered to make up I's. Approval to make up an I which has been on a student's record for a year or more must be obtained from both the instructor and the Extension Committee on Student Relations and Academic Standing (314 Nolte Center). An I which is not made up remains on the student's record; it does not count in the grade point average. When an I is made up, it is removed from the 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 doing failing work, the instructor will assign the grade of F (failure). It is advisable, therefore, that any student considering cancellation of a class after the ninth week of any semester, or the sixth week of any quarter, or midpoint of any special term discuss the matter with his instructor.

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

**P-N Grading System**—The University is continuing to experiment with a new grading system, directed toward encouraging students to take a variety of courses. The faculty of each college of the University is determining how it will use the new system, which offers students an alternative to the A-F grading.

On the new system, P stands for "pass" and N for "no credit." Neither is calculated 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.

A student not working on a degree or certificate program and not intending to use credits on such a program may elect the P-N system for any course. However, he should be aware of the many limitations on the use of the system. A student working on a degree program, who wishes to take a course on the P-N system, is responsible for checking with his college office as to whether he may do so or not. In general: a student may not take required courses on P-N; he may not take courses in his major field or in prerequisites for his major on P-N; he may not take work for graduate credit on P-N; and he may not present on P-N more than 25 percent of his total course credits toward a degree. In addition, there are specific exclusions in all programs.

The P-N system is not recommended for a student who is trying to improve his grade point average.

A student working on a certificate program may present on P-N up to 25 percent of his total course credits for the certificate. If, however, he is also working toward a degree, he must follow the degree-related regulations. In no case may a student take any of the specific requirements on P-N.

Choice of the P-N system must be indicated for a particular course on the class card at the time of registration, and may not be changed after the first week of classes. There is no fee for changing. Changes must be made in person.

Questions about the P-N system should be referred to the Counseling Office, 314 Nolte Center, telephone 373-3905.

**Grade Point Average**—For purposes of determining grade point average, grade points are assigned to the permanent grades as follows: for each credit of A, 4 grade points; B, 3 grade points; C, 2 grade points; D, 1 grade point; F, 0 grade points. A student's grade point average is determined by dividing the sum of grade points by the sum of credits attempted, both passed and failed. Credits attempted in classes taken on the P-N grading system are not included in determining grade point average.

## **Grade Reports and Transcripts**

Extension students can secure transcripts showing all credits earned in evening 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 the Office of 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.

## Graduate Credit

Only courses numbered with a first digit of "5" or higher may be taken for graduate credit. Courses with a first digit of "8" are open only to persons who have been admitted to the Graduate School.

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

Beginning September 1, 1966, a system of joint registration was adopted by the Graduate School and the General Extension Division. At the same time, the regulations of the Graduate School, relative to course work taken through the General Extension Division, were modified. Students intending to pursue graduate work through Extension should be familiar with the instructions in this bulletin and the *Graduate School Bulletin* (write to Graduate School, 322 Johnston Hall, University of Minnesota, Minneapolis, Minnesota 55455; or telephone 373-2952).

An Extension student registering for graduate credit through the General Extension Division is in one of the following groups:

1. The **adult special student** registers only through Extension; he may petition to transfer to a University of Minnesota graduate record only those courses taken during his first term in Extension classes. If he wishes to take additional work to be applied to his graduate record, he must be admitted to the Graduate School.
2. The **newly admitted graduate student** uses the joint registration procedures; he has been admitted to the Graduate School for a specific term and registers for that term.
3. The **previously enrolled graduate student** uses the joint registration procedures; if he is in good standing, in the same degree program and same major for which he was admitted, and was last in Graduate School within the last 2 years preceding the opening of the term in which he now proposes to register; or in case any of these conditions do not pertain, he has applied for readmission or change of status at least 4 weeks prior to the opening of the term.
4. The **student enrolled for graduate study at another institution** registers only through Extension; he understands that acceptance of his credits is entirely the responsibility of the institution at which he is a degree candidate.

**Joint Registration Procedure**—The evening classes student registering jointly must do so in person on the Minneapolis Campus. Joint registration is not accepted at any other location. First he obtains joint registration materials in the Graduate School, 316 Johnston Hall, telephone 373-2952. After planning his program, he confers with his adviser who must approve the courses selected. The registration materials are then taken back to the Graduate School for processing. Following Graduate School clearance, the student takes the forms to the Evening and Special Classes office, 57 Nicholson Hall, where he fills out Extension registration forms and pays his fees.

Joint registration insures recording of grades on the Graduate School record and eliminates the necessity of petitioning to transfer credits at a later time. All students wishing graduate credit—whether registering jointly or not—must ask the tally clerk in the Evening and Special Classes offices to mark the appropriate class card with the "graduate credit requested" stamp at the time of registration.

Evening courses available for graduate credit are those courses in the *Evening and Special Classes Bulletin* with a first digit of "5" or above and are designated by the statement "Qualified students may register for graduate credit at the University of Minnesota," following the course description. Courses with a first digit of "8" are open only to students currently enrolled in the Graduate School, and must be registered for jointly.

To cancel or add courses, or to transfer, the student obtains the Cancel-Add form in the Graduate School office and fills it out. He gets the approval of his adviser (and the instructor, if necessary) and takes the form to the Graduate School, 316 Johnston Hall. After clearance there, he takes the form to the Evening and Special Classes office, 57 Nicholson Hall, fills out appropriate Extension forms, and leaves all of the forms with the clerk in that office. The student should be sure that he understands Extension regulations with regard to refunds and transfer fees.

**Grades for Graduate Work**—Students taking a first term at the graduate level for transfer to a graduate record and students registering under joint registration procedures with the Graduate School may not take courses under the pass-no credit (P-N) system. For fuller details, please see the *Graduate School Bulletin*.

In courses open to graduates only, the grade of S (satisfactory) may be given.

**Graduate Credit Allowed Under Joint Registration**—The Graduate School will accept up to 12 credits under joint registration on any advanced degree program. However, a department or an adviser may set a maximum below this level for its majors.

The student may take more than 12 credits under joint registration, but he will be able to use no more than 12 credits on his program; he may select the 12 credits he wishes to use.

Since graduate work taken under the joint registration procedure appears on a graduate record, no transfer of credits or petitioning is required.

**Graduate Credit for Work Not Taken Under Joint Registration**—While no more than 12 credits taken in Extension may be used on an advanced degree, the credits need not all be taken under joint registration. A student may take and use graduate credit through Extension in either of the following two ways, but not both:

*Work Taken Prior to September 1, 1966*—Up to 9 credits, taken at the graduate level at the University of Minnesota prior to September 1, 1966, may be petitioned to be applied to a Master's program. Any additional graduate work must be taken under joint registration if it is intended that it be used on an advanced degree. Any combination of such credits is subject to the 12-credit limit.

*Work Taken After September 1, 1966*—Graduate work taken in the Extension student's first term without joint registration may be petitioned to transfer to either the Master's or Ph.D. After the first term, work must be taken under joint registration if it is intended that it be used. Any combination of such credits is subject to the 12-credit limit.

## 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 calendar in the front of this *Evening and Special Classes Bulletin* will be considered late registrations and will be subject to the late fee and conditions listed below:

September 19-27, December 30-January 3, February 11-14, March 25-28 .....	\$3
During the first week of classes .....	\$5
During or after the second week of classes .....	\$10 (if accepted)

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

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

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

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

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

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

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:

1. In person, during registration periods only. See page 7 for registration calendar.
2. In advance by mail.

**Procedure for Obtaining Limited Class Cards and Registration Forms by Mail**—Mail the post card in the back of this *Evening and Special Classes Bulletin* according to dates given below. Mailed requests received before the initial 3-day period specified will be processed after those received at the appropriate time. (Students whose tuition and fees are to be billed to a company, scholarship, or the military, not including Cold War G.I. Bill, must so indicate on the request card.)

Students whose requests are honored for space in classes will be sent reservation cards and registration forms. Cards and forms, with 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. Students whose requests cannot be honored will be notified and their names will be placed on a waiting list.

Places for students obtaining reservation cards by mail will be held until the dates indicated below. If a student fails to mail his class reservation cards, his registration forms, and his tuition and fees by the date indicated, his 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.)

Requests for limited class cards received *in our office* during the initial 3-day period (Monday through Wednesday) will be processed on Thursday. They will be selected at random. Those requests received in our office on the Friday prior to the 3-day period will then be processed. Requests received Thursday through Friday noon of that week will be processed last. Those received after Friday noon of that week *will not be honored*. They will be returned to the sender with a note giving "in-person" registration dates. (Other mail registration continues.) Limited cards will be available again during regular registration periods.

## CLOSED CLASSES

Registrations for a closed class will depend entirely upon availability of space. All people on waiting lists will be taken in the order in which they are placed on the lists. Permission from an instructor to register for a closed class is NOT valid.

## DATES FOR REGISTERING BY MAIL IN LIMITED CLASSES

### Fall Quarter and Semester (August 24-September 4)

August 24-26	Initial 3-day period for receipt of limited class card requests in the Evening and Special Classes Campus Office.
August 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.
September 4	Last day for students to return limited class cards, registration forms, and tuition and fees by mail. (Other mail registration continues.)

### Winter Quarter (November 23-December 8)

November 23-25	Initial 3-day period for receipt of limited class card requests in the Evening and Special Classes Campus Office.
November 30	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 8	Last day for students to return limited class cards, registration forms, and tuition and fees by mail. (Other mail registration continues.)

### Spring Semester (January 11-26)

- |               |  |
|---------------|--|
| January 11-13 | Initial 3-day period for receipt of limited class card requests in the Evening and Special Classes Campus Office.  |
| January 14    | 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 26    | Last day for students to return limited class cards, registration forms, and tuition and fees by mail. (Other mail registration continues.)                                    |

### Spring Quarter (February 22-March 9)

- |                |  |
|----------------|--|
| February 22-24 | Initial 3-day period for receipt of limited class card requests in the Evening and Special Classes Campus Office.  |
| February 25    | 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 9        | Last day for students to return limited class cards, registration forms, and tuition and fees by mail. (Other mail registration continues.)                                    |

## Nonlimited Class Registration

1. In person (see registration schedule, page 7).
2. By mail.
  - A. Registration forms may be obtained by completing and mailing the post card in the back of this *Evening and Special Classes Bulletin*. Registrations 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.
  - B. Mail registration for nonlimited classes may be made in advance of the openings of registration periods. Registration by mail for limited classes must be completed within the dates specified above.
  - C. 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 28.
  - D. No military personnel or any person registering under an authorization from a federal, state, foreign agency, institution, company, scholarship, or loan fund can register by mail without special permission from the Special Registration Office, Department of Evening and Special Classes, 56 Nicholson Hall, Minneapolis Campus, telephone 373-4871. Normally, such registrations must be made in person.
  - E. The evening class student registering jointly with the Graduate School must do so in person on the Minneapolis Campus.
  - F. Students should note that all registration forms are multiple speed forms. It is important, therefore, that a ball-point pen on a hard surface be used in filling out these forms. If all copies are not clearly legible, they will be returned to the sender.



## 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, if these courses have two or more parts, the 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. If you are in doubt as to your qualifications for a course, but believe you are qualified, register for the course and consult the instructor at the first class session. If the instructor decides that you are not qualified, your class card properly endorsed to this effect on the back, by the instructor, will permit you to transfer to another course without penalty or to cancel with a full refund, provided this action is taken before the end of the second week of classes (see Refunds below). 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 evening classes.

Evening students taking classes for credit, who consistently fail to maintain a C average, may be restricted in the number of credits they may carry.

## 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 the Extension Division; when the hour or day of the class is changed by the Extension Division, after a student has registered in it; or when, in the opinion of the instructor, the student does not have the necessary prerequisites, or the student has already had the equivalent material in another class. In this last case, the student must, before the end of the second week of classes:
  - a. Ask the instructor for his copy of the student's class card with an appropriate statement on the back, endorsed by the instructor.
  - b. Present this class card, together with his fee statement, in person at any Extension office. After the second week of classes the regular refund regulations will apply.

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

2. Full refund of all tuition and special fees will also be made to any student who has been recalled, who has enlisted, or has been drafted into military service upon presentation of military orders, provided the student would not be entitled to an appropriate grade at such time.
3. A \$3 registration fee will be charged for cancellation of classes before the first class meeting in any semester, quarter, or special term. The balance of the tuition and special fees will be refunded.
4. Late fees and/or transfer fees are not refundable.
5. Refunds for cancellation of classes after the opening date of each semester, quarter, or special term (except as indicated in item 3 above) will be made as follows:

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

For the student's convenience, this information is also printed on his copy of the registration (pink) 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. 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 28.
- † 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 .....	\$3
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 1 week from date of cancellation of class.

**There will be no transferring between class sections without special permission from the Department of Evening and Special Classes.**

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

## **Tuition and 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 charged and fees do not cover books. Checks or money orders must be drawn for the exact amount due and made payable to the University of Minnesota. No arrangements for partial payment can be made. Students in need of financial assistance should see Financial Aids and Loans, page 23. Students who are not residents of the State of Minnesota pay the same fees in evening and special classes as do residents of the state.

You are not registered until your tuition and fees are paid. After fees are paid, **retain pink copy of your registration.** It is your identification as an evening student and must be presented if you wish to vote in student elections, obtain books from University libraries, or purchase student athletic and symphony tickets.

**See inside front cover for per credit tuition costs.**

# Bookstores

For the convenience of General Extension Division students in securing textbooks and supplies, the following evening schedule has been established by University Bookstores. Students should note that not all Bookstores are open every night.

## **NICHOLSON BOOKSTORE**

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

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

## **MAIN ENGINEERING BOOKSTORE**

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

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

## **WEST BANK BOOKSTORE**

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

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

4:30 p.m. to 6:15 p.m., Monday through Thursday, for the remainder of the school year.

## **ST. PAUL EXTENSION CENTER BOOKSTORE**

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

5:00 p.m. to 8:00 p.m., Monday, February 15 and Wednesday, February 17, for Spring Semester.

## **MAC PHAIL CENTER BOOKSTORE**

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

5:30 p.m. to 6:30 p.m., Thursday, February 18 for Spring Semester.

## **ROBBINSDALE NORTHWEST EXTENSION CENTER BOOKSTORE (SANDBURG JUNIOR HIGH SCHOOL)**

6:00 p.m. to 7:30 p.m., Monday through Thursday for the first week of Fall Quarter, Winter Quarter and Spring Quarter and Fall Semester.

6:30 p.m. to 7:30 p.m., Tuesday, February 16 for Spring Semester.

## **RICHFIELD EXTENSION CENTER BOOKSTORE (RICHFIELD HIGH SCHOOL)**

6:00 p.m. to 7:30 p.m., Monday through Wednesday for the first week of Fall, Winter and Spring Quarters and Fall Semester. Books for Wednesday and Thursday classes will be sold on Wednesday.

6:30 p.m. to 7:30 p.m., Thursday, February 18 for Spring Semester.

## **ROSEVILLE CLASSES BOOKSTORE (KELLOGG HIGH SCHOOL)**

6:00 p.m. to 7:30 p.m., Tuesday, for the first week of Fall, Winter, and Spring Quarters.

## **HOPKINS CLASSES BOOKSTORE (HOPKINS HIGH SCHOOL)**

7:00 p.m. to 7:30 p.m., Monday, September 28, for Fall Quarter.

## **MINNEAPOLIS CENTRAL CLASSES BOOKSTORE (MINNEAPOLIS CENTRAL COMMUNITY SCHOOL)**

6:00 p.m. to 6:30 p.m., Monday, for the first week of Fall Quarter.

6:00 p.m. to 7:00 p.m., Monday, for the first week of Winter and Spring Quarter.



# General Information

For information pertaining to registration, see section beginning on page 15. This information section includes an alphabetical listing of the categories below.

- Art Rentals
- Athletic Facilities
- Athletic Tickets
- Cancellation of Class Meetings Because of Severe Weather Conditions
- Class Attendance
- Committee on Student Relations and Academic Standing
- Day School Students
- Faculty
- Library
- Military Deferments
- Minnesota Orchestra
- Off-Campus and Special Courses
- Parking Facilities
- Student Advisory Board
- Student Representation, University of Minnesota Senate
- Theatre, Artists Course, and Special Lectures
- Transferring Credits Earned in Extension
- Transfers from Other Institutions
- Transfers Within the University
- Transportation Between Campuses
- Upper Division Eligibility
- Veterans Information
- Work Load

## Art Rentals

The University Art Gallery maintains a rental collection of framed original prints, watercolors, and drawings. An evening student may rent compositions for his home or room. Rental times are the first week of each quarter and semester, 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 306 Northrop Auditorium. The cost is 50 cents per composition for each quarter or semester, plus 3 percent sales tax. Students are limited to two compositions at a time.

## Athletic Facilities

A General Extension Division student must be registered for a minimum of 5 credits in Evening and Special Classes or a combined total of 5 credits in evening and day school classes to be eligible to use the athletic facilities of the University, which include the golf course, ice skating rink, tennis courts, gymnasium, and swimming pool. Independent study (correspondence) courses, television courses, or audited courses cannot be included when computing the total credits.

An evening student registered for physical education courses, the credit total of which is fewer than 5, may use the facilities only during the regular meetings of the class for which he is registered.

## Athletic Tickets

Any student enrolled for at least 3 credits in evening classes which carry credit may purchase one student athletic ticket, with the following options:

**Option No. 1—\$17** all-year ticket. Admits to all football, basketball, hockey, gymnastics, baseball, swimming, wrestling and track intercollegiate events. Note: A reserved seat for the season is assigned in football.

**Option No. 2—\$13** football, only, ticket. Admits to all home intercollegiate football games, reserved seat for the season.

**Option No. 3—\$8** all sports except football. Admits to all sports listed in Option No. 1, except football games. Seating is in student-staff areas in basketball and hockey and general admission seating in other sports.

Married students may purchase a second athletic ticket, for use by spouse only, through any of the above three options. Note that spouse ticket need not be the same option 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 Ticket in the Fall:** At Williams Arena lobby on University Avenue across from the Stadium and at Coffman Union from Monday, September 21, through Saturday, September 26, and Monday, September 28.

Hours—9:00 a.m. to 4:00 p.m., daily; except Thursday, September 24, from 9:00 a.m. to 9:00 p.m.; Saturday, September 26, from 9:00 a.m. to noon.

Athletic ticket sales will continue in Cooke Hall after September 28.

**Advance Spring Sale, 1971:** Each spring an advance sale is conducted whereby students may apply for athletic tickets under either Option No. 1 or No. 2, to be picked up at Williams Arena lobby 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. Advance spring sale is held during May of each year. Exact dates for 1971 will be announced in the *Minnesota Daily*, when determined. The \$8 option is on sale beginning after Welcome Week in the fall.

Regulations governing purchase, transfer, and cancellation of the above tickets are available on request to the Athletic Ticket Office, Room 108, Cooke Hall. Telephone 373-3181.

#### 1970 HOME FOOTBALL SCHEDULE

Sept. 26	Ohio University	Oct. 31	Iowa (Homecoming)
Oct. 3	Nebraska	Nov. 14	Michigan State
Oct. 10	Indiana		

### Auditors

(See page 19)

### Bookstores

(See page 34)

### Cancellation of Class Meetings Because of Severe Weather Conditions

Evening classes are rarely canceled for any reason. However, in the event that evening 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 45)

### Class Attendance

Students (including auditors) are responsible for attending classes in which they are registered. A student who cannot attend a class session should arrange with his instructor—in advance, if possible—to make up the work.

### Committee on Student Relations and Academic Standing

There is a committee concerned with academic standing in each college and school of the University, including the General Extension Division. 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.

### Correspondence Study

(See Independent Study Courses, page 22)

## **Counseling**

(See Advising and Counseling, page 18)

## **Course Numbering**

(See page 20)

## **Credits**

(See page 21)

## **Credits Obtainable Without Required Class Attendance**

(See page 21)

## **Day School Students**

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

## **Faculty**

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

## **Grades**

(See page 24)

## **Grade Reports**

(See page 25)

## **Graduate Credit**

(See page 26)

## **Library**

General Extension 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, and the Wilson Library on the West Bank.



**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. Evening students are subject to all library regulations including those in regard to 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.**

## **Military Deferments**

Military deferments are granted by local draft boards and **not** by the Department of Evening and Special Classes. Therefore, students wishing information about deferment requirements should contact their local boards. Students wishing to have their Evening 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 Evening and Special Classes. For further information, call the Symphony Ticket Office, 373-2331.

## **Off-Campus and Special Courses**

It is possible to schedule an existing credit course anywhere off campus (in a school, business, or other neighborhood meeting place) for a group. Also, special noncredit classes can be developed upon request. For further information, call 373-5166.

## **Parking Facilities**

Ample parking is available for evening classes students. (See maps in back of bulletin.) Another parking lot on 15th Street, across from the railroad tracks, is not shown on the maps. On concert nights, students are advised to arrive on campus early, to insure a parking space. Weekday concerts beginning at 8 p.m. are scheduled in 1970-71 for September 29, October 8, November 18, and February 9-10.

## **Prerequisites**

(See page 31)

## **Registration**

(See page 15)

## Student Advisory Board

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

It is composed of the senators and alternates elected by evening students, plus the dean of the General Extension Division (or his representative) and an evening classes faculty member.

All students are urged to communicate ideas, suggestions, and concerns to their Student Advisory Board.

## Student Representation, University of Minnesota Senate

University of Minnesota students, including evening 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 evening students also are allowed to 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 the General Extension Division which, in 1970-71, is entitled to elect eight senators and eight alternates to the Senate. This is the second highest number of representatives electable in any academic unit within the University.

Election of Evening and Special Classes senators and alternates will be held October 20 to 23, 1970. Please read the following carefully.

**Eligibility for candidacy**—A candidate for election from the General Extension Division 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 Evening and/or Special Classes (semester, quarter, and special term registrations count equally). Students wishing to become candidates may file for candidacy in any of the three main offices of the Division: 57 Nicholson Hall, Minneapolis Campus; downtown St. Paul Extension Center office, 9th and Exchange; and the downtown Minneapolis MacPhail Center office, 11th and LaSalle.

**Dates for filing** are September 10 to October 2, 1970.

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.

In addition to individual campaigning, a brief sketch of each candidate's qualifications will be circulated to all students in evening classes.

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.

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

**Polling places**—Students may vote in person in any of the three main offices of the Extension Division: Evening classes office, 57 Nicholson Hall, Minneapolis Campus; downtown St. Paul Extension Center, 9th and Exchange; downtown Minneapolis MacPhail Center, 11th and LaSalle; and in the Student Union, West Bank Campus. Times are 8:30 a.m. to 8 p.m., October 20 through 23, 1970.

**Voting by mail**—Students may also vote by mail (sending in their paid fee statements, which will be returned immediately). Ballots may be obtained by calling 373-3195, or they may be picked up in the offices listed above.

## Symbols

(See page 32)

## 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).

## Transferring Credits Earned in Extension

Credits earned in Extension are entered initially only on an Extension record. A College of Liberal Arts, School of Business Administration, College of Education, or Institute of Technology student wishing to have degree credits earned in Extension put on a day school record should ask the record clerk (in Morrill Hall) of the college in which he is registered to transfer the credits. A General College student must first show his evening 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 the General Extension Division, should submit a transcript of his record to the Counseling Office, 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 for an evaluation (see Advising and Counseling, page 18). 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 evening classes may do so without going through formal transfer procedures. However, if the student plans to complete a degree program through the Department of Evening and Special Classes, he should consult the Counseling Office, 314 Nolte Center, telephone 373-3905. Please read the section on Day School Students, page 38, and Degree Programs, page 68.

## Transportation Between Campuses

Bus transportation between the Minneapolis and St. Paul Campuses is available on city buses 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.

Buses stop at 28th and Como and at Carter and Eckles for students using parking lots near those locations.

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

The West Bank bus runs Monday through Friday from 7:30 a.m. to 5:30 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 40)

## Upper Division Eligibility

Generally speaking, a student should have completed approximately 90 credits before taking an Upper Division course (the first digit of which is 3 or higher). However, competent and mature students may carry such courses without having completed 90 credits.

## 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 1 month of eligibility for each month or part of a month of active service after that date. Maximum period of training is 36 months, but this period is reduced by training taken under other Veterans Administration programs.

**Application** for training under this bill may be made by requesting VA Form 21E-1990 from the Veterans Office, 57 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 57 Nicholson Hall after registering for evening or special 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, 57 Nicholson Hall, in order to insure veteran benefits.

Each time a veteran registers for evening 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:

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

**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, 57 Nicholson Hall, Minneapolis, Minnesota 55455; telephone 373-5777.

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

## **Work Load**

The average person employed full time usually carries one or two classes. However, any person in good standing may carry 12 credits on the semester schedule or 10 credits on the quarter schedule. To carry more than this number of credits all persons, including students who have been dropped or placed on probation by any college of the University of Minnesota or any other institution of higher learning, must have their work loads approved. Such requests must be accompanied by a transcript of previous college work, whether taken at the University of Minnesota or elsewhere. Transcripts of work taken at the University of Minnesota may be secured by calling or writing the Office of Admissions and Records, Window 17, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-2149.

There is no assurance that any credits earned by a student who is in a dropped or probation status will be accepted by the college from which he wishes to earn a degree.



# Extension Certificate and University Degree Programs

## 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-two intensive certificate programs are conducted by the General Extension Division. 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 evening 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.

## Evening Classes

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A student interested in pursuing a certificate program is urged to secure a copy of *Procedures for Obtaining a General Extension Division Certificate* and to complete an *Application for Admission to Certificate Programs* at the earliest possible time so proper counseling can be given. Both forms are available at any Extension office. Advice and information about the various programs, including transfer of credits, may be secured from the Extension Counseling Office, 314 Nolte Center.

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

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

## Liberal Arts Certificate ★

(45 credits)

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

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

### English Requirement (12 credits):

Engl 1-001/1-002/1-003; or Comm 1-001/1-002/1-003; or equivalent

### Spread Requirement (24 credits): 6 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, 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 offered through extension.



## 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 (34 credits):

ArtS 3-131—Interior Design I	ArtH 1-001—Introduction to Art
ArtS 3-132—Interior Design II	Engl 1-001—Freshman English, or
ArtS 5-111—Seminar: Interior Design I	Comm 1-001—Communication
ArtS 5-112—Seminar: Interior Design II	or Comp 0-004C—Business Correspondence
ArtS 1-111—Use of Color	Psy 1-003—Application of Psychology to Living
ArtS 1-112—Layout for Interior Design, or	Spch 0-001C—Beginning Speech—
ArtS 0-003C—Home Design and Planning	Communication or Spch 1-102
ArtS 3-133—Contract Design Seminar	—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. History of Art, 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 5-113/5-114—Interior Design Clinic
4. MIS 0-001C—Introduction to Computers  
Sal 0-001C—Salesmanship  
GC 1-513—Principles of Small Business Operations  
GC 1-551—Marketing: Retailing, Sales and Customer Services  
GC 1-552—Marketing: Advertising and Sales Promotion  
Comp 0-004C—Business Correspondence

## 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):

Comp 0-006C—Basic Technical Writing 1;    Math 1-230—Analysis III  
or Engl 1-001    Math 1-240—Calculus IV  
Math 1-210—Analysis I  
Math 1-220—Analysis II

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

Astronomy  
Chemistry  
Engineering

Geology  
Mechanics and Materials  
Physics

## Police Administration Certificate ★

(45 credits)

The Police Administration Certificate program was planned by departments of the General Extension Division 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 (12 credits):

Engl 1-001/1-002/1-003; or Comm 1-001/1-002/1-003; or Engl 1-001 and 8 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 (15 credits):

Soc 3-101—Elements of Criminology  
PoAd 0-015C\*\*—Methods in Police Super-  
vision  
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 1-001/1-002—General Psychology  
Soc 1-001—Introduction to Sociology

### 6 additional credits selected from:

Pol 1-002—American Government and  
Politics  
Pol 1-025—World Politics  
Soc 5-141—Delinquent Behavior  
Hist 1-301, 1-302—American History

## Public Administration Certificate

(45 credits)

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

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

### Core Requirement (15 credits from the following):

- |  |   |
|--|---|
| PA 0-050C—Legal and Political Environment of Public Administration; or | PA 0-062C—Public Personnel Administration;  |
| Pol 1-001, 1-002—American Government and Politics                      | PA 0-063C—Public Financial Administration   |
| PA 0-060C—Organization and Management; or                              | PA 0-066C—Problems of Public Administration |
| PA 0-102C—Public Management—Concepts and Issues                        | PA 0-105C—Executive Management              |
| PA 0-061C—Municipal Law and Administration                             | PA 0-106C—Advanced Executive Management     |
|  | PA 0-178C—Administrative Responsibility     |

**Spread Requirement:** 15 additional credits in public administration courses listed in this bulletin.

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

Accounting  
Finance  
Child Psychology  
Economics  
Engineering  
Industrial Relations  
Insurance

Nursing  
Political Science  
Psychology  
Recreation Leadership  
Social Work  
Sociology  
Transportation

## Social Work Certificate

(21 credits—in addition to baccalaureate degree)

The Social Work Senior Certificate program was planned by the School of Social Work and departments of the General Extension Division in response to demand from the social welfare community. Director of this program is Professor William Hoffman, 373-5831.

The program consists of six courses, of which the candidate takes five, offered over a two-year span. The courses have been designed 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 21 credits must be taken in its entirety at the University of Minnesota, although some of the courses may become available in other parts of the State than the Twin Cities.

**Prerequisite:** Bachelor's degree.

**Requirements (21 credits):**

SW 5-101—Social Policy Analysis  
SW 5-105—Individual Human Rights and  
Social Work Practice  
SW 5-201/5-202—Normal Social Functioning

SW 5-402/5-403—Practical Problems in the  
Casework Process; or SW 5-412/5-413  
—Practical Problems in Social Group  
Work  
SW 5-315—Practical Problems in Communi-  
ty Organization and Administration

## 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 the General Extension Division. Requirements for the certificate include completion of the basic courses, taken consecutively, plus a successful internship program. Courses are described on page 212.

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, 1970.

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 0-030C—Fundamental Aspects of Drug Abuse and Dependency  
PubH 0-031C—The Disease Process and Social Implications of Drug Dependency  
PubH 0-032C—Counseling the Alcoholic and Other Drug Dependent Persons  
Internship Experience

## World Affairs Certificate ★

(45 credits)

This certificate is offered in cooperation with the University of Minnesota World Affairs Center, and approved by the Interdepartmental Committee on International Relations and Area Studies.

Students transferring credits to this program from other institutions accredited by the University of Minnesota must take a minimum of 12 credits, including 9 in political science, at the University of Minnesota.

Some of the courses in this program are available only through the Independent Study Department of the University of Minnesota; the courses are marked with a double asterisk (\*\*).

### Core Requirements (25 credits):

Pol 1-001, 1-002—American Government and Politics  
 Pol 1-004\*\*—United Nations  
 Pol 1-025—World Politics  
 Pol 3-094\*\*—The Far East in International Relations

Hist 1-301 or 1-302—American History  
 Hist 3-883—History of American Foreign Policy  
 Hist 5-266—Modern Russia

### Recommended (5 credits):

Foreign Language

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

Anth 1-001 or 1-002—Introduction to Anthropology  
 Econ 1-001, 1-002—Principles of Economics  
 Engl 0-008C\*\*—Masterpieces of World Literature  
 Pol 5-443—Government and Politics of the Soviet Union  
 Pol 1-026—American Foreign Policy  
 Hist 5-274—The Modern Near East: Ottoman Empire and Successor States  
 Hist 5-403—Survey of Latin-American History

Hist 1-001 or 1-002 or 1-003—Introduction to Modern European History  
 Hist 3-881—History of American Foreign Policy  
 Pol 5-453\*\*—Japanese Government and Politics  
 Soc 5-201—Social Psychology  
 Trav 0-001—Your Trip to Europe (Preparation for)\*\*

## Accounting Certificates

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

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

### JUNIOR ACCOUNTING CERTIFICATE

(50 credits)

Students transferring credits to this 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:

Engl 1-001/1-002/1-003; or Comm 1-001/1-002/1-003; 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 Calculus; or equivalent	Acct 3-220/3-221—Cost Accounting
	Fin 3-000—Finance Fundamentals

### SENIOR ACCOUNTING

(91 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:

Engl 1-001/1-002/1-003; or Comm 1-001/1-002/1-003; or equivalent  
Comp 1-027—Advanced Writing  
Econ 1-001, 1-002—Principles of Economics  
Math 1-141—Algebra, Probability and Calculus; or equivalent  
Math 1-142—Introduction to Calculus of One and Several Variables  
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 100 or above  
Fin 3-000—Finance Fundamentals  
QA 3-052/3-053/3-054—Quantitative Methods for Administration I-II-III  
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 3-004—Business Policy: Strategy Formulation and Implementation  
Mgmt 3-001—Fundamentals of Management  
Econ 3-101—Microeconomic Theory  
Econ 3-102—Macroeconomic Theory



## Business Administration Certificates

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

It is possible for a student to move from a course of study for a certificate into a planned program leading to a bachelor of science in business degree. Anyone who contemplates such a long-range objective 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 ★

(47 credits)

This certificate, requiring the satisfactory completion of 47 credits of course work, is the equivalent of 1 academic year of full-time study. It offers a firm grounding in most of the basic fields of business administration. All of the credits received in completing the Junior Certificate are automatically credited toward a Senior Certificate and represent half of its required work load.

Students transferring credits 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 (32 credits):

Engl 1-001/1-002/1-003; or Comm 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 Cal-  
culus; or equivalent

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

Prod 3-050—Production Management  
QA 3-052/3-053/3-054—Quantitative  
Methods for Administration I-II-III  
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 3-004—Business Policy: Strategy  
Formulation and Implementation  
Mgmt 3-001—Fundamentals of Management  
Econ 3-101—Microeconomic Theory  
Econ 3-102—Macroeconomic Theory  
Math 1-142—Introduction to Calculus of One  
and Several Variables

## SENIOR BUSINESS ADMINISTRATION CERTIFICATE

(90 credits)

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

Students transferring credits to this program from other institutions accredited by the University of Minnesota must take a minimum of 24 credits, including 18 credits in business administration courses, at the University of Minnesota.

### Prebusiness Requirement (37 credits):

Engl 1-001/1-002/1-003; Comm 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  
Calculus; or equivalent  
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 3-052/3-053/3-054—Quantitative  
Methods for Administration I-II-III  
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 3-004—Business Policy: Strategy  
Formulation and Implementation  
Mgmt 3-001—Fundamentals of Management  
Econ 3-101—Microeconomic Theory  
Econ 3-102—Macroeconomic Theory

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

**Other Electives:** Non-business courses from areas such as physical and biological sciences, 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 School of Business Administration should select electives which could become part of the degree program. These students are therefore urged to complete the prebusiness degree requirements (on page 75).

## Credit and Financial Management Certificate

(54 credits)

The Credit and Financial Management Certificate program was developed cooperatively by the General Extension Division and the School 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.

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 (48 credits):

Acct 1-024—Principles of Accounting— General	Fin 0-002C—Credit and Financial Manage- ment Problems
Acct 1-025—Principles of Accounting— Financial	Mgmt 3-001—Fundamentals of Management
Acct 3-160—Analysis of Financial State- ments	Mgmt 3-002—Psychology in Management
BLaw 3-058, 3-078, 3-088—Business Law	Mktg 3-000—Principles of Marketing
Econ 1-001, 1-002—Principles of Economics	Mktg 3-087—Credits and Collections
Fin 3-000—Finance Fundamentals	Comp 0-004C—Business Correspondence
	Spch 0-001C—Beginning Speech— Communication

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

Acct 3-105—Intermediate Accounting	Mktg 3-080—Purchasing
Acct 3-220—Cost Accounting	OMgt 0-001C—Office Management
Econ 3-751—Money and Banking	Tran 3-054—Fundamentals of Transportation
Fin 3-100—Financial Management	Comp 0-003C—Review of Business English
Ins 3-100—Risk Management and Insurance	
Mgmt 3-003—Interpersonal Management Problems	

## Industrial Relations Certificate

(48 credits)

This program of study 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 to keep abreast of current developments in the profession. Training in this program is valuable in providing an entry into the profession, and completion of the certificate requirements may be regarded as an indication of technical competence in the field.

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

### Core Requirements (42 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  
IR 8-002—Intermediate Labor Marketing  
IR 8-010—Intermediate Manpower Management  
Psy 1-001/1-002—General Psychology  
Psy 3-801—Introduction to Statistical  
Methods  
Psy 5-125/5-126—Differential Psychology

### One of:

Econ 5-531—Economic History of Labor  
IR 5-027—Union Government and Policies

### One of:

Econ 5-561—Economics of Collective  
Bargaining  
IR 3-017—Settlement of Industrial Relations  
Disputes

### One of:

Econ 5-537—Labor Market Behavior and  
Regulation  
Econ 5-534—Economic Security

### Electives (any two 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  
IR 8-013—Labor Education  
IR 8-023—Employee Development and  
Training  
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—Industrial and Occupational  
Sociology  
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 0-410C, 0-411C—Corporate Standard Data  
I, II  
IE 0-420C—Introduction to Operations  
Research  
IE 0-510C—Statistical Quality Control

## Management of Administrative Services Certificates

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

These university-level certificate programs are designed especially for those management employees who have not received such training in schools of business or commerce, in order to assist them in becoming more competent in their present positions and to improve their opportunities for advancement. In addition to the certificates granted by the General Extension Division on completion of the prescribed programs, the student may be entitled to certificates of the Administrative Management Society. Persons interested in the latter certificates may telephone or write Mr. James Tait, 1072 Rome Drive, Rosemount, Minnesota 55068; telephone 432-4283.

### ASSOCIATE IN MANAGEMENT OF ADMINISTRATIVE SERVICES 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, including 6 credits in business administration courses, at the University of Minnesota.

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

Comp 0-003C—Review of Business English;  
or Comp 0-004C—Business Correspondence;  
or Engl 1-001; or Comm 1-001;  
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  
Calculus; or equivalent

Psy 1-001/1-002—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 45 credits total for the certificate.

## FELLOW IN MANAGEMENT OF ADMINISTRATIVE SERVICES CERTIFICATE

(90 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 (41-47 credits):

Comp 0-003C—Review of Business English  
and Comp 0-004C—Business Correspondence; or Engl 1-001/1-002/1-003; or, Comm 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 Calculus; or equivalent  
Psy 1-001/1-002—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 and Negotiable Instruments

**Electives:** Additional courses from the following list of 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

## Engineering Science and Engineering Technician Certificates

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

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

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

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

It is recognized that many capable students would like to complete an engineering degree. Such students should plan to complete the Senior Engineering Science Certificate and apply for admission to the Institute of Technology. Third-year Upper Division degree-credit classes in civil engineering, electrical engineering, mechanical engineering, and mathematics are available for evening students. It is unlikely, however, that it will be possible to complete any engineering degree program entirely in the evening for some time to come.

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

Entrance into the Senior Engineering Science program or any of the Senior Engineering Technician programs is made upon completion of the Basic Engineering Science Certificate. An Application for Admission to Certificate Programs should be completed by the student so that advisers can give effective counseling. This blank is available at any General Extension Division office.

## BASIC ENGINEERING SCIENCE CERTIFICATE

(50 credits)

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

Students transferring credits to this program from other institutions accredited by the University of Minnesota must take a minimum of 13 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 (41 credits):

Math 1-210—Analysis I  
Math 1-220—Analysis II  
Math 1-230—Analysis III  
EG 1-025 (or EG 0-004C/0-005C)—  
Engineering Graphics

Phys 1-210/1-215/1-220/1-225—General  
Physics and Laboratory  
Engl 1-001/1-002/1-003—Freshman English;  
or equivalent

**Electives:** Courses from nontechnical or biological science electives ††, to make a minimum of 50 credits total for the certificate.

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



**SENIOR ENGINEERING SCIENCE CERTIFICATE**

(100 credits—includes 50 credits from Basic Engineering Science Certificate)

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

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

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

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

**Prerequisite:** Completion of Basic Engineering Science Certificate.

**Core Requirement (30 credits):**

Math 1-240—Calculus IV

Math 1-250—Calculus V

Phys 1-230/1-235—General Physics and  
LaboratoryPhys 3-500/3-505—Modern Physics and  
LaboratoryGeCh 1-004/1-005—General Principles of  
Chemistry**Spread Requirement: A minimum of 6 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 1-400/1-401—Electrical Engineering  
Laboratory

EE 1-500/1-501—Circuit Analysis

CE 3-400—Fluid Mechanics

Math 3-091—Elementary Engineering  
Statistics orME 3-720—Introduction to Engineering  
Analysis

**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 100 credits, including those from the Basic Certificate.

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

## SENIOR CIVIL ENGINEERING TECHNICIAN CERTIFICATE

(100 credits—includes 50 credits from Basic Engineering Science Certificate)

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

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

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

**Prerequisite:** Completion of Basic Engineering Science Certificate.

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

Math 1-240—Calculus IV  
Math 1-250—Calculus V  
GeCh 1-004/1-005—General Principles  
of Chemistry  
AEM 1-015—Statics  
AEM 3-016—Deformable Body Mechanics  
AEM 3-036—Dynamics

EE 1-500/1-700—Circuit Analysis; Laboratory  
Phys 1-230/1-235—General Physics and  
Laboratory  
Phys 3-500/3-505—Modern General Physics  
and Laboratory  
CE 3-400—Fluid Mechanics  
Nontechnical ††

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

CE 3-100—Survey Engineering  
CE 3-101—Elements of Land Development  
CE 3-102—Engineering Geomatics  
CE 3-200—Highways and Pavements  
CE 3-300—Elements of Soil Mechanics  
CE 3-301—Highways and Pavements  
CE 3-400—Fluid Mechanics  
CE 3-605—Elementary Structural Analysis  
CE 5-100—Land Surveying  
CE 5-101—Land Planning and Subdivision  
Design

CE 5-102—Aerial Surveying and  
Photogrammetry  
CE 5-401—Applied Hydraulics  
CE 5-405—Hydrology  
CE 5-600—Intermediate Structural Analysis  
CE 5-601—Elementary Structural Design  
CE 5-602—Advanced Structural Design  
CE 5-603—Shell Structures  
CE 5-611—Reinforced and Prestressed  
Concrete

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

## SENIOR ELECTRICAL ENGINEERING TECHNICIAN CERTIFICATE

(100 credits—includes 50 credits from Basic Engineering Science Certificate)

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

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

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

**Prerequisite:** Completion of Basic Engineering Science Certificate.

### Core Requirement (47 credits):

Math 1-240—Calculus IV	EE 3-050/3-051—Electronics I-II
Math 1-250—Calculus V	EE 3-400/3-401—Junior Electrical Engineering Laboratory
Math 1-260—Calculus VI	Engl 3-085—Technical Writing for Engineering
AEM 3-036—Dynamics	Phys 1-230/1-235—General Physics and Laboratory
EE 1-400/1-401—Electrical Engineering Laboratory	
EE 1-500/1-501—Circuit Analysis	

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

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

## SENIOR INDUSTRIAL ENGINEERING TECHNICIAN CERTIFICATE

(99 credits—includes 50 credits from Basic Engineering Science Certificate)

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

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

The requirements for the Senior Industrial Engineering Technician Certificate program are listed below. No substitutions are permitted in this program.

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

**Prerequisite:** Completion of Basic Engineering Science Certificate.

### Core Requirement (29 credits):

Math 1-240—Calculus IV  
Math 1-250—Calculus V  
AEM 1-015—Statics  
AEM 3-016—Deformable Body Mechanics  
Engl 3-085—Technical Writing for Engineering

IE 0-100C—Industrial Engineering and Management  
Math 3-091—Elementary Engineering Statistics, or  
ME 3-720—Introduction to Engineering Analysis

**Concentration Requirement (20 credits):** Select at least four courses from the following industrial engineering courses:

IE 0-210C—Motion and Time Study  
IE 0-360C—Inventory and Production Control  
IE 0-410C, 0-411C—Corporate Standard Data I, II

IE 0-420C—Introduction to Operations Research  
IE 0-510C—Statistical Quality Control  
IE 0-511C—Advanced Statistical Quality Control

**SENIOR MECHANICAL ENGINEERING TECHNICIAN CERTIFICATE**

(100 credits—including 50 credits from Basic Engineering Science Certificate)

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

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

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

**Prerequisite:** Completion of Basic Engineering Science Certificate.

**Core Requirement (42 credits):**

Math 1-240—Calculus IV	AEM 1-015—Statics
Math 1-250—Calculus V	AEM 3-016—Deformable Body Mechanics
ME 5-200—Analysis of Mechanism Systems	Engl 3-085—Technical Writing for Engineering
ME 5-201—Mechanical Engineering Systems Analysis	Phys 1-230/1-235—General Physics and Laboratory
ME 5-301/5-302—Thermodynamics	

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

Industrial Engineering	IR 0-001C, 0-002C, 0-003C
Mechanical Engineering	Econ 1-001, 1-002—Principles of Economics
Electrical Engineering	Met 3-401—Physical Metallurgy
Mathematics	AEM 3-036—Dynamics
Psy 1-001/1-002—General Psychology	

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

## UNIVERSITY DEGREE PROGRAMS

It is possible through evening classes (sometimes in combination with correspondence study) to meet all of the requirements for the following regular University degrees: the associate in arts (A.A.), the associate in liberal arts (A.L.A.), the bachelor of arts (B.A.) in certain major fields, and the bachelor of science in business (B.S.B.).

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

As soon as a student has decided that he wishes to pursue a degree program, he should contact a member of the Committee on Student Academic Standing, 373-3905, who will assist in:

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

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

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

## Undergraduate Degrees

### ● ASSOCIATE IN ARTS (A.A.)

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 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 Evening and Special Classes. (A list of General College courses offered through Evening and Special Classes is found on page 140.)

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.

## ● ASSOCIATE IN LIBERAL ARTS (A.L.A.)

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

Requirements for the A.L.A. degree are based on either the old or the new course requirements for admission to the Upper Division of the Arts College.

A student under the "New Requirements" (see page 72 for eligibility) plans his program in terms of the outline starting on page 73. He must meet the freshman English requirement and complete one of the following two plans:

- (1) a foreign language through course number 3, and 9 credits from each of the groups A, B, C, and D, including work in both areas of group C; (2) 9 credits from group B (including lab) and 15 credits from each of the groups A, C, and D, including work in both areas of Group C. He must present an over-all C average.

From the "Old Requirements" list (see page 73 for eligibility), these distribution requirements must be met: English (A), and at least three of the other four: foreign language (B), social science (C), natural science (D), and humanities (E). No grade point average is specified.

Under either set of requirements the student must complete 90 credits, at least 45 of which must be earned following admission to the College of Liberal Arts. This constitutes the college residence requirement. Any or all of the first 45 credits may also be taken through the Department of Independent Study. A copy of the *College of Liberal Arts Bulletin* is essential for the A.L.A. degree candidate student. The bulletin may be obtained by calling the Service Bureau, 373-2153. In addition, a copy of *Procedures for Obtaining the Associate in Liberal Arts Degree through Extension* should be obtained from the General Extension Division Minneapolis Campus Office, 57 Nicholson Hall; the St. Paul Extension Center, 9th and Exchange St.; or the Counseling Office, 314 Nolte Center for Continuing Education, Minneapolis Campus.



● BACHELOR OF ARTS (B.A.)

The Bachelor of Arts degree from the College of Liberal Arts may be earned in certain major fields through evening classes. Part of the degree program may also be met through 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 this decision.

A candidate for the B.A. degree completes a minimum of 180 acceptable credits. The first 90 credits are taken in the Arts College Lower Division; the final 90 in the Upper Division (75 credits must be Upper Division courses). The set of requirements on page 72 outlines the program to be followed while the student is in the Lower Division. When he has completed these requirements and is admitted to the Upper Division, he selects a major field and his studies become somewhat more concentrated. In planning a Lower Division program, the student should fulfill whatever prerequisites may be required by his major.

The following majors may be completed entirely in evening classes:

Studio Art	Political Science
Economics	Psychology—Sequence B
English	Interdepartmental
History	

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

- Humanities: all but 6 credits in humanities.
- Psychology: Sequence A—all but 12 credits in Upper Division psychology courses.
- Social Welfare: all but 14 credits in 3-001, 3-005, and one in Soc 5-401 or 5-405 and one in Soc 5-505, 5-501, 5-511.

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 Service Bureau, 373-2153. In addition, a copy of *Procedures for Obtaining the Bachelor of Arts Degree Through Extension* should be obtained from the General Extension Division, Minneapolis Campus Office, 57 Nicholson Hall; the St. Paul Extension Center, 9th and Exchange St.; or the Counseling Office, 314 Nolte Center for Continuing Education, Minneapolis.

**Eligibility for New or Old Distribution Requirements**

The current (new) requirements for the College of Liberal Arts went into effect in 1967 (for new freshmen) and 1969 (for new advanced standing students). Only the following students may follow the old distribution requirements: any student officially admitted to CLA and registered in classes before Summer Session, 1967; any student with 39 or more previously earned credits who was officially admitted to CLA and registered for classes before Summer Session, 1969. All other students must follow the new requirements. Any questions about eligibility should be checked with a CLA College office.

## Evening Classes

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

#### **NEW REQUIREMENTS**

##### Freshman English

Engl 1-001/1-002/1-003 or Comm 1-001/1-002/1-003 or exemption from requirement.

##### Foreign Language

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

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

The table above shows the usual relationship between high school and college study. Placement in the college course usually is determined by examination. Students with 2 or more years of Latin in high school may satisfy this requirement by continuing in Latin on the above schedule or by taking 15 credits in another language.

##### Distribution

Complete 54 credits, including:

- 9 credits from one area in each of groups A, B, and D;
- 18 credits from group C, with a minimum of 6 credits in each area;
- 9 credits from one of the remaining areas in groups A, B, and D or from an part of group C.

At least 3 credits must be offered from a department to count. No more than two departments may be used in each area. No more than 12 credits may be used from one department for all groups (even though courses from some departments may be used in more than one group).

Courses used for freshman English and foreign language requirements may not be used for distribution requirements.

##### **Group A: Communication, Language, Symbolic Systems**

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

##### **Group B: Physical and Biological Sciences**

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

**Group C: Man and Society**

- Area 1 Analysis of human behavior and institutions
- Area 2 Development of civilization: historical and philosophical studies

**Group D: Artistic Expression**

- Area 1 Literature
- Area 2 The Arts

See College of Liberal Arts Bulletin for a listing of courses under each heading. Extension students may call 373-3905 for a copy of CLA courses offered through General Extension.

**OLD REQUIREMENTS**

**A. Freshman English:** old Engl A-B-C; or old Comp 1-2-3; or Comm 1-001/1-002/1-003; or equivalent.

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

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

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

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>1. Anthropology</li> <li>2. Economics (except 40)</li> <li>3. Business administration (only old Mgmt 1 and old QA 5 accepted)</li> <li>4. Geography</li> <li>5. History</li> </ul> | <ul style="list-style-type: none"> <li>6. Political science</li> <li>7. Psychology</li> <li>8. Sociology</li> <li>9. Social science (interdisciplinary programs)</li> </ul> |
|---|---|

## Evening Classes

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

1. Biological sciences: botany, psychology, zoology, general biology
2. Physical sciences: astronomy, chemistry, earth sciences (geology), physics, Physical World
3. Mathematics (except old 1, 1-002, 1-119, old 21)
4. Orientation in the natural sciences (a student presenting credits in only NSci 1-001/1-002 must take his additional work in other than group D2)

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

1. Art
2. English literature
3. Classics
4. Foreign literature
5. History
6. Humanities
7. Mathematics (except 0-005, 1-008, 1-119, old 21)
8. Music
9. Philosophy
10. Speech and theatre arts (except 1-106, 1-108, 1-110, old 39)

**F. Electives:** Additional credits to make a total of 90.

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†† Introductory natural science courses which count toward the laboratory requirement are Biol 1-001/1-002; GeCh 1-004/1-005, 1-024/1-025; Geo 1-001/1-002; NSci 1-004/1-005/1-006; Phys 1-010/1-020/1-030 with 1-015/1-025/1-035, old 4-5 and 1-060, old 7-8 and 1-290, 1-001/1-002, 1-210/1-215, 1-220/1-225; Psy 1-001/1-002 with 1-004/1-005. Nonlaboratory courses include Ast 1-011; old Biol 1A-2A; Bot 1-009, 1-012, old 14; Math 1-008, 1-111, 1-140; NSci 1-001/1-002/1-003; Phys 1-010/1-020/1-030; Psy 1-001/1-002.

## ● BACHELOR OF SCIENCE IN BUSINESS (B.S.B.)

The Bachelor of Science in Business degree from the School of Business Administration may be earned through Evening and Special 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 School of Business Administration for admission. Under any circumstances, a minimum of 45 credits must be earned after such application and admission.

Students are referred to the *School of Business Administration Bulletin* for full information on lower division prebusiness requirements and upper division B.S.B. degree requirements.

A copy of *Procedures for Obtaining the Bachelor of Science in Business Degree through Extension* should be obtained from the General Extension Division Minneapolis Campus Office, 57 Nicholson Hall; the St. Paul Extension Center, 9th and Exchange St.; or the Counseling Office, 314 Nolte Center for Continuing Education, Minneapolis.

### FOR STUDENTS WHO ENTERED THE SCHOOL OF BUSINESS ADMINISTRATION FALL QUARTER, 1968, OR LATER

#### I. Communication, language, symbolic systems

##### A. Freshman English—9-12 credits

Engl 1-001/1-002/1-003—Freshman English (9-12)

Comm 1-001/1-002/1-003 (12)

Exemption from the requirement

##### B. Mathematics—10 or more credits

Math 1-141 (or Math 1-441)—College Algebra

Math 1-142 (or Math 1-442 and 1-443) or Math 1-210 and 1-220—Calculus

Math 0-009, Preparatory Mathematics, and Math 1-008, Trigonometry, may be prerequisite for Math 1-141 or 1-441. Students who plan to take course work in mathematics beyond the level of elementary calculus should take Math 1-442 and 1-443 rather than Math 1-142.

#### II. The physical and biological sciences—9 credits

In a single natural science to be selected from botany, chemistry, geology, physics, zoology or Natural Science 1-004/1-005/1-006 (Physical World). All courses must include laboratory. This requirement can be met only with the following courses (or higher numbered courses):

Biol 1-001/1-002†—General Biology (10)

GeCh 1-004/1-005†—General Principles of Chemistry (10)

Phys 1-010/1-015/1-020, 1-025/1-030, 1-035—Introduction to Physical Science (12)

NSci 1-004/1-005/1-006—The Physical World (12)

Geo 1-001, 1-002—Physical Geology, Historical Geology (9)

#### III. Man and Society—15-17 credits

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

Psychology 1-001/1-002† (6)

Sociology 1-001 (3)

† All courses listed before the dagger must be completed to receive credit.

## Evening Classes

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### IV. Artistic Expression—9 credits

Students must fulfill the University requirement of 9 credits in Artistic Expression before entering the School of Business Administration. Only the following courses may be used to meet this requirement:

AmSt 3-301/3-302/3-303  
Arch 1-021, 3-051, 3-055, 3-056  
ArtH 1-001, 1-009, 1-011, 1-012, 1-013, 3-001, 3-059, 3-921, 3-922, 3-923  
ArtS 1-101, 1-102, 1-103, 1-104, 1-105, 1-301, 1-302, 1-303, 1-501, 1-502, 1-801  
Clas 1-042, 1-142, 1-046, 3-081, 3-082, 3-083, 3-091, 3-092, 3-093  
Engl 1-821, 1-822, 1-823, 1-937, 1-938, 1-939, 3-155/3-156, 3-827, 3-828, 3-829,  
3-966/3-967, 3-721, 3-722, 3-723, 3-875, 3-877, 3-878, 3-879  
East and South Asian Languages: Chin 5-201, 5-202, 5-203; Jpn 5-201, 5-202,  
5-203; Hindi 3-801  
Ger 3-601, 3-602, 3-603  
Hum 1-001, 1-002, 1-003, 1-004, 1-011, 1-012, 1-013, 1-101, 1-102, 1-103, 3-001  
through 3-006, 3-011, 3-012, 3-013, 5-030  
Jour 5-606  
Lat 3-462/3-463  
Middle Eastern Languages: Arab 3-201/3-202/3-203  
Mus—All courses  
Spch 1-104, 3-201, 3-202, 3-203, 3-204, 5-201  
Th 1-101 1-321, 1-322, 1-326, 1-405, 1-501, 1-502, 1-503, 3-321, 3-322, 3-323,  
3-512, 3-514, 3-516, 3-801, 3-802, 3-803

### V. Business courses—9 credits

Acct 1-024/1-025, 1-026—Principles of Accounting (9)

VI. Students planning to enter the B.S.B. accounting program are required to complete Comp 1-027—Advanced Writing (3) in addition to the above.

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

## 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, School of Business Administration, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-5505 (see page 104).

### ● ELECTRICAL ENGINEERING

Requests for information about evening graduate work in electrical engineering should be addressed to the Department of Electrical Engineering, Institute of Technology, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-2486.



# Special Community Lecture and Discussion Series

The Department of Evening and Special Classes offers community lecture and discussion programs for members of the Twin Cities community.

Each meeting in the series will usually consist of a lecture for the first hour and discussion for the last 30 minutes. Each will feature one or more University faculty members and/or community resource people who are experts on the topics being discussed. The series is:

1. **Informative:** Each topic explores different and timely aspects of the social sciences and humanities.
2. **Convenient:** The series is held in central Minneapolis or St. Paul and follows a bi-weekly schedule.
3. **Flexible:** While certain general themes are indicated below, specific topics may be chosen according to events timely when the series is conducted. Also, every attempt will be made to cover aspects of the subject suggested by the audience-participants during the question period. (Suggestions are also invited for future series.)

A complete listing of all speakers and separate topics will be available in September. To receive further information and registration materials, please mail the form at the back of this bulletin or call 373-3195.

## MINNEAPOLIS AREA COMMUNITY LECTURE AND DISCUSSION SERIES

Presented in cooperation with the Greater Minneapolis Area Council of Churches

### Fall

**Ecology, Technology, and Society: Selected Issues.** Non-credit. \$7.50.

The ecological and technological crisis; the problem of social values; limits of natural resources; the arms race; population growth.

**Special Class**

Tuesdays, 8:00-9:30 p.m.

Oct. 27, Nov. 10, 24, Dec. 8

Minnesota Church Center, 122 West Franklin

**Winter**

**Theatre Fare in Minneapolis-St. Paul.** Non-credit. \$7.50.

Local Theatre: functions, forms and styles; current Twin City fare: the plays and the playwrights; theatre criticism in Minneapolis-St. Paul: the various roles of the critic; where do we go from here?

**Special Class**

Mondays, 8:00-9:30 p.m.

Jan 25, Feb 8, 22, March 8

Minnesota Church Center, 122 West Franklin

**Spring**

**Problems of Democracy in the 70's.** Non-credit. \$7.50.

Democracy and crisis politics: how effectively can and does a democracy deal with crises? Democratic policies in the seventies: What democratic solutions are possible to the problems of equality, civil rights and other issues? Foreign policy of a democracy: how does the formulation of foreign policy differ from the development of domestic policy? Foundations of democracy in society: the institutionalization of democracy. The Bill of Rights: is it alive and well in America today?

**Special Class**

Tuesdays, 8:00-9:30 p.m.

April 13, 27, May 11, 25

Minnesota Church Center, 122 West Franklin

**ST. PAUL AREA COMMUNITY LECTURE  
AND DISCUSSION SERIES**

Presented in cooperation with the St. Paul Jewish Community Center

**Fall**

**The New Europe: Issues in the 70's.** Non-credit. \$7.50.

Western European integration: promise and prospect; relations between eastern and western Europe; Europe, Asia and Africa; the U.S. presence in western Europe.

**Special Class**

Mondays, 8:00-9:30 p.m.

Oct 19, Nov 2, 16, 30

St. Paul Jewish Community Center

1375 St. Paul Avenue

**Winter**

**The City in American Literature.** Non-credit. \$7.50.

The challenge of the city; the city as Babylon; the city as wilderness; the lost city.

**Special Class**

Wednesdays, 8:00-9:30 p.m.

Jan 27, Feb 10, 24, March 10

St. Paul Jewish Community Center

1375 St. Paul Avenue



## Spring

**Current Issues in the Humanities.** Non-credit. \$7.50.

Existentialism as a twentieth-century phenomenon; tensions between the two worlds — sciences and humanities; messages of the new media; art and ideas of the twentieth century.

**Special Class**

Mondays, 8:00-9:30 p.m.

April 12, 26, May 10, 24

St. Paul Jewish Community Center

1375 St. Paul Avenue

## SPECIAL ON-CAMPUS SERIES

### Winter

**The New Economics in the 70's: Description and Appraisal.** Non-credit. \$7.50.

The new economics—macro: role of government in the economy: income, employment, economic growth, inflation; the new economics—micro: systems and cost-effectiveness analysis: can they make government more efficient, less unwieldy?

**Special Class**

Tuesdays, 8:00-9:30 p.m.

Jan 26, Feb 9, 23, March 9

Nolte Center for Continuing Education

### Fall Dinner-Discussion Seminar

**Problems of the Seventies: American Foreign Policy and International Politics.**

This program is especially designed for business and professional men and women, husbands and wives in the Twin Cities area who wish to exchange views on important issues with distinguished University faculty members and with each other. The series meets on alternate Thursdays in the Campus Club in Coffman Memorial Union for dinner, followed by a lecture and discussion session.

**Problems of the Seventies.** Non-credit. \$60.00. (cost of dinner extra)

The seminar will look at some of the international issues America will face in this decade: arms control, international cooperation, political competition, and the formation of U.S. policy. Leading faculty from the different disciplines will act as seminar leaders.

October 8—December 17, bi-weekly

Thursdays, Dinner at 6:00 p.m.

Lecture and discussion from about 7:15 to 9:30 or 10:00

# Women's Continuing Education

The following courses are especially designed for women. Registration is conducted through the Department of Women's Continuing Education, 315 Nolte Center, and may be made by mail. For information, call 373-9743.

## Daytime Liberal Arts Seminars

- \***American Studies 5-401/5-402/5-403† IDEAS IN AMERICA** (old AmSt 171, 172, 173). 3 degree credits each quarter; \$45 per quarter plus \$10 special fee.  
Basic American beliefs conditioning our current thought examined in historical context. (Qualified students may register for graduate credit at the University of Minnesota.) **Fall, Winter, Spring Quarters:** Wednesdays, 9:30 a.m.-12:00, Coffman Memorial Union. Faculty Coordinator: Chambers
- \***Humanities 5-041/5-042/5-043† ARTS OF READING** (old Hum 141-142-143). 3 degree credits each quarter; \$45 per quarter plus \$10 special fee.  
To develop critical judgment and deeper understanding of literature-novels, poetry, drama. (May not be taken for graduate credit.) **Fall, Winter, Spring Quarters:** Fridays, 9:30 a.m.-12:00, Coffman Memorial Union. Faculty Coordinator: Smith
- \***Humanities 5-021/5-022/5-023† NEW WORLDS OF KNOWLEDGE** (old Hum 121-122-123). 3 degree credits each quarter; \$45 per quarter plus \$10 special fee.  
A wide range of topics from the sciences, social sciences and humanities areas provide an overview of the old and new views of the familiar. A flexible schedule with some options for time of attendance. (May not be taken for graduate credit.) **Fall, Winter, Spring Quarters:** Times to be announced, Coffman Memorial Union. Faculty Coordinator: Hurrell

**Summary Statement:** Registration for the above courses is for the entire year. No credit until the three quarters are completed.

- \***Social Science 5-101/5-102/5-103† CULTURE AND SOCIETY** (old SocSci 101-102-103). 3 degree credits each term; \$45 plus \$10 special fee.  
Variety of cultures studied to gain better perspective on cultural changes and current problems. (May not be taken for graduate credit.) **Winter, Spring Quarters, First Summer Session:** Tuesdays, 9:30 a.m.-12:00, Coffman Memorial Union. Faculty Coordinator: Berman
- \***The Woman in America.** No credit. \$45 per quarter plus \$10 special fee.  
The discussions will explore the place of women in American life from early days to the present. Readings will be selected from historical documents, literature, psychology and sociology. **Fall and Winter Quarters:** Mondays, 9:30 a.m.-12:00, Coffman Memorial Union. Chambers

## Classes for Credit at MacPhail Center

- Humanities 3-004/3-005 HUMANITIES IN THE MODERN WORLD** (old Hum 54, 55). 3 degree credits. \$42.  
**Fall Quarter:** Introduction to humanities between the two world wars, communism, freudianism, fascism. **Winter Quarter:** modern art and philosophy, existentialism. **Fall and Winter Quarters:** Thursdays, 9:30 a.m.-12:00, MacPhail Center
- Astronomy 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. **Fall Quarter:** Fridays, 9:30 a.m.-12:00, MacPhail Center. Kaufmanis
- Anthropology 5-101 PRINCIPLES OF CULTURAL ANTHROPOLOGY** (old Anth 100). 3 degree credits. \$42.  
Intensive introduction to elements of cultural anthropology. Analysis of range and variability of human behavior. Principles of cultural dynamics. (May not be taken for graduate credit.) **Fall Quarter:** Tuesdays, 9:30 a.m.-12:00, MacPhail Center. Miller, Kiste, and others

## Classes for Credit in St. Paul

**American Studies 1-101, 1-102, 1-103 AMERICAN LIFE** (old Hum 21, 22, 23). 3 degree credits. \$42.

Fall Quarter: Individualism and the American Dream. Winter Quarter: Philosophy and Religion. Spring Quarter: Nationalism. Fall, Winter, Spring Quarters: Thursdays, 9:30 a.m.-12:00, St. Paul location. Pray, Dorr

## Non-Credit Workshops

### Guidelines for Women

A short course for women who are thinking of returning to school to help them assess their interests and capabilities through tests and discussion of the problems involved in pursuing further education or planning a new career. Offered November and June. Instructor: Schletzer

### Reading and Study Skills Workshops

To learn more efficient ways of studying and better reading habits. Offered in August and one other time during the year. Instructors: Wark and Kagan

# Courses for Credit Available on KUOM Radio

*J. Edward Anderson, Associate Professor of Mechanical Engineering*

*Evile Gorham, Professor of Botany*

*Douglas C. Pratt, Associate Professor of Botany*

**Biol 3-051 BIOLOGY AND THE FUTURE OF MAN** (old Biol 57). 4 degree credits.

A non-technical 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. Questions may be submitted by students. Discussions and examinations arranged by instructor. (No prereq)

### Fall Quarter

**MWF—11:15 a.m.-12:00,**  
KUOM (770 kc),  
Gorham and Pratt

**SSci 3-402 ECOLOGY, TECHNOLOGY AND SOCIETY** (old SSci 82). Same as ME 3-082 (old ME 82). 3 degree credits.

Object of the course is to acquaint the student with major problems of the next decade. Subjects include arms race, population growth, air and water pollution, natural resources, and waste disposal. Students will learn how these problems are related to each other and to his own value system, and how he can partake constructively in their solution. Questions may be submitted by students. Discussions and examinations arranged by instructor. (No prereq)

### Winter Quarter

**MWF—11:15 a.m.-12:00,**  
KUOM (770 kc),  
Anderson

## Building Abbreviations

- A, Armory  
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  
  
C, Chemistry  
Cen HS, Central High School (E. 34th Street and 4th Avenue South, Minneapolis)  
Chem Annex S, Chemistry Annex S  
CD, Child Development  
CH, Cooke Hall  
CMU, Coffman Memorial Union  
CofH, Coffey Hall (St. Paul Campus)  
  
DinC, Dining Center (St. Paul Campus)  
  
EdH, Eddy Hall  
Ex, Experimental Engineering  
  
FolH, Folwell Hall  
ForH, Ford Hall  
  
HH, Haecker Hall (St. Paul Campus)  
HolB, Holman Building (2035 University Avenue)  
Hop HS, Hopkins High School (101 Highway 7, Hopkins)  
Hr, Horticulture (St. Paul Campus)  
  
J, Jones Hall  
JohH, Johnston Hall  
  
Kel HS, Kellogg High School (15 E. County Road B2, Roseville)  
  
MacP, MacPhail Center (1128 LaSalle Avenue, Minneapolis)  
MainE, Main Engineering  
Mayo, Mayo Memorial  
  
McNH, McNeal Hall (St. Paul Campus)  
MechE, Mechanical Engineering  
MH, Millard Hall  
MinMet, Mines and Metallurgy  
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  
  
P, Pillsbury Hall  
PeikG, Peik Gymnasium (across street from Peik Hall)  
PeikH, Peik Hall  
Ph, Physics  
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  
SocSci, Social Sciences Building  
StP Ext, St. Paul General Extension Center (9th and Exchange)  
  
TSF, Temporary South of Folwell  
VetC, Veterinary Clinic (St. Paul Campus)  
VH, Vincent Hall  
  
WaLib, Walter Library  
WeH, Wesbrook Hall  
WuH, Wulling Hall  
  
Z, Zoology



## Evening and Special Classes Course Offerings

**Fall Quarter — September 28-December 19**

**Fall Semester — September 28-January 30**

**Winter Quarter — January 4-March 20**

**Spring Semester — February 15-June 12**

**Spring Quarter — March 29-June 12**

## Accounting

Your attention is called to the Accounting Certificate programs; see page 54.

David Abramson, Lecturer in Accounting  
Dave Beckley, Lecturer in Accounting  
William Cummings, Lecturer in Accounting  
Will Dombrowske, Lecturer in Accounting  
William J. Duma, Lecturer in Accounting  
Edmund Gotlieb, Lecturer in Accounting  
Jack Gray, Professor of Accounting  
James Hove, Lecturer in Accounting  
Herbert Ihle, Lecturer in Accounting  
Thomas Kaliher, Lecturer in Accounting  
Robert Katz, Lecturer in Accounting  
Willis Kerns, Lecturer in Accounting  
Harold Klose, Lecturer in Accounting  
Louis Plutzer, Lecturer in Accounting  
Leonard A. Rapoport, Lecturer in Accounting  
Charles Rolando, Lecturer in Accounting  
John K. Simmons, Associate Professor of Accounting  
Dale Skurdahl, Lecturer in Accounting  
Jay M. Smith, Jr., Associate Professor of Accounting  
Joseph Toone, Lecturer in Accounting  
Max Zamansky, Lecturer in Accounting  
Robert K. Zimmer, Associate Professor of Accounting  
Dave Zuelke, Lecturer in Accounting

### First-Year Accounting Courses

- Acct 1-024 PRINCIPLES OF ACCOUNTING—GENERAL** (old Acct 24). 3 degree credits, §Acct 3-050. ★  
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, §Acct 3-051. ★  
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, §Acct 3-051.  
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 business management purposes; (b) those who intend to be practicing accountants (and who expect, therefore, to continue with the second-year and advanced accounting courses); (c) those who wish an introduction to the "language of business" as part of a liberal education. These courses are not designed to train students to be bookkeepers.

Persons with prior background or training may receive credit in one or more of these courses by passing an advanced standing examination. These exami-

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

nations will be given at the following times in 632 Business Administration Building (West Bank):

- Acct 1-024 Wednesday, September 9, 7:00 p.m.  
Wednesday, September 16, 7:00 p.m.  
Wednesday, December 16, 7:00 p.m.  
Wednesday, January 27, 7:00 p.m.
- Acct 1-025 Thursday, September 10, 7:00 p.m.  
Thursday, September 17, 7:00 p.m.  
Thursday, December 17, 7:00 p.m.  
Thursday, January 28, 7:00 p.m.
- Acct 1-026 Friday, September 11, 7:00 p.m.  
Friday, September 18, 7:00 p.m.  
Friday, December 18, 7:00 p.m.  
Friday, January 29, 7:00 p.m.

The three courses are scheduled on three plans:

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

**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).

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. May not be taken for graduate credit)

**Fall Semester**

**Spring Semester**

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

**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, §Acct 3-050/3-051. ★ 1-024/1-025.

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)

**MINNEAPOLIS CAMPUS, WEST BANK**

**Fall Semester**

**Spring 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**

- 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**

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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

### MAC PHAIL CENTER

#### Fall Semester

- 1-024 Th—6:00-7:40, MacP 416
- 1-025 Th—7:55-9:45, MacP 416

#### Spring Semester

- 1-024 Th—6:00-7:40, MacP 416
- 1-026 Th—7:55-9:45, MacP 416

### ST. PAUL EXTENSION CENTER

#### Fall Quarter

- 1-024 MW—5:30-6:45,  
StP Ext
- 1-024 Th—5:30-8:00,  
StP Ext

#### Winter Quarter

- 1-025 MW—5:30-6:45,  
StP Ext
- 1-025 Th—5:30-8:00,  
StP Ext

#### Spring Quarter

- 1-026 MW—5:30-6:45,  
StP Ext
- 1-026 Th—5:30-8:00,  
StP Ext

### SANDBURG JUNIOR HIGH SCHOOL

#### Fall Quarter

- 1-024 Th—7:00-9:30,  
Sand JHS 206

#### Winter Quarter

- 1-025 Th—7:00-9:30,  
Sand JHS 206

#### Spring Quarter

- 1-026 Th—7:00-9:30,  
Sand JHS 206

### RICHFIELD SENIOR HIGH SCHOOL

#### Fall Quarter

- 1-024 M—7:00-9:30,  
Rich HS 214

#### Winter Quarter

- 1-025 M—7:00-9:30,  
Rich HS 214

#### Spring Quarter

- 1-026 M—7:00-9:30,  
Rich HS 214

### CENTRAL HIGH SCHOOL

#### Fall Quarter

- 1-024 M—7:00-9:30,  
Cen HS 219

#### Winter Quarter

- 1-025 M—7:00-9:30,  
Cen HS 219

#### Spring Quarter

- 1-026 M—7:00-9:30,  
Cen HS 219

### HOPKINS HIGH SCHOOL

#### Fall Quarter

- 1-024 M—7:00-9:30,  
Hop HS

#### Winter Quarter

- 1-025 M—7:00-9:30,  
Hop HS

#### Spring Quarter

- 1-026 M—7:00-9:30,  
Hop HS

### KELLOGG HIGH SCHOOL

#### Fall Quarter

- 1-024 T—7:00-9:30,  
Kel HS 237

#### Winter Quarter

- 1-025 T—7:00-9:30,  
Kel HS 237

#### Spring Quarter

- 1-026 T—7:00-9:30,  
Kel HS 237

\*Acct 1-024/1-025, 1-026 PRINCIPLES OF ACCOUNTING (COMBINED) (old Acct 24-25, 26), 9 degree credits, §Acct 3-050/3-051. ★ 1-024/1-025.

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, AndH 270

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

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

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



Corporations, proprietorships, nonprofit organizations and con-  
 Analysis and interpretation of financial statements. (Prereq 1-026  
 and 1-002 for 3-105 [see page 84 for advanced standing examina-  
 1-005 and Math 1-141 or § for 3-106; 3-105 for 3-107)

**Fall Semester**

**Spring Semester**

- 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

**3-106** W-6:20-8:00, BlegH 420

**Fall Quarter**

**Winter Quarter**

**Spring Quarter**

- 3-105** T-6:30-9:00,  
 Sand JHS 212  
 (Limited to 35  
 students\*)  
**3-105** T-5:30-8:00,  
 StP Ext  
 (Limited to 35  
 students\*)

- 3-106** T-6:30-9:00,  
 BlegH 115  
 (Limited to 35  
 students\*)

- 3-107** T-6:30-9:00,  
 BlegH 210

**Acct 3-160 ANALYSIS OF FINANCIAL STATEMENTS** (old Acct 55D). 3 degree credits,  
 §Acct 3-107.  
 Interpretation and analysis of financial statements for credit, investment, and mana-  
 gerial purposes. (Prereq 1-026 or §)

**Spring Semester**

**M-6:20-8:00, BlegH 255**

**Acct 3-220/3-221 COST ACCOUNTING** (old Acct 115A-115B). 3 degree credits each semes-  
 ter, §Acct 3-255.

3-220: Practices, principles, and procedures of handling production costs for use  
 in inventory valuation and income determination. Job order, process, and standard  
 cost systems. A brief introduction to standard cost as a tool of cost control.  
 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 84 for advanced stand-  
 ing examinations]; 3-220 for 3-221)

**Fall Semester**

**Spring Semester**

- 3-220** M-6:20-8:00, BlegH 255  
 (Limited to 35 students\*)  
**3-220** M-8:15-9:55, BlegH 255  
 (Limited to 35 students\*)

- 3-221** M-6:20-8:00, BlegH 335  
**3-221** M-8:15-9:55, BlegH 335

**Acct 5-125 AUDITING PRINCIPLES AND PROCEDURES** (old Acct 125). 3 degree credits. ★  
 Verification of financial data, including consideration of auditing procedures and  
 their application. Preparation of working papers and audit reports is emphasized.  
 (Prereq 3-107 or ¶3-107. May not be taken for graduate credit)

**Fall Semester**

**W-6:20-8:00, BlegH 240**

**Acct 5-180 ADVANCED ACCOUNTING** (old Acct 185A). 3 degree credits.

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-8:15-9:55, BlegH 145**

**Acct 5-275 INTRODUCTION TO INFORMATION PROCESSING SYSTEMS** (old Acct 175B).  
 3 degree credits.

Analysis and design of computer-based information systems. Analysis of informa-  
 tion requirements, design approaches, processing methods, data management, and  
 control of operations. Also includes introduction to programming with the COBOL  
 business-oriented language. Meets twice during each week to allow more frequent  
 experience with the computer. (Prereq 1-025, 1-026, MIS 3-100, MIS 8-208 or §.  
 May not be taken for graduate credit)

**Winter Quarter**

**MW-6:30-7:45, BlegH 245**

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## **Aerospace Engineering and Mechanics**

(formerly Aeronautics and formerly Mechanics and .

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

Gordon S. Beavers, *Associate Professor of Aeronautical Engineering,*

Allan A. Blatherwick, *Professor of Mechanics and Materials*

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

### Ground School Courses for Air Pilots — General Information

The University's General Extension Division Ground School offers courses 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 certificated by, the F.A.A. as an Approved Basic and Advanced Ground School, and offers to its students all of the privileges extended by the F.A.A. to such approved schools.

It is to the flight student's advantage to complete the Ground School studies and F.A.A. written examinations as early as possible in his or her flight-training program, as there is a 2-year time limit, following the completion of an F.A.A. written examination, 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), the General Extension Division 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.

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 following series of terms.

Stewart Almleaf is coordinator for the program, and Anders Christenson teaches the commercial pilot phase in Terms I, II, and III.

Persons desiring further information regarding this course are advised to contact the Department of Evening and Special Classes, General Extension Division, telephone 373-3930, or Mr. Christenson, telephone 881-9614.

#### **Special Terms**

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. Tuition equivalent to 4 credits.

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.

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

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.

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

Registration can be accomplished at any University General Extension Division office.

Persons desiring further information regarding this course can contact the instructor, Stewart Almleaf, telephone 429-4678 or 698-2434. (No prereq. Limited to 50 students)

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
Th-7:00-9:40, Aero 209, Almleaf	Th-7:00-9:40, Aero 209, Almleaf	Th-7:00-9:40, Aero 209, Almleaf

**\*AEM 1-015 STATICS** (old MM 35). 4 degree credits. ★  
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 or ¶1-240 and Phys 1-210, or ‡ AEM 1-015 may be substituted for AEM 1-092. Limited to 30 students)

**Fall Semester**  
Th-6:20-8:40, Aero 211, Beavers

**\*AEM 3-016 DEFORMABLE BODY MECHANICS** (old MM 37). 4 degree credits.  
Introductory treatment of stress and strain at a point. Stress-strain relation in two dimensions. Linear theory of torsion. Bending stresses. Deflection of determinate and indeterminate beams. Instability. (Prereq AEM 1-015, Math 1-240 or ¶1-240, or ‡ AEM 3-016 may be substituted for AEM 1-093. Limited to 30 students)

**Spring Semester**  
Th-6:20-8:40, Aero 215, Blatherwick

**\*AEM 3-036 DYNAMICS** (old MM 36). 4 degree credits, §Phys 5-010 or 5-020. ★  
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 or ¶1-250 and Phys 1-210, or ‡ Limited to 30 students)

**Fall Semester**  
Th-6:20-8:40, Aero 215, Blatherwick

## Afro-American Studies

*Lillian Anthony, Associate Professor of Afro-American Studies*  
*Reginald Buckner, Teaching Associate in Afro-American Studies*  
*Milton Williams, Instructor in Afro-American Studies*

**Afro 1-025 PERSONALITY OF BLACK PEOPLES** (old Afro 25). 3 degree credits.  
This course will begin to give in-depth use to the development of the Black psyche, the Black person, and his culture. (No prereq)

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
T-5:30-8:00, BlegH 340, Anthony	T-5:30-8:00, BlegH 340, Anthony	T-5:30-8:00, BlegH 340, Anthony

Symbols explained on page 32.  
See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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**Afro 1-030 THE MUSIC OF BLACKNESS** (old Afro 30). 4 degree credits.  
Lecture, discussion, demonstration of Black music in America. (No prereq)

**Fall Quarter**

M-5:30-8:00, BlegH 245,  
Buckner

**Afro 1-045 AN INTRODUCTION TO THE HISTORY AND CULTURE** (old Afro 45). 5 degree credits.

An exploration of the human condition of Black people in the United States. Information and materials will be drawn from the two broadest areas of human experience; namely history and culture. (No prereq)

**Fall Quarter**

W-7:00-9:30, Cen HS 216,  
Milton

(See also **BEGINNING TWI**, page 234)

## American Studies

(Courses meet same distribution requirements as College of Liberal Arts Humanities, page 153)

(See also Humanities [CLA], Humanities [General College], and History)

*William Agee, Lecturer in American Studies*

*Starling W. Price, Associate Professor of Rhetoric*

**AmSt 1-101 AMERICAN LIFE** (old Hum 21). 3 degree credits.

Individualism and the American Dream. Readings of varying length from a variety of authors including Franklin, Tocqueville, Emerson, Thoreau, Whitman, Lewis, Farrell, and Fitzgerald. Industrial and union folk songs. Social obligations and the problem of conformity. (No prereq)

**Fall Quarter**

M-6:20-8:50, Ph 145,  
Agee

Th-6:20-8:50, Ph 145, Agee

**Winter Quarter**

W-7:00-9:30, Sand JHS  
Cafeteria, Agee

**Spring Quarter**

T-5:30-8:00, StP Ext,  
Agee

**AmSt 1-102 AMERICAN LIFE** (old Hum 22). 3 degree credits.

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)

**Fall Quarter**

T-5:30-8:00, StP Ext,  
Agee

W-7:00-9:30, Cen HS 216,  
Price

**Winter Quarter**

M-6:20-8:50, Ph 145,  
Agee

Th-6:20-8:50, Ph 145,  
Agee

**Spring Quarter**

W-7:00-9:30, Sand JHS  
Cafeteria, Agee

**AmSt 1-103 AMERICAN LIFE** (old Hum 23). 3 degree credits.

Two topics are investigated: (a) American attitudes toward the environment (nature, the city, and the machine). Readings from Jefferson, Crevecoeur, 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)

**Fall Quarter**

W-7:00-9:30, Sand JHS  
Cafeteria, Agee

**Winter Quarter**

T-5:30-8:00, StP Ext,  
Agee

W-7:00-9:30, Cen HS 216,  
Price

**Spring Quarter**

M-6:20-8:50, Ph 145,  
Agee

Th-6:20-8:50, Ph 145,  
Agee

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Anatomy

(See Natural Science, GC 1-132, page 193)

## Anthropology

*Frank C. Miller, Professor of Anthropology*

*Charles Watrall, Instructor in Anthropology*

### **Anth 1-001 INTRODUCTION TO ANTHROPOLOGY: PREHISTORIC MAN AND CULTURE** (old Anth 1A). 3 degree credits. ★

Origins of man and development of modern races. Growth and differentiation of cultures of man from Dawn Stone Age of early glacial times through Old and New Stone Ages to dawn of civilization in Bronze and Iron Ages. (No prereq)

#### **Fall Quarter**

T-6:20-8:50, ForH 155,  
Watrall

#### **Winter Quarter**

T-6:20-8:50, ForH 155,  
Watrall

### **Anth 1-002 INTRODUCTION TO ANTHROPOLOGY: CULTURAL ANTHROPOLOGY** (old Anth 2A). 3 degree credits. ★

Human behavior as revealed through study of societies in all parts of world. Scientific analysis of ways in which men organize their lives, directed toward broader understanding of human capacities and purposes. (No prereq)

#### **Fall Quarter**

Th-6:20-8:50, ForH 155,  
Miller

#### **Winter Quarter**

W-5:30-8:00, StP Ext

### **\*Anth 3-211 INDIANS OF NORTH AMERICA** (old Anth 80). 3 degree credits.

Survey: aboriginal cultures of North America. Effects of culture contact. Contemporary problems of Indian reservations and communities. (Prereq 1-002 or 5-101 or ‡. Limited to 50 students)

#### **Fall Quarter**

W-6:20-8:50, ForH 155,  
Watrall

### **\*Anth 5-361 CULTURE AND PERSONALITY** (old Anth 165). 3 degree credits.

Role of culture in formation of personality. Problems of individual adjustments to demands of culture. Psychological approach to culture. (Prereq 1-002 or 5-101 or ‡. Limited to 50 students. May not be taken for graduate credit)

#### **Spring Quarter**

Th-6:20-8:50, ForH 115

### **\*Anth 5-381 CULTURAL CHANGE AND DEVELOPMENT** (old Anth 150). 3 degree credits.

Processes of cultural change; invention, diffusion, and acculturation. Effects of colonialism, urbanization, and modernization. Analysis of developing societies. (Prereq 1-002 or 5-101 or ‡. Limited to 50 students. May not be taken for graduate credit)

#### **Spring Quarter**

T-6:20-8:50, ForH 120

### **\*Anth 5-532 OLD WORLD PREHISTORY: EUROPE, NEAR EAST, AND AFRICA** (old Anth 137). 3 degree credits.

Recent period prehistory stressing the origins, development, and dispersion of systems of food production; the origins of urbanism. (Prereq ‡. Limited to 50 students. May not be taken for graduate credit)

#### **Spring Quarter**

W-6:20-8:50, ForH 115,  
Watrall

## Arabic

(See Middle Eastern Languages)

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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### Archaeology

(See Anthropology and Classics)

### Architecture

*John Myers, Professor of Architecture*

*George Winterowd, Professor of Architecture*

**Arch 0-024 REFRESHER COURSE IN ARCHITECTURAL DESIGN AND SITE PLANNING.** No credit. Tuition equivalent to 4 credits.

A review of basic design principles for candidates for the State Board examinations. (No prereq)

**Special Term**

(October 15 to December 3)

Th—4:00-6:00, Arch 135, Myers

**Arch 1-021 ARCHITECTURAL THEORY AND HISTORY.** (old Arch 21). 4 degree credits.

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 prerequisite for the architectural history sequence, 3-051 through 3-056. May be used as a refresher course for the State Board examinations)

**Fall Quarter**

W—6:20-9:40, Arch 130,  
Winterowd

**Winter Quarter**

W—6:20-9:40, Arch 130,  
Winterowd

**Spring Quarter**

W—6:20-9:40, Arch 130,  
Winterowd

**\*Arch 3-055 AMERICAN ARCHITECTURE AND THE NINETEENTH CENTURY** (old Arch 55). 3 degree credits.

The history of pre-Columbian and colonial architecture in America and European architecture through the early 19th century. (Prereq 1-021 or §; 3 lecture hrs per week. Limited to 100 students)

**Fall Quarter**

M—6:20-8:50, Arch 130, Winterowd

(Home Design and Planning—See page 94)

### Art Education

(Education)

*Clifton A. Gayne, Jr., Professor of Art Education*

*Theron Hegg, Instructor in Art Education*

*Mary Hiniker, Instructor in Art Education*

*Jay Kain, Instructor in Art Education*

*George K. Olson, Assistant Professor of Art Education*

**ArEd 1-207 EXPERIENCES WITH PICTORIAL EXPRESSION** (old ArEd 17C). 3 degree credits. Tuition plus \$2 materials fee.

Survey of art in life and education. Materials, techniques, and ideas important to children's art expression, relationship to adult expression, and significance in educational growth. (No prereq)

**Fall Quarter**

Th—6:20-8:50, WuH 240, Gayne

**Spring Quarter**

M—6:00-8:30, WuH 220,  
Olson

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**ArEd 1-208 EXPERIENCES WITH DESIGN, MATERIALS** (old ArEd 18C). 3 degree credits.  
Tuition plus \$2 materials fee.

Relationship between art and nature. Problems in invention, arrangement and decoration, color, lettering, poster, and bulletin board displays. (No prereq)

**Fall Quarter**

**M**—6:00-8:30, WuH 220,  
Olson

**Winter Quarter**

**Th**—6:20-8:50, WuH 240,  
Gayne

**ArEd 1-209 EXPERIENCES WITH FUNCTIONAL DESIGN, CRAFTS** (old ArEd 19C). 3 degree credits. Tuition plus \$2 materials fee.

Influence of art on modern life. Typical opportunities for integrated experiences. Clothing, architecture and interior design, community planning, commercial and industrial design, puppetry, dramatics, intercultural relations, holiday projects, etc. (No prereq)

**Spring Quarter**

**Th**—6:20-8:50, WuH 220,  
Gayne

**\*ArEd 3-020 CONTEMPORARY CRAFTS** (old ArEd 80C). 3 degree credits. Tuition plus \$5 materials fee.

Basic materials, equipment, design criteria and techniques for textile, wood, metal, and ceramics. Contemporary emphasis for application to educational programs in elementary and secondary schools, adult education, special education, recreation, and occupational therapy. (No prereq. Limited to 30 students)

**Fall Quarter**

**T**—6:20-8:50, WuH 120, Kain

**Spring Quarter**

**T**—6:20-8:50, WuH 120, Kain

**\*ArEd 3-030 PUPPETRY** (old ArEd 81C). 3 degree credits.

Use of simple puppetry as a teaching technique; problems of motivation and correlation with school subjects; construction, manipulation, and stage techniques related to school situations. (No prereq. Limited to 30 students)

**Spring Quarter**

**T**—6:20-8:50, WuH 220,  
Olson

### 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 two following courses have been specially designed for state-wide 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 Miss Huldah Curl, Continuing Education in Art, 317 Nolte Center for Continuing Education, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-5147.

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Art History

Robert Poor, Associate Professor of Art History

Herbert Scherer, Lecturer in Art History

M. Alison Stones, Assistant Professor of Art History

Michael Stoughton, Assistant Professor of Art History

Donald R. Torbert, Professor of Art History

Melvin Waldfoegel, Professor of Art History

**\*Arth 1-001 INTRODUCTION TO ART** (old Arth 1). 3 degree credits, §3-001. Tuition plus \$2 laboratory fee. ★

A comprehensive survey of the main problems of meaning, form, and style in the visual arts (architecture, sculpture, painting, the graphic arts, and photography) of the various cultures and periods. The course attempts to enable students to interpret works of art critically by relating them to their geographic, historical, and social origins, and by placing them within the proper phases in the evolution of art. The course touches on the main periods of art history and is designed to familiarize students with the critical and technical vocabulary used in the literature of art. (No prereq. Limited to 150 students. For Upper Division credit, register in Arth 3-001)

**Fall Quarter**

T—6:20-8:50, Arch 25,  
Torbert

**Winter Quarter**

T—6:20-8:50, Arch 25,  
Torbert

**Spring Quarter**

T—6:20-8:50, Arch 25,  
Torbert  
W—6:20-8:50, Arch 25,  
Scherer

**Arth 1-009 HISTORY OF SCULPTURE, PAINTING, AND ARCHITECTURE: MEDIEVAL ART** (old Arth 10). 3 degree credits, §old 2, old 3, old 56, old 57. Tuition plus \$2 laboratory fee.

Medieval architecture, sculpture, and painting, including early Christian, Byzantine, Romanesque, and Gothic periods. (No prereq)

**Fall Quarter**

Th—6:20-8:50, Arch 25, Stones

**Spring Quarter**

Th—6:20-8:50, J 207B,  
Stones

**Arth 1-011 HISTORY OF SCULPTURE, PAINTING, AND ARCHITECTURE: RENAISSANCE AND BAROQUE ART** (old Arth 11). 3 degree credits, §old 4, 58. Tuition plus \$2 laboratory fee.

From 15th to 18th century, including Renaissance, 16th century, Baroque, and Rococo periods. (No prereq)

**Spring Quarter**

W—6:20-8:50, J 207B,  
Stoughton

**Arth 1-012 HISTORY OF SCULPTURE, PAINTING, AND ARCHITECTURE: NINETEENTH AND TWENTIETH CENTURIES** (old Arth 12). 3 degree credits, §old 5, 60. Tuition plus \$2 laboratory fee.

Modern architecture, sculpture, and painting, 19th and 20th centuries. (No prereq)

**Spring Quarter**

M—6:20-8:50, J 207B,  
Waldfoegel

**Arth 1-013 INTRODUCTION TO FAR EASTERN ART** (old Arth 13, 47). 3 degree credits, §old 47. Tuition plus \$2 laboratory fee.

Selected major themes within broad context of Indian and Far Eastern art. Introduction to arts of Eastern world but not an inclusive historical survey. (No prereq)

**Fall Quarter**

W—6:20-8:50, J 207A, Poor

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



\*Arth 3-001 INTRODUCTION TO ART (old Arth 50). 3 degree credits, §1-001. Tuition plus \$2 laboratory fee.

See course description as listed under Arth 1-001. (Prereq: Limited to those students eligible for Upper Division credit. Limited to 150 students)

**Fall Quarter**

T-6:20-8:50, Arch 25,  
Torbort

**Winter Quarter**

T-6:20-8:50, Arch 25,  
Torbort

**Spring Quarter**

T-6:20-8:50, Arch 25,  
Torbort  
W-6:20-8:50, Arch 25,  
Scherer

Arth 5-213 ART OF NORTHERN EUROPE, INTERNATIONAL STYLE (old Arth 113A). 3 degree credits. Tuition plus \$2 laboratory fee.

Sculpture, painting, manuscripts, and selected minor arts; royal patronage in Paris, London, Burgundy, Prague, and the Netherlands. (Prereq 3 credits Arth or §. Qualified students may register for graduate credit at the University of Minnesota)

**Winter Quarter**

M-6:20-8:50, J 207A, Stones

Arth 5-358 EIGHTEENTH-CENTURY ART IN ITALY, GERMANY, AUSTRIA (old Arth 128). 3 degree credits. Tuition plus \$2 laboratory fee.

Major examples of architecture, sculpture, painting, prints, and the decorative arts from the late Baroque to the Neo-Classical period on both sides of the Alps. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

**Winter Quarter**

W-6:20-8:50, J 207B,  
Stoughton

Arth 5-431 EUROPEAN PAINTING AND SCULPTURE OF THE NINETEENTH CENTURY (old Arth 131). 3 degree credits, §old 156. Tuition plus \$2 laboratory fee.

Romanticism mainly in France during first half of the century with parallels in England, Germany, and Spain. (Prereq 3 credits Arth or §. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

M-6:20-8:50, J 207B, Waldfoegel

Arth 5-432 EUROPEAN PAINTING AND SCULPTURE OF THE NINETEENTH CENTURY (old Arth 132). 3 degree credits, §old 157. Tuition plus \$2 laboratory fee.

Realism, Impressionism, and Post-Impressionism as both French and European styles during the second half of the century. (Prereq 3 credits Arth or §. Qualified students may register for graduate credit at the University of Minnesota)

**Winter Quarter**

M-6:20-8:50, J 207B,  
Waldfoegel

Arth 5-711 ART OF CHINA (old Arth 111). 3 degree credits. Tuition plus \$2 laboratory fee.

Development of architecture, painting, sculpture, and minor arts. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

**Winter Quarter**

W-6:20-8:50, J 207A, Poor

Arth 5-712 ART OF JAPAN (old Arth 112). 3 degree credits. Tuition plus \$2 laboratory fee.

Development of painting, sculpture, and minor arts from earliest times to present. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

**Spring Quarter**

W-6:20-8:50, J 207A, Poor

(See also GC 1-311, GENERAL ARTS, page 156)

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Art Statewide

A variety of credit and non-credit courses in Art History is offered throughout the state. Examples are Art Appreciation, 20th Century Art, Survey of Oriental Art, and Historical Interpretation of Contemporary Painting. Courses can be set up for an interested group on request. For further information call or write Miss Huldah Curl, Director, Continuing Education in Art, 317 Nolte Center for Continuing Education, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-5147.

## Art, Studio

*Phyllis Ames, Instructor in Art*  
*Karl Bethke, Assistant Professor of Art*  
*Ralph Brown, Lecturer in Art*  
*Thomas Cowett, Instructor in Art*  
*Alexander Dekker, Lecturer in Interior Design*  
*Allen Downs, Professor of Art*  
*Benjamin A. Gingold, Jr., Lecturer in Art*  
*Alice Goacher, Assistant Professor of Art*  
*Lynn A. Gray, Instructor in Art*  
*Raymond Hendler, Associate Professor of Art*  
*Curtis C. Hoard, Assistant Professor of Art*  
*Michael J. Hopkins, Color Consultant*  
*Donald Jardine, Assistant Professor of Art*  
*Alan E. Kraning, Assistant Professor of Art*  
*Leah M. Lewis, Professor of Interior Design*  
*Malcolm Myers, Professor of Art*  
*Wayne Potratz, Instructor in Art*  
*Zigmunds Priede, Associate Professor of Art*  
*Eleanor Quirt, Instructor in Art*  
*Herman Rowan, Associate Professor of Art*  
*Herman Somberg, Instructor in Art*  
*Harry C. Webb, Lecturer in Photography*

All studio drawing and painting classes will meet for a 2½-hour period. Those students who wish to receive degree credit in these courses will be expected to do some work outside of class. Unless otherwise indicated, students may register for any unit number of these sequences in any semester, provided units are satisfactorily completed in the order listed or instructor's consent is obtained for registration in an advanced unit on the basis of background and ability. Advanced standing credit will be granted in special cases for work done elsewhere—consult chairman of Department of Studio Arts; telephone 373-3663.

**ARTS 0-003C HOME DESIGN AND PLANNING.** 3 certificate credits. Tuition plus \$1 materials fee.

Basic principles and elements of residential environment design and planning. Design criteria, values, and methods. Techniques of programming, plan drawing, architectural criticism. Discussion of site and interior design, concepts of family living, building materials and methods, climate control, building restrictions, financing, and the relationship of these factors to planning technique. Relationship of

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

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, MacP 221, Gingold

**(Students in all photography classes must furnish their own cameras)**

**\*Phot 0-001C COLOR PHOTOGRAPHY I.** 3 certificate credits. Tuition 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, WeH 202, Webb

T-8:15-9:55, WeH 202, Webb

**Spring Semester**

T-6:00-7:40, WeH 202, Webb

**\*Phot 0-002C COLOR PHOTOGRAPHY II.** 3 certificate credits. Tuition 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, WeH 202, Webb

**See also ArtS 1-701, 1-702, 3-701/3-702/3-703, and Cin I, II, III.**

**\*ArtS 1-101 BASIC DRAWING** (old ArtS 20). 3 degree credits. Tuition plus \$3 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 Semester**

M-6:20-8:50, ArtB, Cowett  
T-6:20-8:50, ArtB, Hendler  
W-6:20-8:50, ArtB, Priede  
Th-6:20-8:50, ArtB, Hendler

**Spring Semester**

M-6:20-8:50, ArtB, Cowett  
T-6:20-8:50, ArtB, Hendler  
W-6:20-8:50, ArtB, Priede  
Th-6:20-8:50, ArtB, Hendler

**Fall Quarter**

M-7:00-9:30, Sand JHS 204  
S-8:30 a.m.-12:15,  
ArtB, Rowan

**Winter Quarter**

M-7:00-9:30,  
Kell HS 235  
W-7:00-9:30; Rich HS S-2  
S-8:30 a.m.-12:15,  
ArtB, Rowan

**Spring Quarter**

S-8:30 a.m.-12:15,  
ArtB, Rowan

**\*ArtS 1-102 DRAWING AND PAINTING** (old ArtS 23). 3 degree credits. Tuition plus \$3 laboratory fee.

Work from life and nature, introduction to color and pictorial structure. (Prereq 1-101. Limited to 25 students)

**Fall Semester**

M-6:20-8:50, Rich HS S-2, Quirt  
T-6:20-8:50, ArtB  
W-6:20-8:50, ArtB, Ames

**Spring Semester**

M-6:20-8:50, Rich HS S-2, Quirt  
T-6:20-8:50, ArtB  
W-6:20-8:50, ArtB, Ames

**\*ArtS 1-104 DRAWING AND COLOR** (old ArtS 25). 3 degree credits. Tuition plus \$5 laboratory fee.

Introduction to color and pictorial organization. This will permit students to have more adequate training (ArtS 1-101, 1-102, 1-104) in basic techniques preparatory to Upper Division painting and printmaking. (Prereq 1-102. Limited to 25 students)

**Spring Quarter**

W-6:20-8:50, ArtB, Somberg

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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**\*Arts 1-111 USE OF COLOR** (old Arts 37). 3 degree credits.

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 220, Hopkins

**Spring Semester**

W-6:20-8:00, WuH 220, Hopkins

**\*Arts 1-112 LAYOUT FOR INTERIOR DESIGN** (old Arts 48). 3 degree credits.

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). 3 degree credits.

Advanced problems as continuation of Layout I. Emphasis on application and discussion of design principles to the interior design situation. (Prereq 1-112 or \$. Limited to 35 students)

**Fall Semester**

M-8:15-9:55, WuH 220, Hopkins

**Arts 1-119 DRAFTING—BASIC DRAFTING TECHNIQUES.** 3 degree credits.

Instruction in use of the drafting instruments. Emphasis on plans, elevations, etc. as related to Interior Design. (No prereq)

**Fall Semester**

M-6:20-8:50, Arch 35, Dekker

**Arts 1-121 PERSPECTIVE AND PRESENTATION SKETCHES.** 3 degree credits.

Instruction in the various methods of perspective. Free-hand sketches of details. Finished renderings in perspective for final presentation as related to Interior Design. (To be offered Fall Semester, 1971)

**\*Arts 1-301 BASIC SCULPTURE I** (old Arts 40). 3 degree credits. Tuition plus \$10 laboratory fee.

Beginning course. Intensive study of structure with emphasis on form and space. Construction in metal and plaster. (No prereq. Limited to 20 students)

**Fall Semester**

W-6:20-8:50, HolB 154, Potratz

**Spring Semester**

W-6:20-8:50, HolB 154, Potratz

**\*Arts 1-302 BASIC SCULPTURE II** (old Arts 41). 3 degree credits. Tuition plus \$10 laboratory fee.

Integrates basic principles examined in Arts 1-301. Natural form is studied for sculptural concepts. A more imaginative approach form is encouraged. (Prereq 1-301 or \$. Limited to 20 students)

**Fall Quarter**

M-6:20-8:50, HolB 154, Kraning

**\*Arts 1-501 ELEMENTS OF PRINTMAKING** (old Arts 32). 3 degree credits. Tuition plus \$5 laboratory fee.

Foundation course designed to familiarize the student with the mediums of printmaking in general. Problems in engraving, etching, and other techniques employed in working on metal plate, as well as lithography, woodcuts, and combined processes. (Prereq 1-101 or \$. Meets concurrently with 1-502, 3-501/3-502/3-503, and 5-501/5-502/5-503. Limited to 25 students. For graduate credit, register in 5-501/5-502/5-503)

**Fall Semester**

T-6:20-8:50, ArtB, Myers

**Spring Semester**

T-6:20-8:50, ArtB, Myers

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

\***ArtS 1-502 PRINTMAKING** (old ArtS 33). 3 degree credits. Tuition plus \$5 laboratory fee.

A continuation of ArtS 1-501 with more emphasis on the technical and aesthetic problems involved in the execution of prints. Lectures and demonstrations given. (Prereq 1-501. Meets concurrently with 1-501, 3-501/3-502/3-503, and 5-501/5-502/5-503. Limited to 25 students. For graduate credit, register in 5-501/5-502/5-503)

**Fall Semester**

T-6:20-8:50, ArtB, Myers

**Spring Semester**

T-6:20-8:50, ArtB, Myers

\***ArtS 1-701 BASIC PHOTOGRAPHY I** (old ArtS 10). 3 degree credits. Tuition plus \$10 materials fee.

A course for beginners with little or no experience in photography. The course will include lectures and demonstrations dealing with basic photographic equipment and materials, general camera and darkroom techniques, history, and criticism. There will be some laboratory work in the use of the camera, in contact printing, and enlarging. This class is of interest to people who need a working knowledge of photography in professions other than photography and to those who want to know how to use a camera efficiently. (No prereq. Limited to 20 students)

**Fall Semester**

M-6:20-8:50, ArtB  
W-6:20-8:50, ArtB

**Spring Semester**

M-6:20-8:50, ArtB  
W-6:20-8:50, ArtB

**Fall Quarter**

Th-6:20-8:50, ArtB  
S-1:30-3:30, ArtB

**Winter Quarter**

Th-6:20-8:50, ArtB

**Spring Quarter**

Th-6:20-8:50, ArtB  
S-1:30-3:30, ArtB

\***ArtS 1-702 BASIC PHOTOGRAPHY II** (old ArtS 11). 3 degree credits. Tuition plus \$10 materials fee.

A course for amateurs with some experience and familiarity with special photographic equipment and techniques. Work will include some assigned project, lectures, and demonstrations, with special attention given to individual interests and requirements. (Prereq 1-701 or #. Limited to 20 students)

**Spring Semester**

T-6:20-8:50, ArtB

See also ArtS 0-001C, 0-002C, 3-701/3-702/3-703, and Cin 0-001, 0-002, 0-003.

\***ArtS 1-801 CERAMIC PROCESSES** (old ArtS 45). 3 degree credits. Tuition plus \$10 laboratory fee.

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

**Fall Semester**

T-6:20-8:50, HoIB 154, Hoard

**Spring Semester**

T-6:20-8:50, HoIB 154, Hoard

**Fall Quarter**

S-8:30 a.m.-12:15,  
HoIB 154

**Winter Quarter**

S-8:30 a.m.-12:15,  
HoIB 154

\***ArtS 3-101/3-102/3-103 LIFE DRAWING** (old ArtS 53-54-55). 3 degree credits each semester. Tuition plus \$6 laboratory fee each semester.

Portraiture and life drawing from the model, still life, and nature. Principles of anatomy. (Prereq 1-102 or # for 3-101; 3-101 or # for 3-102; 3-102 or # for 3-103. Limited to 25 students)

**Fall Semester**

3-101 W-6:20-8:50, ArtB, Rowan  
3-102 W-6:20-8:50, ArtB, Rowan  
3-103 W-6:20-8:50, ArtB, Rowan

**Spring Semester**

3-101 W-6:20-8:50, ArtB, Rowan  
3-102 W-6:20-8:50, ArtB, Rowan  
3-103 W-6:20-8:50, ArtB, Rowan

\***ArtS 3-111/3-112/3-113 WATER COLOR** (old ArtS 60B-61B-62B). 3 degree credits each term. Tuition plus \$3 laboratory fee each term.

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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 1-102 or § for 3-111, 3-111 or § for 3-112; 3-112 or § for 3-113. Students must register in 3-111 or 3-112 or 3-113. Limited to 25 students)

### Fall Semester

M-6:20-8:50, ArtB, Myers

### Spring Semester

M-6:20-8:50, ArtB, Myers

### Fall Quarter

S-8:30 a.m.-12:15, ArtB,  
Brown

### Winter Quarter

S-8:30 a.m.-12:15, ArtB,  
Brown

### Spring Quarter

S-8:30 a.m.-12:15, ArtB,  
Brown

**\*Arts 3-114. COMMERCIAL DRAWING I** (old ArtS 63). 3 degree credits. Tuition 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

T-6:20-8:50, ArtB 160, Bethke

### Spring Semester

T-6:20-8:50, ArtB 160, Bethke

**\*Arts 3-115 COMMERCIAL DRAWING II** (old ArtS 64). 3 degree credits. Tuition 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-6:20-8:50, ArtB 160, Jardine

### Spring Semester

Th-6:20-8:50, ArtB 160, Jardine

**\*Arts 3-116 COMMERCIAL ART MEDIA** (old ArtS 65). 3 degree credits. Tuition 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-6:20-8:50, ArtB 140, Jardine

**\*Arts 3-121/3-122/3-123 OIL PAINTING** (old ArtS 70-71-72). 3 degree credits each semester. Tuition plus \$5 laboratory fee for each semester.

Introduction to medium of oil; individual projects and instruction. (Prereq 3-102 or § for 3-121; 3-121 or § for 3-122; 3-122 or § for 3-123. Meets concurrently with 3-127/3-128/3-129. Limited to 25 students)

### Fall Semester

3-121 M-6:20-8:50, ArtB

3-122 M-6:20-8:50, ArtB

3-123 M-6:20-8:50, ArtB

### Spring Semester

3-121 M-6:20-8:50, ArtB

3-122 M-6:20-8:50, ArtB

3-123 M-6:20-8:50, ArtB

**\*Arts 3-127/3-128/3-129 OIL PAINTING** (old ArtS 70B-71B-72B). 3 degree credits each semester. No credit for art majors. Tuition plus \$5 laboratory fee each semester.

Oil painting for general students. (Prereq 1-101 or 1-102 for 3-127; 3-127 for 3-128; 3-128 for 3-129. Meets concurrently with 3-121/3-122/3-123. Limited to 25 students)

### Fall Semester

3-127 M-6:20-8:50, ArtB, Somberg

3-128 M-6:20-8:50, ArtB

3-129 M-6:20-8:50, ArtB

### Spring Semester

3-127 M-6:20-8:50, ArtB, Somberg

3-128 M-6:20-8:50, ArtB

3-129 M-6:20-8:50, ArtB

Your attention is called to the Interior Design Certificate Program, page 46.

**\*Arts 3-131 INTERIOR DESIGN I** (old ArtS 83A). 3 degree credits. Tuition 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. Traditional styles of furniture are studied, along with contemporary. The subject matter includes floors

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

and floor coverings, walls and wall coverings, cabinet woods and their finishes, furniture selection and arrangement, and the creation of a focal point in a room lacking a logical architectural reason. In six of the meetings part of the class time is used to evaluate and assist students in the preliminary presentation of their projects. Displays of actual materials are arranged for the subject matter under consideration. Slides are used to advantage. There are demonstrations on how to build a color scheme, enabling the student to see the importance of texture as well as color harmony. (No prereq. Each section limited to 50 students)

**Fall Semester**

**Spring Semester**

**M**—6:20-8:00, JohH 122, Goacher  
**T**—6:20-8:00, McNeal 359, StP Campus,  
 Goacher  
**W**—6:20-8:00, JohH 122  
**Th**—6:20-8:00, JohH 122, Goacher

**W**—6:20-8:00, JohH 122, Goacher  
**Th**—6:20-8:00, JohH 122, Goacher

**\*Arts 3-132 INTERIOR DESIGN II** (old ArtS 84A). 3 degree credits. Tuition plus \$2 special fee. ★

The emphasis is on the study of decorative fabrics. Texture, design, and fiber content as well as historical background are considered. This study must be kept updated. Displays of current fabrics and new wall coverings supplement the subject matter. Students continue to learn more of the leading resources, also to recognize the work of designers. Major accessories including the use of fine arts are considered. The best selection of lamps and hardware, and how to display collections and add touches without which the interior lacks personality. Window treatment and how to estimate yardage are practical aspects of the course. Additional work with color schemes. One field trip and talks from practicing interior designers add interest. (Prereq 3-131. Each section limited to 40 students)

**Spring Semester**

**M**—6:20-8:00, JohH 122, Goacher  
**T**—6:20-8:00, McNeal 359, StP Campus,  
 Goacher  
**W**—6:20-8:00, JohH 105, Lewis

**\*Arts 3-133/3-134 CONTRACT DESIGN SEMINAR** (old ArtS 96-97). 3 degree credits 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**

**Spring Semester**

**3-133 M**—6:20-8:00, WuH 210, Hopkins

**3-134 M**—6:20-8:00, WuH 210, Hopkins

**\*Arts 3-501/3-502/3-503 ADVANCED PRINTMAKING** (old ArtS 90-91-92). 3 degree credits each semester. Tuition plus \$5 laboratory fee each semester.

A print class for students who have had experience in drawing composition. All techniques of fine printing will be taught and color printing will be demonstrated in the area of etching, lithography, and woodcut. (Prereq 1-501 or ‡ for 3-501; 3-501 or ‡ for 3-502; 3-502 or ‡ for 3-503. Meets concurrently with 1-501, 1-502, 5-501/5-502/5-503. Limited to 25 students. For graduate credit, register in 5-501/5-502/5-503)

**Fall Semester**

**Spring Semester**

**3-501 T**—6:20-8:50, ArtB, Myers  
**3-502 T**—6:20-8:50, ArtB, Myers  
**3-503 T**—6:20-8:50, ArtB, Myers

**3-501 T**—6:20-8:50, ArtB, Myers  
**3-502 T**—6:20-8:50, ArtB, Myers  
**3-503 T**—6:20-8:50, ArtB, Myers

**\*Arts 3-701/3-702/3-703 INTRODUCTION TO ART OF THE FILM** (old ArtS 66-67-68). 3 degree credits. Tuition plus \$10 laboratory fee.

Lectures and practical aspects of making films. Production limited to descriptive and experimental work. (No prereq for 3-701; 3-701 for 3-702; 3-702 for 3-703. Limited to 20 students)

**Fall Quarter**

**Winter Quarter**

**Spring Quarter**

**M**—6:20-9:00, ArtB 120  
**T**—6:20-9:00, ArtB 120

**M**—6:20-9:00, ArtB 120  
**T**—6:20-9:00, ArtB 120

**M**—6:20-9:00, ArtB 120,  
 Downs  
**T**—6:20-9:00, ArtB 120,  
 Downs

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

See also Arts 0-001C, 0-002C, 1-701, 1-702, and Cin 0-001, 0-002, 0-003.

\*Arts 5-104/5-105/5-106 **PROBLEMS IN PAINTING** (old Arts 150-151-152). 3 degree credits each semester. Tuition plus \$5 laboratory fee each semester.

An advanced course in oil and acrylic painting with emphasis on color theories as they apply to current trends in art. (Prereq 3-123 or # for 5-104, 5-104 for 5-105, 5-105 for 5-106. Limited to 25 students. Qualified students interested in graduate credit should inquire at time of registration)

### Fall Semester

5-104 Th—6:20-8:00, ArtB 161, Somberg

5-105 Th—6:20-8:00, ArtB 161, Somberg

5-106 Th—6:20-8:00, ArtB 161, Somberg

\*Arts 5-111/5-112 **SEMINAR IN INTERIOR DESIGN** (old Arts 103A-104A). 3 degree credits each semester.

A further expansion of subjects studied in Arts 3-131, 3-132. Students will work on individual projects under supervision. (Prereq 3-132 for 5-111; 5-111 for 5-112. Limited to 25 students. No auditors. May not be taken for graduate credit)

### Fall Semester

5-111 T—6:20-8:00, JohH 122, Lewis

### Spring Semester

5-112 T—6:20-8:00, JohH 122, Lewis

Arts 5-113 **INTERIOR DESIGN CLINIC** (old Arts 105). 2, 3, or 4 degree credits each semester. Tuition equivalent to number of credits for which student registers.

Individual and collaborative effort involving the advanced interior design student 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. (Prereq #. May not be taken for graduate credit)

### Spring Semester

5-113—Hours ar. First meeting of class,  
Monday, Feb. 15, 8:15-9:55,  
WuH 210, Hopkins

\*Arts 5-501/5-502/5-503 **ADVANCED PRINTMAKING—INTAGLIO PROCESSES** (old Arts 190-191-192). 3 degree credits each semester. Tuition plus \$5 laboratory fee each semester.

A course designed for advanced work in etching, aquatint, mezzatint, and all related techniques in the execution of intaglio prints. Woodcuts in black and white and color printing will be taught in conjunction with the above material. (Prereq 3-503 or # for 5-501; 5-501 for 5-502; 5-502 for 5-503. Meets concurrently with 1-501, 1-502, and 3-501/3-502/3-503. Limited to 25 students. Qualified students may register for graduate credit at the University of Minnesota)

### Fall Semester

5-501 T—6:20-8:00, ArtB 170, Myers

5-502 T—6:20-8:00, ArtB 170, Myers

5-503 T—6:20-8:00, ArtB 170, Myers

### Spring Semester

5-501 T—6:20-8:00, ArtB 170, Myers

5-502 T—6:20-8:00, ArtB 170, Myers

5-503 T—6:20-8:00, ArtB 170, Myers

General Arts—(See Humanities [GC], page 156)

Introduction to Commercial Art—(See Humanities [GC], page 157)

## Astronomy

*Karlis Kaufmanis, Associate Professor of Astronomy*

*Ivan Policoff, Associate Professor of Astronomy*

Ast 1-008 **SOLAR SYSTEM** (old Ast 12). 3 degree credits.

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)

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



**Fall Semester**

T-6:20-8:00, Ph 131, Kaufmanis

**Winter Quarter**

M-5:30-8:00, StP Ext,  
Policoff

**Spring Quarter**

W-7:00-9:30, Ph 131,  
Kaufmanis

**Ast 1-009 STARS AND GALAXIES** (old Ast 13). 3 degree credits.

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-5:30-8:00, StP Ext,  
Policoff

**Biology**

*V. Elving Anderson, Professor of Genetics and Cell Biology*

*Stanley Dagley, Professor of Biochemistry*

*John W. Hall, Professor of Botany*

*Willard L. Koukkari, Assistant Professor of Botany*

*Robert G. McKinnell, Professor of Zoology*

*Douglas C. Pratt, Associate Professor of Botany*

*Murray D. Rosenberg, Professor of Genetics and Cell Biology*

*Thomas K. Soulen, Assistant Professor of Botany*

*Nelson T. Spratt, Professor of Zoology*

*James Underhill, Professor of Zoology*

**Biol 1-001/1-002 GENERAL BIOLOGY** (old Biol 1-2). 5 degree credits each quarter. Tuition plus \$10 laboratory fee each quarter.

A study of plants, animals, and microbes. Includes an introduction to ecology, physiology, classification, cytology, energetics, genetics, development, and evolution. (No prereq for 1-001; 1-001 for 1-002. High school chemistry recommended. Lectures will be presented over closed circuit TV. Students must attend both lecture and discussion on Mondays and lecture and laboratory on Wednesdays)

**Fall Quarter**

**1-001** Lect M-6:00-8:00,  
Aero 225, 313,  
319, 321  
(Limited to  
144 students\*)  
Dis M-8:00-9:00,  
Chem Annex S  
160, 167, 170,  
177, 179, 183  
Lect W-6:00-7:00,  
Aero 225, 313,  
319, 321  
Lab W-7:00-9:30,  
Chem Annex S  
160, 167, 170,  
177, 179, 183

**Winter Quarter**

**1-002** Lect M-6:00-8:00,  
Aero 225, 317,  
319, 321  
(Limited to  
144 students\*)  
Dis M-8:00-9:00,  
Chem Annex S  
160, 167, 170,  
177, 179, 183  
Lect W-6:00-7:00,  
Aero 225, 317,  
319, 321  
Lab W-7:00-9:30,  
Chem Annex S  
160, 167, 170,  
177, 179, 183

**Spring Quarter**

**1-001** Lect M-6:00-8:00,  
Aero 313, 321  
(Limited to 44  
students\*)  
Dis M-8:00-9:00,  
Chem Annex S  
160, 167, 170,  
177, 179, 183  
Lect W-6:00-7:00,  
Aero 313, 321  
Lab W-7:00-9:30,  
Chem Annex S  
160, 167, 170,  
177, 179, 183

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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**Biol 3-051 BIOLOGY AND THE FUTURE OF MAN** (old Biol 57). 4 degree credits.

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

M—6:20-8:20, Aero 327, Gorham, Pratt

**NOTE:** For special radio course, Biol 3-051, **BIOLOGY AND THE FUTURE OF MAN**, see page 81.

(Birds of Minnesota, NatH 0-001—See page 192)

## **Business Administration**

Your attention is called to the Business Administration Certificate programs, page —

Please see the following departmental listings for course offerings:

**ACCOUNTING**, page 84.

**BUSINESS LAW**, page 105.

**FINANCE**, page 136.

**INDUSTRIAL RELATIONS**, page 159.

**INSURANCE**, page 162.

**MANAGEMENT**, page 173.

**MARKETING**, page 107.

**PRODUCTION**, page 203.

**QUANTITATIVE ANALYSIS**, page 213.

**REAL ESTATE**, page 214.

**SALESMANSHIP**, page 218.

**TRANSPORTATION**, page 237.

See also Economics, page 118.

(Business English—see English)

For non-credit conferences or seminars in business administration, please contact Dr. Peter Rosko, Director, Continuing Business Education, 334C Business Administration; telephone 373-3680.

## Master's Program: Business Administration

The following courses will be offered in 1970-71 as part of the Master of Business Administration degree program. These courses are open only to students who have been admitted to the Graduate School and to the evening Master of Business Administration program. They are not open to other graduate students. These courses require joint registration in the Graduate School and the Department of Evening and Special Classes of the General Extension Division. Inquiries should be directed to the Director of Graduate Studies, Room 324, School of Business Administration, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-5505.

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

SCHEDULE, 1970-71 FOR REQUIRED COURSES IN EVENING  
 MASTER OF BUSINESS ADMINISTRATION

Part I of the Program

Fall Semester

**Acct 8-050 INTRODUCTION TO MANAGERIAL ACCOUNTING** (old Acct 155A). 3 degree credits.  
 W-8:15-9:55, BlegH 145

Fall Quarter

**IR 5-002 INDUSTRIAL RELATIONS FUNDAMENTALS** (old IR 152C). 3 degree credits.  
 M-5:30-8:00, BlegH 125

**QA 8-151 ELEMENTS OF STATISTICS** (old QA 151). 3 degree credits.

W-5:30-8:00, BlegH 404, Chervany  
**Ins 8-100 RISK MANAGEMENT AND INSURANCE I** (old Ins 153). 3 degree credits.

Th-5:30-8:00, BlegH 125

Spring Semester

**Acct 8-051 INTRODUCTION TO MANAGERIAL ACCOUNTING** (old Acct 155B). 3 degree credits.

W-8:15-9:55, BlegH 145

Spring Quarter

**Mgmt 8-001 FUNDAMENTALS OF MANAGEMENT** (old Mgmt 150). 3 degree credits.

T-5:30-8:00, BlegH 135, Wickesberg  
**Fin 8-000 BUSINESS FINANCE FUNDAMENTALS**—(old BFin 156) 3 degree credits.

Th-5:30-8:00, BlegH 125  
**Mktg 8-000 MARKETING** (old Mktg 157). 3 degree credits.

M-5:30-8:00, BlegH 105  
**QA 8-158 QUANTITATIVE APPROACHES TO ADMINISTRATIVE PROBLEMS** (old QA 158). 3 degree credits.

W-5:30-8:00, BlegH 135, Chervany

Winter Quarter

**QA 8-158 QUANTITATIVE APPROACHES TO ADMINISTRATIVE PROBLEMS** (old QA 158). 3 degree credits.

W-5:30-8:00, BlegH 210, Chervany

**Tran 8-154 FUNDAMENTALS OF TRANSPORTATION** (old Tran 154). 3 degree credits.

T-5:30-8:00, AndH 230, Harper

**Prod 8-150 ADMINISTRATION OF PRODUCTION** (old Prod 150). 3 degree credits.

M-5:30-8:00, BlegH 125, Hoffman

**BLaw 8-158 BUSINESS LAW: CONTRACTS** (old BLaw 158). 3 degree credits.

Th-6:20-8:50, BlegH 125

## Business Law

- Albert O. Andrews, Jr., Lecturer in Business Law*  
*John R. Carroll, Lecturer in Business Law*  
*Richard A. Hassel, Lecturer in Business Law*  
*Frank W. Levin, 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*

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

### **BLaw 0-001C COMMON LEGAL PROBLEMS.** 3 certificate credits.

Provides a comprehensive course in everyday legal principles, designed to assist the layman, in recognizing his legal rights and more intelligently and efficiently manage his personal affairs. Legal problems might be avoided or minimized if the persons involved could anticipate them and know in advance what the basic rights and liabilities are, what steps should be taken to enforce or guard them, whom to consult, etc. Specifically, this course will consider legal problems of the following types: the purchase, sale, rental, or lease of homes and other real property; the making of wills and handling of estates; the preparation of income tax returns; the rights of persons injured in accidents and the liability of persons causing accidents; liability for various other types of tortious conduct; the making of contracts; the sale of personal property; negotiable instruments; the formation and operation of a small business as a sole proprietorship, partnership or corporation; workmen's compensation laws; the rights and responsibilities of husband, wife, parent, and child in their relations with each other, including divorce; the collection of monies through garnishment, attachment, and mechanic's liens; and criminal law. (No prereq)

#### **Fall Semester**

**Th**—6:20-8:00, NH 209,  
Peterson and Thorfinsson

#### **Spring Semester**

**Th**—6:20-8:00, StP Ext

### **BLaw 3-058, 3-078, 3-088, 3-098 BUSINESS LAW** (old BLaw 58, 78, 88, 98). 3 degree credits each term. ★

Comprehensive course in the fundamental principles of law for the business and professional man. 3-058: Contracts-formation, operation, transfer, discharge. 3-078: Business associations-nature, creation and terms of the relation, rights, and liabilities of the parties when doing business through agents, partnerships, and corporations. 3-088: Law of sales of goods and law of commercial paper under the Uniform Commercial Code. 3-098: Nature and classification of real estate; deeds and conveyances; landlord and tenant; recording and abstracting; Torrens titles; liens and mortgages; wills, probating of estates, and duties of administrators and executors. (No prereq for 3-058; 3-058 or ¶3-058 or § for 3-078; 3-058 or ¶3-058 or § for 3-088; none for 3-098)

#### **Fall Semester**

**3-058 M**—6:00-7:40, MacP 327, Levin  
**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 205, Lovett

#### **Spring Semester**

**3-058 M**—6:00-7:40, MacP Annex 3, Levin  
**3-058 W**—8:15-9:55, BlegH 150,  
Robb, P Van Valkenburg  
**3-098 W**—6:20-8:00, BlegH 250, Carroll  
**3-098 Th**—7:00-8:40, Rich HS 249-250,  
Olson (Limited to 45  
students\*)

#### **Fall Quarter**

**3-058 T**—5:30-8:00,  
StP Ext, J Van  
Valkenburg,  
O'Brien  
**3-088 T**—6:20-8:50, BlegH  
155, Nordbye

#### **Winter Quarter**

**3-058 T**—5:30-8:00, StP  
Ext, J Van  
Valkenburg  
**3-058 T**—7:00-9:30, Rich  
HS 214,  
Andrews  
(Limited to 45  
students\*)

#### **Spring Quarter**

**3-058 T**—7:00-9:30, Sand  
JHS Cafeteria,  
Hassel  
(Limited to 75  
students\*)  
**3-078 T**—5:30-8:00, StP  
Ext, J Van  
Valkenburg  
**3-088 T**—6:20-8:50, BlegH  
120, Nordbye

## Business Studies

(General College)

*Bernice Folz, Instructor*  
*Patrick Kroll, Instructor*  
*Roger Larson, Associate Professor*  
*Mark Ludlow, Instructor*  
*Leonard Simutis, Instructor*

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**\*GC 1-511 INTRODUCTION TO MODERN BUSINESS** (old GC 15). 3 degree credits.  
 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**

W-6:00-8:30, MacP 416, Kroll

**\*GC 1-513 PRINCIPLES OF SMALL BUSINESS OPERATIONS** (old GC 17B). 3 degree credits. ★

Designed specifically for those who plan to own or operate some form of small business, this course deals with the following topics: environment and management 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)

**Winter Quarter**

Th-6:20-8:50, Bu 120, Ludlow

**\*GC 1-535 INTRODUCTION TO DATA PROCESSING** (old GC 14D). 3 degree credits.

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 key-punches, 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**

Th-6:20-8:50, Bu 125, Folz

**Spring Quarter**

T-5:30-8:00, StP Ext, Simutis

**\*GC 1-731 CONSUMER PROBLEMS** (old GC 17A). 3 degree credits.

Emphasis is on fundamentals of financial planning and personal economic decision-making, and the application of these concepts to such specific problems as buying insurance protection, saving and investing, using credit facilities, and obtaining and evaluating consumer information. (No prereq. Limited to 40 students)

**Fall Quarter**

M-7:00-9:30, Rich HS 215, Larson

**Spring Quarter**

M-7:00-9:30, Kell HS 155, Larson

Marketing Sequence

Mark Ludlow, 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 serv-

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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ices, 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, a certificate in Marketing is granted the student by the General College of the University.

**\*GC 1-551 MARKETING: RETAILING, SALES, AND CUSTOMER SERVICES** (old GC 18A). 3 degree credits.

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 is explored from customer related activities. Topics: salesmanship, credit, and customer services. (No prereq. Limited to 25 students)

**Fall Quarter**

T—6:20-8:50, PeikH 275,  
Ludlow

W—5:30-8:00, StP Ext

**\*GC 1-552 MARKETING: ADVERTISING AND SALES PROMOTION** (old GC 18B). 3 degree credits.

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 25 students)

**Winter Quarter**

T—6:20-8:50, PeikH 275,  
Ludlow

W—5:30-8:00, StP Ext

**\*GC 1-553 MARKETING: PRINCIPLES OF MANAGEMENT** (old GC 18C). 3 degree credits.

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 25 students)

**Spring Quarter**

T—6:20-8:50, PeikH 275,  
Ludlow

W—5:30-8:00, StP Ext

## Chemistry

*Robert Brasted, Professor of Chemistry*

*Keith Coad, Lecturer in Chemistry*

*Frederic A. VanCatledge, Assistant Professor of Physical Chemistry*

*John E. Wertz, Professor of Physical Chemistry*

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

### General Chemistry

**GeCh 1-004/1-005† GENERAL PRINCIPLES OF CHEMISTRY** (old GeCh 4-5). 5 degree credits each semester. Tuition plus \$5 special fee each semester.

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

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. (Prereq elementary algebra. Higher algebra, trigonometry, H.S. chemistry, and H.S. physics strongly recommended. Students attend twice a week)

## Fall Semester

1-004 Lab T—6:00-9:30, C 100,††  
Lect Th—6:20-8:30, C 100

## Spring Semester

1-005 Lab T—6:00-9:30, C 325,††  
Lect Th—6:20-8:30, C 325

**GeCh 1-006 PRINCIPLES OF SOLUTION CHEMISTRY** (old GeCh 6). 4 degree credits.  
Tuition plus \$5 special fee.

Lecture and laboratory work related to the chemistry of selected cations and anions. The detection and behavior of those ions are included in the study as well as heterogeneous and homogeneous equilibria systems. Attention is given to oxidation-reduction systematics, complex formation as it relates to aqueous solution chemistry, and general chemical phenomena interrelated with structure. (Prereq 1-005 or 1-015 or 1-025 or 1-032. Students attend twice a week)

## Fall Semester

Lect T—6:20-8:00, C 325  
Lab Th—6:20-9:30, C 210

## Child Psychology

(Education)

*Marjorie Arnold, Lecturer in Child Psychology*  
*J. Richard Barclay, Lecturer in Child Psychology*  
*Seymour Gross, Lecturer in Child Psychology*  
*Thomas W. Hertz, Lecturer in Child Psychology*  
*Harold R. Ireton, Lecturer in Child Psychology*  
*Gary Y. Larsen, Lecturer in Child Psychology*  
*William M. Mace, Lecturer in Child Psychology*  
*Joel Peskay, Lecturer in Child Psychology*  
*Murray K. Reed, Lecturer in Child Psychology*  
*Rosalyn A. Rubin, Lecturer in Child Psychology*  
*Ingrid M. Tiegel, Lecturer in Child Psychology*

**CPsy 3-301 CHILD PSYCHOLOGY** (old CPsy 80). 3 degree credits. ★

Introduction to science of child behavior; emphasis upon critical review of theories and research. (Prereq Psy 1-002)

## Fall Semester

T—8:15-9:55, Pt 110, Mace

## Spring Semester

T—7:50-9:30, Pt 110, Larsen

## Fall Quarter

M—7:00-9:30, Sand JHS  
213, Hertz  
(Limited to 45  
students\*)

## Winter Quarter

Th—7:00-9:30, StP Ext,  
Barclay

## Spring Quarter

W—7:00-9:30, Rich HS 341,  
Arnold  
(Limited to 60  
students\*)

**CPsy 5-303 ADOLESCENT PSYCHOLOGY** (old CPsy 81). 3 degree credits. ★

Physical, cognitive, and social development during adolescence. (Prereq Psy 1-002. Qualified students may register for graduate credit at the University of Minnesota)

## Spring Quarter

T—6:20-8:50, Bu 120, Tiegel

**CPsy 5-311 BEHAVIOR PROBLEMS** (old CPsy 140). 3 degree credits.

Types, origin, development, and treatment of behavior difficulties in normal chil-

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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dren. (Prereq 3-301 or §. Qualified students may register for graduate credit at the University of Minnesota)

### Fall Semester

W-8:15-9:55, Pt 110, Ireton

### Spring Semester

M-8:15-9:55, Pt 110, Reed

**CPsy 5-315 PROBLEMS OF MENTAL DEFICIENCY** (old CPsy 143). 3 degree credits. Diagnosis, care, training; social and vocational problems. (Prereq 3-301 or §. Qualified students may register for graduate credit at the University of Minnesota)

### Spring Semester

Th-8:15-9:55, Pt 110, Peskay

**CPsy 5-317 PSYCHOLOGY OF THE GIFTED CHILD** (old CPsy 144). 3 degree credits. Psychology and development of high intellectual ability and of special talents. (Prereq 3-301 or §. Qualified students may register for graduate credit at the University of Minnesota)

### Spring Quarter

T-6:20-8:50, CD 218, Rubin

**CPsy 5-319 CLINICAL PROCEDURES WITH CHILDREN** (old CPsy 179). 3 degree credits. 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 credits in child psychology, psychology, educational psychology, or sociology. Qualified students may register for graduate credit at the University of Minnesota)

### Fall Semester

T-6:20-8:00, CD 105, Gross

## Chinese

(See East Asian Languages)

## Cinematography

Donald G. Cain, Production Manager, Audio-Visual Education Service

### Motion Picture Evaluation, Design, Production and Utilization

\*Cin 0-001 **THE MECHANICS OF CINEMATOGRAPHY I.** No credit. Tuition equivalent to 3 credits.

A practical unit structured to assist future film makers with the developmental and technical problems confronting the beginner. Selected motion pictures are viewed and examined for creative innovation and technique. The physical qualities of 16 mm film and the operational technology of production equipment are discussed. The various principles of motion picture photography, the availability of associated laboratory processes required, and the costs related to film making will be studied. Primarily a demonstration-lecture course. No camera equipment is required. (No prereq. Limited to 30 students)

### Fall Quarter

T-6:30-9:00, Studio A, WeH, Cain

Cin 0-002 **EXPERIMENTS IN CINEMATOGRAPHY II.** No credit. Tuition equivalent to 3 credits.

A laboratory unit designed to provide opportunity for supervised experimentation in the techniques of 16 mm film making. Exercises are provided to develop a sensitivity for camera operation, picture composition, camera and subject movement, film pacing, cutting and special effects. Visits to local production facilities will provide additional depth to the student experience. No camera equipment is required. (Prereq 0-001 or §)

### Winter Quarter

T-6:30-9:00, Studio A, WeH,  
Cain

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



**Cin 0-003 APPLIED CINEMATOGRAPHY III.** No credit. Tuition equivalent to 3 credits. A project unit developed to give the students an opportunity to produce their own instructional films. Under professional encouragement a student-designed project provides experience in idea development, pictorial continuity, direction, subject analysis, editing procedures and utilization coordination. Specialized production facilities available for group projects as needed. (Prereq 0-002 or #)

**Spring Quarter**

T-6:30-9:00, Studio A, WeH,  
Cain

See also Arts 0-001C/0-002C, 1-701, 1-702, and 3-701/3-702/3-703.

## Civil Defense

For information on non-credit conferences or workshops in civil defense, please contact Mr. Robert J. Elliott, Civil Defense Education, 105 Clay School, telephone 373-4850.

## Civil Engineering

*Alvin G. Anderson, Professor of Civil Engineering*

*Jesse E. Fant, Associate Professor of Civil Engineering*

*Gerald Johnson, Assistant Professor of Civil Engineering*

*Lyle P. Pederson, Assistant Professor of Civil Engineering*

*John F. Ripken, Professor of Civil Engineering*

Your attention is called to the Senior Civil Engineering Technician Certificate, page 64.

**CE 0-005 REFRESHER COURSE FOR CIVIL ENGINEERS.** No credit. Tuition equivalent to 4 credits.

This course is for practicing engineers and will consist 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**

Th-6:30-9:00, Ex 265

**CE 3-300 ELEMENTS OF SOIL MECHANICS** (old CE 53). 3 degree credits.

Physical properties of soils; soil formation; stress distribution; shearing strength. Laboratory identification and compaction tests. (No prereq)

**Fall Quarter**

M-6:30-9:00, Ex 177, Pederson

**CE 5-100 LAND SURVEYING** (old CE 111). 3 degree credits.

Study of Minnesota Public Land Survey. Federal and state laws governing surveys, registered land surveys, and subdivision plats. Court decisions and legal principles involving boundary line determinations. Interpreting and writing deed descriptions. (Prereq 3-101 or #. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

W-6:20-8:50, Ex 265, Fant

**CE 5-101 LAND PLANNING AND SUBDIVISION DESIGN** (old CE 113). 3 degree credits.

The study and analysis of land planning and development problems. Economics and

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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design of road patterns, lot and block layout, drainage, utilities, etc. Design, computation, and preparation of record plats. (Prereq 3-101 or ‡. Qualified students may register for graduate credit at the University of Minnesota)

### Spring Quarter

W-6:20-9:20, Ex 265, Fant

**CE 5-102 AERIAL SURVEYING AND PHOTOGRAMMETRY** (old CE 112). 3 degree credits. Theory and methods of making planimetric and topographic maps by photogrammetric methods with second-order stereoscopic plotters. Control nets, state coordinates, and astronomy as used in large-scale mapping projects. (Prereq 3-101 or ‡. Qualified students may register for graduate credit at the University of Minnesota)

### Winter Quarter

W-6:20-9:30, Ex 265, Johnson

**CE 5-310 FOUNDATION ENGINEERING** (old CE 147). 3 degree credits.

Applications of soil mechanics to foundation design. Bearing capacity and settlement analysis. Pile foundations. Caissons. Lateral earth pressures and design of earth retaining structures. (Prereq 3-300 or ‡. Qualified students may register for graduate credit at the University of Minnesota)

### Winter Quarter

M-6:30-9:00, Ex 177, Pederson

**CE 5-311 BEARING CAPACITY** (old CE 159). 3 degree credits.

Application of soil mechanics to design of shallow foundations. Consolidation theory. Shear strength of soils. Methods of evaluating stress distribution within soils. Analysis of different types of foundation failures. (Prereq 5-310 or ‡. Qualified students may register for graduate credit at the University of Minnesota)

### Spring Quarter

M-6:30-9:00, Ex 177,  
Pederson

**CE 5-410 OPEN CHANNEL HYDRAULICS I** (old CE 184). 3 degree credits.

Theory of steady uniform and varied flow with applications to hydraulic structures, channels and channel transitions, hydraulic jump, etc. Spatially varied flow, forces on structures and theory of energy dissipators. (Prereq 3-400 or ‡. Qualified students may register for graduate credit at the University of Minnesota)

### Fall Quarter

T-6:30-9:00, Ex 148, Anderson

**CE 5-411 OPEN CHANNEL HYDRAULICS II** (old CE 185) 3 degree credits.

Continuation of steady varied flow and spatially varied flow. Theory of unsteady varied flow with applications to waves and surges in channels, flood waves, etc. (Prereq 5-410 or ‡. Qualified students may register for graduate credit at the University of Minnesota)

### Winter Quarter

T-6:30-9:00, Ex 148, Anderson

## Classics

*William D. E. Coulson, Assistant Professor of Classics*

*A. Thomas Kraabel, Assistant Professor of Classics*

*W. Thomas MacCary, Assistant Professor of Classics*

*George Rochefort, Instructor in Classics*

*R. Joseph Schork, Assistant Professor of Classics*

**Clas 1-045 GREEK AND ROMAN MYTHOLOGY** (old Clas 45). 3 degree credits, §5-145.

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

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

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. For Upper Division credit, register in Clas 5-145)

**Fall Quarter**

T—5:30-8:00, FoIH 202, Rochefort

**Clas 1-122 INTRODUCTION TO CLASSICAL GREEK ARCHAEOLOGY** (old Clas 22). 3 degree credits, §5-122.

Survey of classical archaeology from geometric to Hellenistic times. Attention to architecture, pottery, sculpture, and city planning, including topographical examination of such sites as Athens, Delphi, and Olympia. The literary evidence is examined in conjunction with the archaeological finds. (No prereq. For Upper Division or graduate credit, register in Clas 5-122)

**Fall Quarter**

M—6:20-8:50, FoIH 202, Coulson

**Clas 3-071 GREEK AND HELLENISTIC RELIGIONS: AN INTRODUCTION TO THE HISTORY OF ANCIENT RELIGIONS** (old Clas 71). 3 degree credits, §5-071.

Greek religion of the Archaic, Classical, and Hellenistic periods. Eclipse of city-state and "failure of nerve." Mystery religions and impact of eastern cults. Ancient myths and need for allegory. Ruler-worship. Gnosticism. Judaism in Greek world. Dead Sea scrolls. (No prereq. For graduate credit, register in Clas 5-071)

**Winter Quarter**

Th—5:30-8:00, FoIH 202, Kraabel

**Clas 3-081 CLASSICAL EPIC IN TRANSLATION** (old Clas 80). 3 degree credits, §5-081.

Reading of Homer's *Iliad*, *Odyssey*, Virgil's *Aeneid*, with attention to the cultural context of epic, the heroic character, epic formulas, and poetic techniques. (No prereq. For graduate credit, register in Clas 5-081)

**Fall Quarter**

M—5:30-8:00, FoIH 102, Schork

**Clas 3-082 GREEK TRAGEDY IN TRANSLATION (AESCHYLUS, SOPHOCLES, EURIPIDES)** (old Clas 81). 3 degree credits, §5-082.

Introductory lectures on origin of European drama as a distinct literary form, on characteristics of Greek tragedy, and ancient theatres and theatrical conventions. Careful discussion of selected tragedies. Major emphasis on understanding the problems posed in relation to cultural patterns of the time. (No prereq. For graduate credit register in Clas 5-082)

**Winter Quarter**

M—5:30-8:00, FoIH 102, MacCary

**Clas 3-089 INTRODUCTION TO BIBLICAL ARCHAEOLOGY** (old Clas 89). 3 degree credits, §5-089.

Survey of archaeological data relevant to the Jewish Scriptures and the New Testament: major sites already excavated and digs presently in process, both in "the Holy Land" and on the other areas of the Mediterranean and the Near East. The evidence of pottery, inscriptions, manuscripts and coins. Excavation methods. Archaeology as a tool for the study of ancient religions. (No prereq. Meets concurrently with 5-089)

**Spring Quarter**

Th—5:30-8:00, FoIH 202, Kraabel

**Clas 5-071 GREEK AND HELLENISTIC RELIGIONS: AN INTRODUCTION TO THE HISTORY OF ANCIENT RELIGIONS** (old Clas 171). 3 degree credits, §3-071.

(See course description as listed under Clas 3-071) Same class work as 3-071, but with special independent reading and research assignments. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

**Winter Quarter**

Th—5:30-8:00, FoIH 202, Kraabel

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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**Clas 5-081 CLASSICAL EPIC IN TRANSLATION** (old Clas 180). 3 degree credits, §3-081.  
(See course description as listed under Clas 3-081) Same class work as 3-081, but with special independent reading and research assignments. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

### Fall Quarter

**M**—5:30-8:00, FolH 102, Schork

**Clas 5-082 GREEK TRAGEDY IN TRANSLATION** (old Clas 181). 3 degree credits, §3-082.  
(See course description as listed under Clas 3-082) Same class work as 3-082, but with special independent reading and research assignments. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

### Winter Quarter

**M**—5:30-8:00, FolH 102,  
MacCary

**Clas 5-089 INTRODUCTION TO BIBLICAL ARCHAEOLOGY** (old Clas 189). 3 degree credits, §3-089.

(See course description as listed under Clas 3-089). Same class work as 3-089, but with special independent reading and research assignments. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

### Spring Quarter

**Th**—5:30-8:00, FolH 202,  
Kraabel

**Clas 5-122 INTRODUCTION TO CLASSICAL GREEK ARCHAEOLOGY** (old Clas 122). 3 degree credits, §1-122.

(See course description as listed under Clas 1-122) Same class work as 1-122, but with special independent reading and research assignments. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

### Fall Quarter

**M**—6:20-8:50, FolH 202, Coulson

**Clas 5-145 GREEK AND ROMAN MYTHOLOGY** (old Clas 145). 3 degree credits, §1-045.

(See course description as listed under Clas 1-045) Same class work as 1-045, but with special independent reading and research assignments. (No prereq. May not be taken for graduate credit)

### Fall Quarter

**T**—5:30-8:00, FolH 202, Rochefort

(Latin—See page 171)

(Communication and Composition—see English)

(See also **BEGINNING MODERN GREEK**, page 233)

## Communication Skills

(General College)

*Fred Amram, Associate Professor*

*Frank Benson, Professor*

*Berenice Bleedorn, Instructor*

**\*GC 1-471 CREATIVE PROBLEM SOLVING** (old GC 34). 3 degree credits.

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 crea-

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

tive activities to their academic, professional, or artistic interests. (No prereq. Limited to 27 students)

**Fall Quarter**

W—6:20-8:50, NH 201,  
Amram

**Winter Quarter**

M—5:30-8:00, StP Ext,  
Benson

**Spring Quarter**

T—7:00-9:30, Sand JHS 214,  
Bleedorn

## Computer, Information, and Control Sciences

(See Mathematics, page 177)

*Allen Hanson, Assistant Professor of Computer, Information, and Control Sciences*

*Richard Hotchkiss, Research Associate in Computer, Information, and Control Sciences*

*Jay A. Leavitt, Associate Professor of Computer, Information, and Control Sciences*

*Lawrence Liddiard, Research Associate in University Computer Center*

*John Moran, Associate Professor of the Department of Aerospace Engineering and Mechanics*

*William D. Munro, Professor of Computer, Information, and Control Sciences*

Your attention is called to the Mathematics and Science Certificate Program, page 48.

### Computer, Information, and Control Sciences Prerequisites in the Institute of Technology

The entrance requirement for the Institute of Technology and the prerequisite for Math 1-210 is 4 years of high school mathematics including solid geometry and trigonometry. Any student who meets this requirement is eligible to register for Math 1-210. However, if it has been some time (2 years or more) since he took his last mathematics course, the student is strongly advised to register for Math 0-012 or even Math 0-011. A student who has completed Math 0-011 or its equivalent (higher algebra) in high school or college (not a trade school) within the last 2 years may register for Math 0-012. Math 0-011 and Math 0-012 take the place of the junior and senior mathematics courses in high school.

**\*CICS 1-100/1-101/1-102 INTRODUCTION TO ALGORITHMS AND LANGUAGES** (old Math 14A-B-C). 2 degree credits each quarter.

The construction of algorithms to solve problems. Statement of problems. Methods of solution stated in the appropriate language. The languages of the computer, including FORTRAN. The use of computers and computer languages. Introduction to computer programming and basic FORTRAN. Accompanying laboratory problems on the computer. (Prereq 1-210 or ¶1-210 or # for 1-100; 1-100 for 1-101; 1-101 for 1-102. Limited to 40 students)

**Fall Quarter**

1-100 M—6:20-8:00, Ex  
193, Hanson

**Winter Quarter**

1-101 M—6:20-8:00, Ex  
193, Hanson

**Spring Quarter**

1-102 M—6:20-8:00, Ex  
193, Hanson

**CICS 1-104 FORTRAN SURVEY AND ORIENTATION** (old Math 30). 1 degree credit.

Survey of basic FORTRAN language. Orientation in use of computer facilities. (Prereq Math 1-441 or Math 1-210)

**Fall Quarter**

T—6:00-6:50, MainE 340

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

**CICS 3-101 INTRODUCTION TO COMPUTER PROGRAMMING** (old Math 65). 4 degree credits, §5-101.

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 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, Nicholson

**Spring Semester**

W—6:00-7:40, Ex 193, Ibarra

**CICS 5-101/5-102/5-103 THEORY AND PROGRAMMING OF MODERN DIGITAL COMPUTERS** (old Math 164-165-166). 3 degree credits each quarter, §3-101.

Number systems. Analysis of arithmetic algorithms. Logical organization. Storage, control and input-output units. Basic and advanced machine language and computer programming. Libraries, advanced assembly techniques, interpretive systems, compilers. Applications to mathematical and physical problems. Informal laboratory. (Prereq Math 1-250 or § for 5-101; 5-101 or § for 5-102; 5-102 or § for 5-103. Qualified students interested in graduate credit should inquire at time of registration)

**Fall Quarter**

5-101 M—6:00-8:40, Arch 5

**Winter Quarter**

5-102 M—6:00-8:40, Arch 5

**Spring Quarter**

5-103 M—6:00-8:40, Arch 5

**CICS 5-301 ELEMENTARY NUMERICAL ANALYSIS IN ENGINEERING** (old Math 184). 3 degree credits.

Finite differences, interpolation, summation of series, numerical integration, Euler-MacLaurin formula and asymptotic expansions. Numerical solutions of systems of algebraic and transcendental equations. Newton's and Graeffe's method. (Prereq Math 1-250 or 5-506 and 1-104 or 3-101 or 5-101. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

T—6:00-8:40, Ex 193, Moran

**CICS 5-302/5-303 NUMERICAL ANALYSIS IN ENGINEERING** (old Math 185/186). 3 degree credits each quarter.

Approximation of functions and least squares. Approximate solution of ordinary and partial differential equations. Moulton's, Runge's, relaxation and iteration methods. Calculation of eigenvalues of matrices and differential problems. Rayleigh-Ritz method. Integral equations. Programming of computers. (Prereq 5-301 or § for 5-302; 5-302 or § for 5-303. Qualified students may register for graduate credit at the University of Minnesota)

**Winter Quarter**

5-302 T—6:00-8:40, Ex 193,  
Leavitt

**Spring Quarter**

5-303 T—6:00-8:40, Ex 193,  
Leavitt

### COMPUTER-RELATED COURSES

The Department of Evening and Special Classes offers  
a variety of courses  
dealing with the computer  
and the whole new world of data processing  
that has sprung up around it.

See also Accounting, Business Studies, Management, Public Administration, Quantitative Analysis.

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Danish

(See Scandinavian Languages)

## Dentistry

For information on non-credit conferences or workshops in dentistry, please contact Dr. Robert D. Jeronimus, Continuing Education in Dentistry, 1 Owre Hall; telephone 373-7961.

## East Asian Languages

*Edward M. Copeland, Professor of East Asian Languages*

*Richard B. Mather, Professor of East Asian Languages*

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

### Chinese

**Chin 1-101/1-102 BEGINNING MODERN CHINESE (MANDARIN)** (old Chin 1-2). 3 degree credits each semester. Tuition plus \$3 laboratory fee each semester. ★Chin 1-101.

An introductory course in modern written and spoken Chinese intended to provide a basis for developing a modest reading and conversational ability. (No prereq for 1-101; 1-101 or ‡ for 1-102)

#### Fall Semester

**1-101 M—6:20-8:00, FolH 306, Mather**

#### Spring Semester

**1-102 M—6:20-8:00, FolH 306, Mather**

### Japanese

**Jpn 1-005/1-006 BEGINNING SPOKEN JAPANESE** (old Jpn 5-6). 3 degree credits each semester. Tuition 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**

## Ecology

*Alan J. Brook, Professor of Ecology and Behavioral Biology*

**Ecol 1-003 THE FINAL CRISIS** (old Ecol 10). 3 degree credits.

The course will focus on the timely topic of the relationships between organisms and their environments. The ecosystem—the basic unit of ecology—will be studied from the standpoint of cyclic exchanges of matter and energy between living things and their surroundings. Aspects of the ecological crisis, its crucial implications for man's future existence, will be discussed throughout the course.

Participants may take the course entirely over television. The course will consist of lectures, demonstrations, discussions, and answering of questions from the TV audience. Students will be required to submit appraisals of books and a final examination, which they may write at home and send by mail. A complete set of outlines for the course, and instructions for submitting written work, will be

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

supplied each student. (No prereq. Books may be obtained in Nicholson Bookstore, or the Museum of Natural History Bookstore, or by mail. Registered students wishing books, for this course only, mailed to them may call 373-3195; postage and handling will be added to the cost of the books)

### Special Term

(September 28-December 21)  
WF-9:00-9:45 p.m., TV Channel 2, Brook



## Economics

*Edward Coen, Professor of Economics*  
*Charles E. Meyerding, Lecturer in Economics*  
*Norman J. Simler, Professor of Economics*  
*Harlan M. Smith, Associate Professor of Economics*  
*John G. Turnbull, Professor of Economics*  
Additional staff to be assigned

**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.** The schedule is arranged below, by locations, to show possible combinations at a glance. (Sometimes fall sections are combined in the spring).

\*Econ 1-001, 1-002 **PRINCIPLES OF ECONOMICS** (old Econ 1, 2). 3 degree credits each semester, if no credit received for any other beginning economics course. Principles underlying economic activity and the way these principles work out through our economic institutions. 1-001: Macro-economics: national income, money and banking, international trade. 1-002: Micro-economics: demand and supply, competition and monopoly, and distribution of income. (No prereq. Need not be taken in sequence. Each section limited to 35 students)

### MINNEAPOLIS CAMPUS, WEST BANK

Fall Semester		Spring Semester	
1-001	Sec 1 M-6:20-8:00, BlegH 105	1-001	Sec 1 T-6:20-8:00, BlegH 105
	2 M-6:20-8:00, BlegH 430		2 T-8:15-9:55, BlegH 340
	3 M-6:20-8:00, BlegH 340		3 Th-6:20-8:00, BlegH 255
	4 M-8:15-9:55, BlegH 145		4 Th-8:15-9:55, BlegH 255
	5 T-6:20-8:00, BlegH 330	1-002	Sec 1 M-6:20-8:00, BlegH 115
	6 T-6:20-8:00, BlegH 135		2 M-8:15-9:55, BlegH 115
	7 T-6:20-8:00, BlegH 210		3 T-6:20-8:00, BlegH 220
	8 T-8:15-9:55, BlegH 330		4 T-8:15-9:55, BlegH 215
	9 W-6:20-8:00, BlegH 130		5 W-6:20-8:00, BlegH 105
	10 W-6:20-8:00, BlegH 255		6 W-8:15-9:55, BlegH 330
	11 W-8:15-9:55, BlegH 130		
	12 Th-6:20-8:00, BlegH 115		
	13 Th-8:15-9:55, BlegH 115		
1-002	Sec 1 Th-6:20-8:00, BlegH 340		
	2 Th-6:20-8:00, BlegH 330		
	3 Th-8:15-9:55, BlegH 330		

### MAC PHAIL CENTER

Fall Semester		Spring Semester	
1-001	M-6:00-7:40, MacP 416	1-002	M-6:00-7:40, MacP 416

### ST. PAUL EXTENSION CENTER

Fall Semester		Spring Semester	
1-001	Sec 1 M-6:00-7:40, StP Ext	1-001	Sec 1 M-7:50-9:30, StP Ext
	2 W-6:00-7:40, StP Ext		2 W-7:50-9:30, StP Ext
1-002	Sec 1 M-7:50-9:30, StP Ext	1-002	Sec 1 M-6:00-7:40, StP Ext
	2 W-7:50-9:30, StP Ext		2 W-6:00-7:40, StP Ext

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



SANDBURG JUNIOR HIGH SCHOOL

Fall Semester		Spring Semester	
1-001	Sec 1 T-6:20-8:00, Sand JHS 204 2 T-6:20-8:00, Sand JHS 205	1-001	T-8:15-9:55, Sand JHS 204 (Not limited)
1-002	T-8:15-9:55, Sand JHS 204	1-002	T-6:20-8:00, Sand JHS 204 (Not limited)

RICHFIELD SENIOR HIGH SCHOOL

Fall Semester		Spring Semester	
1-001	M-6:20-8:00, Rich HS 249-250	1-002	M-6:20-8:00, Rich HS 249-250

Students not majoring in economics should note that the following courses of general interest have no prerequisite other than one of the above beginning sequences: Survey of Economic Ideas (Econ 3-021, old 80); Economic Development (Econ 5-301, old 103); International Economics (Econ 5-401, old 104); and Comparative Economic Systems (Econ 5-307, old 160). Other economics courses have as prerequisite either or both of the following: Microeconomic Theory (Econ 3-101, old 65), Macroeconomic Theory (Econ 3-102, old 66). All the following Upper Division economics courses are offered on a semester basis in Blegen Hall on the West Bank Campus. The daily schedule (listed below) shows these at a glance, and provides a quick guide to translate old to new course numbers. Course descriptions then follow, arranged by area, and in each area with elementary courses first. How advanced successive courses are can be seen by checking the prerequisites.

Fall Semester		Spring Semester	
M-6:20	3-101 (old 65)	M-6:20	3-131 (old 75)
M-6:20	5-131 (old 115)	M-8:15	3-102 (old 66)
M-8:15	3-101 (old 65)	T-6:20	5-811 (old 188)
M-8:15	5-401 (old 104)	T-8:15	3-101 (old 65)
M-8:15	5-431 (old 104A)	W-6:20	5-541 (old 102)
T-6:20	3-851 (old 68)	W-8:15	3-651 (old 69)
T-8:15	3-101 (old 65)	Th-6:20	3-751 (old 67)
W-6:20	3-501 (old 62)		
W-8:15	3-102 (old 66)		
Th-6:20	5-301 (old 103)		
Th-6:20	5-331 (old 103A)		
Th-8:15	5-031 (old 150A)		

General Economics

**Econ 3-021 SURVEY OF ECONOMIC IDEAS** (old Econ 80). (Prereq 1-001, 1-002, or #). To be offered 1971-72.

**Econ 5-021 ECONOMICS, ETHICS, AND ECONOMIC PHILOSOPHY** (old Econ 170). (Prereq 1-001, 1-002, or #). To be offered 1971-72.

**Econ 5-031 CURRENT ECONOMIC ISSUES** (old Econ 150A). 3 degree credits.

Current controversies over economic policies and problems that underlie the controversies. Selected topics, for example, inflation, economic insecurity, poverty, pollution, with some opportunity for selection by the students of topics that especially interest them. (Prereq 3-101, 3-102 or #. With consent, course may be taken more than once. Qualified students may register for graduate credit at the University of Minnesota)

Fall Semester

Th-8:15-9:55, BlegH 420, Smith

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

### Economic Theory

**Econ 3-101 MICROECONOMIC THEORY** (old Econ 65). 3 degree credits, \$3-104.

Behavior of households, firms and industries under competitive and monopolistic conditions. Factors influencing production, price, and advertising decisions. A one semester course. (Prereq 1-002 or §)

**Fall Semester**

M—6:20-8:00, BlegH 420

M—8:15-9:55, BlegH 420

T—8:15-9:55, BlegH 425

**Spring Semester**

T—8:15-9:55, BlegH 425

**Econ 3-102 MACROECONOMIC THEORY** (old Econ 66). 3 degree credits, \$3-105. ★

Factors determining consumption, investment, national income, employment and the price level. A one semester course. (Prereq 3-101 or §)

**Fall Semester**

W—8:15-9:55, BlegH 415, Simler

**Spring Semester**

M—8:15-9:55, BlegH 110

**Econ 3-131 WELFARE ECONOMICS** (old Econ 75). 3 degree credits.

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 equivalent)

**Spring Semester**

M—6:20-8:00, BlegH 330, Coen

**Econ 5-131 SYSTEMS AND PROGRAM ANALYSIS** (old Econ 115). 3 degree credits.

This is a new course, set up to help students familiarize themselves with the new techniques of cost-benefit analysis being used increasingly in governmental jobs and elsewhere. The course will focus on alternative governmental programs or policies. In place of a final examination, students will write a term paper which evaluates alternative solutions for some topical problem, preferably of local interest. (Prereq 3-101. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Semester**

M—6:20-8:00, BlegH 330, Coen

**Econ 5-141 BUSINESS CYCLES** (old Econ 157). Not offered 1970-71.

### Development and Area Studies

**Econ 5-301 and 5-331 ECONOMIC DEVELOPMENT** (old Econ 103 and 103A). 3 degree credits for either.

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. U.S. policy toward underdeveloped nations. (Prereq 1-001, 1-002 for 5-301 which is not open to economics majors; 3-102 or equivalent or § for 5-331. 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—6:20-8:00, BlegH 350, Smith

**Econ 5-307 and 5-337 COMPARATIVE ECONOMIC SYSTEMS** (old Econ 160 and 160A).

To be offered in 1971-72.

### International Economics

**Econ 5-401 and 5-431 INTERNATIONAL ECONOMICS** (old Econ 104 and 104A). 3 degree credits for either.

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

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, 1-002 for 5-401, which is not open to economics majors; 3-102 or equivalent 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**

M-8:15-9:55, BlegH 330, Coen

**Labor Economics**

**Econ 3-501 LABOR ECONOMICS** (old Econ 62). 3 degree credits.

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 3-102 or equivalent or §)

**Fall Semester**

W-6:20-8:00, BlegH 120, Simler

**Econ 5-534 ECONOMIC SECURITY** (old Econ 182). To be offered 1971-72.

**Econ 5-537 LABOR MARKET BEHAVIOR AND REGULATION** (old Econ 172). To be offered 1972-73.

**Econ 5-541 CONTEMPORARY LABOR ISSUES** (old Econ 102). 3 degree credits.

Analysis of important labor problem areas. Current issues will be examined in light of their broader economic, legal, political and social implications. (Prereq 3-501 or equivalent or §. Qualified students may register for graduate credit at the University of Minnesota)

**Spring Semester**

W-6:20-8:00, BlegH 450, Turnbull

**Industrial Organization**

**Econ 3-651 GOVERNMENT REGULATION OF BUSINESS** (old Econ 69). 3 degree credits.

Economics aspects of public policy affecting the market process. Relations between market structure and economic efficiency and welfare. Economic origins of monopoly and other business limitations on free competition. Purposes and effects of anti-trust laws and laws relating to "unfair business practices." (Prereq 3-101 or §)

**Spring Semester**

W-8:15-9:55, BlegH 450, Meyerding

**Money and Banking**

**Econ 3-751 MONEY AND BANKING** (old Econ 67). 3 degree credits. ★

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 equivalent or §)

**Spring Semester**

Th-6:20-8:00, BlegH 230, Smith

**Public Finance**

**Econ 3-851 ELEMENTS OF PUBLIC FINANCE** (old Econ 68). 3 degree credits.

Survey of government expenditures, budgeting, fiscal policy, debts, and taxes, in terms of fiscal institutions, impact on business and the economy, and policy issues. (Prereq 3-102 or equivalent or §)

**Fall Semester**

T-6:20-8:00, BlegH 235, Meyerding

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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### **Econ 5-811 STATE AND LOCAL TAXATION** (old Econ 188). 3 degree credits.

The problems people are experiencing in meeting the rising costs of state and local governments. Special attention is given to property taxes, income taxes, sales taxes, business taxes, and suggested metropolitan taxes. The course is being given in the Extension Division for the first time for the general citizen interested in state or local tax problems as well as for economics students. (Prereq 3-851 or  $\$$ . Qualified students, except for economics majors, may register for graduate credit at the University of Minnesota instead of undergraduate credit if they register for the former and satisfactorily complete the additional work required)

**Spring Semester**

T-6:20-8:00, BlegH 450, Meyerding

## Education

**Prospective Teachers:** Persons interested in undergraduate programs preparing them to teach in elementary or secondary schools should make an appointment through the General Extension Division with an adviser in the College of Education. Most professional education courses must be taken in day school, when schools are in session for observation. However, all programs in the College of Education emphasize the preparation of the teacher in liberal education and in the teaching subjects. Many evening offerings listed in this bulletin may be taken by prospective teachers for later use toward degree programs in the College of Education.

**Teachers-in-Service:** Many courses in academic fields are available for teachers through evening class registration. In addition to the professional education courses available through evening classes, there is an extensive offering in the late afternoon and Saturday morning hours as part of the day school program of the College of Education.

**Renewal of Teaching Certificates:** Former teachers wishing to renew certificates should check with the State Department of Education concerning their individual requirements. Those who need an additional 8 quarter credits may select courses in education pertinent to their teaching level (elementary or secondary) or courses in the major teaching field. Secondary teachers are especially urged to emphasize current work in the teaching subject itself. Please see the following departmental listings for course offerings:

**ART EDUCATION**, page 92.

**CHILD PSYCHOLOGY**, page 109.

**CURRICULUM AND INSTRUCTION**

(See Elementary Education, Secondary Education, and Special Education below)

**EDUCATIONAL PSYCHOLOGY**, see Psychological Foundations.

**ELEMENTARY EDUCATION**, page 124.

**HISTORY AND PHILOSOPHY OF EDUCATION**, page 150.

**MUSIC EDUCATION**, page 191.

**PHYSICAL EDUCATION**, page 197.

**PSYCHOLOGICAL FOUNDATIONS OF EDUCATION**, page 206.  
(Formerly Educational Psychology)

**SECONDARY EDUCATION**, page 220.

**SCHOOL HEALTH EDUCATION**, page 220.

**SPECIAL EDUCATION**, page 231.

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Electrical Engineering

Gayle Allen, Lecturer in Electrical Engineering  
 Paul A. Cartwright, Professor of Electrical Engineering  
 Robert Cavins, Lecturer in Electrical Engineering  
 Ray James, Lecturer in Electrical Engineering  
 Guss Krake, Lecturer in Electrical Engineering  
 Dave Lo, Lecturer in Electrical Engineering  
 Dennis Presholdt, Lecturer in Electrical Engineering  
 Ken Sorenson, Lecturer in Electrical Engineering

The curriculum leading to the Bachelor of Electrical Engineering degree (B.E.E.) is described in the *Bulletin of the Institute of Technology*. Certain of the curricular requirements can be obtained in the evening school.

Students just beginning the electrical engineering sequences should start with EE 1-500/1-501 (old EE 30 and 31). Students already in the program should follow the schedule below:

Sequence last taken	Should take 1970-71
EE 1-500/1-501 (old EE 30-31) . . . . .	EE 3-050/3-051 (old EE 64-65) and EE 3-400/3-401 (old EE 84-85)
EE 3-050/3-051 (old EE 64-65) . . . . .	EE 3-100/3-101/5-100 (EE 74-75-76)

Your attention is called to the Senior Electrical Engineering Technician Certificate, page 65.

### Registration Procedures for Evening Electrical Engineering Classes

All students who wish to enroll for electrical engineering classes carrying degree credit are required to (1) complete the Registration Approval Form and (2) submit college transcripts for previous work taken in both day and/or Extension either before or at time of registration. The only exception to this rule is for those students who submitted this information for the 1969-1970 school year or for a prior year.

The purpose of the form and accompanying transcript is to insure that final registrants are properly advised, that they meet the various course prerequisites, and that they are making satisfactory academic progress. The petitions will be reviewed and acted upon prior to the first meeting of each class. A copy of the petition will be returned to the student by mail or at the first class session. If for some reason a registration is not approved, transfer to another class or full refund of tuition and fees will be made without penalty. The Registration Approval Forms are available at all General Extension Division offices. Transcripts for University of Minnesota college work taken 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, 133 Main Engineering Building, University of Minnesota, Minneapolis, Minnesota 55455.

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

**EE 1-500/1-501 CIRCUIT ANALYSIS** (old EE 30-31). 3 degree credits 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 1-220 or ¶Phys 1-220, Math 1-240 or ¶Math 1-240 for 1-500; 1-500 for 1-501; ¶1-700/1-701 required)

### Fall Semester

1-500 M—6:00-7:40, Arch 40

### Spring Semester

1-501 M—6:00-7:40, Arch 40

**EE 1-700/1-701 ELECTRICAL ENGINEERING LABORATORY** (old EE 30A-31A). 1 degree credit each semester. Tuition plus \$10 special fee each semester. Laboratory to accompany 1-500/1-501. (Prereq ¶1-500/1-501 required)

### Fall Semester

1-700 2 class hours per week. Night and hours ar at first meeting of EE 1-500.

### Spring Semester

1-701 2 class hours per week. Night and hours ar at first meeting of EE 1-501.

**EE 3-050/3-051 ELECTRONICS I-II** (old EE 64-65). 4 degree credits each semester.  
3-050: Introduction to physical principles of electronic devices; electrical properties of metals, insulators, and semiconductors. Semiconductor, 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 1-500/1-501, Phys 3-500 or ¶Phys 3-500. ¶3-400/3-401 required during fall and winter quarters)

### Fall Semester

3-050 Lect M—6:00-7:40, Arch 50  
Rec M—7:50-9:30, Arch 50

### Spring Semester

3-051 Lect M—6:00-7:40, Arch 50  
Rec M—7:50-9:30, Arch 50

**EE 3-100/3-101 ELECTROMAGNETIC FIELDS I-II** (old EE 74-75). 4 degree credits each quarter.

Electrostatic, magnetostatic, and electromagnetic field theory based upon the fundamental experimental laws and leading to applications of Maxwell's equations. (Prereq Phys 1-230, 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 10  
Rec W—6:00-7:40,  
Arch 10

**EE 3-400/3-401 JUNIOR ELECTRICAL ENGINEERING LABORATORY** (old EE 84-85). 2 degree credits each quarter. Tuition plus \$10 laboratory fee each quarter. Experimental study of electronic circuits. (Prereq 1-401; ¶3-050/3-051 required during fall and spring semesters)

### Fall Quarter

3-400 4 class hours per week. Night and hours ar at first meeting of EE 3-050.

### Winter Quarter

3-401 4 class hours per week. Night and hours ar at first meeting of EE 3-051.

**EE 5-100 ELECTROMAGNETIC FIELDS III** (old EE 76). 3 degree credits.

Applications of Maxwell's equations. Transmission lines, wave propagation, antennas and radiation. (Prereq 3-101. Qualified students interested in graduate credit should at time of registration)

### Spring Quarter

Lect M—6:00-8:40, Arch 55  
Rec M—7:50-9:30, Arch 55

## Elementary Education

(Education)

*William E. Gardner, Professor of Secondary Education*

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**Delight Irwin, Instructor in Elementary Education****\*Elem 3-378 SOCIAL LEARNING IN EARLY CHILDHOOD EDUCATION** (old EdCl 59). 3 degree credits.

Directed observations of nursery school children and procedures. Emphasis on the implementation of educational philosophy and theory on Nursery School curriculum. Discussion of personality, social, and intellectual development. Special emphasis on language skills and problem solving ability. (Prereq ‡. Limited to 35 students)

**Fall Quarter**

W—6:20-8:50, CD 105, Irwin

**\*Elem 5-103 WORKSHOP: SOCIAL STUDIES CURRICULUM LABORATORY PRACTICE** (old EdCl 171). 0-3 degree credits per quarter.

The course will provide teachers with the information needed to teach the materials from the Minnesota Project Social Studies, emphasize new curriculum developments in the field and provide training in the inquiry process. (Prereq SeEd 5-113 or Elem 5-100 and ‡. Qualified students may register for graduate credit at the University of Minnesota. Each section limited to 30 students. Meets concurrently with SeEd 5-371)

Sec. 1: Teachers of Grades K-2

Sec. 4: Teachers of Grades 7-8

Sec. 2: Teachers of Grades 3-4

Sec. 5: Teachers of Grades 9-10

Sec. 3: Teachers of Grades 5-6

Sec. 6: Teachers of Grades 11-12

**Special Term**

(Sept. 1, 8, 15, 29; Oct. 13, 27; Nov. 3, 17;

Dec. 1, 15; Jan. 5, 19; Feb. 2, 16;

March 2, 16)

T—7:30-9:10, VH, Gardner

Sec. 1: VH 203

Sec. 2: VH 206

Sec. 3: VH 207

Sec. 4: VH 209

Sec. 5: VH 211

Sec. 6: VH 313

**Spring Quarter**

T—7:00-9:30, Sand JHS, Gardner

Sec. 1: 205

Sec. 2: 206

Sec. 3: 207

Sec. 4: 210

Sec. 5: 211

Sec. 6: 212

**Engineering**

Your attention is called to the Engineering Certificate program, page 61.

Please see the following departmental listings for course offerings:

**AEROSPACE ENGINEERING AND MECHANICS**, page 88.

**CIVIL ENGINEERING**, page 111.

**ELECTRICAL ENGINEERING**, page 123.

**ENGINEERING ENGLISH**, see English, page 130.

**ENGINEERING GRAPHICS**, page 126.

**INDUSTRIAL ENGINEERING**, page 157.

**MECHANICAL ENGINEERING**, page 182.

For information on non-credit conferences or workshops in engineering and science, please contact Mr. James E. Holte, Director, Continuing Education in Engineering and Science, 210 Nolte Center for Continuing Education; telephone 373-5057.

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## STUDENT REPRESENTATION IN UNIVERSITY SENATE

Students are entitled to serve in the University Senate. Interested Evening and Special Classes students are urged to read filing and voting instructions on page 41. Elections will be held October 20 to 23, 1970.

## Engineering Graphics

*Paul W. Bullen, Assistant Professor of Mechanical Engineering*  
*John N. Clausen, Assistant Professor of Mechanical Engineering*  
*Lewis G. Palmer, Assistant Professor of Mechanical Engineering*  
*Richard D. Springer, Associate Professor of Mechanical Engineering*  
*Joseph Wetzel, Instructor in Civil Engineering*

EG 0-004C (old EG 4) and 0-005C (old EG 5), which are certificate credit courses, are designed to provide an engineering drawing course sequence more directly applicable to industrial needs than EG 1-025 (old EG 25). Students who satisfactorily complete them may upon approval of the Division of Engineering Graphics petition for a comprehensive examination if credit for EG 1-025 (old EG 25) is desired.

**EG 0-001C THE SLIDE RULE** (old EG 1). 1½ certificate credits. \$21. ★  
Theory and computation practice necessary for those who wish to use the slide rule in ordinary computations. Drills on fundamental processes. (No prereq)

### Fall Quarter

T—6:00-7:30, Arch 40, Wetzel

**EG 0-004C ENGINEERING DRAWING** (old EG 4). 3 certificate credits. ★  
Principles and practices of communication drawings. Graphical techniques, engineering geometry, orthographic, axonometric, oblique, and perspective projection systems. Symbolic representation. Size and material specifications. Detail and assembly drawings. (No prereq)

### Winter Quarter

T—6:00-9:00, MechE 308

**EG 0-005C ENGINEERING DRAWING** (old EG 5). 3 certificate credits. ★  
Advanced problems in communication drawing. Auxiliary views. Representation and solution of 3-dimensional space problem. Graphical solution of vector problems. Intersections and developments. (Prereq 0-004C)

### Spring Quarter

T—6:00-9:00, Arch 10

**EG 1-025 ENGINEERING GRAPHICS** (old EG 25). 4 degree credits. ★  
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 1-210 or # or ¶1-210)

### Fall Semester

T—6:00-8:30, Arch 10

### Spring Semester

M—6:00-8:30, Arch 10

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



## English

(Composition, Communication, Literature)

Chester C. Anderson, Professor of English  
 Kent Bales, Assistant Professor of English  
 Betty Ann Burch, Teaching Associate in Communication  
 Angus Clarke, Lecturer in English  
 Lonnie Durham, Assistant Professor of English  
 Richard Foster, Professor of English  
 Arthur J. Geffen, Assistant Professor of English  
 Edward Griffin, Associate Professor of English  
 David Haley, Associate Professor of English  
 Harley Henry, Lecturer in English  
 John D. Hurrell, Professor of English  
 J. Vernon Jensen, Professor of Communication  
 Paul Kirchner, Lecturer in English  
 Alex Kurak, Associate Professor of Literature and Writing  
 Charlotte Kwiat, Instructor in English  
 Archibald I. Leyasmeyer, Associate Professor of English  
 John W. Lippert, Lecturer in English  
 Robert Lippert, Lecturer in English  
 Andrew MacLeish, Associate Professor of English  
 Raymond McClure, Assistant Professor of English  
 John McNally, Associate Professor of English  
 A. Lawrence Mitchell, Assistant Professor of English  
 Thomas A. Nelson, Jr., Assistant Professor of English  
 Carl E. Norberg, Teaching Associate in Communication  
 Charles Norman, Lecturer in English  
 Gordon W. O'Brien, Professor of English  
 Justin O'Connell, Lecturer in English  
 Jack Patnode, Lecturer in English  
 Aaron Petersen, Lecturer in English  
 Robert C. Rathburn, Associate Professor of Literature and Writing  
 Peter J. Reed, Assistant Professor of English  
 Martin Roth, Associate Professor of English  
 James L. Scoggins, Associate Professor of English  
 Richard J. Sheehan, Teaching Associate in Communication  
 John A. Sweetser, III, Lecturer in English  
 James R. White, Jr., Instructor in Communication

### Composition and Communication

English 1-001 (old Engl 1) and Communication 1-001 (old Comm 1) are being offered without prerequisites during the 1970-71 school year.

Students who feel the need for a refresher course before enrolling in English 1-001 (old Engl 1) or Communication 1-001 (old Comm 1) 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 Humanities 1-101, 1-102, 1-103, American Life, if they feel their reading background has been neglected. Rhetoric 1-147

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

(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 9 quarter or 6 semester credits (including other colleges within the University of Minnesota) should contact the Counseling Office, 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 General Extension Division Counseling Office, 314 Nolte Center, 373-3905.

Students who receive a grade of A in English 1-001 (old Engl 1) or 1-002 (old Engl 2) may, upon their instructor's recommendation, be exempted from any further courses in freshman English. Students who earn an A in Communication 1-001 (old Comm 1) or 1-002 (old Comm 2) should check with that department concerning possible exemption.

**Comp 0-001 PREPARATORY COMPOSITION** (old Comp X). No credit. Tuition equivalent to 3 credits. ★  
*Intensive drill on grammatical forms, structure, and theme writing. Recommended for those whose primary need is organization and development of themes. (No prereq)*

### Fall Quarter

T-6:20-8:50, MainE 325  
 Th-6:20-8:50, MainE 325  
 F-5:30-8:00, StP Ext

### Winter Quarter

M-6:20-8:50, MainE 325

### Spring Quarter

T-6:20-8:50, MainE 325

**Engl 1-001/1-002/1-003 FRESHMAN ENGLISH** (old Engl 1-2-3). 4 degree credits each quarter. ★

*A course in composition in which literature serves both as reading material and as the subject matter for writing. Not a course in the history of literature or in literary criticism. (Prereq 1-001 for 1-002; 1-002 for 1-003)*

### MINNEAPOLIS CAMPUS

#### Fall Quarter

1-001 M-6:20-9:50,  
 MechE 102  
 1-001 W-6:20-9:50,  
 MechE 106  
 1-002 T-6:20-9:50,  
 MechE 106  
 1-002 W-6:20-9:50,  
 MechE 102  
 1-003 T-6:20-9:50,  
 MechE 208  
 1-003 W-6:20-9:50,  
 MechE 208

#### Winter Quarter

1-001 W-6:20-9:50,  
 MechE 106  
 1-002 M-6:20-9:50,  
 MechE 106  
 1-002 W-6:20-9:50,  
 MechE 208  
 1-003 T-6:20-9:50,  
 MechE 102  
 1-003 W-6:20-9:50,  
 MechE 102

#### Spring Quarter

1-001 T-6:20-9:50,  
 MechE 106  
 1-002 W-6:20-9:50,  
 MechE 208  
 1-003 M-6:20-9:50,  
 MechE 208  
 1-003 W-6:20-9:50,  
 MechE 106

### MAC PHAIL CENTER

#### Fall Quarter

1-001 Th-6:20-9:50,  
 MacP 326

#### Winter Quarter

1-001 T-6:20-9:50,  
 MacP 326  
 1-002 Th-6:00-9:30,  
 MacP 101

#### Spring Quarter

1-002 T-6:20-9:50,  
 MacP 221  
 1-003 Th-6:00-9:30,  
 MacP 101

### CENTRAL HIGH SCHOOL

#### Fall Quarter

1-001 T-6:20-9:50,  
 Cen HS 219

#### Winter Quarter

1-002 T-6:20-9:50,  
 Cen HS 219

#### Spring Quarter

1-003 T-6:20-9:50,  
 Cen HS 219

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

ST. PAUL EXTENSION CENTER

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
1-001 F-5:30-9:00, StP Ext	1-001 M-5:30-9:00, StP Ext	1-001 W-5:30-9:00, StP Ext
	1-002 F-5:30-9:00, StP Ext	1-002 M-5:30-9:00, StP Ext
		1-003 F-5:30-9:00, StP Ext

SANDBURG JUNIOR HIGH SCHOOL

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
1-001 T-6:30-10:00, Sand JHS 206	1-002 T-6:30-10:00, Sand JHS 206	1-003 T-6:30-10:00, Sand JHS 209

RICHFIELD HIGH SCHOOL

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
1-001 M-6:30-10:00, Rich HS 214	1-002 M-6:30-10:00, Rich HS 214	1-003 M-6:30-10:00, Rich HS 214

KELLOGG HIGH SCHOOL

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
1-001 T-6:30-10:00, Kel HS 235	1-002 T-6:30-10:00, Kel HS 235	1-003 T-6:30-10:00, Kel HS 235

**Comm 1-001/1-002/1-003 COMMUNICATION** (old Comm 1-2-3). 4 degree credits each quarter.

A practical course intended to prepare the student to meet more effectively the various vocational and social demands, to write and talk to others, and to receive communication from them. The English language and its uses. 1-001: Language in its social context: meaning, structure, and appropriateness in exposition. 1-002: Language and reasoning; processes and responsibilities of investigation, deliberation, and persuasion. 1-003: Language and public discourse; structure, content, and social implications of utterances through the mass media of communication. (Pre-req 1-001 for 1-002; 1-002 for 1-003. Meets all requirements which are satisfied by Engl 1-001/1-002/1-003, Freshman English. May be used by petition only in the Institute of Technology)

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
1-001 M-6:20-9:50, MechE 18, Jensen	1-001 T-6:20-9:50, MechE 18, Norberg	1-002 T-6:20-9:50, MechE 18, Norberg
1-001 T-6:00-9:30, MacP, White	1-002 M-6:20-9:50, MechE 18, Jensen	1-003 M-6:20-9:50, MechE 18, Jensen
1-001 W-5:30-9:00, StP Ext, Sheehan	1-002 T-6:00-9:30, MacP, White	1-003 T-6:00-9:30, MacP, White
	1-002 W-5:30-9:00, StP Ext, Sheehan	1-003 W-5:30-9:00, StP Ext, Sheehan

**Comp 0-002C GRAMMAR REVIEW.** 3 certificate credits. ★

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)

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
M-6:20-8:50, MechE 106, O'Connell	T-6:20-8:50, MechE 106, O'Connell	W-6:20-8:50, MechE 102, O'Connell
T-6:00-8:30, MacP 327, O'Connell		

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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### Comp 0-003C REVIEW OF BUSINESS ENGLISH. 3 certificate credits.

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

#### Fall Quarter

W-6:20-8:50, MainE 215,  
J Lippert

Th-6:20-8:50, MainE 215,  
J Lippert

#### Winter Quarter

T-6:20-8:50, MainE 215,

J Lippert

### Comp 0-004C BUSINESS CORRESPONDENCE. 3 certificate credits. ★

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

#### Fall Quarter

T-6:20-8:50, MainE 215,  
J Lippert

#### Winter Quarter

W-6:20-8:50, MainE 215,  
J Lippert

### Comp 0-005C WRITING PROJECTS. 3 certificate credits.

A course for those who are interested in writing fiction or book length nonfiction. Open to both beginners and advanced students who have projects which they wish to develop with the aid of individual and group criticism. Students may submit projects already begun or may develop new projects during the semester. Class discussion will center on student projects in the novel and short story, with reference to other forms as appropriate. (No prereq)

#### Fall Semester

Th-6:00-9:00, MacP Annex 1

#### Spring Semester

Th-6:00-9:00, MacP 102

### Comp 1-027, 1-028 ADVANCED WRITING (old Comp 27, 28). 4 degree credits each semester. ★

Offers training in the fundamentals of creative 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 or 1-028. Need not be taken in sequence)

#### Fall Semester

1-027 M-6:20-8:00, Arch 20,  
Petersen

1-027 T-6:20-8:00, Arch 20,  
Petersen

1-028 W-6:20-8:00, Arch 20,  
Petersen

#### Spring Semester

1-028 T-6:20-8:00, Arch 20,  
Petersen

1-028 W-6:20-8:00, Arch 20,  
Petersen

### Engl 0-006C BASIC TECHNICAL WRITING I-II. 3 certificate credits each semester. ★ Basic Technical Writing I.

Review of basic English and introduction to technical writing. Designed for people in the technical industries. Includes sentence design, spelling, and punctuation. Covers basic techniques of definition, description, process, procedure, and analysis writing. Organization and correlation into text of tables, diagrams, 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. Need not be taken in sequence)

#### Fall Semester

I M-6:20-8:00, MainE 215, J Lippert

#### Spring Semester

II M-6:20-8:00, MainE 215, J Lippert

### Engl 0-007 ENGLISH FOR FOREIGN STUDENTS. No credit. Tuition equivalent to 3 credits.

The students have the opportunity to speak, read, and write American English. Emphasis is on conversational English and the errors most frequently made in English by foreign students. Students are encouraged to think in English rather than in their native languages. Students are taught to distinguish informal and

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

colloquial speech from literary and formal English. (Prereq open to those who have a working knowledge of English grammar)

**Fall Quarter**

Th—6:20-8:50, MechE 202, Kwiat

\*Engl 3-085 **TECHNICAL WRITING FOR ENGINEERING** (old Engl 85 [IT]). 3 degree credits. 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, J Lippert

**Spring Semester**

M—8:15-9:55, MainE 215, J Lippert

**Literature**

See also Humanities (General College)

Engl 1-821, 1-822, 1-823 **INTRODUCTION TO LITERATURE** (old Engl 21, 22, 23). 4 degree credits each quarter. ★

Chronological study of English literature with work on types of literature and literary ideas. 1-821: Medieval and Renaissance literature. 1-822: Milton, Restoration, 18th century. 1-823: Romantic movement and Victorians. (No prereq. Need not be taken in sequence)

**Fall Quarter**

1-821 M—6:20-9:50,  
MechE 202,  
O'Brien

1-821 W—6:30-10:00,  
StP Ext, Haley

**Winter Quarter**

1-822 M—6:20-9:50,  
MechE 202,  
Haley

**Spring Quarter**

1-823 M—6:20-9:50,  
MechE 202,  
Haley

Engl 1-937, 1-938, 1-939 **MODERN LITERATURE** (old Engl 37, 38, 39). 4 degree credits each quarter. ★ 1-938

Intended for students in all departments and colleges; not particularly for English majors. Readings in 20th-century British and American fiction, drama, and poetry. Selected, arranged, and discussed—not to give a full historical survey, but to enhance the student's pleasure in, and understanding of, imaginative literature generally. Short critical papers are required and count in determining grades. 1-937: Poetry. 1-938: Prose fiction. 1-939: Drama. (No prereq. Need not be taken in sequence)

**Fall Quarter**

1-937 M—6:20-9:30,  
MainE 229,  
McNally

1-937 Th—5:30-8:30, StP  
Ext, R Lippert

**Winter Quarter**

1-938 M—6:20-9:30,  
MechE 208,  
McNally

1-938 Th—5:30-8:30, StP  
Ext, R Lippert

**Spring Quarter**

1-939 M—6:20-9:30,  
MechE 214,  
McNally

1-939 Th—5:30-8:30, StP  
Ext, R Lippert

Engl 3-685 **PRESENT-DAY ENGLISH** (old Engl 85). 4 degree credits.

The language we speak, a consideration of various aspects: vocabulary, pronunciation, morphology, and syntax; dialects; taboos; euphemisms; slang; standards of usage; popular misconceptions about language and grammar; popular notions about "correctness" and "incorrectness." The particular emphasis of the course will be determined by the interests of the class. (Prereq completion of freshman English requirement)

**Fall Quarter**

Th—6:20-8:50, MechE 102,  
Mitchell

Engl 3-155, 3-156 **SHAKESPEARE** (old Engl 55-56). 4 degree credits each quarter. ★

3-155: The reading of plays from Shakespeare's early and middle periods—Richard

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

II, *A Midsummer Night's Dream*, *The Merchant of Venice*, *Much Ado About Nothing*, and two or three other plays selected by the instructor. 3-156: The reading of plays from Shakespeare's middle and later periods—*Twelfth Night*, *Hamlet*, *Macbeth*, *The Tempest*, and two other plays selected by the instructor. (Prereq completion of freshman English. Need not be taken in sequence but students are strongly urged to take 3-155 before 3-156)

Fall Quarter	Winter Quarter	Spring Quarter
3-155 T—6:20-9:30, MechE 110, Roth	3-155 W—6:20-9:30, StP Ext	3-156 W—6:20-9:30, StP Ext
	3-156 T—6:20-9:30, MechE 221, O'Brien	

**Engl 3-601 INTRODUCTION TO ENGLISH LANGUAGE** (old Engl 60). 4 degree credits, \$5-645.

How English exemplifies basic concepts of language with respect to inner structure, outer form, time, situation, and user. (Prereq completion of freshman English requirement. May not be counted toward major in English in CLA except by students taking 35 or more Upper Division credits in English)

Fall Quarter	Spring Quarter
M—6:20-9:50, MechE 221, MacLeish	M—6:20-9:50, MechE 221, MacLeish

**Engl 3-721/3-722/3-723 AMERICAN LITERATURE** (old Engl 72—73—74). 4 degree credits each quarter, \$5-721, 5-722, 5-723. ★

3-721: The beginnings through Melville. 3-722: Whitman through Stephen Crane. 3-723: Dreiser to the present. (Prereq completion of freshman English for 3-721; 3-721 or § for 3-722; 3-722 or § for 3-723)

Fall Quarter	Winter Quarter	Spring Quarter
3-721 W—6:20-9:30, MechE 302, Griffin	3-722 W—6:20-9:30, MechE 302, Griffin	3-723 W—6:20-9:30, MechE 221, Griffin

**Engl 3-827, 3-828 THE ENGLISH NOVEL** (old Engl 52, 53). 4 degree credits each quarter. ★ 3-827, 3-828.

3-827: Reading of novels by such writers as Defoe, Fielding, Sterne, Smollett, and Richardson. 3-828: Reading of novels by such writers as Jane Austen, Scott, the Brontes, Thackeray, and Dickens. (Prereq completion of freshman English. Need not be taken in sequence)

Fall Quarter	Winter Quarter
3-827 M—6:20-9:30, NH 216, Rathburn	3-828 M—6:20-9:30, NH 216, Rathburn

**Engl 3-875 CHAUCER** (old Engl 75). 4 degree credits, \$5-875 ★

Reading of selections from *The Canterbury Tales* with introduction dealing with grammar and literary forms of 14th-century English. (Prereq completion of freshman English requirement. For graduate credit, register in 5-875 fall semester only)

### Fall Semester

M—6:20-9:30, MechE 302, McClure

**Engl 3-877, 3-878, 3-879 TWENTIETH-CENTURY BRITISH LITERATURE** (old Engl 77, 78, 79). 4 degree credits each quarter, \$5-844, 5-845.

Critical survey of major figures including James Joyce, D. H. Lawrence, Virginia Woolf, T. S. Eliot, W. B. Yeats, Dylan Thomas, W. H. Auden and E. M. Forster. 3-877: From 1900 to 1920. 3-878: From 1920 to 1940. 3-879: From 1940 to present. (Prereq completion of freshman English. Need not be taken in sequence)

Fall Quarter	Winter Quarter	Spring Quarter
3-877 T—6:20-9:30, MechE 202, Reed	3-878 T—6:20-9:30, MechE 202, Reed	3-879 T—6:20-9:30, MechE 202, Reed

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**Engl 5-128 DRAMA** (old Engl 127). 4 degree credits.

The beginnings of modern realism. (Prereq completion of freshman English. Qualified students may register for graduate credit at the University of Minnesota)

**Winter Quarter**

W-6:20-9:30, MechE 214,  
Leyasmeyer

**Engl 5-129 MODERN DRAMA** (old Engl 129). 4 degree credits.

Survey of chief dramatists. English, American, and continental, from 1900. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

**Spring Quarter**

W-6:20-9:30, MechE 214,  
Leyasmeyer

**Engl 5-135 ADVANCED SHAKESPEARE** (old Engl 135). 4 degree credits.

Intensive study of a few plays. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

W-6:20-9:30, MainE 229,  
O'Brien

**Engl 5-163 JACOBEAN AND CAROLINE DRAMAS EXCLUSIVE OF SHAKESPEARE** (old Engl 170). 4 degree credits.

Selected plays of Jonson, Webster, Middleton, and others. (No prereq. Qualified students interested in graduate credit should inquire at time of registration)

**Spring Quarter**

Th-6:20-9:30, MechE 202

**Engl 5-645 THE STRUCTURE OF MODERN ENGLISH** (old Engl 165). 4 degree credits.

An introductory study of English phonemics, morphemics, and syntax. (Prereq completion of freshman English. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

M-6:20-9:30, Arch 45,  
Kirchner

**Engl 5-646 HISTORY OF THE ENGLISH LANGUAGE** (old Engl 166). 4 degree credits.

Historical influences upon, and changes within, the language as both a popular and literary medium of communication. (Prereq completion of freshman English. Qualified students may register for graduate credit at the University of Minnesota)

**Spring Quarter**

M-6:20-9:30, Arch 45,  
Kirchner

**Engl 5-674 AMERICAN ENGLISH** (old Engl 174). 4 degree credits.

The developing distinctiveness of the English language in America; its relationships to American cultural patterns; significant regional variations in vocabulary, pronunciation, and grammar; introduction to field methods of American dialect geography; use of unpublished materials from the collections of the Linguistic Atlas of the Upper Midwest. (Prereq completion of freshman English requirement. Qualified students interested in graduate credit should inquire at time of registration)

**Winter Quarter**

Th-6:20-9:30, MechE 221

**Engl 5-705 HAWTHORNE AND MELVILLE** (old Engl 105). 4 degree credits.

Hawthorne and Melville: A study of the classic works of American romance, symbolism, and ambiguity. (Prereq completion of freshman English. Qualified students may register for graduate credit at the University of Minnesota)

**Spring Quarter**

T-6:20-9:30, MechE 221,  
Roth

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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**Engl 5-713 AMERICAN SHORT STORY** (old Engl 113). 4 degree credits.  
Historical examination of American short story from 18th century to the present. (Prereq completion of freshman English. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

T-6:20-9:30, MechE 302,  
Bales

**Winter Quarter**

T-6:20-9:30, MechE 302,  
Bales

**Spring Quarter**

T-6:20-9:30, MechE 302,  
Bales

**Engl 5-751, 5-752 AMERICAN NOVEL** (old Engl 154, 155). 4 degree credits each quarter.  
History of the American novel from the beginning to the present. (Prereq completion of freshman English. Need not be taken in sequence. Qualified students may register for graduate credit at the University of Minnesota)

**Winter Quarter**

5-751 T-6:20-9:30,  
MechE 110,  
Geffen

**Spring Quarter**

5-752 T-6:20-9:30,  
MechE 110,  
Geffen

**Engl 5-757, 5-758 AMERICAN POETRY** (old Engl 157, 158). 4 degree credits each quarter.  
Critical survey of American poetry from Anne Bradstreet to present; some attention to historical and intellectual backgrounds; emphasis upon major figures. (Prereq completion of freshman English. Need not be taken in sequence. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

5-757 Th-6:20-9:30,  
MechE 221,  
Geffen

**Spring Quarter**

5-758 Th-6:20-9:30,  
MechE 221,  
Geffen

**Engl 5-771 BLACK WRITERS OF THE UNITED STATES** (old Engl 171). 4 degree credits.  
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)

**Fall Quarter**

T-6:20-9:30, MainE 315, Anderson

**Engl 5-811, 5-813 ROMANTIC POETRY AND PROSE** (old Engl 108, 110). 4 degree credits each quarter.

5-811: Blake, Wordsworth, Coleridge, and others. 5-813: Shelley, Keats, Hazlitt, and others. (Prereq completion of freshman English. Need not be taken in sequence. Qualified students interested in graduate credit should inquire at time of registration)

**Fall Quarter**

5-811 Th-6:20-9:30,  
MechE 214,  
Henry

**Spring Quarter**

5-813 Th-6:20-9:30,  
MechE 214

**Engl 5-837, 5-839 VICTORIAN LITERATURE** (old Engl 137, 139). 4 degree credits each quarter.

Prose, poetry, and selected fiction. Emphasis on critical study of particular works of major authors and their relation to recurrent themes and literary interests of the period. (Prereq completion of freshman English. Need not be taken in sequence. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

5-837 W-6:20-9:30,  
MechE 110,  
Patnode

**Spring Quarter**

5-839 W-6:20-9:30,  
MechE 110,  
Patnode

**Engl 5-862 MILTON** (old Engl 162). 4 degree credits. ★

The minor poems, *Areopagitica*, *Paradise Lost*, and *Samson Agonistes*. (Prereq completion of freshman English. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

T-6:20-9:30, Arch 135, Haley

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



**Engl 5-875 CHAUCER** (old Engl 175). 4 degree credits, \$3-875. ★  
See course description as listed under Engl 3-875. Same work as 3-875, but with additional assignments. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Semester**

**M—6:20-9:30, MechE 302, McClure**

**Engl 5-887, 5-888 EIGHTEENTH-CENTURY LITERATURE** (old Engl 188, 189). 4 degree credits each quarter.

Survey of English literature from 1700 to 1790. Parallel readings and critical essays. Graduate students will submit term paper each quarter. (Prereq completion of freshman English. Need not be taken in sequence. Qualified students interested in graduate credit should inquire at time of registration)

**Winter Quarter**

**5-887 M—6:20-9:30, Arch  
60**

**Spring Quarter**

**5-888 M—6:20-9:30, Arch  
60**

**Engl 5-894 ELIZABETHAN LITERATURE** (old Engl 194). 4 degree credits each quarter.

From beginning of Tudor period to about 1580; Medieval origins of the drama. (Prereq completion of freshman English. Need not be taken in sequence. Qualified students may register for graduate credit at the University of Minnesota)

**Winter Quarter**

**M—6:20-9:30, Arch 30,  
O'Brien**

**Engl 5-991, 5-992, 5-993 TWENTIETH-CENTURY WRITERS** (old Engl 190, 191, 192). 4 degree credits each quarter.

Each quarter, at least two such writers as the following will be studied: Conrad, James, Joyce, Woolf, Lawrence, Forster, Hemingway, Fitzgerald, Faulkner, Shaw, O'Casey, Frost, Pound, Auden. The authors chosen vary from year to year. (Prereq completion of freshman English. Need not be taken in sequence. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

**5-991 W—6:20-9:30, Arch  
60, R Foster**

**Winter Quarter**

**5-992 W—6:20-9:30, Arch  
60, R Foster**

**Spring Quarter**

**5-993 W—6:20-9:30, Arch  
60, R Foster**

## Family Studies

*Paul Arnold, Instructor in Family Studies*

*John Bruce, Instructor in Family Studies*

*Bruce Campbell, Instructor in Family Studies*

*Nathan Mandel, Assistant Professor of Family Studies*

*Elizabeth Peterson, Assistant Professor of Family Studies*

*Harold Smith, Instructor in Family Studies*

**\*FamS 1-001 DYNAMICS OF DATING, COURTSHIP, AND MARRIAGE** (old FamS 1). 3 degree credits, \$3-001. Tuition 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, Bruce**

**Spring Quarter**

**M—6:00-8:30, MacP 221,  
Campbell**

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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**\*FamS 1-025 PARENTHOOD** (old FamS 25A). 2 or 3 degree credits.

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—7:00-8:45, Crystal Heights Elementary School, 3415 Louisiana Ave N, Peterson

M—7:30-9:10, NH 107, Smith

**Winter Quarter**

M—7:00-8:45, Kel HS 155, Peterson

**Spring Quarter**

M—7:30-9:15, Sand JHS 213, Peterson

**\*FamS 3-001 DYNAMICS OF MARRIAGE AND PARENTHOOD** (old FamS 1A). 3 degree credits, \$1-001. Tuition 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 limited to engaged or married students. Limited to 40 students)

**Fall Quarter**

M—7:00-9:30, Rich HS 216, Campbell

**Spring Quarter**

Th—6:20-8:50, BlegH 335, Mandel

**\*FamS 5-001 HUMAN SEXUAL BEHAVIOR** (old FamS 100). 3 degree credits.

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 435, Arnold

For information on non-credit conferences or workshops in family studies, please contact Mrs. Elizabeth F. Peterson, 211 Nolte Center for Continuing Education; telephone, 373-3151.

## Finnish

(See Scandinavian Languages)

## Finance

Your attention is called to the Credit and Financial Management Certificate program, page 57.

*Lowell Chesborough, Lecturer in Finance*

*Stephen W. Conroy, Lecturer in Finance*

*J. Robert Hare, Lecturer in Finance*

*Paul Jessup, Associate Professor of Finance*

*Richard S. Johnson, Lecturer in Finance*

*George A. Macomber, Lecturer in Finance*

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

George A. Mairs, III, Lecturer in Finance  
 Krishna Mantripragada, Lecturer in Finance  
 J. R. Nelson, Professor of Finance  
 Peter Rosko, Associate Professor of Finance  
 Roger Upson, Associate Professor of Finance

**Fin 0-001C INTRODUCTION TO INVESTMENTS.** 3 certificate credits, §BFin 3-300. ★  
 A fundamental course for adult investors who wish a general background of information on the investment field. Classroom instruction supplemented by special lectures by men of experience in investment banking, commercial banking, and other related fields. Course covers nature of various kinds of securities; statistical and investment analysis of securities; vocabulary and practices of the securities business; investment practices of various investor groups. (No prereq)

**Fall Semester**

**M—6:20-8:00, NH 209, Mairs**

**Fin 0-002C CREDIT AND FINANCIAL MANAGEMENT PROBLEMS.** 3 certificate credits.  
 Analyzing and solving specific case problems using advanced Credit and Financial Management Techniques. Emphasis is placed on the proposal and support of realistic decisions and courses of action. (Prereq Acct 3-160, Mktg 3-087 or §)

**Spring Quarter**

**W—6:20-8:50, BlegH 220**

**Fin 3-000 FINANCE FUNDAMENTALS** (old BFin 56). 3 degree credits, §8-000. ★  
 A comprehensive introduction to the main concepts in finance and some of their applications in forecasting; money and capital markets; cost of capital, leverage, and financial policy; risk and return on investments; portfolio choice and performance measurement; cost benefit analysis. (Prereq Acct 1-026)

**Fall Semester**

**T—8:15-9:55, BlegH 240  
 Th—6:00-7:40, MacP 327**

**Spring Semester**

**T—6:20-8:00, BlegH 240**

**Fall Quarter**

**W—5:30-8:00, StP Ext  
 Th—7:30-10:00, BlegH 240**

**Fin 3-100 FINANCIAL MANAGEMENT** (old BFin 57). 3 degree credits.  
 Seeks to develop capability in corporate financial management through use of cases and readings. Participants gain experience in problem definition, analysis, and presentation. Concepts introduced in BFin 3-000 are examined in great depth. (Prereq 3-000 or §)

**Spring Quarter**

**T—6:20-8:50, BlegH 125**

**Fin 3-300 INVESTMENT FUNDAMENTALS** (old BFin 66). 3 degree credits, §BFin 0-001C.  
 An introduction to the management of investment funds. In addition to considering the instruments and institutional structure of the securities markets, this course focuses on analytical techniques of security selection and portfolio management. (Prereq 3-000)

**Fall Semester**

**Th—6:20-8:00, BlegH 105**

**Spring Semester**

**Th—6:00-7:40, StP Ext**

**Fin 3-400 CAPITAL MARKETS AND INSTITUTIONS** (old BFin 76). 3 degree credits, §old BFin 106.  
 Study of characteristics and institutional structure of the money and capital markets and their interrelationship through interest rates and prices. Observation of price behavior of the market as a whole and of specific types of securities. Attention to new issue markets and to secondary trading on over-the-counter and national exchanges. (Prereq 3-000)

**Fall Semester**

**T—6:20-8:00, BlegH 125**

Symbols explained on page 32.  
 See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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### French

*F. R. P. Akehurst, Associate 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**, are courses stressing pronunciation, aural comprehension, basic grammatical forms, patterns of French and the ability to recombine them in new situations. The reading and writing skills will be developed as a complement to the acquisition of the spoken objectives. Each meeting will consist of language laboratory work as well as class recitation. Grades will be assigned solely on the basis of class recitation and weekly quizzes.

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

**Fren 1-101 BEGINNING FRENCH** (old Fren 1). 5 degree credits. Tuition plus \$3 laboratory fee. ★  
See note above. (No prereq)

#### Fall Quarter

**MTh—6:20-8:50, FolH 104**

**Fren 1-102 BEGINNING FRENCH** (old Fren 2). 5 degree credits. Tuition plus \$3 laboratory fee. ★  
See note above. (Prereq 1-001 or #)

#### Winter Quarter

**MTh—6:20-8:50, FolH 110**

**Fren 1-103 BEGINNING FRENCH** (old Fren 3). 5 degree credits. Tuition plus \$3 laboratory fee. ★  
See note above. (Prereq 1-002 or #)

#### Fall Quarter

**MTh—6:20-8:50, FolH 107**

#### Spring Quarter

**MTh—6:20-8:50, FolH 107**

**Fren 1-004 INTERMEDIATE FRENCH** (old Fren 25). 4 degree credits; additional lab work required. Tuition plus \$3 laboratory fee. ★  
Consolidation of basic structures and development of oral fluency through readings and discussion. Additional laboratory work required. (Prereq 1-003 or #)

#### Fall Quarter

**W—6:20-8:50, FolH 203**

**Fren 1-005 INTERMEDIATE FRENCH** (old Fren 26). 3 degree credits.  
Readings in contemporary culture. Development of vocabulary and improvement of ability to read, write and speak the language. (Prereq 1-004 or #)

#### Winter Quarter

**W—6:20-8:50, FolH 108**

**Fren 3-104 INTRODUCTION TO FRENCH LITERARY TEXTS** (old Fren 53 or 30). 3 degree credits.

Variety of literary works representing principal genres are examined through stylistic analyses and literary explications. Students learn critical terminology and discuss literary problems and techniques. (Prereq 1-004, 1-005 or #)

#### Winter Quarter

**Th—6:20-8:50, FolH 103**

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**Fren 3-021 FRENCH CONVERSATION** (old Fren 55). 3 degree credits. Tuition plus \$10 laboratory fee.

In addition to regular conversation course, some time each week is devoted to practical phonetics and pronunciation drill. (Prereq 1-004, 1-005 or §)

**Spring Quarter**

Th-6:20-8:50, FolH 201

**Fren 3-201 THE FRENCH LITERARY TRADITION** (old Fren 64). 3 degree credits.

An overall view of tradition and innovation in French literature, with emphasis on specific masterpieces and theoretical works. (Prereq 3-104 or §)

**Winter Quarter**

T-6:20-8:50, FolH 203

**Fren 3-305 THE FRENCH NOVEL** (old Fren 88). 3 degree credits.

Reading and discussion of selected texts and development of notions of convention and genre. (Prereq 3-201 or §)

**Spring Quarter**

T-6:20-8:50, FolH 205

**Fren 5-395 NOVEL OF L'ENTRE-DEUX GUERRES** (old Fren 172). 3 degree credits.

This course complements others on the French novel of this century. Includes works of Bernanos, Jules Romains, Colette, Duhamel, Giono, Giraudoux, Martin du Gard and Saint-Exupery. (Prereq 3-201 or §. Qualified students interested in graduate credit should inquire at time of registration)

**Spring Quarter**

Th-6:20-8:50, FolH 205

### 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. Tuition equivalent to 3 credits. ★

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

S-9:00-11:30, FolH 201

**French 0-001 (17A) usually is offered also as a Summer Evening 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.

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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The General College degree—the Associate in Arts—can be completed in Extension classes.

The General College curriculum is a free-choice curriculum. With the exception of certain requirements in the occupational education programs, 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 the 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.

### **BUSINESS STUDIES** (page 106)

- Introduction to Data Processing, GC 1-535
- Introduction to Modern Business, GC 1-511
- Consumer Problems, GC 1-731
- Principles of Small Business Operations, GC 1-513

### **COMMUNICATION SKILLS** (page 114)

- Creative Problem Solving, GC 1-471

### **GENERAL COLLEGE MARKETING SEQUENCE** (page 107)

- Marketing: Retailing, Sales, and Customer Services, GC 1-551
- Marketing: Advertising and Sales Promotion, GC 1-552
- Marketing: Principles of Management, GC 1-553

### **HUMANITIES** (page 156)

- American Indian Culture, GC 1-812
- Contemporary Books and Periodicals, GC 1-367
- General Arts, GC 1-311
- Introduction to Commercial Art, GC 1-536
- Literature: Theatre-Film, GC 1-374
- Man's Religious Beliefs, GC 1-357
- Music Today: Music in Society, GC 1-331
- Reading Short Stories, GC 1-371

### **NATURAL SCIENCE** (page 192)

- Human Anatomy and Physiology, GC 1-132
- Man and His Environment, GC 1-112
- Modern Physical Science, GC 1-181

### **SOCIAL STUDIES** (page 224)

- Minnesota History, GC 1-221
- Minnesota Indians in Contemporary Society, GC 1-813
- The Afro-American Experience, GC 1-815
- Vocational Planning, GC 1-502

## Geography

*Russell B. Adams, Associate Professor of Geography*  
*Nancy R. Bain, Instructor in Geography*  
*Abraham Degani, Instructor in Geography*

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

Norman Ng, Instructor in Geography  
 John G. Rice, Associate Professor of Geography

**Geog 1-301 HUMAN GEOGRAPHY** (old Geog 4). 5 degree credits.  
 Geography of population and principal ways of life; capacity of the earth for future population. (No prereq)

Fall Semester

Th—6:20-9:20, BlegH 5, Rice

Spring Semester

Th—6:20-9:20, BlegH 5, Rice

**Geog 1-311 ECONOMIC GEOGRAPHY** (old Geog 41). 5 degree credits.  
 Introductory survey and analysis of world patterns of economic activity. Emphasis is placed on raw material occurrence and resource potential, centers of industrial fabrication and circulation of trade and services. (No prereq)

Spring Semester

W—6:20-9:20, BlegH 205, Bain

**Geog 1-401 PHYSICAL GEOGRAPHY** (old Geog 1). 5 degree credits.  
 Major features of distribution patterns of climate, relief, vegetation, soils; regional differences in the problems of physical development. (No prereq)

Fall Semester

M—6:20-9:20, BlegH 135, Ng

Spring Semester

M—6:30-9:15, Sand JHS 205,  
 Ng (Limited to 35 students\*)

**Geog 3-101 UNITED STATES AND CANADA** (old Geog 66). 3 degree credits. ★  
 Examination of manner in which abilities of different peoples have interacted with natural environment in producing regional differentiations of United States and Canada. (Prereq 5 credits in geography or §)

Winter Quarter

T—6:20-8:50, BlegH 435,  
 Bain

**Geog 3-181 SOVIET UNION** (old Geog 63). 3 degree credits.  
 Character of and bases for regional diversity of U.S.S.R. resources, population, agriculture, manufacturing, and transportation in U.S.S.R. (No prereq)

Spring Quarter

M—6:20-8:50, BlegH 435,  
 Adams

**Geog 3-511 INTRODUCTION TO CARTOGRAPHY** (old Geog 81). 3 degree credits.  
 Principles of map design, compilation, specification, and drafting. Map symbols. History of cartography. Projections—analysis of construction, properties, and uses. (Prereq 5 credits in geography or §)

Spring Quarter

T—6:20-8:50, BlegH 435,  
 Degani

**Geog 5-173 NORDEN** (old Geog 103). 3 degree credits.  
 Cultural and political development of Scandinavia, Finland, and Iceland. Effects of changing resource appraisal upon patterns of economic activity and human occupancy. (Prereq 5 credits in geography or §. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter

W—6:20-8:50, BlegH 404,  
 Rice

**Geog 5-900 TOPICS IN GEOGRAPHY—MIDDLE EAST** (old Geog 193). 3 degree credits.  
 Environment and human occupation in their relationship to present regional differentiation within Southwestern Asia. Natural resources of the area and their development. Problems of international relations. (No prereq. May not be taken for graduate credit)

Fall Quarter

M—6:20-8:50, BlegH 435,  
 Degani

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Geology and Geophysics

Richard L. Bartels, Instructor in Geology and Geophysics

George R. Rapp, Jr., Associate Professor of Geology and Geophysics

Robert E. Sloan, Associate Professor of Geology and Geophysics

\*Geo 1-001 **PHYSICAL GEOLOGY** (old Geo 1). 4 degree credits. Tuition 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. But high school physics and chemistry advisable. Students wishing lecture only register for 1-003. Meets concurrently with 1-003 and 5-051. Limited to 90 students)

**Fall Semester**

Lect T-6:20-8:00, P 110, Rapp  
Lab T-8:10-9:30, ForH 180

**Spring Semester**

Lect M-6:20-8:00, P 110, Bartels  
Lab M-8:10-9:30, ForH 180

\*Geo 1-002 **HISTORICAL GEOLOGY** (old Geo 2). 4 degree credits. Tuition 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. Meets concurrently with 1-004 and 5-052. Limited to 96 students)

**Fall Semester**

Lect M-6:20-8:00, P 110, Sloan  
Lab M-8:10-9:30, ForH 180

**Spring Semester**

Lect T-6:20-8:00, P 110, Sloan  
Lab T-8:10-9:30, ForH 180

\*Geo 1-003 **PHYSICAL GEOLOGY** (old Geo 1E). 3 degree credits. ★

Lecture concurrent with Geo 1-001, see description above; no laboratory. Not acceptable toward degrees for physical science and engineering majors. (No prereq, but high school physics and chemistry advisable. Meets concurrently with 1-001 and 5-051. Limited to 90 students)

**Fall Semester**

T-6:20-8:00, P 110, Rapp

**Spring Semester**

M-6:20-8:00, P 110, Bartels

\*Geo 1-004 **HISTORICAL GEOLOGY** (old Geo 2E). 3 degree credits. ★

Lecture concurrent with 1-002, see description above; no laboratory. Not acceptable toward degrees for physical science and engineering majors. (Prereq 1-003 or 1-001. Meets concurrently with 1-002 and 5-052. Limited to 96 students)

**Fall Semester**

M-6:20-8:00, P 110, Sloan

**Spring Semester**

T-6:20-8:00, P 110, Sloan

\*Geo 5-051 **PHYSICAL GEOLOGY FOR TEACHERS** (old Geo 109C). 4 degree credits, \$1-001, 1-003, 1-111. Tuition 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. Meets concurrently with 1-001 and 1-003. Limited to 90 students. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Semester**

Lect T-6:20-8:00, P 110, Rapp  
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. Tuition 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 1-112; only for students holding degrees in education. Meets concurrently with 1-002 and 1-004. Limited to 96 students. Qualified students may register for graduate credit at the University of Minnesota)

**Spring Semester**

Lect T-6:20-8:00, P 110, Sloan  
Lab T-8:15-9:55, ForH 55

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



## German

Frank D. Hirschbach, Professor of German  
 Edwin F. Menze, Professor of German  
 Herman Ramras, Professor of German  
 Wolfgang Taraba, Professor of German  
 Gerhard H. Weiss, Professor of German  
 Cecil Wood, Professor of German

**1-101/1-102/1-103. BEGINNING GERMAN: "ORAL" APPROACH.** 5 credits per unit. Provides basic experience in speaking, reading, and understanding the German language and its structure through the acquisition of basic patterns of speech and later through the reading and analysis of texts.

The course will be reinforced with programmed materials which will be available to students in the language laboratory. The continuation course is Ger 1-301/1-302, which is a prerequisite for Upper Division German courses.

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

**Ger 1-101/1-102 BEGINNING GERMAN: "ORAL" APPROACH** (old Ger 1A-2A). 5 degree credits each semester. Tuition plus \$3 laboratory fee each semester.

Structure, pronunciation, reading, and oral comprehension by learning the patterns 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**

### 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: "ORAL" APPROACH** (old Ger 3A). 5 degree credits. A continuation of the 5-credit sequence in Beginning German. (Prereq 1-102)

### Fall Semester

**M—6:20-9:20, FolH 303A**

**Ger 1-301/1-302 INTERMEDIATE GERMAN** (old Ger 4-5). 6 degree credits. ★

The combination of Ger 1-301 and 1-302 corresponds to the regular departmental course offerings at the intermediate German level in the College of Liberal Arts: Ger 1-301, Intermediate German, Selected Readings from Literature, 3 degree credits; Ger 1-302, Intermediate German, Elementary Composition, 3 degree credits. A student must register concurrently for both courses in the Extension Division. (Prereq 1-103 or 3 years of high school German)

### Spring Semester

**M—6:20-9:40, FolH 305A**

## 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. Tuition equivalent to 3 credits. ★

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 pre-

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

pare a student for the Graduate German Reading Examination; 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

### Spring Semester

M—6:20-8:00, FolH 308, Menze

Ger 0-222 **GERMAN FOR GRADUATE STUDENTS** (old Ger 17B). No credit. Tuition equivalent to 4 credits. ★

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)

### Fall Semester

M—6:20-8:35, FolH 105, Wood

### Spring Semester

M—6:20-8:35, FolH 105, Wood

## SUMMER

The General Extension Division will offer German for Graduate Students during the summer of 1971: Ger 0-221, First Term, MTh—5:30-8:00 p.m., and Ger 0-222, Second Term, MTh—5:30-8:50 p.m.

## Health

(See School Health Education)

## Hebrew

(See Middle Eastern Languages)

## History

See also Arabic 1-501, 1-502, 1-503, page 184; GC 1-221, page 224; GC 1-815, page 224; and Russ 3-601, 3-602, 3-603, page 223.

*Bernard S. Bachrach, Assistant Professor of History*

*Paul W. Bamford, Professor of History*

*W. Donald Beatty, Professor of History*

*Hyman Berman, Professor of History*

*Kinley J. Brauer, Associate Professor of History*

*Harold C. Deutsch, Professor of History*

*Edward L. Farmer, Assistant Professor of History*

*John R. Howe, Associate Professor of History*

*Robert S. Hoyt, Professor of History*

*Allen F. Isaacman, Instructor in History*

*Tom B. Jones, Professor of History*

*David Kopf, Associate Professor of History*

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

Peter Krosby, Professor of History  
 Stanford E. Lehberg, Professor of History  
 Rodney C. Loehr, Professor of History  
 Byron K. Marshall, Associate Professor of History  
 John K. Munholland, Associate Professor of History  
 David W. Noble, Professor of History  
 Otto P. Pflanze, Professor of History  
 Theofanis G. Stavrou, Professor of History  
 Romeyn Taylor, Associate Professor of 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). 3 degree credits each quarter, §3-001, 3-002, 3-003. ★  
 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. Need not be taken in sequence. For Upper Division credit, register in Hist 3-001, 3-002, 3-003)

Fall Quarter		Winter Quarter		Spring Quarter	
1-001	M-5:30-8:00, StP Ext	1-002	M-5:30-8:00, StP Ext	1-003	M-5:30-8:00, StP Ext
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. ★  
 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. 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. (No prereq. Need not be taken in sequence, 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	T-5:30-8:00, StP Ext	1-052	T-5:30-8:00, StP Ext	1-053	T-5:30-8:00, StP Ext
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

**THE BACKGROUND OF THE BIBLE, Heb 1-501, 1-502, 1-503.**  
 (See Middle Eastern Languages)

**Hist 1-101, 1-102, 1-103 MEDIEVAL AND RENAISSANCE HISTORY** (old Hist 11, 12, 13). 3 degree credits each quarter, §3-101, 3-102, 3-103.  
 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 later Middle Ages and early Renaissance, rise of national monarchies, art, learning, and literature. (No prereq. Need not be taken in sequence. For Upper Division credit, register in Hist 3-101, 3-102, 3-103)

Fall Quarter		Winter Quarter		Spring Quarter	
1-101	Th-6:00-8:30, BlegH 220, Hoyt	1-102	Th-6:00-8:30, BlegH 220, Hoyt	1-103	Th-6:00-8:30, BlegH 220, Hoyt

Symbols explained on page 32.  
 See new and old course number Conversion Table in back of bulletin.

## Evening Classes

**Hist 1-111, 1-112, 1-113 MEDIEVAL AND RENAISSANCE** (old 11A, 12A, 13A). 5 degree credits each quarter, §1-101, 1-102, 1-103.

Students attend lectures in 1-101, 1-102, 1-103 and meet two additional hours a week to discuss readings and historiographical problems relative to Medieval and Renaissance history. (Prereq §)

Fall Quarter	Winter Quarter	Spring Quarter
1-111 T-6:00-7:30, BlegH 335, Hoyt	1-112 T-6:00-7:30, BlegH 335, Hoyt	1-113 T-6:00-7:30, BlegH 335, Hoyt

**Hist 1-151, 1-152, 1-153 ENGLISH HISTORY** (old Hist 4, 5, 6). 3 degree credits each quarter, §3-151, 3-152, 3-153. ★ 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-6:20-8:45, BlegH 235, Lehmborg	1-152 M-6:20-8:45, AndH 210, Lehmborg	1-153 M-6:20-8:45, AndH 210, Lehmborg

**Hist 1-301, 1-302 AMERICAN HISTORY** (old Hist 23, 24). 4 degree credits 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 crisis. 1-302: Modern America. (No prereq. Need not be taken in sequence)

Fall Semester		Spring Semester
1-301 M-6:30-8:45, BlegH 150	1-302 M-6:30-8:45, BlegH 235	
Fall Quarter	Winter Quarter	Spring Quarter
1-301 T-5:30-8:50, StP Ext	1-302 T-5:30-8:50, StP Ext	1-302 W-6:30-9:50, Rich HS 216, Howe (Limited to 45 students*)
1-302 Th-5:30-8:50, AndH 350, Berman	1-301 W-6:30-9:50, Rich HS 216 (Limited to 45 students*)	1-302 Th-5:30-8:50, AndH 350, Berman
	1-301 Th-5:30-8:50, AndH 350, Berman	

**Hist 1-431, 1-432, 1-433 HISTORY OF AFRICA** (old Hist 30, 31, 32). 3 degree credits each quarter, §5-431, 5-432, 5-433.

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. Need not be taken in sequence)

Fall Quarter	Winter Quarter	Spring Quarter
1-431 T-6:00-8:50, BlegH 215, Isaacman	1-432 T-6:00-8:50, BlegH 215, Isaacman	1-433 T-6:00-8:50, BlegH 235, Isaacman

**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.

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, 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. Need not be taken in sequence. For Upper Division credit, register in Hist 3-451, 3-452, 3-453)

Fall Quarter	Winter Quarter	Spring Quarter
1-451 M-5:30-8:50, BlegH 215, Taylor	1-452 M-5:30-8:50, BlegH 215, Marshall	1-453 M-5:30-8:50, BlegH 215, Taylor, Marshall

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**Course Offerings**

**Hist 3-001, 3-002, 3-003 INTRODUCTION TO MODERN EUROPEAN HISTORY** (old Hist 53, 54, 55). 3 degree credits each quarter, §1-001, 1-002, 1-003.  
(See course description as listed under Hist 1-001, 1-002, 1-003) Prereq limited to those students eligible for Upper Division credit. Meets concurrently with 1-001, 1-002, 1-003)

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
<b>3-001</b> M—5:30-8:00, StP Ext	<b>3-002</b> M—5:30-8:00, StP Ext	<b>3-003</b> M—5:30-8:00, StP Ext
<b>3-001</b> W—5:30-8:00, AndH 210, Wright	<b>3-002</b> W—5:30-8:00, AndH 210, Wright	<b>3-003</b> 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.  
(See course description as listed under Hist 1-051, 1-052, 1-053) Prereq limited to those students eligible for Upper Division credit. Meets concurrently with 1-051, 1-052, 1-053)

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
<b>3-051</b> T—5:30-8:00, StP Ext	<b>3-052</b> T—5:30-8:00, StP Ext	<b>3-053</b> T—5:30-8:00, StP Ext
<b>3-051</b> Th—5:30-8:00, BlegH 10, Jones	<b>3-052</b> Th—5:30-8:00, BlegH 10, Jones	<b>3-053</b> Th—5:30-8:00, BlegH 10, Jones

**Hist 3-101, 3-102, 3-103 MEDIEVAL AND RENAISSANCE HISTORY** (old Hist 50A, 51A, 52A). 3 degree credits each quarter, §Hist 1-101, 1-102, 1-103.  
(See course description as listed under Hist 1-101, 1-102, 1-103) (Prereq limited to those students eligible for Upper Division credit. Meets concurrently with 1-101, 1-102, 1-103)

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
<b>3-101</b> Th—6:00-8:30, BlegH 220, Hoyt	<b>3-102</b> Th—6:00-8:30, BlegH 220, Hoyt	<b>3-103</b> Th—6:00-8:30, BlegH 220, Hoyt

**Hist 3-151, 3-152, 3-153 ENGLISH HISTORY** (old Hist 56, 57, 58). 3 degree credits each quarter, §1-151, 1-152, 1-153.  
(See course description as listed under Hist 1-151, 1-152, 1-153) (Prereq limited to those students eligible for Upper Division credit. Meets concurrently with 1-151, 1-152, 1-153)

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
<b>3-151</b> M—6:20-8:45, BlegH 235, Lehmsberg	<b>3-152</b> M—6:20-8:45, AndH 210, Lehmsberg	<b>3-153</b> M—6:20-8:45, AndH 210, Lehmsberg

**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.  
(See course description as listed under Hist 1-451, 1-452, 1-453.) (Prereq limited to those students eligible for Upper Division credit. Meets concurrently with 1-451, 1-452, 1-453)

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
<b>3-451</b> M—5:30-8:50, BlegH 215, Taylor	<b>3-452</b> M—5:30-8:50, BlegH 215, Marshall	<b>3-453</b> M—5:30-8:50, BlegH 215, Taylor, Marshall

**Hist 3-591, 3-592 ANCIENT ISRAEL** (old Hist 74A, 75A), §3-501, 3-502. 3 degree credits 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. No knowledge of Hebrew required. Meets concurrently with Heb 3-501, 3-502)

<b>Fall Quarter</b>	<b>Winter Quarter</b>
<b>3-591</b> M—6:20-8:50, NH 122, Paradise	<b>3-592</b> M—6:20-8:50, NH 122, Paradise

Symbols explained on page 32.  
See new and old course number Conversion Table in back of bulletin.

## Evening Classes

**The Background of the Bible, Heb 1-501, 1-502, 1-503.** (See Hebrew, page 184)

**Hist 3-804/3-805 THE ERA OF THE AMERICAN REVOLUTION** (old Hist 87A-88A). 3 degree credits each quarter.

The causes and course of the American Revolution, accenting the economic, social, political, and psychological impact of the Revolution upon American life. 3-804: The causes and course of the Revolution. 3-805: The Revolution and an American nation. (No prereq for 3-804; 3-804 or § for 3-805)

**Fall Quarter**

**3-804 W**—5:30-8:00, BlegH  
425, Howe

**Winter Quarter**

**3-805 W**—5:30-8:00, BlegH  
425, Howe

**Hist 3-821, 3-823 THE UNITED STATES IN THE TWENTIETH CENTURY** (old Hist 79, 81). 3 degree credits each semester.

Courses are first and last parts of the sequence 3-821, 3-822, 3-823. Political, economic, diplomatic, and social history of United States from Spanish-American War to present. 3-821: From 1898 to 1914. 3-823: From 1932 to present. (No prereq. Need not be taken in sequence)

**Fall Semester**

**3-823 Th**—6:20-8:00, BlegH 120, Noble

**Spring Semester**

**3-821 Th**—6:20-8:00, BlegH 120, Noble

**Hist 3-883 HISTORY OF AMERICAN FOREIGN POLICY** (old Hist 95). 3 degree credits. ★ 3-883.

American foreign policy since Versailles. (No prereq)

**Spring Quarter**

**3-883 T**—5:30-8:00, BlegH  
425, Brauer

**Hist 5-071, 5-072, 5-073 HISTORY OF ROME** (old Hist 103C, 104C, 105C). 3 degree credits each quarter.

5-071: The last century of the Roman Republic, 133-30 B.C. An analysis of the reasons for the disintegration of the Roman Republic from the time of the Gracchi to the defeat of Antony and Cleopatra; special attention will be paid to all aspects (political, cultural, economic, social) of the age of Cicero and Caesar. 5-072: The principate (early Roman Empire), 30 B.C.-285 A.D. The establishment of the empire by Augustus; developments in political, social, economic, cultural affairs under the early emperors, with special attention to the climax of ancient civilization in the A.D. second century. 5-073: The decline and fall, 285 A.D. to the end of the Roman Empire, or autocracy, under Diocletian and Constantine; the triumph of Christianity. All phases of life and culture in this later period will be considered in detail: government, religious developments, art, law, literature, economics, society. (No prereq. Need not be taken in sequence. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

**5-071 T**—5:30-8:00, BlegH  
415, Jones

**Winter Quarter**

**5-072 T**—5:30-8:00, BlegH  
415, Jones

**Spring Quarter**

**5-073 T**—5:30-8:00, BlegH  
415, Jones

**Hist 5-101, 5-102, 5-103 EUROPE IN THE EARLY MIDDLE AGES** (old Hist 106A, 107A, 108A). 3 degree credits each quarter.

5-101: Reforms of Diocletian to first sack of Rome (410 A.D.). 5-102: Age of the Fathers to Carolingian Empire. 5-103: Germanic Empire to end of Investiture Controversy. (No prereq. Need not be taken in sequence. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

**5-101 M**—6:20-8:50, BlegH  
404, Bachrach

**Winter Quarter**

**5-102 M**—6:20-8:50, BlegH  
404, Bachrach

**Spring Quarter**

**5-103 M**—6:20-8:50, BlegH  
404, Bachrach

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**Hist 5-211, 5-212, 5-213 FRENCH REVOLUTION** (old Hist 115B, 116B, 117B). 3 degree credits each quarter.

5-211: Background and emergence of the Revolution. 5-212: The Revolution and revolutionary wars. 5-213: Napoleon. (No prereq. Need not be taken in sequence. 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). 3 degree credits 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. Need not be taken in sequence. 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, Munholland	5-222 Th-5:30-8:00, BlegH 415, Munholland	5-223 Th-5:30-8:00, BlegH 415, Munholland

**Hist 5-224, 5-225, 5-226 WORLD WAR II** (old Hist 115E, 116E, 117E). 3 degree credits 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 1942-1945. (No prereq. Need not be taken in sequence. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter	Winter Quarter	Spring Quarter
5-224 W-5:30-8:00, BlegH 5, Deutsch	5-225 W-5:30-8:00, BlegH 5, Deutsch	5-226 W-5:30-8:00, BlegH 5, Deutsch

**Hist 5-264, 5-265, 5-266 MODERN RUSSIA** (old Hist 118F, 119F, 120F). 3 degree credits each quarter. ★ 5-264, 5-265.

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. Need not be taken in sequence. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter	Winter Quarter	Spring Quarter
5-264 M-5:30-8:00, BlegH 5, Stavrou	5-265 M-5:30-8:00, BlegH 5, Stavrou	5-266 M-5:30-8:00, BlegH 5, Stavrou

**Hist 5-271, 5-272, 5-273 HISTORY OF SCANDINAVIAN COUNTRIES** (old Hist 118J, 119J, 120J). 3 degree credits each quarter.

Sweden, Norway, Denmark, Finland, the middle ages to the present. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

Fall Quarter	Winter Quarter	Spring Quarter
5-271 W-6:20-8:50, BlegH 360, Krosby	5-272 W-6:20-8:50, BlegH 360, Krosby	5-273 W-6:20-8:50, BlegH 360, Krosby

**Hist 5-274, 5-275 THE MODERN NEAR EAST: OTTOMAN EMPIRE AND SUCCESSOR STATES** (old Hist 118G, 119G). 3 degree credits each quarter. ★ 5-274

5-274: The 19th century; from Treaty of Jassy (1792) to Congress of Berlin. 5-275: From Congress of Berlin to present. (No prereq. Need not be taken in sequence. Qualified students may register for graduate credit at the University of Minnesota)

Winter Quarter	Spring Quarter
5-274 W-5:30-8:00, BlegH 335, Stavrou	5-275 W-5:30-8:00, BlegH 335, Stavrou

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

**Hist 5-392, 5-393 HISTORY OF THE SOUTH** (old Hist 137A, 138A). 3 degree credits each semester.

5-392: From 1840 to 1890. 5-393: Since 1890. (No prereq. Need not be taken in sequence. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Semester**

**5-392** Th-8:15-9:55, BlegH  
225, Noble

**Spring Semester**

**5-393** Th-8:15-9:55, BlegH  
225, Noble

**Hist 5-401, 5-402, 5-403 SURVEY OF LATIN-AMERICAN HISTORY** (old Hist 145A, 146A, 147A). 3 degree credits each quarter. ★ 5-403.

5-401: Colonial period. 5-402: Latin-American republics. 5-403: Recent Latin-American history. (No prereq. Need not be taken in sequence. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

**5-401** T-5:30-8:00, BlegH  
255, Beatty

**Winter Quarter**

**5-402** T-5:30-8:00, BlegH  
255, Beatty

**Spring Quarter**

**5-403** T-5:30-8:00, BlegH  
255, Beatty

**Hist 5-465, 5-467, 5-468 MODERN CHINA** (old Hist 149E, 150E, 151E). 3 degree credits each quarter.

5-465: China's response to the West, 1700-1911. 5-467: The Republic. 5-468: The People's Republic. (No prereq. Need not be taken in sequence. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

**5-465** W-6:20-8:45, BlegH  
430, Farmer

**Winter Quarter**

**5-467** W-6:20-8:45, BlegH  
430, Farmer

**Spring Quarter**

**5-468** W-6:20-8:45, BlegH  
430, Farmer

**Hist 5-472 HISTORY OF JAPAN** (old Hist 149F). 3 degree credits.

A comprehensive history of Japan since 1700. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

**W-5:30-8:00, BlegH 215,**  
Marshall



## History and Philosophy of Education

**HEd 5-200, 5-201, 5-202. Intercultural Education: Indian Americans.** (old HEd 114, 115, 116).

The following sequence in Intercultural Education, American Indians, will be broadcast on television (KTCA, Channel 2, Tuesdays, 9:00 to 10:00 p.m.).

The series is especially designed to enable teachers in the public schools to improve their background knowledge of American Indians and their skills in teaching about American Indians in the classroom. In addition to the television broadcasts, registrants will be expected to read from selected materials, and to submit a written report and a final examination.

HEd 5-200 and 5-201 will not require registrants to come to campus. Written materials and texts will be supplied to registrants.

**HEd 5-200 Intercultural Education: Indian Americans** (old HEd 114). 3 degree credits. Tuition plus \$8.00 special fee.

An introduction to Indian history and culture with emphasis upon formal and informal Indian education processes occurring in such diverse groups as the Aztecs,

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



the Mound Cultures, and the Woodland Chippewa; the literature of American Indian education history, commencing with the beginnings of European contact in the New World; schools established by white colonists for Indians with emphasis upon the work of religionists in the establishment of mission schools; Institutional histories of these enterprises and of such paramilitary agencies as the Haskell Indian School, the Carlisle School, and Dartmouth College will be covered in detail. (Offered at the post-baccalaureate level for teachers-in-service. Also may be used for undergraduate credit. May not be taken for graduate credit. No prerequisite)

**Fall Quarter**

T-9:00-10:00 p.m., TV Channel 2

**HEd 5-201 Intercultural Education: Indian Americans (old HEd 115).** 3 degree credits. Tuition plus \$8.00 special fee.

Concentrates upon contemporary research on the relationship between modern Indian cultures and the formal schooling processes of American society. (Offered at the post-baccalaureate level for teachers-in-service. Also may be used for undergraduate credit. May not be taken for graduate credit. Prereq HEd 5-200)

**Winter Quarter**

T-9:00-10:00 p.m., TV Channel 2

**HEd 5-202 Intercultural Education: Indian Americans (old HEd 116).** 3 degree credits. Tuition plus \$8.00 special fee.

Application of previous two quarters to classroom experiences and needs of individual teachers. Curriculum development and instructional units. (Offered at the post-baccalaureate level for teachers-in-service. Also may be used for undergraduate credit. May not be taken for graduate credit. Prereq HEd 5-201 and §)

**Spring Quarter**

T-9:00-10:00 p.m., TV Channel 2

**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.

Fundamental facts and techniques for solving current nutrition problems. (Prereq 1-381, 1-301, BioC 1-301, Phsl 3-051 or §. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Semester**

W-6:20-8:00, McNH 227, Morse

**HE 5-391 NUTRITION TOPICS (old HE 174).** 1 degree credit.

Assigned readings, reports, and discussion of nutrition topics. (Prereq 5-361, §. Limited to dietetic interns. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

Day and time ar, PoH 1108, Morse

**Spring Quarter**

Day and time ar, PoH 1108, Morse

**HE 5-393 CLINICAL PROBLEMS IN NUTRITION (old HE 178).** 2 degree credits.

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 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

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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### Related Art

A variety of credit and non-credit courses in related art is offered throughout the state. Examples have been HE 1-533, Craft Problems, HE 1-523, Painting and Design, Basic Color and Design, Backstrap Weaving, Macrame, etc. Courses will be set up for any group on request. For further information, write or call Miss Huldah Curl, Director, Continuing Education in Art, 317 Nolte Center for Continuing Education, University of Minnesota, Minneapolis, Minnesota 55455; telephone 373-5147.

## **Horticultural Science**

*Robert A. Phillips, Assistant Professor of Horticultural Science*

**Hort 1-010 HOME FLORICULTURE AND GARDENING** (old Hort 10). 3 degree credits. Tuition plus \$1 materials fee.

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

### **Fall Quarter**

T-6:20-8:35, Hr 102, StP  
Campus,  
Phillips

**Hort 3-051 GARDEN FLOWERS AND HOME GARDENING** (old Hort 51). 3 degree credits. Tuition plus \$1 materials fee. ★

A complete practical course in home gardening for the experienced gardener as well as the beginner. All the practical horticultural aspects of plant growing and garden and home grounds care are covered in lecture, demonstrations, and illustrations; student projects in propagating plants in greenhouses, hot beds, and home facilities. Special emphasis on pruning, fertilizing; weed, insect, and disease control. Also a survey of all the plants recommended for Minnesota gardens and yards. (No prereq)

### **Winter Quarter**

T-6:20-8:35, Hr 102, StP  
Campus, Phillips

**Hort 3-091 HOME LANDSCAPING PLANNING** (old Hort 60). ★ 3 degree credits. Tuition plus \$1 materials fee.

An opportunity for the home owner to learn the principles of planning the home grounds and how to apply them to his own problems of landscaping his home grounds. This course is also designed to meet the needs of the nurseryman, the landscape gardener, and the student who expects to make his living by landscaping. Anyone planning a new home will find this course especially helpful in accomplishing his ideal, which is a well-planned house and well-planned and planted grounds and gardens. (No prereq)

### **Fall Quarter**

Th-6:20-8:35, Hr 102, StP  
Campus, Phillips

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Hospital Administration

For information on non-credit conferences or workshops in hospital administration, please contact Mr. Vernon Weckwerth, 1260 Mayo; telephone, 373-5494.

## Humanities

(College of Liberal Arts)

(See also Afro-American Studies—page 89)

(See also American Studies—page 90)

*Makka Abhishaker, Lecturer in Humanities*  
*Eugene Atkin, Instructor in Humanities*  
*James Baskette, Teaching Assistant in Humanities*  
*George Bisztray, Teaching Associate in Humanities*  
*David Brown, Associate Professor, Minneapolis School of Art*  
*Edward Chute, Instructor in Humanities*  
*Marlene Cranney, Instructor in Humanities*  
*Gabriele Erasmi, Teaching Associate in Humanities*  
*David Fields, Teaching Associate in Humanities*  
*Richard Franklin, Instructor in Spanish and Portuguese*  
*George Kliger, Assistant Professor of Philosophy*  
*Donald Lambert, Lecturer in Humanities*  
*Margaret MacInnes, Assistant Professor, General College*  
*Albert Milgrom, Instructor in Humanities*  
*Dallas Ouren, Instructor in Humanities*  
*Robert L. Scott, Professor of Speech, Communication, and Theatre Arts*  
*Andre Toth, Instructor in French and Italian*  
*James Wolf, Teaching Assistant in Humanities*

**Hum 1-001 HUMANITIES IN THE MODERN WORLD I** (old Hum 1). 3 degree credits, §3-001. ★

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

W-8:15-9:55, BlegH 225, Lambert

### Fall Quarter

M-5:30-8:00, StP Ext,  
Milgrom

T-5:30-8:00, NH 209, Brown

W-7:00-9:30, Rich HS 215,  
Atkin (Limited to 45  
students\*)

Th-5:30-8:00, NH 211,  
MacInnes

S-9:30 a.m.-12:00, ForH 55,  
Toth

### Winter Quarter

W-5:30-8:00, ForH 55,  
Fields

### Spring Quarter

T-5:30-8:00, ForH 55,  
Abhishaker

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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**Hum 1-002 HUMANITIES IN THE MODERN WORLD II** (old Hum 2). 3 degree credits, §3-002.

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)

**Winter Quarter**

M—5:30-8:00, StP Ext,  
Milgrom  
T—5:30-8:00, ForH 55,  
Bisztray  
W—7:00-9:30, Rich HS 215,  
Baskette (Limited to  
45 students\*)  
Th—5:00-8:00, NH 213,  
Wolf  
S—9:30 a.m.-12:00, ForH  
150, Ouren

**Spring Quarter**

W—6:30-9:00, ForH 120,  
Franklin

**Hum 1-003 HUMANITIES IN THE MODERN WORLD III** (old Hum 3). 3 degree credits, §3-003. ★

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)

**Fall Quarter**

Th—5:30-8:00, ForH 70,  
Franklin

**Spring Quarter**

M—5:30-8:00, StP Ext  
T—5:30-8:00, ForH 349,  
Cranney  
W—7:00-9:30, Rich HS 215  
(Limited to 45  
students\*)  
Th—5:30-8:00, ForH 55,  
Ouren  
S—9:00-11:30 a.m., ForH  
160, Toth

**Hum 1-004 HUMANITIES IN THE MODERN WORLD IV** (old Hum 4). 3 degree credits, §3-004. ★

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)

**Fall Semester**

M—6:20-8:00, ForH 130, Fields

**Spring Quarter**

Th—5:30-8:00, ForH 130,  
Atkin

**Hum 1-011 THE GREEK HERITAGE** (old Hum 11). 3 degree credits, §3-011.

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)

**Fall Quarter**

T—5:30-8:00, ForH 130, Erasm

**Hum 1-012 ROMAN AND MEDIEVAL HERITAGE** (old Hum 12). 3 degree credits, §3-012.

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)

**Winter Quarter**

T—5:30-8:00, ForH 130,  
Erasm

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**Hum 1-013 THE RENAISSANCE AND REFORMATION** (old Hum 13). 3 degree credits, §3-013.

The 14th to 17th centuries. Rise of Italian communes, commercial life, banking; age of Lorenzo the Magnificent in Florence; ideal of beauty in art, politics, and morals; universal man. High Renaissance and the power of Rome. Pietism and Reformation in Germany. Counter Reformation in Spain and France. Golden Age of Spain and beginnings of Age of Reason. Readings from Pico della Mirandola, Machiavelli, Castiglione, Luther, Calvin, Loyola, Montaigne, Pascal, Cervantes. Renaissance and Baroque art and architecture. (No prereq)

**Spring Quarter**

T—5:30-8:00, ForH 130,  
D Brown

(For old Hum 21-22-23, see American Studies, page 90)

**Hum 3-003 HUMANITIES IN THE MODERN WORLD** (old Hum 53). 3 degree credits, §1-003.

Similar to Hum 1-003. More extensive readings, papers. (Prereq limited to those students eligible for Upper Division credit)

**Fall Quarter**

W—5:30-8:00, ForH 30, Scott

**Hum 3-004 HUMANITIES IN THE MODERN WORLD** (old Hum 54). 3 degree credits, §1-004.

Similar to Hum 1-004. More extensive readings, papers. (Prereq limited to those students eligible for Upper Division credit)

**Winter Quarter**

W—5:30-8:00, ForH 30,  
Abhishaker

**Hum 3-005 HUMANITIES IN THE MODERN WORLD** (old Hum 55). 3 degree credits.

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 Quarter**

W—5:30-8:00, ForH 30, Chute

**Hum 3-013 THE EUROPEAN HERITAGE** (old Hum 63). 3 degree credits, §1-013.

Similar to Hum 1-013. More extensive readings, papers. (Prereq limited to those students eligible for Upper Division credit)

**Fall Quarter**

T—5:30-8:00, ForH 261, Chute

**Hum 5-030 PROSEMINAR: APPROACHES TO THE HUMAN SELF I** (old Hum 131). 3 degree credits.

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 interested in graduate credit should inquire at time of registration)

**Fall Quarter**

Th—6:20-8:50, ForH 60,  
Kliger

**Hum 5-030 PROSEMINAR: APPROACHES TO THE HUMAN SELF II** (old Hum 132). 3 degree credits.

During the winter quarter religious views of the human self will be studied. Again 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—6:20-8:50, ForH 60, Kliger

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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**Hum 5-030 PROSEMINAR: APPROACHES TO THE HUMAN SELF III** (old Hum 133). 3 degree credits.

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 interested in graduate credit should inquire at time of registration)

**Spring Quarter**

Th—6:20-8:50, ForH 60,  
Kliger

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 additional courses in humanities, see Women's Continuing Education, page 79.

## Humanities

(General College)

*Richard Byrne, Instructor*

*Jerome Gates, Associate Professor*

*Paul Hagen, Assistant Professor*

*Alex Kurak, Associate Professor*

*Margaret MacInnes, Associate Professor*

*Dorothy Sheldon, Associate Professor*

*Candido Zanoni, Assistant Professor*

**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). 3 degree credits. Tuition plus \$2 materials fee.

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)

**Fall Quarter**

Th—7:00-9:30, Kel HS 156,  
Gates

**Spring Quarter**

Th—7:00-9:30, Rich HS 214,  
Gates

\*GC 1-331 **MUSIC TODAY: MUSIC IN SOCIETY** (old GC 24A). 3 degree credits.

Attention focuses on the functional role of music in society: music in religion, drama, the dance, and the concert hall. (No prereq. Limited to 35 students)

**Fall Quarter**

M—7:00-9:30, Sand JHS 206, Byrne

\*GC 1-357 **MAN'S RELIGIOUS BELIEFS** (old GC 5D). 3 degree credits.

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. Limited to 30 students)

**Winter Quarter**

T—7:00-9:30, Kel HS 233,  
Zanoni

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**GC 1-367 CONTEMPORARY BOOKS AND PERIODICALS** (old GC 29D). 3 degree credits.  
To learn to make an intelligent choice of current literature for personal reading, the student examines book reviews and their sources. He reads, analyzes, and evaluates both fiction and nonfiction in current books and magazines, so as to understand the role contemporary writing plays in interpreting the world and to develop his own critical standards for reading. (No prereq)

**Fall Quarter**

T—6:20-8:50, NH 216, Sheldon

**\*GC 1-371 READING SHORT STORIES** (old GC 29E). 3 degree credits.  
To enhance his appreciation of a popular form of leisure reading, the student reads representative short stories by American, British, and Continental writers. He sees how individual writers have used the short story to express in a concise artistic form their ideas about human experience. (No prereq. Limited to 30 students)

**Spring Quarter**

T—7:00-9:30, Kel HS 233,  
Kurak

**GC 1-374 LITERATURE—FILM** (old GC 29G). 3 degree credits.  
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)

**Fall Quarter**

F—7:00-9:30, StP Ext

**Spring Quarter**

W—6:20-8:50, NH 111

**\*GC 1-536 INTRODUCTION TO COMMERCIAL ART** (old GC 23B). 3 degree credits. Tuition plus \$2 materials fee.

Emphasis is placed on the processes of design, lettering, graphic expression, and commercial processes which are fundamental to commercial art. (Prereq some previous art experience or  $\ddagger$ . Course may be repeated for a total of 9 credits. Limited to 25 students)

**Winter Quarter**

M—6:00-8:30, MacP 102,  
MacInnes

**GC 1-812 AMERICAN INDIAN CULTURE** (old GC 27B). 3 degree credits.  
The student gains some awareness of American Indian traditions, aspirations, and contributions by reading poems, speeches, legends, stories, and novels written by American Indians; by studying art forms and music; and by attending films and plays. (No prereq)

**Spring Quarter**

M—6:20-8:50, NH 216,  
Sheldon

## Hydromechanics

(See Civil Engineering)

## Industrial Engineering

*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 Senior Industrial Engineering Technician Certificate, page 66.

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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### **IE 0-100C—INDUSTRIAL ENGINEERING AND MANAGEMENT.** 5 certificate credits.

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—6:20-9:20, MinMet 120**

**IE 0-210C MOTION AND TIME STUDY.** 5 certificate credits. Tuition 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—6:20-9:20, MinMet 120**

### **IE 0-330C MANUFACTURING COST ANALYSIS.** 3 certificate credits.

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 0-011 or #)

#### **Fall Semester**

**Th—6:20-8:00, MechE 208**

### **IE 0-350C PLANT ENGINEERING.** 5 certificate credits.

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**

### **IE 0-360C INVENTORY AND PRODUCTION CONTROL.** 5 certificate credits.

Development of systems for increasing plant efficiency through effective coordination of inventories, manpower, and equipment with sales. Lectures and discussion on sales forecasting, master scheduling, inventory control, work routing, scheduling of operations, dispatching, analysis of equipment requirements. (Prereq Math 0-011 or #)

#### **Fall Semester**

**W—6:20-9:20, MechE 202**

### **IE 0-408C CORPORATE STANDARD DATA (C.S.D.) I.** 5 certificate credits.

Corporate Standard Data is a procedure for analyzing manual work in terms of elemental motions for which standard times have been established. C.S.D. is a valuable tool for simplifying work methods and for setting accurate and consistent time standards for incentive, planning, estimating, and cost control. Lectures, discussions and demonstrations will be integrated with practice in the application of C.S.D. to factory and office operations. (No prereq)

#### **Fall Semester**

**T—6:20-9:20, MinMet 120**

### **IE 0-409C CORPORATE STANDARD DATA (C.S.D.) II.** 5 certificate credits.

An entirely new and original approach in the field of standard data and work measurement. Reduce engineering analysis time 50 to 75 percent—enable economic setting of standards on hard-to-measure direct work, indirect work, long cycle work, single item production, short runs of great variety, estimating, methods work, etc. Reduce labor costs systematically on an integrated corporate-wide or small company basis in manufacturing, offices, maintenance, tool making, warehousing, handling, etc. Discussions as to how this technique may be computerized. (Prereq Corporate Standard Data 0-408C or #)

#### **Spring Semester**

**T—6:20-9:20, MinMet 120**

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



**IE 0-410C INTRODUCTION TO OPERATIONS RESEARCH.** 5 certificate credits.

Formulation, interpretation, and solution of the assignment, transportation, and general linear programming problems. Discussion of problems involving game theory, waiting lines, sequencing, replacement, dynamic and convex programming, and Monte Carlo methods. Applications of these techniques to general industrial problems, and in particular to problems of product mix, distribution, production scheduling, staffing, and simulation. (Prereq Math 0-011 or  $\frac{1}{2}$  IE 0-360C is recommended but not required)

Spring Semester

W-6:20-9:20, MinMet 120

**IE 0-510C STATISTICAL QUALITY CONTROL.** 5 certificate credits. (To be offered Fall Semester 1971-72)

**IE 0-511C ADVANCED STATISTICAL QUALITY CONTROL.** 5 certificate credits. (To be offered Fall Semester 1971-72)

## Industrial Relations

*Mario F. Bognanno, Assistant Professor of Industrial Relations*

*Richard R. Cottrell, Teaching Associate in Industrial Relations*

*Norman F. Crandall, Teaching Associate in Industrial Relations*

*David E. Dimick, 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*

*Peter Gregory, Associate Professor of Economics*

*Herbert G. Heneman, Jr., Professor of Industrial Relations and Labor Economics*

*Jeffrey S. Kane, Teaching Associate in Industrial Relations*

*Linda A. Krefting, Teaching Associate in Industrial Relations*

*Benjamin H. Lowenberg, Teaching Associate in Industrial Relations*

*George T. Milkovich, Assistant Professor of Industrial Relations*

*Patrick Pinto, Assistant Professor of Industrial Relations*

*Merrill Robinson, Assistant Professor of Industrial Relations*

*Cyrus F. Smythe, Jr., Associate Professor of Industrial Relations and Labor Economics*

*Emil Starr, Associate Professor of Industrial Relations*

*Marc J. Wallace, Teaching Associate in Industrial Relations*

*Myron L. Weber, Teaching Associate in Industrial Relations*

*Kenneth G. Wheeler, Teaching Associate in Industrial Relations*

*William Weitzel, Assistant Professor of Industrial Relations and Psychology*

*Mahmood A. Zaidi, Associate Professor of Industrial Relations and Manpower Economics*

*Paul Zingale, Teaching Associate in Industrial Relations*

Your attention is called to the Industrial Relations Certificate program; see page 58.

**IR 0-001C SUPERVISION I: ELEMENTS OF SUPERVISION.** 3 certificate credits. Tuition plus \$2 materials fee. ★

A general discussion of basic principles of supervision in the office and factory. Survey of principles for the handling of day-to-day problems of supervisors with emphasis upon human relations aspects of such problems. Deals with such problems as selection, induction and training of new employees, employee appraisal, giving orders, handling grievances, discipline, and employee morale. Extensive use

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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of class discussion of practical problems drawn from office and plant situations.  
(No prereq)

### Fall Semester

M—6:20-8:00, BlegH 250, Crandall  
T—6:00-7:40, StP Ext, Zingale

### Spring Semester

M—6:20-8:00, BlegH 250, Frost  
T—6:00-7:40, StP Ext, Cottrell

### Spring Quarter

M—7:00-9:30, Rich HS 215  
(Limited to 60 students\*)

Th—6:20-8:50, BlegH 215,  
Krefting

### IR 0-002C SUPERVISION II: ADVANCED TECHNIQUES OF SUPERVISION. 3 certificate credits. Tuition 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 §)

### Fall Semester

W—6:20-8:00, BlegH 435, Milkovich

### Spring Semester

T—6:20-8:00, StP Ext, Kane

### Winter Quarter

M—7:00-9:30, BlegH 130

### IR 0-003C SUPERVISION III: TECHNIQUES OF EMPLOYEE TRAINING. 3 certificate credits.

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 §)

### Fall Semester

Th—6:20-8:00, BlegH 420, Robinson

### Spring Quarter

M—7:00-9:30, BlegH 125

### IR 0-004C COMPENSATION AND REWARD ADMINISTRATION: THEORY AND PRACTICE. 3 certificate credits.

Analysis of operational compensation and reward systems within organizations. Examination of basic approaches to develop compensation and reward systems. Includes analysis of basic theories of reward and compensation as they relate to operational reward systems. Course designed for practitioners. (Prereq IR 3-012 or 5-032 or §)

### Spring Semester

M—6:20-8:00, BlegH 440, Milkovich

### \*IR 0-005C NEW DEVELOPMENTS IN INDUSTRIAL RELATIONS. 3 certificate credits. Tuition plus \$15 laboratory fee.

A course to provide refresher training for industrial relations practitioners taught largely by staff of the Industrial Relations Center and dealing with selected topics of current interest, e.g., attitude surveys, organizational effectiveness, industrial relations systems, manpower planning, Phillips Curve, testing and FEP, interviewing, etc. Course will be led by discussion leader and use visiting lecturers. (Prereq IR 3-012 or 5-032 or §. Limited to 35 students)

### Fall Semester

W—8:15-9:55, BlegH 440, Heneman and staff

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**IR 0-006C THE POLITICS OF ORGANIZED LABOR.** 3 certificate credits.

Analysis of internal political structures of the labor movement, relationships between economic and political functions of trade unions, and relationships between internal and external political activities of labor. Also analysis of trade-union political policies and programs both for domestic and foreign affairs, and labor's role in present day urban politics with particular emphasis on the tensions existing between unions and minority groups. Case studies will be utilized. Course designed for union leaders, students of political science and industrial relations. (Prereq 3)

**Fall Semester**

W-6:20-8:00, BlegH 440, Starr

**IR 0-007 PERSONNEL DECISION MAKING.** No credit. Tuition equivalent to 3 credits.

An applied course in the techniques and practices related to effective decision making about personnel. The course emphasizes various techniques for recruitment, selection, and placement of personnel within the organization. There is a particular emphasis on the use of the interview, including theories of interpersonal perception, problems of perceptual accuracy, content, and processes. Research strategies for improving personnel techniques will be developed. Current research findings in connection with all techniques will be read and discussed. (Prereq IR 5-032 or 3)

**Fall Quarter**

Th-5:30-8:00, BlegH 450,  
Weitzel

**IR 3-002 SYSTEMS OF INDUSTRIAL RELATIONS: LABOR MARKETING (old IR 52).** 3 degree credits, \$5-022. ★

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, unionr and employer associations, industrial unrest and conflict, employment and unemployment, wage problems. (Prereq 6 credits in Principles of Economics or 3. For graduate credit see IR 5-022)

**Fall Semester**

M-6:00-7:40, StP Ext, Dimick  
W-6:20-8:00, BlegH 235, Heneman  
Th-6:20-8:00, BlegH 235, Gregory

**Spring Semester**

W-6:20-8:00, BlegH 150, Bognanno  
Th-6:20-8:00, BlegH 150, Zaidi

**Fall Quarter**

W-7:00-9:30, Hop HS,  
Bognanno

**Spring Quarter**

M-7:00-9:30, Sand JHS 212,  
Flagler  
(Limited to 35  
students\*)

**IR 3-007 MODERN LABOR RELATIONS (old IR 82).** 3 degree credits.

Collective bargaining between employers and/or employer associations and unions. Relevant policies of employers, unions, and the public; background of the labor movement; current practices in labor relations; and significant trends. (Prereq 3-002)

**Fall Semester**

M-8:15-9:55, BlegH 450, Smythe

**IR 3-010 HUMAN RELATIONS IN INDUSTRY (old IR 62).** 3 degree credits.

Philosophy, policy, and methods. The problems of human relations arising in large scale organization of people and approaches to their solution. Role playing, sensitivity training, conference and discussion methods, case study. (No prereq)

**Fall Semester**

T-6:20-8:00, AndH 330, Wallace

**Spring Semester**

W-8:15-9:55, BlegH 235, Pinto

**Winter Quarter**

Th-7:00-9:30, Sand JHS  
209, Weber (Limited  
to 35 students\*)

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

### IR 3-012 SYSTEMS OF INDUSTRIAL RELATIONS: MANPOWER MANAGEMENT (old IR 72). 3 degree credits, §5-032. ★

Introductory analysis of personnel management and labor relations in the development and utilization of effective work-teams within firms and agencies. Over-view of policy and practice in major manpower management functions of staffing, training, communications, motivation, compensation, and morale maintenance. (Prereq 6 credits in Principles of Economics or §. For graduate credit see IR 5-032)

#### Fall Semester

W—6:00-7:40, StP Ext, Pinto  
Th—8:15-9:55, BlegH 440, Weitzel

#### Spring Semester

T—8:15-9:55, BlegH 440, Weitzel

#### Fall Quarter

T—7:00-9:30, Sand JHS 209,  
Fjerstad  
(Limited to 35  
students\*)

#### Spring Quarter

W—7:00-9:30, Rich HS  
183-185, Smythe  
(Limited to 65  
students\*)

### IR 3-017 SETTLEMENT OF INDUSTRIAL RELATIONS DISPUTES (old IR 142). 3 degree credits.

The nature of industrial conflict in employment relations; stresses contributing to conflict and dispute situations; public and private approaches to the prevention, reduction, and resolution of conflicts. (Prereq 3-002 or 5-022 or §)

#### Spring Quarter

M—7:00-9:30, BlegH 430,  
Smythe

### IR 5-022 SYSTEMS OF INDUSTRIAL RELATIONS: LABOR MARKETING (old IR 152). 3 degree credits, §3-002.

See course description as listed under IR 3-002. Same class work as IR 3-002, but with additional assignments. (Prereq 6 credits in Principles of Economics or §. Qualified students may register for graduate credit at the University of Minnesota)

#### Fall Semester

Th—6:20-8:00, BlegH 235, Gregory

#### Spring Semester

Th—6:20-8:00, BlegH 150, Zaidi

### IR 5-032 SYSTEMS OF INDUSTRIAL RELATIONS: MANPOWER MANAGEMENT (old IR 172). 3 degree credits, §3-012.

See course description as listed under IR 3-012. Same class work as IR 3-012, but with additional assignments. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

#### Fall Semester

Th—8:15-9:55, BlegH 440, Weitzel

#### Spring Semester

T—8:15-9:55, BlegH 440, Weitzel

#### Spring Quarter

W—7:00-9:30, Rich HS  
183-185, Smythe  
(Limited to 65  
students\*)

## Insurance

David M. Barker, Lecturer in Insurance  
Allen Brookins-Brown, Lecturer in Insurance  
Fred Gedelman, Lecturer in Insurance  
Larry W. Johnson, Lecturer in Insurance  
John A. Kohler, Lecturer in Insurance  
Alfred R. W. Larkin, Lecturer in Insurance  
Morton C. Mosiman, Lecturer in Insurance  
Charles C. Nordhaus, Lecturer in Insurance

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

Duane J. Rivard, Lecturer in Insurance  
 Orem O. Robbins, Lecturer in Insurance  
 J. Richard Vaaler, Lecturer in Insurance  
 Marc J. Wallace, Lecturer in Insurance  
 H. David Warner, Lecturer in Insurance  
 Roger Wheeler, Lecturer in Insurance  
 Andrew F. Whitman, Associate Professor of Insurance  
 C. Arthur Williams, Jr., Professor of Economics and Insurance

**Ins 3-100 RISK MANAGEMENT AND INSURANCE** (old Ins 53). 3 degree credits. ★  
 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, Whitman

**Spring Semester**

Th—8:15-9:55, BlegH 155, Whitman

**Spring Quarter**Th—5:30-8:00, StP Ext,  
Williams**Property and Casualty Insurance Curriculum**

The University of Minnesota co-operates with the Insurance Institute of America and the American Institute for Property and Liability Underwriters, Inc. by offering an educational program that provides the basic courses needed by those who wish to take the examinations of either or both of the institutes. The Insurance Institute of America 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 the General Extension Division of the University of Minnesota.

**Coordinator for CPCU—Fred Gedelman, 332-3501.**

**IIA Ins 0-021C, 0-022C, 0-023C.** 3 certificate credits 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** M—5:30-8:00, BlegH  
120, Whitman

**0-022C** T—5:30-8:00, BlegH  
120, Rivard

**0-023C** W—4:30-7:00, MacP 327,  
Whitman

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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### Special Term

(January 4 to April 26)

0-023C M-6:20-8:00, BA 632, Whitman

The following courses are based on the ADJ 31, 32, 35, 36, Topical Outlines of the Insurance Institute of America. This Educational Program for Adjusters is designed to play an important role in the professional development of independent, staff, and bureau adjusters working in both the property loss and liability claim areas. It is recommended that 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.

Topics include the principle of indemnity, coinsurance, insurable risks, deductibles, interpretation of insurance contracts, adjustment procedure, investigation, reports to insurers, and building loss estimates. (No prereq)

#### **Fall Quarter**

M-5:30-8:00, BlegH 260,  
Williams

#### **IIA ADJ 0-032C PRINCIPLES OF INSURANCE AND PROPERTY LOSS ADJUSTING.** 3 certificate credits.

Topics include the legal liability hazard, the investigation, evaluation, negotiation, and settlement of bodily injury and property damage claims, human relations in handling claims, types of insurers, rate making, underwriting and reinsurance, and government regulation. (No prereq)

### Special Term

(January 4 to April 26)

M-6:20-8:00, BlegH 210, Williams

#### **IIA ADJ 0-035C PROPERTY INSURANCE ADJUSTING.** 3 certificate credits. (To be offered Fall Quarter, 1971-72)

#### **IIA ADJ 0-036C LIABILITY INSURANCE ADJUSTING.** 3 certificate credits. (To be offered Special Spring Term, 1971-72)

#### **IIA RM 0-054C PRINCIPLES OF RISK MANAGEMENT.** 3 certificate credits.

Primary emphasis on tools and processes involved in the risk management function. Attention to basic risk management devices of risk assumption, loss prevention and control, and risk reduction and control. Identification of hazards and evaluation of loss potential, as well as the process of selecting risk management devices in case situations. The relationship of risk management and personnel management, with special emphasis on employee risk problems and the administration of employee benefit programs. (Prereq CPCU IIA Ins 0-021C, 0-022C, 0-023C, or 4 years in risk management or insurance)

#### **Fall Quarter**

M-6:00-8:30, BA 735, Kohler

#### **IIA RM 0-055C PRACTICES IN RISK MANAGEMENT.** 3 certificate credits.

Examination of risk management as a management function. Problems and techniques in loss prevention and control are treated in depth, with attention to industrial injuries, major causes of property damage, crime, employee dishonesty, and public liability losses. Emphasis on advanced insurance topics of special interest to the risk manager, including insurer financial organizations and cost factors, the impact of government on insurer-buyer relations, rating methods and processes, choice of forms and special coverages desired, self-insurance and captive insurers, and the administration of the insurance program. (Prereq 0-054C)

### Special Term

(February 15 to May 3)

M-6:00-8:30, SocSci 860, Kohler

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**IIA MGT 0-041C THE PROCESS OF MANAGEMENT.** 3 certificate credits.

Theories of management. Nature and purpose of planning. Premises and elements in decision making. The organization function. Staffing and control functions. (No prereq)

**Fall Quarter**

Th—5:30-8:00, BlegH 335,  
Wallace

**IIA MGT 0-042C MANAGEMENT AND HUMAN RESOURCES.** 3 certificate credits. Offered special term—spring if sufficient demand.

Registrants for CPCU courses are required to complete special registration application. Consult any Extension Division Office.

**CPCU 0-001C INSURANCE PRINCIPLES AND PRACTICES, CPCU Part I.** 3 certificate credits each semester.

An advanced intensive course in the basic principles of property and casualty insurance designed as preparation for examination for Part I for the Chartered Property Casualty Underwriter (CPCU) designation offered by the American Institute for Property and Liability Underwriters, Inc. This course will be conducted by a panel of instructors selected from practicing insurance men, coordinated and supervised by the University School of Business Administration and by the Minnesota Chapter CPCU. This course requires at least four hours concentrated study a week in addition to classroom work. (Prereq for A: at least 3 years general insurance experience or the equivalent in formal education or the completion of Parts A, B, and C Insurance Institute of America courses. Part A prerequisite for Part B)

**Fall Semester**

A M—6:20-8:00, BlegH 145,  
Gedelman (coordinator)

**Spring Semester**

B M—6:20-8:00, BlegH 240,  
Gedelman (coordinator)

**CPCU 0-002C ANALYSIS OF INSURANCE FUNCTIONS, CPCU Part II.** 3 certificate credits each semester.

An advanced intensive course in the basic functional aspects of insurance designed as preparation for examination for Part II for the Chartered Property Casualty Underwriter (CPCU) designation offered by the American Institute for Property and Liability Underwriters, Inc. This course reviews the functions of underwriting and re-insurance, loss prevention, rate making, insurance finance and statistics, insurance marketing, human motivation and ethics, and risk analysis and insurance service. The course will be conducted by a panel of instructors selected from practicing insurance men, coordinated and supervised by the University School of Business Administration and the Minnesota Chapter CPCU. This course requires at least four hours concentrated study a week in addition to classroom work. (Prereq for A: at least 3 years general insurance experience or the equivalent in formal education and the completion of CPCU 0-001C; Part A prerequisite for Part B)

**Fall Semester**

A Th—6:20-8:00, BlegH 155,  
Gedelman (coordinator)

**Spring Semester**

B Th—6:20-8:00, BlegH 155,  
Gedelman (coordinator)

**CPCU 0-003C ECONOMICS; GOVERNMENT AND BUSINESS, CPCU Part III.** (To be offered 1971-72)

**CPCU 0-004C INSURANCE AND BUSINESS LAW, CPCU Part IV.** 3 certificate credits each semester.

An advanced intensive course in the basic principles of insurance and business law designed as preparation for examination for Part IV for the Chartered Property Casualty Underwriter (CPCU) offered by the American Institute for Property and Liability Underwriters, Inc. The subject matter covers general commercial law pertaining to contracts, agency, partnerships, corporations, personal property, real estate and mortgages, negotiable instruments, bankruptcy, bailments, common and private, carriers, negligence, and insurance law, including construction of insurance contracts. This course requires at least four hours concentrated study a week in

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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addition to classroom work. (Prereq for A: at least 3 years general insurance experience or the equivalent in formal education; Part A prerequisite for Part B)

### Fall Semester

A Th—6:20-8:00, BlegH 404, Peet

### Spring Semester

B Th—6:20-8:00, BlegH 404, Peet

**CPCU 0-005C MANAGEMENT, ACCOUNTING, AND FINANCE, CPCU Part V.** (To be offered 1971-72)

## College of Life Underwriters Curriculum

In co-operation with the Minneapolis and St. Paul chapters of the American College of Life Underwriters (CLU), the Extension Division is offering 0-001C, 0-002C, 0-003C, 0-004C, and 0-005C of the CLU educational program (see listing below).

### 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 220, 4600 West 77th Street, Edina, Minnesota 55435, or from the chairmen listed below.

Minneapolis—J. Richard Vaaler, 380 Pillsbury Bldg. 336-7751  
St. Paul—Allen Brookins-Brown, 205 Aurora Ave. 227-7831

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), which may be taken in any order except that 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.

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—3:30-5:10, StP Ext, Brookins-Brown

M—4:40-6:40, 1750 Hennepin Ave S, Larkin

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



**CLU 0-002C LIFE INSURANCE LAW AND COMPANY OPERATIONS.** 3 certificate credits.  
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—3:30-5:10, StP Ext, Brookins-Brown  
M—4:40-6:40, 1750 Hennepin Ave S, Larkin

**CLU 0-003C SOCIAL INSURANCE AND GROUP INSURANCE.** 3 certificate credits.  
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.  
This course is designed for preparation for the June CLU examination in course 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.  
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, Johnson

**CLU 0-006C INVESTMENTS AND FAMILY FINANCIAL MANAGEMENT.** 3 certificate credits.  
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.  
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.  
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.  
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 S, Robbins

**CLU 0-010C ESTATE PLANNING.** 3 certificate credits.  
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 S, Robbins

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Interdisciplinary Programs

- **Communication**  
(See English)
- **Family Studies**  
(See page 135)
- **Humanities**  
(See page 153)
- **How to Study**  
(See page 235)
- **Social Science**  
(See page 223)

## Italian

*Arshi Pipa, Professor of Italian*

*Marilyn Schneider, Assistant Professor of Italian*

*Livia Pellegrini-Seim, Lecturer in 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.

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

**Ital 1-001/1-002/1-003 BEGINNING ITALIAN** (old Italian 1-2-3). 5 degree credits each quarter. Tuition plus \$3 laboratory fee each quarter.  
Pronunciation, reading and conversation. (No prereq for 1-001; 1-001 for 1-002; 1-002 or § for 1-003)

**Fall Quarter**

**1-001 TTh**—6:20-8:50,  
FolH 204

**Winter Quarter**

**1-002 TTh**—6:20-8:50,  
FolH 204

**Spring Quarter**

**1-003 TTh**—6:20-8:50,  
FolH 204

**Ital 1-004 INTERMEDIATE ITALIAN** (old Ital 25). 4 degree credits. Tuition plus \$3 laboratory fee.

Review of grammar based on literary texts. (Prereq 1-003 or §)

**Fall Quarter**

**MW**—6:20-8:50, J 1

**Ital 1-005 INTERMEDIATE ITALIAN** (old Ital 26). 3 degree credits.

Readings in contemporary culture. Development of vocabulary and improvement of ability to read, write, and speak the language. (Prereq 1-004 or §)

**Winter Quarter**

**W**—6:20-8:50, J 2

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**Ital 3-104 INTRODUCTION TO ITALIAN LITERARY TEXTS** (old Ital 53). 3 degree credits. Variety of literary works representing principal genres are examined through stylistic analyses and literary explications. Students learn critical terminology and discuss literary problems and techniques. (Prereq 1-005 or §)

Spring Quarter  
W-6:20-8:50, J 2

### 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. Tuition equivalent to 3 credits.

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-6:00-8:30, FolH 307,  
Seim

Ital 0-001 is usually offered as a Summer Evening Class.

## Japanese

(See East Asian Languages)

## Journalism and Mass Communication

Walter H. Brovald, Assistant Professor of Journalism  
Lester L. Metz, Lecturer in Journalism  
Jan Robbins, Assistant Professor of Journalism  
R. Smith Schuneman, Associate Professor of Journalism  
Herman J. Sittard, Lecturer in Journalism  
Harold W. Wilson, Professor of Journalism  
Gerald C. Wollan, Lecturer in Journalism

\***Jour 1-001 INTRODUCTION TO MASS COMMUNICATIONS** (old Jour 1). 3 degree credits.

★

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 Semester

M-6:20-8:00, MurH 212, Brovald

Winter Quarter

W-6:20-8:50, MurH 212,  
Schuneman

**Jour 1-005 VISUAL COMMUNICATION** (old Jour 5). 3 degree credits.

Introduction to functions of visual communication in news and advertising in print and electronic media. Evaluation and criticism of visuals in creative typography,

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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photography, and other visual techniques. Lectures, projects, and critiques. (No prereq)

### Fall Quarter

W-6:20-8:50, ForH 115,  
Schuneman

### Jour 1-201 PRINCIPLES OF ADVERTISING (old Jour 18). 3 degree credits.

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 Semester

T-6:20-8:00, MurH 311, Robbins

### \*Jour 3-021 MASS COMMUNICATIONS AND THE NEWS (old Jour 90). 3 degree credits.

How the news gets to and affects the public, in print, on the air, by film. Evaluation of news gathering and presentation methods. Contemporary influences on communications media. Not open to journalism majors. (Prereq 15 credits in social sciences or #. Limited to 45 students)

### Spring Quarter

W-7:00-9:30, Rich HS 213,  
Schuneman

### \*Jour 3-173 MAGAZINE WRITING (old Jour 73). 3 degree credits.

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 Quarter

W-7:30-10:00, MurH 207,  
Sittard

### Jour 3-176 BUSINESS AND INDUSTRIAL JOURNALISM (old Jour 71). 3 degree credits.

For journalism majors and minors particularly interested in the study of business and industrial press as specialized communications media; analysis and evaluation of content, staffs, and production. Gathering material for and writing of feature articles in the industrial field. (Prereq 1-012 or 3-151 or #)

### Spring Semester

M-6:20-8:00, MurH 212, Sittard

### Jour 3-178 PUBLICITY (old Jour 78). 3 degree credits.

Publicity, external and internal communication, use of media techniques and application of institutional promotion and communication, including use of company publications, institutional advertising, and trade journals. Projects and campaigns. (Prereq 1-001 or #)

### Fall Semester

M-6:20-8:00, MurH 308, Wollan

### Jour 3-221 GRAPHIC PROCESSES: ADVERTISING AND PUBLICATIONS (old Jour 60). 3 degree credits. Tuition plus \$5 special fee.

Survey of printing processes and methods by lecture, field trip, and film. Students are introduced to economic organization and technology change in fields of printing and publishing. (No prereq)

### Spring Semester

M-6:20-8:00, MurH 311, Metz

### \*Jour 3-231 DESIGN AND TYPOGRAPHY: ADVERTISING AND PUBLICATIONS (old Jour 57). 3 degree credits. Tuition 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 Semester

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

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**Jour 5-501 COMMUNICATION AND PUBLIC OPINION** (old Jour 112). 3 degree credits.  
Theories of communication process and of persuasion and attitude change. Functions of interpersonal and mediated communication in diffusions of information and in opinion formation. (Prereq 15 credits in social sciences. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Semester**

T-8:15-9:55, MurH 308, Robbins

**Jour 5-549 PUBLIC RELATIONS PRINCIPLES** (old Jour 149). 3 degree credits.  
Principles of public relations function; application of principles in industry, government, education, social agencies, and other institutions; pertinence of social science research. (Prereq 3-178 or 15 credits in social sciences. Qualified students may register for graduate credit at the University of Minnesota)

**Spring Semester**

M-6:20-8:00, MurH 308, Wollan

For information on non-credit conferences or workshops in journalism and mass communication, please contact the Department of Conferences and Institutes, 131 Nolte Center for Continuing Education; telephone 373-3151.

## Labor Education

For information on non-credit conferences or workshops in labor education, please contact Mr. John J. Flagler, Labor Education Service, 417 Business Administration; telephone 373-3662.

## Latin

Faculty listed under Classics.

**Lat 1-101/1-102 BEGINNING LATIN** (old Lat 1-2). 5 degree credits 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 W-5:30-8:30, FolH 305, Sonkowsky

**Spring Semester**

1-102 W-5:30-8:30, FolH 305

## Law

For information on non-credit conferences or workshops in law, please contact Mr. John Wirt, Continuing Legal Education, 338 Nolte Center for Continuing Education; telephone 373-5386.

## Library Science

*Elmo Brekhus, Assistant Professor of Library Science*  
*Nancy Freeman, Assistant Professor of Library Science*  
*Geraldine King, Lecturer in Library Science*  
*Bruce Kittilson, Instructor in Library Science*  
*Harris McClaskey, Assistant Professor of Library Science*  
*Lowell Olson, Associate Professor of Library Science*  
*Marie Samanisky, Lecturer in Library Science*

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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### Minimum Certification Program for School Librarians

All courses required for students admitted to the Minimum Certification Program for School Librarians are usually available through evening 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 5-101 LIBRARY ADMINISTRATION** (old Lib 101). 3 degree credits.

Principles of library administration, organization, and management. A general course for all librarians. Required of students admitted to the graduate program. (No prereq. Limited to 15 evening class students. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

TTh—4:30-5:45, JohH 122,  
Brekhus

**\*Lib 5-201 REFERENCE I** (old Lib 102). 3 degree credits.

General reference tools and other sources of information. Theory and practice of reference work. Required of students admitted to the graduate program and to the Minimum Certification Program for School Librarians. Useful for all college students intending to pursue graduate study in any field. (No prereq. Limited to 10 evening class students. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

TTh—4:30-5:45, WaLib 12,  
King

**Winter Quarter**

MW—4:30-5:45, JohH 122,  
McClaskey

**\*Lib 5-202 SELECTION OF LIBRARY MATERIALS** (old Lib 104). 3 degree credits.

Techniques and standards for selection of books, magazines, pamphlets, phonograph records, films, etc. Required of students admitted to the graduate program and to the Minimum Certification Program for School Librarians. (No prereq. Limited to 10 evening class students. Qualified students may register for graduate credit at the University of Minnesota)

**Spring Quarter**

TTh—4:00-5:15, WaLib 12,  
Freeman

**Lib 5-203 NONPRINT MATERIALS IN THE LIBRARY** (old Lib 194). 3 degree credits.

Selection, organization, and administration of nonprint materials in library programs; emphasis upon the instructional and recreational use of nonprint materials. Required of students admitted to the Minimum Certification Program for School Librarians. (Prereq 5-202. Qualified students may register for graduate credit at the University of Minnesota)

**Winter Quarter**

TTh—4:30-5:45, WaLib 12,  
Kittilson

**Lib 5-301 READING, LISTENING, AND VIEWING GUIDANCE FOR YOUTH IN LIBRARIES** (old Lib 114). 3 degree credits.

Philosophy and objectives of library service in schools and children's departments; guidance techniques; planning library programs. Review of relevant research related to reading, viewing, and listening, and a survey of professional literature from various fields pertinent to understanding children and adolescents. Required of students admitted to the Minimum Certification Program for School Librarians. (Prereq 5-202. Qualified students may register for graduate credit at the University of Minnesota)

**Winter Quarter**

T—6:30-9:00, WaLib 12,  
Olson

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**\*Lib 5-401 CATALOGING AND CLASSIFICATION** (old Lib 103). 3 degree credits.  
 Basic principles of descriptive cataloging, including rules of entry, subject headings, and classification in libraries, for all types of libraries. Required of students admitted to the graduate program and to the Minimum Certification Program for School Librarians. (No prereq. Limited to 10 evening class students. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

**MW**—4:30-5:45, WaLib 12,  
 Samanisky

**Winter Quarter**

**MW**—4:30-5:45, WaLib 12,  
 Brekhuis

## Management

*Thomas C. Anderson, Instructor in Management*  
*John E. Cave, Instructor in Management*  
*William G. Cornelius, Instructor in Management*  
*Willy Degeyndt, Instructor in Management*  
*John J. Mauriel, Associate Professor of Management*  
*Timothy W. Scott, Instructor in Management*  
*Albert K. Wickesberg, Professor of Management*

**\*Mgmt 3-001 FUNDAMENTALS OF MANAGEMENT** (old Mgmt 70). 3 degree credits.  
 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; organizational structure and behavior; leadership; control systems. (No prereq. Limited to 40 students)

**Fall Semester**

**M**—6:20-8:00, BlegH 240, Cornelius  
**M**—8:15-9:55, BlegH 240, Cornelius  
**W**—6:20-8:00, BlegH 420, Scott  
**W**—8:15-9:55, BlegH 420, Scott  
**Th**—6:20-8:00, BlegH 435, Degeyndt  
**Th**—8:15-9:55, BlegH 435, Degeyndt

**Spring Semester**

**W**—6:20-8:00, BlegH 435, Degeyndt  
**Th**—6:20-8:00, BlegH 435, Anderson  
**Th**—8:15-9:55, BlegH 435, Anderson

**Fall Quarter**

**T**—7:00-9:30, Sand JHS 214,  
 Wickesberg (Limited to  
 35 students\*)

**Winter Quarter**

**W**—7:00-9:30, Rich HS  
 249-250, Cornelius

**Spring Quarter**

**W**—5:30-8:00, StP Ext,  
 Cornelius

**S**—9:00-11:30 a.m., BlegH  
 205, Scott

**\*Mgmt 3-002 PSYCHOLOGY IN MANAGEMENT** (old Mgmt 80). 3 degree credits.  
 Centers on behavior principles and methods which underlie managerial competence in preventing and solving problems within and between individuals and groups and aid in effective utilization of human resources. Various lab methods are used to highlight concepts, methods, and skills. (No prereq. Limited to 40 students)

**Fall Semester**

**W**—6:20-8:00, BlegH 115, Cave  
**W**—8:15-9:55, BlegH 115, Cave

**Spring Semester**

**W**—6:20-8:00, BlegH 415, Cave  
**W**—8:15-9:55, BlegH 415, Cave

**\*Mgmt 3-004 BUSINESS POLICY: STRATEGY FORMULATION AND IMPLEMENTATION** (old Mgmt 60). 3 degree credits.

Undergraduate level integrating course designed to develop skill in the general management function of determining corporate or divisional goals and in designing programs of action for achieving these goals. Class time is devoted almost exclusively to case analysis and discussion. Students are asked to apply data supplied in the case, as well as concepts and theories presented in this and other courses to the solution of goal selection and strategy implementation problems.

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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The viewpoint of the general line manager (department, division, or executive level) will be taken. (Prereq IR 3-002, Prod 3-050, Mktg 3-000, and Fin 3-000. Limited to 30 students)

### Fall Semester

M—6:20-8:00, BlegH 335, Anderson

M—8:15-9:55, BlegH 335, Anderson

## Management Information Systems

(See Quantitative Analysis, page 213)

*Edward L. Beyer, Lecturer in Management Information Systems*

*David Cordes, Instructor in Management Information Systems*

*Gary Dickson, Associate Professor of Management Information Systems*

*Robert Henry, Instructor in Management Information Systems*

*Kenneth A. Kozar, Instructor in Management Information Systems*

*David L. McLaughlin, Lecturer in Management Information Systems*

*Ronald D. Visness, Lecturer in Management Information Systems*

### MIS 0-001C INTRODUCTION TO COMPUTERS. 3 certificate credits.

A basic course in the application and use of modern computers. Should be of particular benefit to those who are seeking a better understanding of the value of computers, the methods and techniques of their use, in the conduct of business, scientific, and educational processes and research projects. No special knowledge of computer operation is required. (No prereq)

#### Fall Semester

M—6:20-8:00, AndH 250, McLaughlin, Beyer

#### Spring Semester

M—6:20-8:00, AndH 250, McLaughlin, Beyer

#### Fall Quarter

T—7:00-9:30, Kel HS 156,  
Kozar (Limited to 30  
students\*)

### \*MIS 0-002C PROGRAMMING COMPUTERS USING COBOL. 3 certificate credits. Tuition plus \$10 laboratory fee.

COBOL (Common Business Oriented Language) is a recent advance in programming technology which is specially oriented toward problems encountered in business applications. COBOL is designed to make use of regular business data processing language wherever possible. This course emphasizes programming file-oriented problems in COBOL and in the application of this language to generalized business data processing problems. Students will develop proficiency in writing COBOL programs and will run a number of programs on computer facilities. (Prereq elementary algebra and elementary statistics or  $\pm$  Limited to 30 students)

#### Fall Semester

Th—6:20-8:00, BlegH 245, Visness

#### Spring Semester

Th—6:20-8:00, BlegH 245, Visness

### \*MIS 0-003C PROGRAMMING COMPUTERS USING FORTRAN. 2 certificate credits. Tuition plus \$10 laboratory fee.

FORTRAN is an easily learned programming language which can be used to program most electronic computers. The language uses English words and mathematical symbols and is especially applicable for problems in engineering, mathematics, statistics, and business analysis where the problem to be programmed can be expressed in terms of formulas or arithmetic operations. Well suited for those who need to use the computer for special analyses or computational work. The course emphasizes the programming of problems in FORTRAN and does not cover the field of computers in general. Students will develop good proficiency in writing programs in FORTRAN and will run a large number of programs utilizing the University computer facilities. No previous computer knowledge is required. Students taking QA 3-100 may also take this course. Although there is duplication of content at the introductory level of FORTRAN, this course provides con-

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



siderably more depth and more practice in programming, and the student develops a much greater skill in FORTRAN. (Prereq proficiency in elementary algebra. Limited to 25 students)

**Fall Semester**

T-8:15-9:35, BlegH 260, Henry  
W-8:15-9:35, BlegH 105, Dickson

**Spring Semester**

T-8:15-9:35, BlegH 260, Dickson

**Fall Quarter**

T-8:15-10:05, BlegH 115, Dickson

**MIS 3-100 BASIC COMPUTER SYSTEMS** (old QA 62). 3 degree credits plus 1 certificate credit, \$MIS 8-208. Tuition plus \$15 laboratory fee.

Basic elements of computer hardware, software, and systems. Problem analysis and flowcharting. Introduction to concepts of programming using symbolic language and the FORTRAN procedure-oriented language. Coding, running, and debugging of elementary programming problems using University computer facilities. (Prereq high school algebra or Math 0-006 and elementary statistics or §)

**Fall Semester**

T-6:00-8:00, BlegH 110, Henry  
W-6:00-8:00, BlegH 110, Dickson

**Spring Semester**

T-6:00-8:00, BlegH 110, Dickson

**Fall Quarter**

T-5:30-8:00, BlegH 145, Dickson

**MIS 5-101 INTRODUCTION TO COMPUTER ASSISTED MANAGEMENT** (old Mgmt 109). 3 degree credits.

The purpose of this course is to provide an overview of the field of computer assisted management (CAM) and for management information decision systems. The following topics are introduced: information systems, decision systems, interactive systems, communications systems, and the behavioral aspects of systems. Special emphasis is placed upon relating each of these topics to management practice and in drawing implications as to how this practice is likely to undergo modifications. (Prereq Econ 1-001 and 1-002 or §. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Semester**

W-6:20-8:00, AndH 310, Cordes

**Spring Semester**

W-6:20-8:00, AndH 310, Cordes

## Marketing

Your attention is called to the Credit and Financial Management Certificate program, page 57.

*Stanley R. Cowle, Lecturer in Marketing*

*Michael Dwyer, Instructor 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 W. Russick, Lecturer in Marketing*

*Richard Sauter, Assistant Professor of Marketing*

**Mktg 0-088C PRINCIPLES OF CREDITS AND COLLECTIONS II.** 3 certificate credits.

This course is designed to follow Mktg 3-087 with emphasis upon analysis of financial statements as a source of credit information; legal remedies used in collection of delinquent accounts; handling insolvent accounts and bankruptcies; adjustment problems and the use of adjustment bureaus; credit insurance; activities and services of credit associations; measures of credit department efficiency, and other important phases of credit work. (Prereq 3-087 or §)

**Spring Semester**

Th-6:20-8:00, BlegH 205, Kerns

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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### \*Mktg 3-000 PRINCIPLES OF MARKETING (old Mktg 57). 3 degree credits.

A study of the basic concepts of marketing. Includes the direction of marketing activities; pricing, product, physical distribution, research, and market development. The environment of marketing and a treatment of the social, economic, technological frameworks as they relate to basic marketing concept. (Prereq Econ 1-001 and 1-002. Limited to 50 students)

#### Fall Semester

M—6:20-8:00, AndH 350  
T—6:20-8:00, BlegH 150  
T—8:15-9:55, BlegH 150

#### Spring Semester

T—6:20-8:00, BlegH 150  
T—8:15-9:55, BlegH 150

#### Fall Quarter

Th—5:30-8:00, StP Ext

#### Winter Quarter

T—7:00-9:30, Sand JHS 210,  
(Limited to 35  
students\*)

#### Spring Quarter

M—7:00-9:30, Rich HS  
249-250

### BA 3-001 SOCIAL CONCERNS OF BUSINESS. 3 degree credits.

A course dealing with current social problems with which business is related; e.g., pollution, consumerism, poverty. Emphasis on discussion, selected readings and individual projects. (No prereq)

#### Fall Semester

T—8:05-9:45, BlegH 350, Holloway

### Mktg 3-075 SALES MANAGEMENT (old Mktg 75). 3 degree credits.

Sales policies and planning, sales organization, selection, training, and compensation of salesmen, control of sales performance, sales budgets, and cost control. Case materials. (Prereq 3-000)

#### Spring Semester

M—6:20-8:00, BlegH 425, Lewis

### \*Mktg 3-077 ADVERTISING (old Mktg 77). 3 degree credits.

The promotion function in marketing; media channels, audience, message. Developing the campaign, media and money allocation decisions, evaluating effectiveness. (Prereq 3-000. Limited to 50 students)

#### Fall Quarter

T—5:30-8:00, BlegH 435,  
Ross

### Mktg 3-080 PURCHASING (old Mktg 80). 3 degree credits.

Purchasing of materials, supplies, and equipment as a major function in business. Basic principles of purchasing in industrial, governmental, and institutional organizations. Quantity and quality decisions, forward buying, evaluation of purchasing procedures, and pricing policies. (Prereq 3-000)

#### Spring Semester

T—6:20-8:00, BlegH 245, Cowie

### Mktg 3-087 CREDITS AND COLLECTIONS (old Mktg 87). 3 degree credits.

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 135, Kerns

### Mktg 3-095 MARKET ANALYSIS AND RESEARCH (old Mktg 95). 3 degree credits.

Techniques used in marketing research. Emphasis on marketing information which can aid in the solution of marketing problems. Selected nonsurvey and survey research techniques. (Prereq 3-000 and QA 3-053 or §)

#### Fall Semester

M—8:15-9:55, BlegH 340, Russick

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Mathematics

Your attention is called to the Mathematics and Science Certificate Program, page 48.

*Steve S. Barich, Associate Professor of Mechanical Engineering*

*William A. Dolid, Lecturer in Mathematics*

*Lawrence R. Harper, Assistant Professor of Mathematics*

*Richard Hotchkiss, Research Associate in Mathematics*

*Walter James, Lecturer in Mathematics*

*Allan Kirch, Lecturer in Mathematics*

*Jay A. Leavitt, Associate Professor of Mathematics*

*Lawrence A. Liddiard, Research Associate in Mathematics*

*Chester L. Miracle, Associate Professor of 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*

*Hubert Walczak, Lecturer in Mathematics*

### Mathematics Prerequisites in Institute of Technology

The entrance requirement for the Institute of Technology and the prerequisite for Math 1-210 (old Math 21A) is 4 years of high school mathematics including solid geometry and trigonometry. Any student who meets this requirement is eligible to register for Math 1-210 (old Math 21A). However, if it has been two years or more since he successfully completed his last mathematics course, the student should register for Math 0-012 (old Math 12) or even Math 0-011 (old Math 11). Students who have completed Math 0-011 (old Math 11) or its equivalent (higher algebra in high school or college—not a trade school) within the last 2 years may register for Math 0-012 (old Math 12). Students who have been out of high school five years or more, or students who did not have higher algebra in high school should register for Math 0-011 (old Math 11) or even Math 0-006 (old Math 6). Math 0-011 and Math 0-012 take the place of the junior and senior mathematics courses in high school.

### Mathematics for Nonmajors and Prebusiness Students

Math 1-141 (old Math 10A) and Math 1-142 (old Math 40A) are offered for the benefit of prebusiness students and other Arts college nonmathematics majors who do not need a full four-quarter calculus course.

#### **CALCULUS REFRESHER COURSE**

This course will enable students who have been out of school for a few years to enter courses on an equal footing with students who have just finished calculus.

**Math 0-005 BASIC MATHEMATICS** (old Math 5). No credit. Tuition equivalent to 5 credits.

A practical course for anyone needing an elementary background in mathematics. It includes a study of the arithmetic of whole numbers, fractions, and decimal fractions with aids to quick and easy computation. It also includes an introduction to elementary algebra, linear equations and some topics from geometry and trigonometry. It includes the measurement of length, area, and volume. This

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

course is a good refresher for those who have forgotten some things such as the arithmetic of fractions or long division. It is a good course for shop men in industry who need to be able to work with fractions and measurement. It is a good course for those who have a poor background in arithmetic and algebra or those who dropped out of high school and now need to know arithmetic. (Prereq arithmetic)

### Spring Semester

TTh—6:20-7:45, MainE 217

**Math 0-006 ELEMENTARY ALGEBRA** (old Math 6). Entrance credit. Tuition equivalent to 6 credits.

Elements of algebra to quadratic equations, equivalent to 1 year of ninth grade algebra. (Prereq arithmetic. Entrance requirement for College of Agriculture, Forestry, and Home Economics; College of Veterinary Medicine; College of Liberal Arts; and Institute of Technology)

### Fall Semester

MW—6:20-8:00, MainE 217

TTh—6:20-8:00, MainE 217

### Spring Semester

MW—6:20-8:00, MainE 217

**Math 0-007 PLANE GEOMETRY** (old Math 7). Entrance credit. Tuition equivalent to 6 credits.

Elements of plane geometry, equivalent to 1 year of high school plane geometry. (Prereq arithmetic. Entrance requirement for College of Agriculture, Forestry, and Home Economics; College of Veterinary Medicine; College of Liberal Arts; and Institute of Technology)

### Fall Semester

MW—6:20-8:00, MainE 4

**Math 0-008 SOLID GEOMETRY** (old Math 8). Entrance credit. Tuition equivalent to 3 credits. ★

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 0-007 or equiv. Entrance requirement for Institute of Technology)

### Spring Semester

Th—6:20-8:00, MainE 215

**Math 0-011 INTERMEDIATE ALGEBRA** (old Math 11). Entrance credit. Tuition equivalent to 5 credits. ★

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 equiv. Entrance requirement for Institute of Technology)

### Fall Semester

MW—6:00-7:25, MacP 327

MW—6:20-7:45, MainE 305

TTh—6:00-7:25, StP Ext

TTh—6:20-7:45, MainE 305

### Spring Semester

MW—6:20-7:45, MainE 305

TTh—6:20-7:45, MainE 305

### Fall Quarter

TTh—7:00-9:05, Sand JHS  
207 (Limited to 35  
students\*)

### Winter Quarter

TTh—7:00-9:05, Rich HS 216  
(Limited to 30  
students\*)

### Spring Quarter

MW—7:00-9:05, Kel HS 237  
(Limited to 30  
students\*)

**Math 0-012 COLLEGE ALGEBRA AND TRIGONOMETRY** (old Math 12). 5 degree credits. ★

Trigonometric functions, right triangles, oblique triangles, radian measure. Trigonometric formulas and identities, trigonometric curves, inverse trigonometric functions, trigonometric equations. Inequalities, theory of equations, determinants, mathematical induction, exponential and logarithmic functions, complex numbers. (Prereq 0-011 or ‡. Entrance requirement for Institute of Technology)

### Fall Semester

MW—6:20-7:45, MainE 303

TTh—6:20-7:45, MainE 303

### Spring Semester

MW—6:20-7:45, MainE 303

TTh—6:00-7:25, StP Ext

TTh—6:20-7:45, MainE 303

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**Fall Quarter**

**MW**—6:00-8:05, MainE 325  
**MW**—6:00-8:05, STP Ext  
**MW**—7:00-9:05, Sand JHS  
 207 (Limited to 35  
 students\*)

**Winter Quarter**

**MW**—7:00-9:05, Sand JHS  
 207 (Limited to 35  
 students\*)

**Math 0-090 CALCULUS REFRESHER.** Entrance credit. Tuition equivalent to 5 credits.  
 A one-semester course designed for students who have already had calculus but who have been away from it and need a review. (Especially for engineers wishing to take engineering refresher courses, high school mathematics teachers, and Education Masters' candidates with a major in math education or math.) This course will cover 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. (Prereq some knowledge of calculus required)

**Fall Semester**

**TTh**—6:20-7:45, MainE 213

**Math 1-005/1-006 FOUNDATIONS OF ARITHMETIC** (old Math 5A-B). 3 degree credits each quarter.

Includes 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; with 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 §)

**Fall Quarter**

**1-005 W**—6:30-9:00,  
 Arch 5

**Winter Quarter**

**1-005 M**—7:00-9:30,  
 Sand JHS 210  
 (Limited to 35  
 students\*)

**Spring Quarter**

**1-006 M**—7:00-9:30,  
 Sand JHS 210  
 (Limited to  
 35 students\*)

**1-006 W**—6:30-9:00, Arch 5

**Math 1-008 TRIGONOMETRY** (old Math T). 3 degree credits, §0-012. ★

Analytic trigonometry emphasizing identities, equations, and properties of the functions; right and oblique triangles without logarithmic computation. (Prereq plane geometry; higher algebra, or Math 0-011. Credit is given for this course in all colleges except the Institute of Technology. A student may not get credit for this course if he has had Math 0-012)

**Fall Semester**

**T**—8:15-9:55, MainE 229

**Spring Semester**

**T**—8:15-9:55, MainE 229

**Math 1-119 MATHEMATICS OF INVESTMENT** (old Math 20). 5 degree credits.

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 0-012 or 1-141 or 1-441)

**Spring Quarter**

**TTh**—6:00-8:05, Arch 135

**Math 1-141 ALGEBRA, PROBABILITY, AND CALCULUS** (old Math 10A). 5 degree credits, §1-441, 1-210.

(First course of a 2-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 0-011 or high school higher algebra; 1-008 or high school trigonometry)

**Fall Semester**

**TTh**—6:20-7:45, Arch 5  
**S**—9:00-11:50 a.m., Arch 5

**Spring Semester**

**MW**—6:20-7:45, VH 16

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

### **Math 1-142 INTRODUCTION TO CALCULUS OF ONE AND SEVERAL VARIABLES** (old Math 40A). 5 degree credits, §1-220, 1-442.

(A second course of a 2-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 1-141)

#### **Fall Semester**

**MW**—6:20-7:45, MainE 340

#### **Spring Semester**

**TTh**—6:20-7:45, MainE 340  
**S**—9:00-11:50 a.m., Arch 5

### **Math 1-210 ANALYSIS I** (old Math 21A). 5 degree credits. ★ §1-141, 1-441.

Review of high school algebra; analytic geometry, calculus of functions of one variable, application. (Prereq 4 years of high school mathematics including trigonometry, or 0-012. See note on page —)

#### **Fall Semester**

**MW**—6:20-7:45, MainE 203  
**TTh**—6:20-7:45, MainE 203

#### **Spring Semester**

**MW**—6:20-7:45, MainE 203  
**TTh**—6:20-7:45, MainE 203

#### **Fall Quarter**

**TTh**—5:45-7:50, StP Ext  
**TTh**—8:00-10:05, StP Ext

#### **Winter Quarter**

**MW**—7:00-9:05,  
Sand JHS 209  
(Limited to 35  
students\*)  
**MW**—6:00-8:05, MainE 302

### **Math 1-220 ANALYSIS II** (old Math 22A). 5 degree credits, §1-442. ★

A continuation of course described under 1-210. (Prereq 1-210)

#### **Fall Semester**

**MW**—6:20-7:45, MainE 315  
**TTh**—6:20-7:45, MainE 229

#### **Spring Semester**

**MW**—6:20-7:45, MainE 315  
**TTh**—6:20-7:45, MainE 229

#### **Winter Quarter**

**TTh**—5:45-7:50, StP Ext

#### **Spring Quarter**

**MW**—7:00-9:05, Sand  
JHS 211 (Limited to  
35 students\*)  
**MW**—6:00-8:05, MainE 302

### **Math 1-230 ANALYSIS III** (old Math 23A). 5 degree credits, §1-443. ★

A continuation of course described under 1-210. (Prereq 1-220)

#### **Fall Semester**

**Th**—6:00-9:00, MainE 315

#### **Spring Semester**

**T**—6:00-9:00, MainE 315

#### **Fall Quarter**

**MW**—6:00-8:05, MainE 302  
**MW**—7:00-9:05, Sand  
JHS 211 (Limited to  
35 students\*)

#### **Spring Quarter**

**TTh**—5:45-7:50, StP Ext

### **Math 1-240 CALCULUS IV** (old Math 31). 5 degree credits. ★

Vector algebra, solid analytic geometry, elementary linear algebra, multidimensional, differential, and integral calculus, infinite series, elementary differential equations. (Prereq 1-230)

#### **Fall Semester**

**T**—6:00-9:00, MainE 302

#### **Spring Semester**

**Th**—6:00-9:00, MainE 320

#### **Fall Quarter**

**TTh**—5:45-7:50, StP Ext

#### **Winter Quarter**

**MW**—6:00-8:05, MainE 229

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**Math 1-250 CALCULUS V** (old Math 32). 5 degree credits. ★  
A continuation of course described under 1-240. (Prereq 1-240)

**Fall Semester**

M—6:00-9:00, MainE 320

**Spring Semester**

T—6:00-9:00, MainE 302

**Winter Quarter**

TTh—5:45-7:50, StP Ext

**Spring Quarter**

MW—6:00-8:05, MainE 229

**Math 1-260 CALCULUS VI** (old Math 33). 5 degree credits. ★  
Vector calculus, continuation of multidimensional calculus and of infinite series. (Prereq 1-250)

**Fall Semester**

T—6:00-9:00, MainE 320

**Spring Semester**

M—6:00-9:00, MainE 320

**Math 1-441 COLLEGE ALGEBRA** (old Math 15). 5 degree credits, §1-141, 1-210.  
(This is the first course in the regular mathematics sequence in the Arts college.)  
Standard college algebra course for students planning to take sequence in analytic geometry and calculus. Functions and graphs, quadratic equations in one and two variables, progressions, complex number, inequalities, theory of equations, permutations and combination, binomial theorem, probability, mathematical induction, determinants. (Prereq high school higher algebra and 1-008 or high school trigonometry)

**Fall Quarter**

MW—6:20-8:25, Arch 135

**Math 1-442 ANALYTIC GEOMETRY AND CALCULUS I** (old Math 42). 5 degree credits, §1-220, 1-142.

(This is the second course in the regular mathematics sequence in the Arts college.)  
Elements of analytic geometry and calculus. Plane analytic geometry including straight line, conic sections, parametric representations, polar coordinates, translation and rotation of axes. Introduction to solid analytic geometry, functions and limits, differentiation of algebraic, trigonometric, inverse trigonometric, exponential and logarithmic functions with application to velocity and acceleration, rates, maxima and minima, curve tracing, indeterminate forms, approximations by differentials, introduction to partial differentiation. Integration by standard forms with applications to area, volume, work, moments. Improper integrals. Infinite series. Taylor's theorem. Multiple integrals in two and three dimensions. (Prereq 1-441 or 1-141 and either 1-008 or high school trigonometry)

**Winter Quarter**

MW—6:20-8:25, Arch 135

**Math 1-443 ANALYTIC GEOMETRY AND CALCULUS II** (old Math 43). 5 degree credits.  
A continuation of course described under 1-442. (Prereq 1-442)

**Spring Quarter**

MW—6:20-8:25, Arch 135

**Math 3-060 OPERATIONAL METHOD FOR LINEAR SYSTEMS** (old Math 60A). (Primarily for EE students). 3 degree credits.

Review of Fourier series and their applications to linear ordinary differential equations. The Fourier transform, mathematical properties, amplitude and phase spectra, energy. The Laplace transform, mathematical properties and elementary inversion techniques, applications to systems of ordinary differential equations, transfer function of a filter, time and frequency domain relations. (Prereq 1-250)

**Spring Semester**

W—6:00-7:40, MainE 320

**Math 3-091 ELEMENTARY ENGINEERING STATISTICS** (old Math 90). 3 degree credits.  
Probability, permutations, and combinations. Frequency distributions. Introduction to sampling significance tests, regression charts. (Prereq 1-230)

**Spring Quarter**

Th—6:20-8:55, VH 213

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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**Math 5-211 DETERMINANTS AND MATRICES** (old Math 149). 3 degree credits, §5-242. Determinants, matrices, linear equations, vector spaces, quadratic and bilinear forms, characteristic roots, applications to systems of ordinary differential equations. Mostly a technique course, intended mainly for students whose interests are not theoretical but who wish to learn the relevant mathematical facts and methods. (Prereq 1-250 or 3-445. May not be taken for graduate credit)

Spring Quarter

Th—6:00-8:40, MainE 325

**Math 5-403 VECTOR ANALYSIS** (old Math 147). 3 degree credits. Scalar and vector products, derivatives, geometry of space curves, del operator, line and surface integrals, divergence and Stokes' theorem, transformation of coordinates, dyadics, applications. Mostly a technique course, intended mainly for students whose interests are not theoretical but who wish to learn the relevant mathematical facts and methods. (Prereq 1-250 or 3-445. May not be taken for graduate credit)

Fall Quarter

Th—6:00-8:40, MainE 302

**Math 5-512 DIFFERENTIAL EQUATIONS** (old Math 148). 3 degree credits, §5-617. Linear differential and difference equations with constant coefficients, isoclines, phase plane, reduction in order, Picard's methods, uniform convergence, series solutions. Bessel functions, Legendre polynomials, introduction to boundary value problems. Mostly a technique course, intended mainly for students whose interests are not theoretical but who wish to learn the relevant mathematical facts and methods. (Prereq 1-250 or 5-506. May not be taken for graduate credit)

Winter Quarter

Th—6:00-8:40, MainE 302

## Mechanical Engineering

Your attention is called to the Senior Mechanical Engineering Technician Certificate, see page 67.

*Fulton Holtby, Associate Professor of Mechanical Engineering*  
*William A. Kleinhenz, Associate Professor of Mechanical Engineering*  
*Thomas E. Murphy, Associate Professor of Mechanical Engineering*  
*K. Ogata, Professor of Mechanical Engineering*  
*E. Sparrow, Professor of Mechanical Engineering*

**ME 0-001 REFRESHER COURSE FOR MECHANICAL ENGINEERS.** No credit. Tuition equivalent to 4 credits.

This course is designed for practicing engineers, and will consist of lectures and 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 0-110C MACHINE TOOL FUNDAMENTALS.** 5 certificate credits. Tuition 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 0-011 or §. Limited to 20 students)

Fall Semester

M—6:20-9:20, MechE 214

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



**\*ME 0-011C PLASTICS TECHNOLOGY.** 5 certificate credits. Tuition plus \$3 materials fee. A laboratory and lecture course dealing with the materials, equipment, and methods used in the fabrication of plastic products. (No prereq. Limited to 20 students)

**Fall Semester**

Th-6:20-9:20, MechE 106

**ME 0-024C/0-025C MACHINE DESIGN I-II.** 5 certificate credits each semester.

Fundamental principles of design of machine elements: lubrication, theory, and application; friction drivers, screws, gears, belts, connectors, flywheels, machine frames, shrink fits, stress concentration, vibration analysis, and application of velocity and acceleration analysis to machine design problems. The course will consist of a series of lectures and problems to be solved in class. Laboratory experiments will be used whenever possible. Special movies will be used. (Prereq Math 0-011 or § for 0-024C; 0-024C for 0-025C)

**Fall Semester**

0-024C Th-6:20-9:20, MechE 308

**Spring Semester**

0-025C Th-6:20-9:20, MechE 308

**ME 0-030C SYSTEM INSTRUMENTATION AND CONTROL.** 5 certificate credits.

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 0-011 or §)

**Spring Semester**

T-6:20-9:20, MechE 308

**ME 3-301/3-302 THERMODYNAMICS (old ME 30A-31A).** 4 degree credits each semester.

Properties, equations of state, and processes of thermodynamics systems and devices. Application of first and second laws correlating energy with heat, work, and mass transfer. Equilibrium and irreversibility. (Prereq Phys 1-230, Math 1-320 for 3-301; 3-301 for 3-302. May not be taken for graduate credit)

**Fall Semester**

3-301 T-6:20-9:00, MechE 321

**Spring Semester**

3-302 T-6:20-9:00, MechE 321

**ME 5-320 HEAT TRANSMISSION (old ME 133).** 3 degree credits.

Introduction to conduction, convection, and radiation of heat and their utilization in engineering applications. (Prereq 3-301 and CE 3-400, AEM 5-200 or §. May not be taken for graduate credit)

**Fall Quarter**

M-6:20-8:50, MechE 208

**ME 5-340 THERMODYNAMICS OF FLUID FLOW (old ME 134).** 3 degree credits.

Thermodynamic analysis of internal flow of viscous and compressible fluids. Applications to various flow processes and components in engineering systems. (Prereq 3-302 and CE 3-400 or §. May not be taken for graduate credit)

**Spring Quarter**

M-6:20-9:00, MechE 102

**ME 3-200 ANALYSIS OF MECHANISM SYSTEMS (old ME 22).** To be offered Fall Semester 1971.

**ME 3-201 MECHANICAL ENGINEERING SYSTEMS ANALYSIS (old ME 23).** To be offered Spring Semester 1972.

## Mechanics and Materials

(See Aerospace Engineering and Mechanics)

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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### Medicine

For information on non-credit conferences or workshops in medicine, please contact Mr. Lee Stauffer, Continuation Medical Education, 1350 Mayo; telephone, 373-8024.

### Metallurgical Engineering

Henry S. Jerabek, Associate Professor of Metallurgy

**MetE 0-001C/0-002C PHYSICAL METALLURGY** (old MetE I-II). 3 certificate credits each semester.

An introductory course for those engaged in heat treating, metal working, specification writing, inspection, or dealing in metal products. The structure of metals and alloys and the effect of working and heat treatment on structure and properties; steels, cast irons, surface treatments, and nonferrous alloys. (No prereq for 0-001C, but high school chemistry and high school physics are strongly desirable; 0-001C or § for 0-002C)

**Fall Semester**

**0-001C M-6:20-8:00, MinMet 116, Jerabek**

**Spring Semester**

**0-002C M-6:20-8:00, MinMet 116, Jerabek**

### Middle Eastern Languages

Anwar Chejne, Professor of Arabic

Caesar Farah, Professor of Arabic

George Koury, Assistant Professor of Arabic

Jonathan Paradise, Assistant Professor of Hebrew

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

### Arabic

**Arab 1-101/1-102 INTRODUCTION TO ARABIC GRAMMAR AND READING** (old Arab 1-2).

3 degree credits each semester. Tuition 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**

**Arab 1-501, 1-502, 1-503 THE NEAR EAST IN MEDIEVAL AND MODERN TIMES** (old Arab 30, 31, 32). 3 degree credits each quarter.

This course is an introductory survey of the historical development of the Islamic Empire from its inception until the present. 1-501: The religion of Islam, its rise and expansion in a wide area of the Middle East, the Islamic State, and social and cultural manifestations up to the rise of the Ottoman Empire. 1-502: The Middle East in the 19th century from 1798 to 1919: consideration of the cultural and political impact on the West; the Eastern Question and the dissolution of the Ottoman hegemony; and beginning reformist movements and the rise of nationalism in Iran and the Ottoman provinces. 1-503: The contemporary Middle East: the rise of modern independent states in the Middle East; a survey of political, social, economic, national, and international developments in the Arab countries; Turkey and Iran since World War I and Israel since 1948. (No prereq. Need not be taken in sequence)

**Fall Quarter**

**1-501 W-6:20-8:50, NH  
209A, Koury**

**Winter Quarter**

**1-502 W-6:20-8:50, NH  
209A, Koury**

**Spring Quarter**

**1-503 W-6:20-8:50, NH  
209A, Koury**

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**Arab 3-541/3-542 ISLAMIC RELIGION** (old Arab 71-72). 3 degree credits each quarter.  
Rise and development of Islamic religion; medievalism and rejuvenation. (No prereq.  
Need not be taken in sequence)

<b>Fall Quarter</b>	<b>Winter Quarter</b>
<b>3-541</b> T-6:20-8:50, NH 122, Farah	<b>3-542</b> T-6:20-8:50, NH 122, Farah

**Arab 3-545 ISLAMIC MYSTICISM** (old Arab 73). 3 degree credits.  
Asceticism and Sufism; the mystics, their literature, orders, and hierarchies. (No  
prereq)

**Spring Quarter**  
T-6:20-8:50, NH 122, Farah

**ANCIENT CIVILIZATION.** Hist 1-051, 1-052, 1-053.

(See History)

**THE MODERN NEAR EAST.** Hist 5-274, 5-275.

(See History)

### Hebrew

**Heb 1-501, 1-502, 1-503 THE BACKGROUND OF THE BIBLE** (old Heb 30, 31, 32). 3 degree  
credits each quarter, §3-501, 3-502, Hist 3-591, 3-592.

This 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. Need not be taken  
in sequence. For Upper Division credit, register for Heb 3-501, 3-502, or Hist  
3-591, 3-592)

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
<b>1-501</b> M-6:20-8:50, NH 122, Paradise	<b>1-502</b> M-6:20-8:50, NH 122, Paradise	<b>1-503</b> M-6:20-8:50, NH 122, Paradise

**Heb 3-501, 3-502 THE BACKGROUND OF THE BIBLE** (old Heb 74, 75). 3 degree credits  
each quarter, §1-501, 1-502, 1-503, Hist 3-591, 3-592.

(Prereq §. Need not be taken in sequence. Meets concurrently with 1-501, 1-502  
and Hist 3-591, 3-592. Arrangements for Upper Division credit should be made  
with instructor)

<b>Fall Quarter</b>	<b>Winter Quarter</b>
<b>3-501</b> M-6:20-8:50, NH 122, Paradise	<b>3-502</b> M-6:20-8:50, NH 122, Paradise

**ANCIENT ISRAEL.** Hist 3-591/3-592 (old 74A, 75A)

(See History, page 144)

### Music

(See also GC 1-331, Music Today: Music in Society, page 156)

*Frank P. A. Bencriscutto, Associate Professor of Music*

*Maury Bernstein, Lecturer in Music*

*Paul Fetler, Professor of Music*

*Louise E. Guhl, Assistant Professor of Music*

*Ruben Haugen, Instructor in Music*

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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*Lee Humphries, Instructor in Music*  
*Thomas Lancaster, Instructor in Music*  
*Adrian Lauritzen, Associate Professor of Music*  
*Johannes Riedel, Professor of Music*  
*Charles F. Schwartz, Jr., Associate Professor of Music*  
*Charles Schultz, Associate Professor of Music*  
*Richard E. Sieber, Associate Professor of Music*  
*Gary Sipes, Instructor in Music*  
*Philip L. Steen, Assistant Professor of Music Education*

## Applied Music

Individual instruction in music is offered by the Department of Music for students not able to attend day classes by registration through the General Extension Division. Lessons are available on the Minneapolis Campus and at the MacPhail Center in downtown Minneapolis. Private lessons are given in piano, organ, voice, and 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, 105 Scott Hall. Time and place of lessons are also arranged through the Department of Music office, and final examinations will be taken during daytime hours. The "Approval for Registration Form" must be presented by the student to an Extension Division office at the time of registration during the appropriate quarter registration period. 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. 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 office of the General Extension Division 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 Mrs. Jacobson at the MacPhail Center—telephone 332-4424—for information about availability of instruction, and tuition and fee costs. No auditions are required.

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

ELECTIVE CREDIT

Instrument	(Old Number)	Non-credit	Lower Division	Upper Division	Graduate
Piano	(11V, 11, 61, 100)	0-101	1-101	3-101	5-101
Harpichord	(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

**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 a panel of judges before the certificate is awarded. All inquiries regarding this course should be directed to the MacPhail Center; telephone 332-4424.

\*Mus 0-051C, 0-052C PIANO PLAYING FOR PLEASURE (old I-II). 2 certificate credits 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

Spring Semester

0-051 T-6:30-7:45, MusEd 103, Lauritzen

0-051 Th-6:30-7:45, MusEd.103, Lauritzen

0-052 Th-6:30-7:45, MusEd 103, Lauritzen

0-052 T-6:30-7:45, MusEd 103, Lauritzen

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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### 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 CONCERT BAND** (old Mus 46, 47, 48). 1 degree credit each quarter.

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 UNIVERSITY SYMPHONY ORCHESTRA** (old Mus 40, 41, 42). 1 degree credit each quarter.

Standard orchestral literature performed. Open to players of orchestral instruments from Twin Cities area. Those enrolled with consent of chairman of Music Department are given the opportunity of rehearsing with the University Symphony and participating in a concert given in Northrop Auditorium. (Prereq #)

**Fall Quarter**

MTTh—3:15-5:00, WuH 320,  
Sieber

**Winter Quarter**

MTTh—3:15-5:00, WuH 320,  
Sieber

**Spring Quarter**

MTTh—3:15-5:00, WuH 320,  
Sieber

**Mus 1-430 UNIVERSITY CHORUS** (old Mus 43). 1 degree credit.

Performances of major symphonic-choral works with the Minnesota Symphony 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,  
Schwartz

MWF—1:15-2:05, NMA 4,  
Schwartz

T—7:00-9:30, SciCB 325,  
Schwartz

**Winter Quarter**

MWF—11:15-12:05, NMA 4,  
Schwartz

MWF—1:15-2:05, NMA 4,  
Schwartz

T—7:00-9:30, SciCB 325,  
Schwartz

**Spring Quarter**

MWF—11:15-12:05, NMA 4,  
Schwartz

MWF—1:15-2:05, NMA 4,  
Schwartz

T—7:00-9:30, SciCB 325,  
Schwartz

**Mus 1-430 MEN'S GLEE CLUB** (old Mus 49). 1 degree credit.

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**

MWF—12:15-1:05, NMA 5,  
Steen

**Winter Quarter**

MWF—12:15-1:05, NMA 5,  
Steen

**Spring Quarter**

MWF—12:15-1:05, NMA 5,  
Steen

**Mus 1-430 WOMEN'S GLEE CLUB** (old Mus 39). 1 degree credit.

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,  
Schwartz

**Winter Quarter**

TTh—12:15-1:05, NMA 5,  
Schwartz

**Spring Quarter**

TTh—12:15-1:05, NMA 5,  
Schwartz

**Mus 1-430 ST. PAUL CAMPUS CHORUS** (old Mus 43S, 44S, 45S). 1 degree credit each quarter.

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, Hr 102

**Winter Quarter**

TTh—4:30-6:00, Hr 102

**Spring Quarter**

TTh—4:30-6:00, Hr 102

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**Mus 3-430 CHAMBER SINGERS** (old Mus 57, 58, 59). 2 degree credits each quarter.  
A small mixed vocal ensemble of select voices. Sacred and secular music from 16th century to contemporary composers prepared for concert presentation. (Prereq #)

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
<b>MTWThF—12:15-1:05, WuH</b> 320, Lancaster	<b>MTWThF—12:15-1:05, WuH</b> 320, Lancaster	<b>MTWThF—12:15-1:05, WuH</b> 320, Lancaster

**Mus 5-440 ENSEMBLE (BRASS)** (old Mus 102A, 102B, 102C). 2 degree credits each quarter.  
Direct inquiries to the MacPhail Center, telephone 332-4424. (Prereq #. Qualified students interested in graduate credit should inquire at time of registration)

**Fall Quarter**  
S—9:30-11:30 a.m., MacP  
Annex 3

**Mus 5-440 ENSEMBLE (WOODWIND)** (old Mus 102A, 102B, 102C). 2 degree credits each quarter.  
(Prereq #. Qualified students may register for graduate credit at the University of Minnesota)

**Spring Quarter**  
S—12:30-2:30, MacP Annex  
3, Haugen

**Mus 5-440 ENSEMBLE (STRINGS)** (old Mus 102A, 102B, 102C). 2 degree credits each quarter.  
(Prereq #. Qualified students interested in graduate credit should inquire at time of registration)

<b>Fall Quarter</b>	<b>Winter Quarter</b>	<b>Spring Quarter</b>
<b>M—4:00-6:00, MacP Annex 1</b>	<b>M—4:00-6:00, MacP Annex 1</b>	<b>M—4:00-6:00, MacP Annex 1</b>

**Mus 5-440 ENSEMBLE (BAND)** (old Mus 102A). 2 degree credits.  
(Registration in the fall is for the full term, September through May. Prereq #. Qualified students may register for graduate credit at the University of Minnesota)

**Special Term**  
1:00-3:30 p.m. Saturdays, as follows:  
September 12, October 17, November 21,  
December 12, January 9, February 13,  
March 13, April 10, May 8,  
4 NMA, Bencriscutto

**Mus 5-440 ENSEMBLE (CHORUS)** (old Mus 102A). 2 degree credits.  
(Registration in the fall is for the full term, October through June. Prereq #. Qualified students may register for graduate credit at the University of Minnesota)

**Special Term**  
1:00-3:30 p.m. the first Saturday  
of each month, October through June  
(January, second Saturday),  
MacP Aud, Schwartz, Steen

**Music Theory, History, and Literature**

**Mus 0-011, 0-012 ENJOYING MUSIC.** No credit. Tuition equivalent to 2 credits.  
Enjoying and understanding music heard in today's concert halls, theaters, and homes. Units centered around various types and forms, including symphony, opera, chamber music, and solo works. 0-011: Baroque and classical periods. 0-012: Romantic and modern periods. (No prereq. Need not be taken in sequence)

<b>Fall Quarter</b>	<b>Winter Quarter</b>
<b>0-011 M—6:20-8:00, WuH</b> 320, Sieber	<b>0-012 M—6:20-8:00, WuH</b> 320, Sieber

Symbols explained on page 32.  
See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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**Mus 1-001 FUNDAMENTALS OF MUSIC** (old Mus 4). 2 degree credits. Tuition equivalent to 3 credits plus \$13 special fee.

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.

Fall Quarter	Winter Quarter	Spring Quarter
M-6:00-9:00, MacP 101, Lauritzen	M-6:00-9:00, MacP 101, Lauritzen	M-6:00-9:00, MacP 101, Lauritzen

**Mus 1-014 INTRODUCTION TO MUSIC** (old Mus 1A). 3 degree credits.

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)

Fall Quarter
T-6:20-8:50, ScH 3, Schultz

**Mus 1-501/1-502/1-503 MATERIALS AND STRUCTURE OF MUSIC I** (old Mus 1T-2T-3T). 4 degree credits 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. Must be taken in sequence. Students with very limited musical experience may be interested in Mus 1-001, a more elementary course in music)

Fall Quarter	Winter Quarter	Spring Quarter
1-501 TTh-6:20-8:30, WuH 320, Humphries	1-502 TTh-6:20-8:30, WuH 320, Humphries	1-503 TTh-6:20-8:30, WuH 320, Humphries
1-501 MW-6:20-8:30, MacP 102, Sipes		

**Mus 1-504/1-505/1-506 MATERIALS AND STRUCTURE OF MUSIC II** (old Mus 4T-5T-6T). 2 degree credits each quarter.

Melodic, harmonic and rhythmic concepts; contemporary materials and procedures; larger musical structures. (Prereq 1-503 for 1-504; 1-504 for 1-505; 1-505 for 1-506. Must be taken in sequence)

Fall Quarter	Winter Quarter	Spring Quarter
1-504 T-6:20-8:00, MacP 101, Sipes	1-505 T-6:20-8:00, MacP 101, Sipes	1-506 T-6:20-8:00, MacP 101, Sipes

**Mus 1-801, 1-802, 1-803 AMERICAN FOLK MUSIC** (old Mus 38A, 38B, 38C). 2 degree credits 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-dialect songs of the Upper Midwest; other U.S. traditions. Emphasis is on folk music listening and appreciation. Spring quarter students will have an assignment in folk song collecting from a field informant. (No prereq. Need not be taken in sequence)

Fall Quarter	Winter Quarter	Spring Quarter
1-801 W-6:20-8:00, WuH 320, Bernstein	1-802 W-6:20-8:00, WuH 320, Bernstein	1-803 W-6:20-8:00, WuH 320, Bernstein

**Mus 3-584, 3-585, 3-586 MUSIC: ITS MEANING AND STRUCTURE** (old Mus 84J, 84K, 84L). 3 degree credits 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

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



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. (No prereq. Need not be taken in sequence)

Fall Quarter	Winter Quarter	Spring Quarter
3-584 T-6:20-8:50, ScH 103, Fetler	3-585 T-6:20-8:50, ScH 103, Fetler	3-586 T-6:20-8:50, ScH 103, Fetler

**Mus 3-701, 3-702, 3-703 AMERICAN MUSIC** (old Mus 50, 51, 52). 2 degree credits each quarter.

3-701: Music in colonial America, music of the Puritans and Pietists, instrumental music in Pennsylvania, ballad opera in America, folk music in the United States and in Minnesota. 3-702: Music of the American Indian, Latin-American music, the history of public music education, the rise of the symphony orchestra, concert music, the spirituals. 3-703: Music in contemporary America. Jazz, styles of writing by Charles Ives, Aaron Copland, G. C. Menotti, Elliott Carter, Leonard Bernstein, and others. Listening to numerous studio and field recordings. (No prereq. Need not be taken in sequence. For non-music majors)

Fall Quarter	Winter Quarter	Spring Quarter
3-701 T-6:20-8:00, ScH 4, Riedel	3-702 T-6:20-8:00, ScH 4, Riedel	3-703 T-6:20-8:00, ScH 4, Riedel

**Mus 3-704, 3-705, 3-706 LATIN AMERICAN MUSIC** (old Mus 54, 55, 56). 3 degree credits each quarter.

A survey of the music in the Latin American countries from precolonial times to the present with emphasis on primitive, folk, popular, and contemporary art music. (No prereq. Need not be taken in sequence. For non-music majors)

Fall Quarter	Winter Quarter	Spring Quarter
3-704 T-8:00-10:00, ScH 4, Riedel	3-705 T-8:00-10:00, ScH 4, Riedel	3-706 T-8:00-10:00, ScH 4, Riedel

## Music Education

(Education)

*Robert L. Borg, Associate Professor of Music Education*

*Philip Steen, Assistant Professor of Music Education*

*Edgar M. Turrentine, Professor of Music Education*

**\*MuEd 3-011 TEACHING MUSIC IN ELEMENTARY SCHOOL** (old MuEd 56). 3 degree credits.

For non-music majors. Methods and materials in teaching singing, rhythm, music reading, creativity, classroom instruments, fundamentals, appreciation in K-6. (Prereq Mus 1-001 or §. Limited to 30 students)

**Fall Quarter**

M-6:20-8:00 (plus one hour  
ar) ScH 4, Borg

**MuEd 3-304 MUSIC READING METHODS AND MATERIALS** (old MuEd 57). 3 degree credits.

A review of recent research of eye movements and experiments in music reading. A study of various music reading methods and materials. (Prereq §)

**Spring Quarter**

W-6:20-8:50, ScH 4, Steen

**MuEd 5-514 ADVANCED WIND AND PERCUSSION TECHNIQUES** (old MuEd 118). 3 degree credits.

Research reports, practical performances, and lectures. (Prereq BS in Music Education or §. Qualified students may register for graduate credit at the University of Minnesota)

**Winter Quarter**

Th-6:20-8:50, ScH 103,  
Turrentine

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Natural History

Dwain W. Warner, Professor of Zoology

\*Nath 0-001 BIRDS OF MINNESOTA (old Nath 1). No credit. \$50.

A laboratory and field class in identifying and enjoying the birds of this region. Early meetings will make use of collections of the Museum of Natural History, but, as soon as weather permits, the class will meet in field locations on Sunday mornings at 7:30. (No prereq. Limited to 25 students)

**Special Term**

(February 10 to June 2)

W-6:20-8:00, MNH 311, Warner

## Natural Science

(College of Liberal Arts)

Robert Bruss, Instructor in Natural Science

NSci 1-001/1-002† **ORIENTATION IN NATURAL SCIENCES** (old NSci 1-2). 5 degree credits each quarter.

Integrated survey course: student introduced to basic principles and subject matter of science and meaning of scientific method in physical sciences. 1-001: Astronomy and Physics. 1-002: Chemistry and Geology. (Prereq 1 year high school algebra or § for 1-001; 1-001 for 1-002. One hour laboratory session per week ar)

**Fall Quarter**

1-001 TTh-6:30-8:30, Ph  
170, Bruss

**Winter Quarter**

1-002 TTh-6:30-8:30, Ph  
170, Bruss

NSci 1-003 **ORIENTATION IN NATURAL SCIENCES** (old NSci 3). 5 degree credits.

Foundations of modern biology with stress on function, development, heredity, and evolution. (Prereq 1-002, or college chemistry, or §. One hour laboratory session per week ar)

**Spring Quarter**

TTh-6:30-8:30, Ph 170,  
Bruss

## Natural Science

(General College)

Douglas Dearden, Professor

Thomas Helget, Instructor

William Schwabacher, Professor

**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 our 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). 3 degree credits.

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

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

livable environments for man, present and future. (No prereq. Limited to 45 students)

**Winter Quarter**

W—7:00-9:30, Rich HS 213,  
Helget

**\*GC 1-132 HUMAN ANATOMY AND PHYSIOLOGY (old GC 10B). 3 degree credits.**

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 35 students)

**Winter Quarter**

M—7:00-9:30, Sand JHS  
206, Dearden

**GC 1-181 MODERN PHYSICAL SCIENCE (old GC 7E). 3 degree credits.**

Basic principles of physics and chemistry are used to explore such topics in modern science as electrical conduction, radioactivity, electromagnetic radiation and how it is used to determine the structure of atoms, nuclei, molecules, and solids. Applications may include electron tubes, transistors, masers, and lasers. (No prereq)

**Fall Quarter**

M—6:20-8:50, Ph 131,  
Schwabacher

## Norwegian

(See Scandinavian Languages)

## Nursing

*Frances Dunning, Assistant Professor of Nursing*

*Helen Hansen, Assistant Professor of Nursing*

*Joan Tuberty, Assistant Professor of Nursing*

Evening courses offered by the School of Nursing carry certificate credit. The nursing courses described in this bulletin are being offered to assist the registered nurse to gain further understanding of her responsibilities in nursing. They are not the same as nursing courses offered for degree credit in the curriculum of degree programs of the school. The grading system for the evening courses is on a P-N basis only.

General education is of value to all nurses and many evening courses listed in this bulletin 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 Admissions Committee.

Registered nurses who wish to continue their studies in the direction of a degree program in nursing are urged to contact the School of Nursing, 3313 Powell Hall (telephone 373-3462), and ask for the assistance of an adviser in planning an organized course of study.

**Nurs 0-030C A CHALLENGE FOR NURSES: RELATING TO OTHERS. 3 certificate credits.**

This course will focus on the factors which influence the relationships a nurse establishes with patients, families, health team members, and the community.

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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Course content will include (1) an overview of changes in the delivery of health care services; (2) consideration of changes in the role of the nurse; (3) study of nurse-patient interactions designed to help the nurse become more aware of the significance of her own and the patient's behavior. (Prereq registered nurse)

### Fall Quarter

W—6:00-8:30, MH 118,  
Hansen

**Nurs 0-040C ANALYSIS OF NURSE-PATIENT COMMUNICATION.** 3 certificate credits. Identification of the components of nurse-patient communication and consideration of the interview process as it relates to interactions between patients and nurses. (Prereq registered nurse)

### Spring Quarter

T—6:00-8:30, MH 118,  
Hansen

**Nurs 0-200C CONTEMPORARY PROBLEMS IN PSYCHIATRIC NURSING.** 3 certificate credits.

Exploration of community mental health movement and implications for changing roles in nursing. Emphasis will be placed on understanding human behavior and nursing intervention. (Prereq registered nurse)

### Fall Quarter

T—6:00-8:30, PoH 2309,  
Tuberty

**Nurs 0-500C FUNDAMENTALS OF EDUCATION APPLIED IN NURSING SERVICE.** 3 certificate credits.

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 registered nurse with education responsibilities in service organizations)

### Fall Quarter

T—6:00-8:30, MH 118,  
Dunning

For information on non-credit conferences and workshops in nursing, please contact the Department of Conferences and Institutes, 131 Nolte Center for Continuing Education; telephone 373-3151.

## Pharmacy

For information on non-credit conferences or workshops in pharmacy, please contact Mr. William J. Hodapp, Continuing Pharmacy Education, 118 Appleby; telephone 373-2186.

## Philosophy

(See also GC 1-357, Man's Religious Beliefs, page 156)

*Norman O. Dahl, Instructor in Philosophy*

*Gene A. D'Amour, Instructor in Philosophy*

*Keith Gunderson, Professor of Philosophy*

*William H. Hanson, Associate Professor of Philosophy*

*Jasper Hopkins, Associate Professor of Philosophy*

*Douglas Lewis, Associate Professor of Philosophy*

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

Homer E. Mason, Associate Professor of Philosophy  
 Grover Maxwell, Professor of Philosophy  
 Mischa Penn, Instructor in Humanities  
 Candido Zanoni, Assistant Professor, General College

Phil 1-001, 1-002, 1-003, 3-001, 3-003, and 3-004 are somewhat abridged counterparts of corresponding day school courses carrying more credits. They carry regular academic credit, but they will fulfill requirements for a major in philosophy only by special arrangement with the Department of Philosophy.

**Phil 1-001 LOGIC (old Phil 2A). 3 degree credits. ★**

A study of the difference between logical and fallacious reasoning; the functions and uses of language; rules of good definitions and sound argument. (No prereq)

**Fall Quarter**

M—5:30-8:00, ForH 349,  
 Dahl  
 T—7:00-9:30, Rich HS  
 249-250 (Limited  
 to 60 students\*)  
 W—5:30-8:00, ForH 120,  
 Lewis

**Winter Quarter**

M—5:30-8:00, ForH 150  
 W—5:30-8:00, StP Ext,  
 Zanoni  
 Th—6:20-8:50, ForH 150,  
 Maxwell

**Spring Quarter**

W—5:30-8:00, ForH 150,  
 Lewis  
 Th—6:20-8:50, ForH 150,  
 Hanson

**Phil 1-002 PROBLEMS OF PHILOSOPHY (old Phil 1A). 3 degree credits. ★**

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

**Fall Quarter**

M—5:30-8:00, StP Ext,  
 Zanoni  
 T—5:30-8:00, ForH 120  
 W—7:00-9:30, Sand JHS  
 206, D'Amour (Limited  
 to 35 students\*)  
 Th—6:20-8:50, ForH 115

**Winter Quarter**

T—7:00-9:30, Rich HS  
 249-250 (Limited  
 to 60 students\*)  
 W—5:30-8:00, ForH 150  
 Th—6:20-8:50, ForH 115

**Spring Quarter**

M—5:30-8:00, ForH 349,  
 D'Amour  
 W—5:30-8:00, MurH 308  
 Th—6:20-8:50, MurH 308,  
 Maxwell

**Phil 1-003 ETHICS (old Phil 3A). 3 degree credits. ★**

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

**Fall Quarter**

M—5:30-8:00, ForH 150,  
 Mason  
 W—7:00-9:30, Kel HS 155  
 (Limited to 45  
 students\*)

**Winter Quarter**

M—5:30-8:00, ForH 349  
 W—7:00-9:30, Sand JHS  
 213 (Limited to  
 45 students\*)  
 Th—6:20-8:50, ForH 130,  
 D'Amour

**Spring Quarter**

M—5:30-8:00, ForH 130,  
 D'Amour  
 T—7:00-9:30, Rich HS  
 249-250, Dahl (Limited  
 to 60 students\*)  
 W—6:20-8:50 MacP 416  
 Th—5:30-8:00, StP Ext 416,  
 Zanoni

**Phil 1-011 SCIENCE AND RELIGION (old Phil 10). 2 degree credits. ★**

Inquiry into nature of science and religion as currently interpreted; attempt to find ground of conflict and/or reconciliation. (No prereq)

**Winter Quarter**

T—6:20-8:00, ForH 120,  
 Penn

**Phil 3-001 GENERAL HISTORY OF WESTERN PHILOSOPHY (old Phil 50A). 3 degree credits.**

Survey of major developments in Western philosophic thought; Greek philosophy, pre-Socratics, Socrates, Plato, Aristotle. (No prereq)

**Fall Quarter**

M—5:30-8:00, ForH 285,  
 Penn

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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**Phil 3-003 GENERAL HISTORY OF WESTERN PHILOSOPHY** (old Phil 52A). 3 degree credits. ★

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)

**Winter Quarter**

**M—5:30-8:00, ForH 170,  
Gunderson**

**Phil 3-004 GENERAL HISTORY OF WESTERN PHILOSOPHY** (old Phil 53A). 3 degree credits.

Survey of major developments in Western philosophic thought; later modern philosophy from Kant through 19th century. (No prereq)

**Spring Quarter**

**Th—6:20-8:50, ForH 170,  
Hopkins**

**Phil 3-605 SCIENCE, TECHNOLOGY, AND HUMAN VALUES.** 3 degree credits.

Explores current social, political, and moral crises produced by man's attempts to gain and further technologic mastery of his environment. (No prereq)

**Spring Quarter**

**T—6:20-8:50, MurH 308,  
Penn**

**Phil 5-401 POLITICAL AND SOCIAL ETHICS** (old Phil 108). 3 degree credits.

Ethical principles, theoretical and practical, at basis of social order. (Prereq 1-003 or ‡ Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

**W—5:30-8:00, ForH 170,  
Mason**

**Phil 5-501 PRINCIPLES OF AESTHETICS** (old Phil 151). 3 degree credits.

Sample topics: standards of evaluation; aesthetic experience; representation; meaning. (Prereq 3 credits in philosophy or ‡ Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

**M—5:30-8:00, ForH 175,  
Gunderson**

**Phil 5-701 SURVEY OF CONTEMPORARY PHILOSOPHY** (old Phil 140). 3 degree credits.

Current systematic and critical philosophies, as represented by their principal exponents. (Prereq 3-003 or ‡ Qualified students may register for graduate credit at the University of Minnesota)

**Spring Quarter**

**M—5:30-8:00, ForH 175,  
Mason**

For information on non-credit conferences or workshops in philosophy and religion, please contact the Department of Conferences and Institutes, 131 Nolte Center for Continuing Education; telephone, 373-3151.

## Photography

(See Arts, Studio; Cinematography)

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Physical Education

(Education)

*James E. Torpey, Associate Professor of Physical Education*

*Lela June Stoner, Assistant Professor of Physical Education*

**\*PEW 1-800 WATER SAFETY INSTRUCTION** (old PEW C12). 2 degree credits. Tuition equivalent to 4 credits plus \$3 facility fee.

A review of life saving and water safety techniques, methods and materials for men and women who plan to supervise or lifeguard on a waterfront or teach courses in water safety. Students must hold a current American Red Cross Senior Life Saving or Water Safety Instructor Certificate to be eligible for the course. A Certificate of Water Safety Instructor will be given to those who complete the necessary requirements. (Prereq minimum age 17 and Senior Life Saving Certificate. Limited to 28 students)

**Spring Quarter**

T-5:30-8:30, NGW 58,  
Stoner

**\*PE 5-150 TEACHING ELEMENTARY SCHOOL PHYSICAL EDUCATION** (old PE 100). 3 degree credits.

Principles, techniques, and procedures in developing basic motor skills, physical fitness, and sport skills. (Prereq teaching certificate or  $\frac{1}{2}$ . Limited to 30 students. Qualified students may register for graduate credit at the University of Minnesota)

**Spring Quarter**

M-7:00-9:30, CH 214,  
Torpey

For information on non-credit conferences or workshops in physical education, please contact the Department of Conferences and Institutes, 131 Nolte Center for Continuing Education; telephone, 373-3151.

Recreation—see page 215.

## Physics

**Phys 1-010/1-020/1-030 INTRODUCTORY PHYSICS** (old Phys 1-2-3). 3 degree credits each quarter. ★

Demonstration lectures on the principles of physics and the physical phenomena underlying these principles. 1-010: Mechanics. 1-020: Heat, electricity, and magnetism. 1-030: Wave motion and light. (Prereq high school algebra and plane geometry for 1-010; 1-010 for 1-020; 1-020 for 1-030)

**Fall Quarter**

1-010 T-6:20-8:50, Ph 133

**Winter Quarter**

1-020 T-6:20-8:50, Ph 133

**Spring Quarter**

1-030 T-6:20-8:50, Ph 133

**Phys 1-015/1-025/1-035 INTRODUCTORY PHYSICS LABORATORY** (old Phys 1A-2A-3A). 1 degree credit each quarter. Tuition plus \$10 special fee each quarter.

(See course description for Phys 1-010/1-020/1-030) Laboratory sections will be assigned at first lecture class each quarter. (Prereq 1-010/1-020/1-030 or 1-010/1-020/1-030. Must be taken in sequence. Combination of 1-010/1-020/1-030 and 1-015/1-025/1-035 may be used to fulfill laboratory science requirement in CLA but not as prerequisite for advanced physics courses)

**Fall Quarter**

1-015 S-8:15-10:00 a.m.,  
Ph 133

1-015 S-10:15 a.m.-12:00,  
Ph 133

**Winter Quarter**

1-025 S-8:15-10:00 a.m.,  
Ph 133

1-025 S-10:15 a.m.-12:00,  
Ph 133

**Spring Quarter**

1-035 S-8:15-10:00 a.m.,  
Ph 133

1-035 S-10:15 a.m.-12:00,  
Ph 133

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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**Phys 1-210 GENERAL PHYSICS** (old Phys 21). 4 degree credits.

Classical mechanics. Lecture and quiz each week. (Prereq ¶1-215; Math 1-220 or Math 1-442 or ¶Math 1-220 or ¶Math 1-442)

**Fall Semester**

MW—6:30-8:30, Ph 170

**Phys 1-215 GENERAL PHYSICS LABORATORY** (old Phys 21A). 1 degree credit. Tuition plus \$10 laboratory fee.

Laboratory exercises in mechanics. This course offered on P-N only. (Prereq 1-210 or ¶1-210)

**Fall Semester**

MW—6:30-8:30, Ph 170

**Phys 1-220 GENERAL PHYSICS** (old Phys 22T). 4 degree credits, §old 23.

Relativistic kinematics, electricity and magnetism. Lecture and quiz each week. (Prereq 1-210 and ¶1-225; Math 1-230 or Math 1-443 or ¶Math 1-230 or ¶Math 1-443)

**Spring Semester**

MW—6:30-8:30, Ph 170

**Phys 1-225 GENERAL PHYSICS LABORATORY** (old Phys 22A). 1 degree credit. Tuition plus \$10 laboratory fee.

Laboratory exercises in electricity and magnetism. This course offered on P-N only. (Prereq ¶1-220)

**Spring Semester**

MW—6:30-8:30, Ph 170

**Phys 1-230 GENERAL PHYSICS** (old Phys 23T). 4 degree credits.

Mechanical and electrical waves; physical and geometrical optics; particle nature of light. Lecture and quiz each week. (Prereq 1-220 and ¶1-235)

**Fall Semester**

MW—6:30-8:30, Ph 166

**Phys 1-235 GENERAL PHYSICS LABORATORY** (old Phys 23A). 1 degree credit. Tuition plus \$10 laboratory fee.

Laboratory exercises in waves and optics. This course offered on P-N only. (Prereq 1-230 or ¶1-230)

**Fall Semester**

MW—6:30-8:30, Ph 166

**Phys 3-500 MODERN PHYSICS** (old Phys 50T). 4 degree credits.

Quantum mechanics, hydrogen atoms, atoms and molecules, quantum distribution, and topics in solid state, nuclear physics, and astro-physics. (Prereq 1-060 or 1-290 or 1-230 and ¶3-505; Math 1-310 or Math 1-444)

**Spring Semester**

MW—6:30-8:30, Ph 166

**Phys 3-505 MODERN PHYSICS LABORATORY** (old Phys 50A). 1 degree credit. Tuition plus \$10 laboratory fee.

Laboratory exercises parallel to Phys 3-500. (Prereq ¶3-500)

**Spring Semester**

MW—6:30-8:30, Ph 166

## Physiology

(See Natural Science, GC 1-132, page 192)

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



## Political Science

Charles H. Backstrom, Associate Professor of Political Science  
 Roger Benjamin, Assistant Professor of Political Science  
 Richard N. Blue, Assistant Professor of Political Science  
 Harold W. Chase, Professor of Political Science  
 Dorothy Dodge, Visiting Professor of Political Science  
 Robert E. Crew, Jr., Assistant Professor of Political Science  
 Robert B. Eyestone, Assistant Professor of Political Science  
 P. Terrence Hopmann, Assistant Professor of Political Science  
 James E. Jernberg, Associate Professor of Public Administration  
 Robert Kvavik, Assistant Professor of Political Science  
 Ellen B. Pirro, Assistant Professor of Political Science  
 Robert E. Riggs, Professor of Political Science  
 William C. Rogers, Professor of Political Science  
 Thomas M. Scott, Associate Professor of Political Science  
 Charles E. Walcott, Assistant Professor of Political Science  
 Gary W. Wynia, Assistant Professor of Political Science

Graduate students majoring in political science can use only 8-001 through 8-998-level seminars to satisfy major requirements; they should take lower-level political science courses only to supply deficiencies in background when directed to do so by advisers.

**Pol 1-001, 1-002 AMERICAN GOVERNMENT AND POLITICS** (old Pol 1, 2). 3 degree credits each term. ★

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 for 1-001 or 1-002; need not be taken in sequence)

### Fall Semester

**1-001** T—6:20-8:00, AndH 250, Wynia

### Spring Semester

**1-002** T—6:20-8:00, AndH 250, Kvavik

### Fall Quarter

**1-001** W—6:00-8:30, StP  
Ext, Dodge

### Winter Quarter

**1-001** W—6:00-8:30, MacP  
Annex 1,  
Wynia

### Spring Quarter

**1-002** W—6:00-8:30, MacP  
Annex 1,  
Walcott

**1-001** Th—7:00-9:30, Sand  
JHS 213, Riggs  
(Limited to  
45 students\*)

**1-002** W—6:00-8:30, StP  
Ext, Jernberg  
**1-002** Th—7:00-9:30, Sand  
JHS 213, Riggs  
(Limited to  
45 students\*)

**Pol 1-025 WORLD POLITICS** (old Pol 25). 3 degree credits. ★

Introduction to contemporary international relations; forms of state interaction; problems of conflict and cooperation. (No prereq)

### Fall Semester

Th—6:20-8:00, BlegH 150, Rogers

### Winter Quarter

Th—7:00-9:30, Kel HS 155,  
Hopmann (Limited  
to 45 students\*)

### Spring Quarter

Th—6:20-8:50, AndH 230,  
Riggs

**Pol 1-026 AMERICAN FOREIGN POLICY** (old Pol 26). 3 degree credits.

Introduction to institutions and processes which determine American foreign policy. (No prereq)

### Spring Quarter

Th—6:20-8:50, BlegH 130,  
Rogers

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

### **Pol 1-031 AMERICAN PUBLIC POLICY** (old Pol 30). 3 degree credits.

Analysis of policy to meet major foreign and domestic issues facing American political system; emphasis on forces molding government policy on civil rights, labor and business, military and diplomatic strategy, foreign aid. (No prereq)

#### **Fall Quarter**

**M**-6:20-8:50, AndH 330,  
Eyestone

#### **Spring Quarter**

**W**-6:00-8:30, MacP Annex  
3, Chase

### **Pol 1-041 CONTEMPORARY POLITICAL IDEOLOGIES** (old Pol 40). 3 degree credits.

Liberalism, communism, fascism, Nazism, taking account of democratic and dictatorial regimes in theory and practice. Emphasis on ideas, role of policy, power-nationally and internationally. (No prereq)

#### **Fall Semester**

**W**-6:20-8:00, AndH 330, Walcott

### **Pol 1-051, 1-052 THE STATE IN THE MODERN WORLD** (old Pol A, B). 3 degree credits each term.

Examination of principles, structure, operation of modern state. Emphasis on nation state: historical development, democratic government and totalitarian government. (No prereq. Need not be taken in sequence)

#### **Fall Quarter**

**1-051 M**-6:20-8:50, AndH  
230, Benjamin

**1-051 W**-6:00-8:30, MacP  
Annex 1,  
Chase

#### **Winter Quarter**

**1-051 T**-7:00-9:30, Rich  
HS 341, Blue

(Limited to 60  
students\*)

**1-052 W**-6:00-8:30, BlegH  
215, Chase

**1-052 W**-6:20-8:50, BlegH  
135, Kvakik

#### **Spring Quarter**

**1-052 T**-7:00-9:30, Rich  
HS 251-252

(Limited to 60  
students\*)

### **Pol 5-305 ADMINISTRATIVE PROCESS** (old Pol 131). 3 degree credits.

Role and function of administrative agencies as political subsystems. Leadership recruitment; policy initiation and implementation; relations with other political institutions; responsibility and responsiveness to public and private demands. (No prereq. Qualified students may register for graduate credit at the University of Minnesota, except in the major field)

#### **Spring Quarter**

**Th**-6:20-8:50, BlegH 240,  
Walcott

### **Pol 5-307 THE AMERICAN CHIEF EXECUTIVE** (old Pol 107). 3 degree credits.

Constitutional powers and political roles of President and governors; chief executive and administration; executive relations with legislatures; party and popular leadership; presidential roles in crisis. (No prereq. Qualified students may register for graduate credit at the University of Minnesota, except in the major field)

#### **Fall Semester**

**Th**-6:20-8:00, BlegH 110, Jernberg

### **Pol 5-308 LEGISLATIVE ORGANIZATION AND PROCEDURE** (old Pol 108). 3 degree credits.

Congress and state legislatures at work. (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 220, Eyestone

### **Pol 5-316 INTRODUCTION TO COMMUNITY POLITICS** (old Pol 116). 3 degree credits.

Community political systems in their legal, political, social, and economic environments. Community political behavior and decision-making. (No prereq)

#### **Fall Semester**

**M**-6:20-8:00, BlegH 220

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**Pol 5-318 METROPOLITAN GOVERNMENT AND POLITICS** (old Pol 118). 3 degree credits. Development of political and governmental problems in metropolitan areas. Analysis of politics of metropolitan reform. (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 155, Scott

**Pol 5-442 EUROPEAN GOVERNMENT AND POLITICS** (old Pol 142). 3 degree credits. Britain, France, Germany, and Italy. Political institutions in their social setting; problems of power and responsibility; governmental stability; political decision making, government and economic order. (No prereq)

**Fall Semester**

T-6:20-8:00, BlegH 220

**Pol 5-443 GOVERNMENT AND POLITICS OF SOVIET UNION** (old Pol 143). 3 degree credits. ★

Analysis that seeks to explain rise of Bolshevism; sources and nature of its ideology; history of communist regime; institutional character; organization of power; role of the parts. (No prereq)

**Fall Semester**

M-6:20-8:00, BlegH 230

**Pol 5-448 GOVERNMENT AND POLITICS OF AFRICAN COUNTRIES** (old Pol 148). 3 degree credits.

Political institutions and behavior in sub-Saharan African countries in their social and cultural settings, influence of class and tribal structure; parties and elections; source and nature of ideologies, economic and social policies. (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 145,  
Pirro

**Pol 5-454 CHINESE GOVERNMENT AND POLITICS** (old Pol 154). 3 degree credits. ★ Constitutional and political development in China; political ideas, government, political parties and problems. (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 135, Benjamin

**Pol 5-457 GOVERNMENT AND POLITICS OF DEVELOPING AREAS** (old Pol 157). 3 degree credits.

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 Quarter**

T-6:20-8:50, BlegH 145,  
Blue

**Pol 5-659 AMERICAN POLITICAL THOUGHT** (old Pol 160). 3 degree credits.

From colonial times to present: Puritanism; Constitution; utopianism; Calhoun; history of anarchist, socialist, populist, and syndicalist thought; social Darwinism; conservatism; political thought in law and literature. (No prereq)

**Fall Semester**

W-6:20-8:00, BlegH 145

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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**Pol 5-661 PROBLEMS OF DEMOCRACY** (old Pol 161). 3 degree credits.

Analysis of postulates and implications; moral foundations; democratic theory and the economic order; liberty and authority; equality; representation; spiritual order; democracy and practical politics; critics of democracy. (No prereq)

**Spring Semester**

Th—6:20-8:00, BlegH 425

**Pol 5-737 POLITICAL PARTIES** (old Pol 137). 3 degree credits.

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)

**Fall Quarter**

T—6:20-8:50, BlegH 230,  
Crew

**Pol 5-738 POLITICAL CAMPAIGNS AND ELECTIONS** (old Pol 138). 3 degree credits.

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)

**Spring Semester**

W—6:20-8:00, BlegH 240, Crew

**Pol 5-877 U.S. FOREIGN POLICY** (old Pol 177). 3 degree credits.

Analysis of factors conditioning U.S. foreign policy: geographic and economic position, defense needs and dispositions, social structure, ideologies, public opinion; political parties, interest groups, bureaucracy; leadership. (No prereq. Qualified students may register for graduate credit at the University of Minnesota, except in the major field)

**Fall Semester**

W—6:20-8:00, BlegH 150, Hopmann

**Pol 5-884 INTERNATIONAL POLITICS I** (old Pol 184). 3 degree credits.

Analysis of systems of interaction among nation-states; balance of power, bipolar, and other types of international systems; theories of stability, change, conflicts, and cooperation. (No prereq. Qualified students may register for graduate credit at the University of Minnesota, except in the major field)

**Spring Semester**

W—6:20-8:00, BlegH 155, Hopmann

## Portuguese

*Russell G. Hamilton, Associate Professor of Portuguese*

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

**Port 1-101/1-102/1-103 BEGINNING PORTUGUESE** (old Port 1-2-3). 5 degree credits each quarter. Tuition plus \$3 laboratory fee each quarter.

Grammar, pronunciation, reading, and practice in speaking. (No prereq for 1-101; 1-101 for 1-102; 1-102 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

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Production

Thomas R. Hoffmann, Professor of Production  
 Elvin L. Peterson, Lecturer in Management

**Prod 0-050C MANUFACTURING MANAGEMENT.** 3 certificate credits. ★  
 This course delves into 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 are discussed. (No prereq)

**Fall Quarter**

M-6:20-8:50, BlegH 415, Peterson

**Prod 3-050 PRODUCTION MANAGEMENT** (old Prod 50). 3 degree credits, §8-150. ★  
 The techniques, the managerial problems, and the decision-making processes in planning and controlling the production activity. Production as a function of the enterprise rather than as a strictly manufacturing activity. Research and development, the role of standards, physical facilities, systems and procedures analysis, work measurement, materials control, quality control, and production planning and control. (Prereq QA 3-054 or ¶QA 3-054)

**Fall Quarter**

M-5:30-8:00, BlegH 130,  
 Hoffmann

**Spring Quarter**

M-5:30-8:00, BlegH 130,  
 Hoffmann

## Psychology

Mary J. Bradshaw, Instructor in Psychology  
 Rene V. Dawis, Professor of Psychology and Industrial Relations  
 Paul W. Fox, Professor of Psychology  
 Harold Gilberstadt, Associate Professor of Psychology  
 James C. Kincannon, Lecturer in Psychology  
 Leslie A. King, Associate 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  
 James B. Overmier, Associate Professor of Psychology  
 Roy W. Pickens, Assistant Professor of Psychology  
 John Pittenger, Instructor in Psychology  
 Vera M. Schletzer, Associate Professor of Psychology  
 Gerald A. Stearns, Lecturer in Psychology  
 Donald R. Stieper, Lecturer in Psychology  
 Winifred Strange, Instructor in Psychology  
 Milton Trapold, Professor of Psychology  
 Marvin E. Trautwein, Instructor in Psychology

**Psy 1-001/1-002† GENERAL PSYCHOLOGY** (old Psy 1-2). 3 degree credits each term.  
 This course is designed to orient the student to the whole field of psychology. Its emphasis is upon methods of investigation. Required for most other courses in psychology. (No prereq for 1-001; 1-001 for 1-002)

**Fall Semester**

1-001 W-6:20-8:00, NH 45, Trautwein  
 1-002 T-6:20-8:00, NH 211, Lowenberg

**Spring Semester**

1-001 T-6:20-8:00, NH 211, Lowenberg  
 1-002 W-6:20-8:00, NH 45, Trautwein

Symbols explained on page 32.  
 See new and old course number Conversion Table in back of bulletin.

## Evening Classes

### Fall Quarter

- 1-001 M-7:00-9:30, Rich HS 341 (Limited to 65 students\*)  
 1-001 T-7:00-9:30, Sand JHS Cafeteria, Pickens  
 1-001 Th-5:30-8:00, StP Ext, Kincannon

### Winter Quarter

- 1-001 M-5:30-8:00, StP Ext, Kincannon  
 1-001 M-5:30-8:00, MacP Annex 1, Bradshaw  
 1-002 M-7:00-9:30, Rich HS 341, Lowenberg (Limited to 65 students\*)  
 1-002 T-7:00-9:30, Sand JHS Cafeteria, Pickens  
 1-002 Th-5:30-8:00, StP Ext, Kincannon

### Spring Quarter

- 1-002 M-5:30-8:00, StP Ext, Kincannon  
 1-002 M-5:30-8:00, MacP Annex 1, Bradshaw

**Psy 1-003 APPLICATION OF PSYCHOLOGY TO LIVING** (old Psy 1A). 3 degree credits.  
 This course is devoted to psychology in personal relationships and in the achievement of mental health. It centers, for the most part, around our fundamental needs—the source of all our actions and satisfactions—and it presents principles highly applicable in the life of every person. (No prereq. May be taken before or after Psy 1-001/1-002. Elective credit in Arts College)

#### Fall Semester

Th-8:15-9:55, NH 213, King

#### Spring Semester

Th-8:15-9:55, NH 207, King

### Fall Quarter

- M-6:20-8:50, NH 211, Kingsley  
 W-7:00-9:30, Rich HS 341, Schletzer (Limited to 65 students\*)

### Winter Quarter

- W-6:20-8:50, MacP Annex 3, Schletzer

### Spring Quarter

- M-6:20-8:50, StP Ext, Kingsley (Limited to 60 students\*)

**\*Psy 1-004/1-005† INTRODUCTORY LABORATORY PSYCHOLOGY** (old Psy 4-5). 2 degree credits each semester. Tuition plus \$14 special fee plus \$1.50 laboratory fee each semester.

Experiments illustrating the subject matter of contemporary psychology. Included are human and animal learning, problem solving, visual perception, measurement of general and special abilities and personality traits. (Prereq 1-001 for 1-004; 1-002 and 1-004 for 1-005 or ¶1-001/1-002. Sections limited to 36 students)

#### Fall Semester

- 1-004 W-8:15-9:55, WeH 101, Fox and others  
 1-004 Th-8:15-9:55, WeH 101, Fox and others

#### Spring Semester

- 1-005 W-8:15-9:55, WeH 101, Fox and others  
 1-005 Th-8:15-9:55, WeH 101, Fox and others

**Psy 1-911 PSYCHOLOGY AND RELIGIOUS BEHAVIOR.** 3 degree credits.

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, NH 213, Bradshaw

**Psy 3-011 INTRODUCTION TO THE PSYCHOLOGY OF LEARNING** (old Psy 75). 3 degree credits.

Survey of the basic methods in the study of learning. Development of fundamental concepts and principles governing the learning process. (Prereq 1-002)

#### Fall Semester

T-6:20-8:00, WeH 230, Trapold

#### Spring Semester

T-6:20-8:00, WeH 230, Trapold

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**\*Psy 3-031 SENSATION AND PERCEPTION** (old Psy 55). 3 degree credits.  
 Roles of stimulus, receptor organ and brain, and of learning and motivation, in man's perception of his world. Lectures and demonstrations. (Prereq 1-002. Limited to 40 students)

**Spring Quarter**  
 M—6:20-8:50, WeH 101,  
 Overmier

**Psy 3-051 INTRODUCTION TO COGNITIVE PSYCHOLOGY** (old Psy 64). 3 degree credits.  
 Discussion of basic research problems and theoretical concepts in the study of cognitive factors in perception and memory. (Prereq 1-002 and 1-005 or ¶1-005)

**Spring Semester**  
 W—6:20-8:00, ForH 130, Strange

**Psy 3-801 INTRODUCTION TO STATISTICAL METHODS** (old Psy 90). 3 degree credits, §old 70. (1968 or before)

Central tendency and variation, correlation methods, bivariate regression, introduction to problems of sampling and hypothesis testing. (Prereq 1-005 or §)

**Fall Semester**  
 Th—8:15-9:55, BlegH 205, Pittenger

**Spring Semester**  
 Th—6:20-8:00, BlegH 110, Pittenger

**Psy 3-802 INTRODUCTION TO PSYCHOLOGICAL MEASUREMENT** (old Psy 91). 3 degree credits.

Concepts of reliability and validity; how tests and rating scales are constructed; methods of measuring abilities, traits, sensory magnitudes, attitudes, information, meaning. (Prereq 3-801)

**Spring Semester**  
 Th—8:15-9:55, BlegH 210

**Psy 5-044 PSYCHOLOGY OF MOTIVATION AND CONFLICT** (old Psy 138). 3 degree credits.

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 1-002. Qualified students interested in graduate credit should inquire at time of registration)

**Fall Semester**  
 Th—8:15-9:55, Bu 123, Stearns

**Spring Semester**  
 Th—8:15-9:55, Bu 123, Stearns

**Psy 5-104 PSYCHOLOGY OF PERSONALITY** (old Psy 119A). 3 degree credits. Tuition plus \$1 special fee. ★

Personality growth, dynamics and variations viewed from an eclectic approach to developmental theories of intra-individual and interpersonal factors influencing character and personality from conception to maturity. (Prereq 1-002. Qualified students interested in graduate credit should inquire at time of registration)

**Fall Semester**  
 W—6:20-8:00, WeH 101, Gilbertstadt

**Spring Semester**  
 W—6:20-8:00, WeH 101, Gilbertstadt

**Psy 5-125/5-126 DIFFERENTIAL PSYCHOLOGY** (old Psy 125-126). 3 degree credits each semester.

Quantitative studies of such factors as age, sex, race and nationality, physical traits, family heredity, and environment in the causation of individual differences in abilities and temperament. (Prereq 1-005 plus 5 credits in statistics or 3-801 or § for 5-125; 5-125 for 5-126. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Semester**  
 5-125 Th—6:20-8:00, BlegH 230, Dawis

**Spring Semester**  
 5-126 Th—6:20-8:00, BlegH 145, Dawis

**Psy 5-604/5-605† ABNORMAL PSYCHOLOGY** (old Psy 144-145). 3 degree credits each semester. ★

Normal and abnormal behavior contrasted. Dynamics, and particularly the social determinants, of personality and maladjustments. (Prereq 9 credits in psychology,

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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or 6 credits in psychology with either Biol 1-001/1-002 (old Zool 1-2) 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 Th—6:20-8:00, Arch 60, Stieper

### Spring Semester

5-605 M—6:20-8:00, Arch 140, Stieper

#### Psy 5-721 ENGINEERING PSYCHOLOGY A. 3 degree credits.

Application of psychological data to the design of displays and controls. The course will review the fundamentals of vision, audition, other sense modalities, and human skilled performance and their application to the design of displays and controls in workplaces such as airplanes, plant control rooms, and data processing consoles. (Prereq 1-001/1-002 or ‡. Qualified students may register for graduate credit at the University of Minnesota)

#### Fall Quarter

M—6:30-8:30, BlegH 425,  
Macek

#### Psy 5-722 ENGINEERING PSYCHOLOGY B. 3 degree credits.

Design and layout of the workplace. Building from the first quarter, this course adds data from anthropometry, biomechanics, and environmental factors as they affect performance to planning an entire work station. Examples of application will be taken from industry, aerospace, and commerce. Techniques of task analysis experimentation, and observation will be introduced as they apply to the individual work station. (Prereq 5-721 or ‡. Qualified students may register for graduate credit at the University of Minnesota)

#### Winter Quarter

M—6:30-8:30, BlegH 415,  
Macek

#### Psy 5-723 ENGINEERING PSYCHOLOGY C. 3 degree credits.

Developing and testing the system. Building from the previous two quarters, the course will consider the development of complex man-machine systems. The course will begin with a study of methods of task analysis, experimentation and observation as they apply to systems involving several operators. This will be followed by an examination of how systems are developed. (Prereq 5-722 or ‡. Qualified students may register for graduate credit at the University of Minnesota)

#### Spring Quarter

M—6:30-8:30, BlegH 420,  
Macek

#### Psy 5-751 PSYCHOLOGY OF ADVERTISING (old Psy 156). 3 degree credits.

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 1-002. Qualified students may register for graduate credit at the University of Minnesota)

#### Fall Semester

Th—6:20-8:00, J 2, Laybourn

#### Spring Semester

Th—6:20-8:00, J 2, Laybourn

For information on non-credit conferences or workshops in psychology, please contact the Department of Conferences and Institutes, 131 Nolte Center for Continuing Education; telephone, 373-3151.

## Psychological Foundations of Education (Education)

Henry Borow, Professor of Educational Psychology  
Cyril J. Hoyt, Professor of Educational Psychology

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



**PsyF 3-102 INTRODUCTION TO MEASUREMENT AND STATISTICS** (old EPsy 60). 3 degree credits. ★  
 Measures of central tendency, variability, and correlation; principles of test construction. (Prereq 6 credits in psychology)

**Fall Quarter**

Th—6:20-8:50, Bu 120, Hoyt

**PsyF 5-110 INTRODUCTORY STATISTICAL METHODS** (old EPsy 116). 3 degree credits.  
 Basic statistical techniques; comprehension of literature using elementary concepts and methods. Not equivalent to old EPsy 216, 216A. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

**Winter 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.

Principles and methods for construction, evaluation, and improvement of classroom instruction. (No prereq. Qualified students may register for graduate credit at the University of Minnesota)

**Spring Quarter**

Th—6:20-8:50, Bu 120

**PsyF 5-160 PERSONALITY DEVELOPMENT AND MENTAL HYGIENE** (old EPsy 159). 3 degree credits.

Examines theory and research in personality development and mental functioning in the light of knowledge concerning the psychology of stress and the concept of mental health as constructive behavior in response to change and stress. (Prereq Upper Division status or teaching experience. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Semester**

M—6:20-8:00, Bu 120, Borow

**Spring Semester**

M—6:20-8:00, Bu 120, Borow

## Public Administration

Your attention is called to the Public Administration Certificate program (see page 50). Credits earned in all of the public administration courses are applicable towards the Public Administration Certificate.

- Ronald M. Brown, Professor of Rhetoric
- Stoddard G. Cortelyou, Instructor in Public Administration
- Wayne E. Drehmel, Instructor in Public Administration
- Hosni N. Iskander, Associate Professor of Architecture
- John W. Jackson, Lecturer in Public Administration
- James E. Jernberg, Associate Professor of Public Administration
- Clifford E. Jurgensen, Lecturer in Public Administration
- David J. Kennedy, Lecturer in Public Administration
- Wayne K. Kirchner, Lecturer in Public Administration
- John W. Lippert, Lecturer in English
- Daniel Magraw, Lecturer in Public Administration and Accounting
- William G. Peters, Lecturer in Public Administration
- Cyrus F. Smythe, Associate Professor of Industrial Relations
- Marc J. Wallace, Instructor in Industrial Relations
- George A. Warp, Professor of Public Administration
- Paul F. Wernimont, Lecturer in Public Administration
- Quentin F. Wessman, Lecturer in Public Administration

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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The School of Public Affairs also offers graduate courses in Public Administration. These courses lead to the degree of Master of Arts in Public Administration (M.A.P.A.). The graduate program is open to students who can profit from a graduate professional program in public administration and who have the qualifications for admission to the Graduate School. For further information call the School of Public Affairs, 373-2655.

Courses offered in the late afternoon in state government buildings in St. Paul are intended primarily for state employees; courses offered in the late afternoon in the federal government buildings in the Fort Snelling area are intended primarily for federal employees. Other persons also may register for these courses, however.

**PA 0-050C LEGAL AND POLITICAL ENVIRONMENT OF PUBLIC ADMINISTRATION** (old PA 50). 3 certificate credits.

Study of the basic constitutional framework and concepts conditioning public administration and of their origins, methods, and controls of bureaucratic power. (No prereq)

**Fall Quarter**

T—3:00-5:30, Fort Snelling  
New Federal Bldg,  
Jernberg

**PA 0-053C EFFECTIVE WRITING FOR GOVERNMENT EMPLOYEES** (old PA 53). 3 certificate credits.

Letters, memos, reports, procedures, and supervisory communications. Emphasis is on conclusive style, course presentation, organization of material, and writing for different levels of readers. (No prereq)

**Fall Quarter**

M—2:30-5:00, State Highway Bldg Training Rm,  
Lippert

**Winter Quarter**

T—3:00-5:30, Fort Snelling  
New Federal Bldg,  
Lippert

**PA 0-054C TECHNICAL REPORT WRITING FOR GOVERNMENT EMPLOYEES** (old PA 54). 3 certificate credits.

Methods and execution of all formal technical writing for government people on all levels. This is an improvement course—equally valuable to PhD's, technicians, and those who must communicate with them. Prepares for report writing, manuals, specifications, procedure, etc. Stresses brevity, accuracy, completeness, and organization. (Prereq 0-053C or #)

**Spring Quarter**

M—2:30-5:00, State Admin  
Bldg Training Rm,  
Lippert

**PA 0-055C HUMAN RELATIONS IN ADMINISTRATION** (old PA 55). 3 certificate credits.

Effects of the formal organization, informal work groups, individual differences, and other relevant factors on the practice of supervision are studied from the viewpoints of organization theory, social psychology, and psychology. The impact of these factors upon motivation, communication, personnel evaluation, leadership, change, and training are introduced through consideration of systems and models. (No prereq)

**Winter Quarter**

Th—3:00-5:30, Fort Snelling  
New Federal Bldg,  
Wallace

**PA 0-057C SUPERVISION IN THE PUBLIC SERVICE** (old PA 57). 3 certificate credits.

Emphasizes the application of basic principles discussed in PA 0-055C for the handling of day-to-day problems of supervisors. Deals with concepts of human behavior that are most relevant to supervisory and managerial problems, includ-

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

ing such problems as individual differences and similarities; factors which influence the ways people see and deal with other things and other people; effects of frustration and conflict on behavior; learning, thinking and problem solving; assessment of people; changing behavior through communication, influence, and authority; special problems due to structure of large organizational systems. Extensive use of class discussion of practical problems. (Prereq 0-055C or §)

**Winter Quarter**

Th—6:20-8:50, BlegH 260,  
Jurgensen

**PA 0-058C GOVERNMENTAL ACCOUNTING (old PA 58). 3 certificate credits. ★**

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

**Fall Quarter**

T—6:20-8:50, BlegH 245,  
Magraw

**Winter Quarter**

T—2:30-5:00, State Admin  
Bldg. Magraw

**PA 0-060C ORGANIZATION AND MANAGEMENT (old PA 60). 3 certificate credits. ★**

Study of the traditional technical aspects of administration—organization, finance, and personnel—with emphasis both on formal content and on the realities of the administrative process. Attention is given to administrative planning, leadership, decision-making, organization and management, and automation. (No prereq)

**Winter Quarter**

W—6:20-8:50, BlegH 260,  
Warp

**PA 0-061C MUNICIPAL LAW AND ADMINISTRATION (old PA 61). 3 certificate credits.**

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

**Fall Quarter**

Th—6:20-8:50, BlegH 210,  
Kennedy

**PA 0-062C PUBLIC PERSONNEL ADMINISTRATION (old PA 62). 3 certificate credits.**

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

**Fall Quarter**

M—6:20-8:50, BlegH 115,  
Jackson

**PA 0-063C PUBLIC FINANCIAL ADMINISTRATION (old PA 63). 3 certificate credits.**

Systems, techniques, and problems of financial organization and management, including revenue administration, budgeting, and control of public expenditures. (No prereq)

**Spring Quarter**

T—6:20-8:50, BlegH 115,  
Drehmel

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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### **PA 0-067C THE COMPUTER IN GOVERNMENT** (old PA 67). 3 certificate credits.

A basic course in the application and use of modern computers in government. Should be of particular benefit to those who are seeking a better understanding of the value of computers and the methods and techniques of their use. No special knowledge of computer operation is required. (No prereq)

#### **Spring Quarter**

W-6:20-8:50, BlegH 115,  
Peters

### **PA 0-069C PERFORMANCE EVALUATION** (old PA 69). 3 certificate credits.

Philosophy, problems, and techniques of performance evaluation. Course content includes management responsibility, changing emphasis and current trends, validity of ratings, the appraisal process, interview feedback, appraising potential, appraising executive performance, and the effective uses and limitations of performance appraisal. (No prereq)

#### **Fall Quarter**

Th-3:00-5:30, Fort Snelling  
New Federal Bldg,  
Wessman

### **PA 0-070C EMPLOYER-EMPLOYEE RELATIONS IN GOVERNMENT** (old PA 70). 3 certificate credits.

Analysis of the problems arising out of the employer-employee relationship to the public service from the viewpoints both of the government as an employer and the public employee as a worker. (No prereq)

#### **Spring Quarter**

T-3:00-5:30, Fort Snelling  
New Federal Bldg,  
Smythe

### **PA 0-106C PRESENTATIONAL SPEAKING AND CONFERENCE LEADERSHIP** (old PA 106). 3 certificate credits.

Effective conference leadership and participation in government organizations. Training in how to accomplish change, handle misunderstanding and disagreement, and communicate orally to gain objectives. (No prereq)

#### **Winter Quarter**

M-2:30-5:00, State High-  
way Bldg Training Rm,  
Brown

### **PA 0-108C PSYCHOLOGY OF LEADERSHIP** (old PA 108). 3 certificate credits.

Nature, function, sources, styles, and techniques of leadership. Instruments for evaluating leadership. For those who wish to improve their personal leadership, by applying the findings of modern research in group dynamics and human relations. (No prereq)

#### **Fall Quarter**

Th-2:30-5:00, State Admin  
Bldg Training Rm,  
Kirchner and  
Wernimont

#### **Winter Quarter**

Th-6:30-8:50, BlegH 430,  
Kirchner and  
Wernimont

### **PA 0-145C ADMINISTRATIVE ANALYSIS** (old PA 145). 3 certificate credits.

A study of the techniques of analyzing and designing the organization and systems of administrative agencies. Topics include approaches to and methods of systems analysis, the organization as a total system, flow charting, work measurement, forms design and control, procedure writing and manualization, quantitative techniques in administration, information and decision systems, automated data processing, systems integration and communication, making systems effective. (No prereq)

#### **Spring Quarter**

W-2:30-5:00, State Admin  
Bldg Training Rm,  
Magraw

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**PA 0-146C THE PLANNING PROCESS** (old PA 146). 3 certificate credits.

Nature and methodology of the planning process for regional and urban development. Alternatives, policy planning, principles and standards involved in plans. Case studies of the planning process in the Twin Cities metropolitan area and in other areas. (No prereq)

**Spring Quarter**  
Th—6:30-8:50, BlegH 450,  
Iskander

**PA 0-147C PLANNING TECHNIQUES** (old PA 147). 3 certificate credits.

Existing and emerging techniques of analyzing basic planning data and preparing projections. (No prereq)

**Winter Quarter**  
Th—2:30-5:00, State Admin  
Bldg Training Rm,  
Iskander

**PA 0-211C THE PUBLIC ECONOMY** (old PA 211). 3 certificate credits.

Government role in and impact on the economy; relationship of public and private sectors; fiscal and monetary policy; resource allocation and public policy; economic analysis, its problems and relationship to administrative decision. (No prereq)

**Spring Quarter**  
Th—3:00-5:30, Fort Snelling  
New Federal Bldg

**Public Affairs Administration**

For information on non-credit conferences or workshops in public affairs administration, please contact Mr. Stoddard G. Cortelyou, 335 Nolte Center for Continuing Education; telephone, 373-4598.

## COURSES IN SUPERVISION

For today's supervisors . . . and tomorrow's . . .

Supervision courses are found in the following listings:

- Business Studies, page 106
- Industrial Relations, page 159
- Public Administration, page 207
- Psychology, page 203
- Management, page 173

## Public Health

Your attention is called to the Alcoholism and Other Drug Abuse Counselor Certificate Program, page 52.

*Daniel Anderson, Director of Hazelden Treatment Center*  
*Richard G. Bond, Professor of Environmental Health*

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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*Knowlton J. Caplan, Assistant Professor of Environmental Health*  
*Velvl W. Greene, Associate Professor of Environmental Health*  
*Richard O. Heilman, Assistant Professor of Psychiatry*  
*James Kincannon, Clinical Assistant Professor of Psychiatry*  
*William A. O'Brien, Clinical Instructor in Medicine*  
*Harold J. Paulus, Professor of Environmental Health*  
*Gustave L. Scheffler, Assistant Professor of Environmental Health and Safety*  
*Frederick E. Shideman, Professor of Pharmacology*

**\*PubH 0-030C FUNDAMENTAL ASPECTS OF DRUG ABUSE AND DEPENDENCY.** 3 certificate credits.

Lectures and discussions on the nature of the drugs involved; the medical, psychological and social aspects of dependence. (Prereq advanced application or ‡. Limited to 100 students)

**Fall Quarter**

T-6:20-8:50, MMA 100,  
Heilman, Shideman,  
Anderson

**\*PubH 0-031C THE DISEASE PROCESS AND SOCIAL IMPLICATIONS OF DRUG DEPENDENCY.** 3 certificate credits.

Study of the social and pathological use of drugs by individuals and societies. Historical as well as contemporary usage will be considered. (Prereq 0-030C or ‡. Limited to 100 students)

**Winter Quarter**

T-6:20-8:50, MMA 100,  
Heilman, Kincannon,  
Anderson

**\*PubH 0-032C COUNSELING THE ALCOHOLIC AND OTHER DRUG DEPENDENT PERSONS.** 3 certificate credits.

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 0-031C or ‡. Limited to 100 students)

**Spring Quarter**

T-6:20-8:50, MMA 100,  
Heilman, Anderson

**PubH 3-001 PERSONAL AND COMMUNITY HEALTH** (old PubH 50). 3 degree credits, §1-001, 1-002, 1-003, 3-002, 5-002. ★

Fundamental principles of health conservation and disease prevention. (No prereq)

**Spring Semester**

T-8:15-9:55, Owre 15, O'Brien

**PubH 5-151 ENVIRONMENTAL HEALTH** (old PubH 102). 3 degree credits.

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 Semester**

T-7:00-8:45, Mayo 1210, Bond

**PubH 5-171 ENVIRONMENTAL MICROBIOLOGY** (old PubH 118). 3 degree credits.

Survival, dissemination, transportation and significance of microorganisms 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 1120,  
Greene

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**PubH 5-181 INTRODUCTION TO AIR POLLUTION PROBLEMS** (old PubH 155). 3 degree credits.

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.

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, Caplan**

**PubH 5-192 HOSPITAL SAFETY** (old PubH 158). 3 degree credits.

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**

For information on non-credit conferences or workshops in public health, please contact the Department of Conferences and Institutes, 131 Nolte Center for Continuing Education; telephone, 373-3151.

## Quantitative Analysis

(See Management Information Systems, page 174)

*Carl Adams, Associate Professor of Quantitative Analysis*

*Norman Chervany, Assistant Professor of Quantitative Analysis*

*Delbert Hastings, Professor of Quantitative Analysis*

QA 5 and QA 51 have been discontinued. An Upper Division sequence, QA 3-052/3-053/3-054, is now required of all students in the School of Business Administration.

**QA 3-052 QUANTITATIVE METHODS FOR ADMINISTRATION I** (old QA 52). 3 degree credits.

Introduction to quantitative models; measurement and statistical description; probability and probability distributions; sampling and sampling distributions. (Prereq Math 1-142 or Math 1-443 or ‡)

**Fall Quarter**

**Lect W—5:30-6:15, BlegH  
10, Chervany**

**Lab W—6:30-8:00, BlegH  
135, Chervany**

**Lab W—6:30-8:00, BlegH  
205, Chervany**

**QA 3-053 QUANTITATIVE METHODS FOR ADMINISTRATION II** (old QA 53). 3 degree credits.

Introduction to decision problems; simple static models; static models dominated by constraints; dynamic models; and simulation. (Prereq 3-052 and Econ 1-002 or ‡)

**Winter Quarter**

**Lect W—5:30-6:15, BlegH  
10, Hastings**

**Lab W—6:30-8:00, BlegH  
125, Hastings**

**Lab W—6:30-8:00, BlegH  
350, Hastings**

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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### QA 3-054 QUANTITATIVE METHODS FOR ADMINISTRATION III (old QA 54). 3 degree credits.

Statistical estimation and prediction; statistical decision-making; introduction to design of experiments; regression and correlation; and time series analysis. (Prereq 3-053 or §)

#### Spring Quarter

Lect T-5:30-6:15, BlegH  
230, Adams

Lab T-6:30-8:00, BlegH  
260, Adams

Lab T-6:30-8:00, BlegH  
225, Adams

## Real Estate

*Bernard G. Rice, Coordinator of Real Estate Classes and Staff*

The University of Minnesota cooperates with the National Association of Real Estate Board and 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 real estate practice. Instructing staff for each course will be made up of a number of practicing realtors in the Twin Cities. Coordinator for the Real Estate Boards: Bernard G. Rice, 6101 Wayzata Boulevard, Minneapolis, Minnesota 55416.

### \*RE 0-001C FUNDAMENTALS OF REAL ESTATE PRACTICE. 3 certificate credits.

Economic functions of the real estate business; fundamental practices of the real estate office and other realtors; real estate valuations; methods of appraising; brokerage; principles of real estate management; ethics of real estate practice. Basic course; should be taken prior to any other courses in real estate curriculum. (No prereq. Limited to 75 students)

#### Fall Semester

Th-6:20-8:00, AndH 310, Rice

#### Spring Quarter

W-6:20-8:50, MacP 221,  
Rice

### \*RE 0-002C PRINCIPLES OF COMMERCIAL AND INDUSTRIAL REAL ESTATE. 3 certificate credits.

Operating techniques of the commercial or industrial office; shopping centers—location and construction factors; trends in industrial land and building; office sites and buildings—financing, yield, and promotion; apartment land and buildings—income statements and pricing; leasing—all types—and property management; real estate investments; and business opportunities. (Prereq open to professional appraisers; or persons experienced in real estate; or completion of two or more RE courses. Limited to 50 students)

#### Fall Semester

M-6:20-8:00, AndH 270, Rice

### RE 0-003C REAL ESTATE SALES BROKERAGE. 3 certificate credits.

A study of the basic principles and practices involved in the conduct of real estate sales from beginning to end; evaluation, listing, advertising, contracts and leases, financing and taxes, property showing, selling techniques, code of ethics. (No prereq)

#### Spring Semester

T-6:20-8:00, AndH 350, Rice

### RE 0-004C REAL ESTATE APPRAISAL. 3 certificate credits.

Detailed consideration of principles and practices involved in residential appraisal

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



of real property for special purposes. Factors determining valuations, making and reporting appraisals. Appraisals procedures in various legal actions. (No prereq)

**Spring Semester**

Th—6:20-8:00, AndH 250, Rice

**RE 0-006C REAL ESTATE FINANCING AND INSURANCE.** 3 certificate credits. (To be offered 1971-72)

**REAL ESTATE LAW** See BLaw 3-098, page 105.

For information on non-credit conferences or workshops in real estate, please contact the Department of Conferences and Institutes, 131 Nolte Center for Continuing Education; telephone, 373-3151.

## Recreation

*Bruce Anderson, Assistant Professor of Physical Education*

*Patrick J. Bird, Assistant Professor of Physical Education*

*H. Robert Giles, Associate Professor of Recreation and Park Administration*

*Mary B. Lampe, Assistant Professor of Physical Education*

*Robert G. Mowerson, Associate Professor of Physical Education*

*Roy P. Tutt, Instructor in Physical Education*

*John Walker, Instructor in Physical Education*

Recreation 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.

For courses in Physical Education, see Physical Education, page 197.

Registration for all children's swimming and diving classes must be made by mail. Registration for other recreation classes may be made by mail or in person. (If you have not received an "Application Form," please telephone—do not write—the campus office, 373-3198.) For fall classes, the envelope containing your application must be received in our office on or after Monday, September 14, 1970, and should be received no later than September 16, 1970. These applications will be processed on September 17, 1970. Applications for winter classes must be received in our office on or after Monday, December 7, 1970, and should be received no later than December 9, 1970. The applications will be processed on December 10, 1970. Applications for spring classes must be received in our office on or after Monday, March 8, 1971, and should be received no later than March 10, 1971. The applications will be processed on March 11, 1971.

Places in class will be selected at random until the class limit is reached. If the applications for a class exceed the class limit they will be returned. Applications received in our office before the dates specified above will be processed last.

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

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 girls)

**Special Class**

(January 9 to March 20)

**BEGINNERS**

S-8:45-9:30 a.m., NGW 51, Lampe

**ADVANCED BEGINNERS**

S-9:30-10:15 a.m., NGW 51, Lampe

**INTERMEDIATES**

S-10:15-11:00 a.m., NGW 51, Lampe

**Special Class**

(April 3 to June 12)

**BEGINNERS**

S-8:45-9:30 a.m., NGW 51, Lampe

**ADVANCED BEGINNERS**

S-9:30-10:15 a.m., NGW 51, Lampe

**INTERMEDIATES**

S-10:15-11:00 a.m., NGW 51, Lampe

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; Advanced Beginners—those who can swim 10 yards, but not in deep water; Intermediates—those who can swim 25 yards of two or more strokes; Advanced Intermediates—those who can swim 100 yards and demonstrate 4 different strokes; Competitive Techniques—same as Advanced Intermediates plus preparation for competitive swimming. (The first meeting will be used for the purpose of reclassifying swimmers where necessary. Each section limited to 20 boys)

**Special Class**

(April 3 to June 12)

**NONSWIMMERS**

S-9:45-10:30 a.m., CH

**BEGINNERS**

S-10:30-11:15 a.m., CH

**ADVANCED BEGINNERS**

S-11:15 a.m.-12:00, CH

**INTERMEDIATES**

S-9:45-10:30 a.m., CH

**ADVANCED INTERMEDIATES**

S-10:30-11:15 a.m., CH

**COMPETITIVE TECHNIQUES**

S-11:15 a.m.-12:00, CH

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

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 children)

**Special Class**

(October 3 to December 19)

S-9:15-10:00 a.m., CH, Walker

S-10:00-10:45 a.m., CH, Walker

**Special Class**

(April 3 to June 12)

S-12:00-12:45, CH, Walker

S-12:45-1:30, CH, Walker

**THREE 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 three meter [high] board. Each child must furnish his own suit and towel. Limited to 12 children)

**Special Class**

(October 3 to December 19)

S-10:45-11:30 a.m., CH, Walker

**Special Class**

(April 3 to June 12)

S-1:30-2:15 p.m., CH, Walker

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 women)

**Special Class**

(April 3 to June 12)

Th-6:00-7:00, NGW 60, Lampe

Th-7:00-8:00, NGW 60, Lampe

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 men)

**Special Class**

(April 3 to June 12)

M-6:00-7:00, South Tower Stadium, Tutt

M-7:00-8:00, South Tower Stadium, Tutt

M-8:00-9:00, South Tower Stadium, Tutt

W-6:00-7:00, South Tower Stadium, Anderson

W-7:00-8:00, South Tower Stadium, Anderson

W-8:00-9:00, South Tower Stadium, Anderson

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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### 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. Each section 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**  
(September 30 to December 16)

**W—7:30-9:30, CH, Mowerson**

**Special Class**

(March 24 to June 2)

**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 29 to June 7)

**M—8:00-9:00, CH, Giles**

**(Water Safety Courses—See Physical Education)**

### Activities for Men, Women, Boys, and Girls

**\*PE 0-300 INDOOR RACKET SPORTS.** No credit. \$21 plus \$3 equipment fee. The fundamentals of handball, paddleball, squash, badminton, table tennis for men, women, boys, and girls. Family combinations are encouraged. Children should be junior high age. Equipment furnished. (Each section limited to 20 students)

**Special Class**

(January 5 to March 16)

**T—7:00-8:00, CH 214, Giles**

**T—8:00-9:00, CH 214, Giles**

## Romance Languages

(See listing under each language: French, page 138; Italian, page 168; Portuguese, page 202; Spanish, page 229)

## Russian

(See Slavic Languages)

## Salesmanship

*Perry Jacobson, Lecturer in Salesmanship*

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**Sai 0-001C SALESMANSHIP.** 3 certificate credits.

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 Semester**

**M—6:20-8:00, BlegH 205, Jacobson**

**Spring Quarter**

**M—6:20-8:50, BlegH 415, Jacobson**

**Scandinavian Languages**

*Lillemor Saether, Instructor in Scandinavian*  
*James A. Simpson, Assistant Professor of Scandinavian*  
*Tuulikki Sinks, Instructor in Scandinavian*

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

**Finnish**

**Finn 1-101/1-102 BEGINNING FINNISH** (old Finn 1A-2A). 3 degree credits each semester. Tuition 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—6:20-8:00, FolH 204, Sinks**

**Spring Semester**

**1-102 M—6:20-8:00, FolH 204, Sinks**

**Norwegian**

**Nor 1-101/1-102 BEGINNING NORWEGIAN** (old Nor 1A-2A). 3 degree credits each semester. Tuition 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—6:20-8:00, FolH 305, Simpson**

**Spring Semester**

**1-102 M—6:20-8:00, FolH 305, Simpson**

**Swedish**

**Swed 1-101/1-102 BEGINNING SWEDISH** (old Swed 1A-2A). 3 degree credits each semester. Tuition plus \$3 laboratory fee each semester. ★

This course, intended for students who have little or no previous knowledge of Swedish, stresses fundamentals of grammar, correct pronunciation, reading, practice in conversation, and simple composition. (No prereq for 1-101; 1-101 or ‡ for 1-102)

**Fall Semester**

**1-101 M—6:20-8:00, FolH 205, Saether**

**Spring Semester**

**1-102 M—6:20-8:00, FolH 205, Saether**

**Swed 1-103/1-104 INTERMEDIATE SWEDISH** (old Swed 3A-4A). 3 degree credits each semester.

This course is designed either for students who have completed Swed 1-102 or

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

for those who have a reasonable practical working knowledge of Swedish. Review of fundamentals of grammar together with conversation and composition and readings in Swedish prose. (Prereq 1-102 or ‡ for 1-103; 1-103 for 1-104)

### Fall Semester

1-103 W-6:20-8:00, FolH 105, Saether

### Spring Semester

1-104 W-6:20-8:00, FolH 105, Saether

## School Health Education

(Education)

*Robert F. Guthmann, Jr., Instructor in Health Education*

*Elizabeth Peterson, Associate Professor of Family Studies*

*Helen Slocum, Professor of Health and Physical Education*

### \*Hith 5-130 SAFETY EDUCATION (old Hith 119). 4 degree credits.

Scope and nature of the accident problem in our society and the study of curricular areas leading to accident prevention. (Prereq senior level, graduate student, or teachers in service. Qualified students may register for graduate credit at the University of Minnesota. Limited to 32 students)

#### Fall Semester

T-7:00-10:00, MacP 416,  
Guthmann

#### Special Class

(January 21-April 22)

Th-7:00-10:00, StP Ext, Guthmann

### \*Hith 5-350 FAMILY LIFE AND SEX EDUCATION IN ELEMENTARY SCHOOLS (old Hith 121). 3 degree credits. Tuition plus \$3 materials fee.

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

W-4:00-6:30, Aquilla Elem  
School Lunchroom,  
8500 W 31st St,  
St. Louis Park,  
Peterson and Slocum

#### Winter Quarter

W-3:45-6:15, Technical  
Vocational Institute,  
rooms 206 and 208,  
235 Marshall, St. Paul,  
Peterson and Slocum

#### Spring Quarter

M-4:00-6:30, Sand JHS  
213, Peterson and  
Slocum

## Secondary Education

(Education)

*William E. Gardner, Professor of Education*

*William E. Gebhard, Instructor in Education*

*Lyle E. Lewis, Instructor in Education*

*Neville P. Pearson, Associate Professor of Education*

Audio-visual courses are offered in selected high schools in the Twin Cities area. Each course meets one evening a week, from 6:30-9:30 for a 6-week period. Classes are scheduled at the request of schools desiring to improve the use of audio-visual material. Teachers from surrounding schools are invited. For further information, please write Professor Neville Pearson, College

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

of Education, University of Minnesota, Minneapolis, Minnesota 55455; telephone, 373-3615.

**\*SeEd 5-100 DRIVER EDUCATION I** (old EdCl 101A). 4 degree credits. Tuition 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. Additional time arranged for behind-the-wheel instruction. (Prereq current employment in junior or senior high school. Limited to 32 students. Qualified students may register for graduate credit at the University of Minnesota)

**Special Term**  
(September 30 to December 16)

W-7:00-10:00, Mounds View HS, Gebhard  
W-7:00-10:00, Rich HS 116, Lewis

**\*SeEd 5-101 DRIVER EDUCATION II** (old EdCl 101B). 4 degree credits. Tuition plus \$12 special fee.

See course description above. (Prereq 5-100. Limited to 32 students. Qualified students may register for graduate credit at the University of Minnesota)

**Special Term**  
(January 27 to April 14)

W-7:00-10:00, Mounds View HS, Gebhard  
W-7:00-10:00, Rich HS 116, Lewis

**SeEd 5-105 AUDIO-VISUAL MATERIALS IN EDUCATION** (old EdCl 105). 3 degree credits. Tuition plus \$12 laboratory fee.

Characteristics, advantages, limitations, and practical schoolroom use of audio-visual materials of nonprojected and projected types. Practice in operation of accepted audio-visual equipment such as slide projectors, opaque projectors, film strip projectors, tape recorders, 16mm projectors, and overhead projectors. Opportunity to operate newer mediums, such as teaching machines and closed circuit television equipment. (Prereq senior. Qualified students may register for graduate credit at the University of Minnesota)

**SeEd 5-108 NONPROJECTED AUDIO-VISUAL MATERIALS AND EQUIPMENT LABORATORY** (old EdCl 108). 3 degree credits. Tuition plus \$12 laboratory fee.

The planning and making of nonprojected materials for audio-visual education; use of the materials and equipment involved. Course includes lettering (use of pens, types, and other materials); poster design and construction; bulletin board design and construction; wet mounting and dry mounting of instructional materials; laminating; felt, flannel, and magnetic board techniques; flip charts, graphs; models, mock-ups, exhibits, displays; preparation of spirit and mimeo type materials for duplication. (Prereq 5-105. Qualified students may register for graduate credit at the University of Minnesota)

**SeEd 5-109 PROJECTED AUDIO-VISUAL MATERIALS AND EQUIPMENT LABORATORY** (old EdCl 109). 3 degree credits. Tuition plus \$12 laboratory fee.

The planning and making of projected materials for audio-visual education; use of the materials and equipment involved. Course includes hand-made lantern slides; basic photography for high contrast type photography; scripting for slide sequences; preparation of a 35mm slide sequence; 8mm motion picture photography; preparation of transparencies for the overhead projector. (Prereq 5-105. Qualified students may register for graduate credit at the University of Minnesota)

**\*SeEd 5-371 WORKSHOP: SOCIAL STUDIES CURRICULUM LABORATORY PRACTICE** (old EdCl 171). 0-3 degree credits per quarter.

This course will provide teachers with the information needed to teach the materials from the Minnesota Project Social Studies, emphasize new curriculum developments in the field and provide training in the inquiry process. (Prereq SeEd 5-113 or Elem 5-100 and  $\frac{1}{2}$ . Qualified students may register for graduate credit at the University of Minnesota. Each section limited to 30 students. Meets concurrently with Elem 5-103)

Sec. 1: Teachers of Grades K-2  
Sec. 2: Teachers of Grades 3-4  
Sec. 3: Teachers of Grades 5-6

Sec. 4: Teachers of Grades 7-8  
Sec. 5: Teachers of Grades 9-10  
Sec. 6: Teachers of Grades 11-12

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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### Special Term

(Sept. 1, 8, 15, 29; Oct. 13, 27;  
Nov. 3, 17; Dec. 1, 15; Jan. 5, 19;  
Feb. 2, 16; March 2, 16)

T—7:30-9:10, VH, Gardner

Sec. 1: VH 203

Sec. 2: VH 206

Sec. 3: VH 207

Sec. 4: VH 209

Sec. 5: VH 211

Sec. 6: VH 213

### Spring Quarter

T—7:00-9:30, Sand JHS, Gardner

Sec. 1: 205

Sec. 2: 206

Sec. 3: 207

Sec. 4: 210

Sec. 5: 211

Sec. 6: 212

\*SeEd 5-602 THE DRIVER SIMULATOR (old EdCI 101C). 3 degree credits. Tuition plus \$12 special fee.

Working with the simulator program to improve, expand, and reduce the cost of conventional driver education. (Prereq teacher in-service, 5-100, §. Qualified students may register for graduate credit at the University of Minnesota)

### Special Term

(September 28 to December 14)

M—7:00-10:00, Rich HS 116, Lewis

## Slavic Languages

Arthur Hudgins, Instructor in Slavic Languages

Catherine Kulesov, Assistant Professor of Slavic Languages

Tatiana Prokopov, Instructor in Slavic Languages

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

### Russian

Russ 1-101/1-102 BEGINNING RUSSIAN (old Russ 1-2). 3 degree credits each semester.

Tuition 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—6:20-8:00, TSF 153, Prokopov

#### Spring Semester

1-102 M—6:20-8:00, TSF 153, Prokopov

### Russian for Graduate Students

The Russian language requirement for an advanced degree can be satisfied with a program of study based on Russ 0-221 and Russ 0-222. If the student achieves a grade of "B" or better in the final examination administered at the conclusion of Russ 0-222, the Department of Slavic Languages will certify him as having satisfied the Russian language requirement for an advanced degree.

Russ 0-221 RUSSIAN FOR GRADUATE STUDENTS (old Russ 17A). No credit. Tuition equivalent to 3 credits.

This course is designed to help the graduate student acquire a reading knowledge of basic Russian as rapidly as possible. Russ 0-221 assumes no knowledge of

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



Russian on the part of the student. The course includes reading of simple, graded material. (No prereq)

**Fall Semester**

**M-6:20-8:00, FolH 207, Hudgins**

**Russ 0-222 RUSSIAN FOR GRADUATE STUDENTS** (old Russ 17B). No credit. Tuition equivalent to 3 credits.

As a continuation of Russ 0-221, this course concentrates on intensive reading of Russian literary and scientific texts. The graduate student is able to satisfy the Russian language requirement for an advanced degree by achieving a grade of "B" or better in the final examination which is part of the course. (Prereq 0-221 or #)

**Spring Semester**

**M-6:20-8:00, FolH 303, Hudgins**

**Russ 3-601, 3-602, 3-603 19TH CENTURY LITERATURE IN TRANSLATION** (old Russ 81, 82, 83). 3 degree credits each quarter.

3-601: Pushkin, Lermontov, Gogol, Turgenev. 3-602: Goncharov, Saltykov, Tolstoy, Dostoevsky. 3-603: Chekhov and The Russian Drama, short-story writers—Bunin, Kuprin, Gorky. (No prereq. Need not be taken in sequence)

**Fall Quarter**

**3-601 M-5:30-8:00, FolH 303, Kulesov**

**Winter Quarter**

**3-602 M-5:30-8:00, FolH 202, Kulesov**

**Spring Quarter**

**3-603 M-5:30-8:00, FolH 202, Kulesov**

**Social Science**

*Khosrow Riggi, Teaching Associate in Social Science*

These courses provide a broad framework within which the student may develop an understanding of man, his institutions, ideas, and values. The courses are organized around central themes of human existence. Selections from the various social sciences as well as from the humanities are studied. All of the courses attempt to provide an integrated study of the factors—historical, political, economic, social, psychological, and cultural—that influence and are influenced by man's conduct. Each course is organized around a basic theme.

**SSci 3-102 INTRODUCTION TO SOCIAL SCIENCE: MODERNIZATION** (old SSci 52). 4 degree credits.

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**

**M-5:30-8:50, BlegH 260, Riggi**

**SSci 3-103 INTRODUCTION TO SOCIAL SCIENCE: THE COMMUNITY** (old SSci 53). 4 degree credits.

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**

**M-5:30-8:50, BlegH 260, Riggi**

**SSci 3-203 STRUCTURE AND DYNAMICS OF POVERTY** (old SSci 62). 3 degree credits.

Structural characteristics of poverty as described by social, legal, and economic criteria. Specific problems of poverty; unemployment, immobility, illiteracy, crime,

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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and others. Private and public programs designed to alleviate poverty. (Prereq 9 credits in related social sciences)

### Fall Quarter

M—5:30-8:50, BlegH 110, Riggi

**NOTE: For special radio course, SocSci 3-402, ECOLOGY, TECHNOLOGY, AND SOCIETY, see page 81.**

## Social Studies

(General College)

*Gregory Craig, Lecturer*

*Norman Moen, Professor*

*Ralph Neubeck, Instructor*

*Daniel Schafer, Instructor*

The Social Studies, General College social science 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 1-221 MINNESOTA HISTORY (old GC 45C). 3 degree credits.

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)

### Fall Quarter

T—6:20-8:50, NH 213, Moen

### GC 1-502 VOCATIONAL PLANNING (old GC 1B). 3 degree credits.

The student explores the meanings of work and occupations as they relate to the individual and society through psychological, sociological, historical, and economic perspectives. This course deals with the factors in appropriate occupational choice and adjustment, the relationships between educational and vocational planning, and methods of studying occupations. Written projects help the student to apply techniques of vocational planning to his individual case. (No prereq)

### Spring Quarter

W—6:20-8:50, NH 213,  
Neubeck

### GC 1-813 MINNESOTA INDIANS IN CONTEMPORARY SOCIETY (old GC 27C). 3 degree credits.

An interdisciplinary study of the problems of an important minority group in such areas as employment, education, welfare, and housing. Topics include the quality of life on Chippewa reservations, in Sioux communities, and in urban Indian concentrations; group characteristics; social and cultural interaction; and mechanisms of social adjustment. Students are encouraged to examine these topics in the light of both their own values and what are commonly taken to be national American ideals. (No prereq)

### Winter Quarter

W—6:20-8:50, NH 213, Craig

### \*GC 1-815 THE AFRO-AMERICAN EXPERIENCE (old GC 47A). 3 degree credits.

This course is intended to explore the role of black people in American life. It will examine the complex, interacting forces which have led to our present racial

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

crisis. Beginning with African backgrounds and the trans-Atlantic slave trade, instructor and students will analyze the main themes of Afro-American history, including the recent civil rights revolution and black nationalism in the twentieth century. This may be a disturbing course. It is not a search for heroes, white or black, nor is it a simple affirmation of American democracy. Rather, it is a search for understanding in a most disturbing area of our national experience—racial conflict. (No prereq. Limited to 45 students)

**Fall Quarter**

T—7:00-9:30, Rich HS 214,  
Schafer

## Social Work

*Chester Bower, Professor of Social Work*

*Leonard A. Gravitz, Instructor in Social Work*

*Franz Kamps, Associate Professor of Social Work*

*Harvey Kaplan, Instructor in Social Work*

*Mayo K. Newhouse, Professor of Social Work*

*Eleanor Otterness, Instructor in Social Work*

*Minna Shapiro, Clinical Assistant Professor of Social Work*

*Paul T. Steen, Associate Professor of Public Administration*

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 Certificate requirements are listed on page—.

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, must have been admitted to the Graduate School, and must register under joint registration procedures; except as electives, none of these courses may substitute for specific requirements in the MSW program.

### Certificate Program in Social Work (21 credits)

The "Extension Program in Social Work" is being offered as a senior certificate program offered by the Graduate School of Social Work through the General Extension Division. Admission to this program is open to individuals with Bachelor's degrees and currently employed in the field.

The Certificate Program in Social Work is designed 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.

In the Fall of 1970, SW 5-201 and either SW 5-402 or SW 5-412 will be offered. SW 5-202 and either SW 5-413 or SW 5-403 will be continued in the Spring Semester 1971. SW 5-101 and SW 5-315 are offered in the Fall of 1971 and SW 5-105 in the Spring of 1972.

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

For additional information about the Extension Certificate Program in Social Work, as well as other additional social work courses offered through the Graduate School of Social Work and the General Extension Division, please contact Professor William Hoffman, Director, Continuing Education in Social Work, 321 Nolte Center for Continuing Education, University of Minnesota, Minneapolis, Minnesota 55455; telephone, 373-5831.

**SW 5-101 SOCIAL POLICY ANALYSIS** (old SW 125). 3 degree credits. (To be offered 1971-72)

**SW 5-105 INDIVIDUAL HUMAN RIGHTS AND SOCIAL WORK PRACTICE** (old SW 140). 3 degree credits. (To be offered 1971-72)

**\*SW 5-201/5-202 NORMAL SOCIAL FUNCTIONING** (old SW 148-149). 3 degree credits each semester.

Develops understanding of basic personality and environmental factors which affect and determine the individual's potential for normal social functioning. (Prereq bachelor's degree 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 Semester**

**5-201** Th-3:40-5:20, BlegH 135

**Spring Semester**

**5-202** Th-3:40-5:20, BlegH 360

**SW 5-315 PRACTICAL PROBLEMS IN COMMUNITY ORGANIZATION AND ADMINISTRATION** (old SW 171). 3 degree credits. To be offered 1971-72.

**\*SW 5-402/5-403 PRACTICAL PROBLEMS IN THE CASEWORK PROCESS** (old SW 165-166). 3 degree credits each semester.

Knowledge, attitudes, skills needed for supportive techniques; emphasis on how, why, when of referral and use of supervision and consultation. (Prereq bachelor's degree and current employment in a social welfare position or §. Limited to 25 students. Qualified students interested in graduate credit should inquire at time of registration)

**Fall Semester**

**5-402** T-3:40-5:20, BlegH 404, Shapiro

**Spring Semester**

**5-403** T-3:40-5:20, BlegH 404, Shapiro

**\*SW 5-412/5-413 PRACTICAL PROBLEMS IN SOCIAL GROUP WORK** (old SW 175-176). 3 degree credits each semester.

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 bachelor's degree and current employment in social welfare position or §. Limited to 25 students. May not be taken for graduate credit)

**Fall Semester**

**5-412** M-3:40-5:20, BlegH 360, Gravitz

**Spring Semester**

**5-413** M-3:40-5:20, BlegH 360, Gravitz

## Additional Social Work Courses

For information about additional social work courses (in the planning process at the time of publication of this bulletin) and for added sections of listed courses, please call Associate Professor William Hoffman, 373-5831.

**SW 3-002 GOVERNMENT AND WELFARE** (old SW 124). 3 degree credits. (To be offered 1971-72)

**\*SW 5-010 SPECIAL TOPIC: FAMILY COUNSELING** (old SW 100). 3 degree credits.

Course content and teaching methods will be directed toward enhancing the knowledge and skill of the practicing social worker engaged in family counseling. Role of the social worker and the helping process will be emphasized. (Prereq MSW degree; consideration will be given to others with experience in family coun-

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

selling. Limited to 25 students. Qualified students interested in graduate credit should inquire at time of registration)

**Fall Semester**

Th-3:40-5:20, BlegH 115, Shapiro

**\*SW 5-011 SPECIAL TOPIC: RESIDENTIAL TREATMENT FOR EMOTIONALLY DISTURBED AND SOCIALLY MALADJUSTED CHILDREN** (old SW 101). 3 degree credits.

Emphasizes a practical approach to living with, caring for, and treating the emotionally disturbed child in an institutional setting. Major topics include: milieu therapy; behavior management; "life space interviewing" problems of group living; activity programming; behavior modification; and observing and recording behavior. (Prereq current employment in institutional setting for children or  $\neq$ . Limited to 30 students. Qualified students interested in graduate credit should inquire at time of registration)

**Fall Quarter**

W-6:20-8:50, BlegH 350,  
Kamps

**SW 8-510 SPECIAL TOPIC: LAW AND LEGAL SYSTEM FOR CORRECTIONAL AND SOCIAL WORKERS** (old SW 103). 3 degree credits. (To be offered 1971-72)

## Sociology

- Terry Caine, Instructor in Sociology*  
*Conroy Chow, Instructor in Sociology*  
*Kieran Flanagan, Instructor in Sociology*  
*Margaret Mary Franz, Instructor in Sociology*  
*Linda Havir, Instructor in Sociology*  
*Eddie Chen-yu-Kuo, Instructor in Sociology*  
*Nathan Mandel, Associate Professor of Sociology*  
*Dario Menanteau, Assistant Professor of Sociology*  
*Caroline B. Rose, Professor of Sociology*  
*Nancy W. Stein, Instructor in Sociology*  
*Richard Sykes, Assistant Professor of Sociology*  
*C. Edwin Vaughan, Assistant Professor of Sociology*

**Soc 1-001 INTRODUCTION TO SOCIOLOGY** (old Soc 1). 3 degree credits. ★

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**

M-6:20-8:00, MacP Annex 3, Kuo  
 Th-6:20-8:00, BlegH 130, Chow

**Spring Semester**

T-6:20-8:00, BlegH 155, Chow

**Fall Quarter**

T-5:30-8:00, StP Ext,  
Havir  
 W-7:00-9:30, Rich HS  
 249-250, Franz  
 (Limited to 60  
 students\*)

**Winter Quarter**

W-7:00-9:30, Sand JHS  
 205, Havir (Limited  
 to 35 students\*)

**Spring Quarter**

M-7:00-9:30, Kel HS 167-  
 169, Franz (Limited  
 to 65 students\*)  
 W-6:20-8:50, Cen HS 216,  
 Kuo  
 S-9:00-11:30 a.m., BlegH  
 150, Caine

**Old Sociology 3 will no longer be offered by the Department of Sociology effective Fall 1970.**

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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**PRINCIPLES OF SOCIOLOGY I (Soc 1-005) and II (Soc 1-006)** will be offered in 1971-72.  
**Soc 3-101 ELEMENTS OF CRIMINOLOGY** (old Soc 53), 3 degree credits. ★  
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), 3 degree credits.

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, AndH 250, Mandel

**Soc 5-145 MODERN AGENCIES FOR CONTROL OF JUVENILE DELINQUENCY** (old Soc 119), 3 degree credits.

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, AndH 250, Mandel

**Soc 5-151 RELIGION AS A SOCIAL INSTITUTION** (old Soc 142), 3 degree credits.

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 ‡. Qualified students may register for graduate credit at the University of Minnesota)

**Winter Quarter**

M-5:30-8:00, AgEng 109,  
StP Campus, Vaughan

**Soc 5-201 INTRODUCTION TO SOCIAL PSYCHOLOGY** (old Soc 120), 3 degree credits. ★

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 ‡. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

Th-5:30-8:00, BlegH 215,  
Sykes

**Winter Quarter**

Th-5:30-8:00, BlegH 215,  
Sykes

**Soc 5-315 LATIN AMERICAN SOCIETIES IN TRANSITION** (old Soc 149), 3 degree credits.

Relationship of population, technology, and organizational structure to levels of modernization among Latin American nation states. Attention given to differentiation, diffusion, innovation, and social conflict as precipitants of social change. Metropolis is treated as important influence on modernization of hinterland. (Prereq 10 credits in sociology, economics, or political science, or ‡. Qualified students may register for graduate credit at the University of Minnesota)

**Spring Semester**

W-6:20-8:00, BlegH 145, Menanteau

**Soc 5-401 SOCIAL ORGANIZATION** (old Soc 140), 3 degree credits.

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 ‡. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

M-5:30-8:00, BlegH 350,  
Vaughan

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

**Soc 5-405 SOCIAL STRATIFICATION AND MOBILITY** (old Soc 144). 3 degree credits.  
Analysis of form and content of hierarchical arrangements. Relationship of hierarchical arrangements to problems of social order and individual behavior. (Prereq 1-001 or §. Qualified students may register for graduate credit at the University of Minnesota)

**Spring Quarter**  
M—5:30-8:00, BlegH 350,  
Vaughan

**Soc 5-951 MINORITY GROUP RELATIONS** (old Soc 123). 3 degree credits. ★  
Interaction of social and cultural groups in America; particular reference to the Negro. Processes leading to group contact; characteristics and contributions of ethnic groups in United States; mechanisms and problems of group adjustment. Democratic theory and practice; sources of prejudice; contemporary status of principal minority groups; international implications; trends and proposed solutions. (Prereq 1-001 or §. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Semester**  
T—6:20-8:00, BlegH 10, Rose

**Spring Semester**  
T—6:20-8:00, BlegH 10, Rose

For information on non-credit conferences or workshops in sociology, please contact the Department of Conferences and Institutes, 131 Nolte Center for Continuing Education; telephone, 373-3151.

## Spanish

*Santiago Cúneo, Associate Professor of Spanish*  
*Robert F. Estelle, Assistant Professor of Spanish*  
*Rodolfo O. Floripe, Professor of Spanish*  
*Ruth E. Jones, Associate Professor of Spanish*  
*Ricardo A. Narváez, Associate Professor of Spanish*  
*Andrés Suris, Instructor in Spanish*

There are two sequences of courses in beginning Spanish from which the prospective student may choose 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.

**Span 1-101/1-102/1-103 BEGINNING SPANISH** (old Span 1-2-3). 5 degree credits each quarter. Tuition 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, Narváez	1-102 TTh—6:00-8:05, FolH 109, Narváez	1-103 TTh—6:00-8:05, FolH 109, Narváez
1-103 MW—6:00-8:05, FolH 110		

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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**Span 1-104 INTERMEDIATE SPANISH** (old Span 25). 5 degree credits. ★  
An intensive review of grammar, improvement of pronunciation, and practice in speaking. (Prereq 1-103 or 1-205 or §)

**Winter Quarter**

MW—6:00-8:05, FolH 109

**Span 1-201/1-202/1-203 BEGINNING SPANISH** (old Span 1A-1B-2A). 3 degree credits each quarter. Tuition 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)

**Fall Quarter**

1-201 W—6:00-8:30, FolH  
201, Cúneo

**Winter Quarter**

1-202 W—6:00-8:30, FolH  
201, Cúneo

**Spring Quarter**

1-203 W—6:00-8:30, FolH  
201, Cúneo

**Span 1-204/1-205 BEGINNING SPANISH** will be offered 1971-72.

**Span 3-011 COMPOSITION** (old Span 54). 3 degree credits. ★

This course (conducted in Spanish) is designed for persons desiring to continue the study of the Spanish language and literature. Its goals are to develop the student's capacity and ability to write effectively in the language. Stress will be on the principles of effective written communication, terminology, vocabulary, and syntax. An analysis of written materials for content will serve as a basis for writing compositions. (Prereq 1-104 or §)

**Spring Quarter**

M—6:00-8:30, FolH 207

**Span 3-014 CONVERSATIONAL SPANISH** (old Span 55). 3 degree credits.

Daily and contemporary affairs are discussed. (Prereq 3-011 or §)

**Fall Quarter**

W—6:00-8:30, FolH 205, Floripe

**Span 3-021 ADVANCED COMPOSITION** (old Span 57). 3 degree credits.

A course designed to further improve the student's ability to write in the Spanish language. The entire course, conducted in Spanish, will stress Spanish syntax and idiomatic expressions through compositions and letter writing. (Prereq 3-011 or §)

**Fall Quarter**

Th—6:00-8:30, FolH 207

**Span 3-024 ADVANCED CONVERSATIONAL SPANISH** (old Span 58). 3 degree credits.

Intensified practice, oral reports on current events, and class discussions in Spanish. (Prereq 3-014 or §)

**Winter Quarter**

T—6:00-8:30, FolH 207,  
Jones

**Span 5-374 CONTEMPORARY NOVELISTS OF POST-CIVIL WAR SPAIN.** 3 degree credits.

A study of some of the more famous novelists of Spain, such as Camilo José Cela, Carmen Laforet, José María Gironella, and Miguel Delibes. (Prereq 3-014 or §. Qualified students may register for graduate credit at the University of Minnesota)

**Spring Quarter**

W—6:00-8:30, FolH 203,  
Floripe

**Span 5-414 DON QUIXOTE.** 3 degree credits.

A course for reading the Spanish classic *Don Quijote de la Mancha* by Miguel Cervantes in English. Class discussions will bring out the humor, pathos, and philosophy of Don Quixote as well as the style in which Cervantes wrote his masterpiece. (Prereq 3-014 or §. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

W—6:00-8:30, FolH 204, Jones

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



**Span 5-571 CONTEMPORARY NOVELISTS OF MEXICO AND CENTRAL AMERICA.** 3 degree credits.

A course for reading the novels of Miguel Angel Asturias, the Nobel Prize winner from Guatemala, Carlos Fuentes, and Juan Ruifo, famous Mexican prose writers, thus broadening our understanding of our neighbors to the South. (Prereq 3-014 or ‡. Qualified students may register for graduate credit at the University of Minnesota)

**Winter Quarter**

W-6:00-8:30, FolH 203,  
Floripe

**Span 5-711 STRUCTURE OF MODERN SPANISH: PHONOLOGY** (old Span 107). 3 degree credits.

Scientific approach to structure of present-day Spanish. (Prereq 3-021 or ‡. Qualified students may register for graduate credit at the University of Minnesota)

**Spring Quarter**

M-6:00-8:30, FolH 102,  
Narváez

**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, 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. Tuition equivalent to 3 credits. ★

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 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 107,  
Estelle  
S-9:00-11:30 a.m., FolH  
107, Estelle

**Winter Quarter**

W-6:20-8:50, FolH 107,  
Estelle

**Spring Quarter**

W-6:20-8:50, FolH 107,  
Estelle

**Spanish 0-221 usually offered also as a Summer Evening Class.**

**Special Education**

(Education)

*John B. Wasson, Research Associate, Educational Psychology*

**SpEd 5-150 EDUCATION OF EMOTIONALLY DISTURBED AND SOCIALLY MALADJUSTED CHILDREN** (old EPsy 186). 3 degree credits.

Discussion and evaluation of curricula, materials, and methods for instruction of disturbed and delinquent children in hospital, training school, and public school settings. (Prereq ‡. Qualified students interested in graduate credit should inquire at the time of registration)

**Fall Quarter**

T-6:20-8:50, Bu 123

**SpEd 5-183 ADULT BASIC EDUCATION: CHARACTERISTICS OF A.B.E. STUDENTS** (old EdCi 182B). 3 degree credits.

Cultural, psychological, and social characteristics of the disadvantaged adult, gen-

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

eral assessment, adult learning and adult development. (Prereq 12 credits in education or ‡. Qualified students may register for graduate credit at the University of Minnesota)

### Fall Quarter

S—10:15 a.m.-12:00, 1 hr ar,  
CD 216, Wasson

### SpEd 5-184 ADULT BASIC EDUCATION: INSTRUCTIONAL METHODS AND MATERIALS (old EdCl 182C). 3 degree credits.

Specific educational assessment and research, methods, and materials, in reading and listening; arithmetic and consumer mathematics; and writing and speaking. Evaluating outcomes of instruction. (Prereq 12 credits in education or ‡. Qualified students may register for graduate credit at the University of Minnesota)

### Winter Quarter

S—10:15 a.m.-12:00, 1 hr  
ar, CD 216, Wasson

### SpEd 5-185 ADULT BASIC EDUCATION: RESEARCH, EVALUATION, AND IMPLEMENTATION (old EdCl 182D). 3 degree credits.

Administration, funding, and evaluation of A.B.E. programs. Staffing patterns and research. (Prereq 12 credits in education or ‡. Qualified students may register for graduate credit at the University of Minnesota)

### Spring Quarter

S—10:15 a.m.-12:00, 1 hr  
ar, CD 216, Wasson

## Speech and Communication

*Leonard Bart, Associate Professor of Speech, Communication, and Theatre Arts*

*Ernest Bormann, Professor of Speech, Communication, and Theatre Arts*

*Bernard L. Brock, Associate Professor of Speech, Communication, and Theatre Arts*

*John Cragan, Teaching Associate in Speech and Communication*

*Robert L. Scott, Professor of Speech, Communication, and Theatre Arts*

*David H. Smith, Associate Professor of Speech, Communication, and Theatre Arts*

*Donald Z. Woods, Professor of Speech, Communication, and Theatre Arts*

### \*Spch 0-001C BEGINNING SPEECH-COMMUNICATION. 3 certificate credits. Tuition plus \$5.50 special fee.

This course is designed particularly for the adult student who wants a practical application of speech-communication techniques to his professional, business, and social needs. The course is 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. Voice recordings of classroom speaking are made and analyzed. (No prereq. Each section limited to 20 students)

### Fall Quarter

M—6:20-8:50, NH 201,  
Woods  
Th—6:20-8:50, MacP 102,  
Cragan

### Winter Quarter

M—6:20-8:50, NH 201,  
Woods

### Spring Quarter

M—6:20-8:50, NH 201,  
Woods  
Th—6:20-8:50, StP Ext,  
Cragan

### \*Spch 1-301/1-302† FUNDAMENTALS OF SPEECH (old Spch 5A-5B). 3 degree credits each term, §1-101, 1-106.

Speech as a means of social adaptation and control; techniques of body and voice; organization of speech material and study of types of speeches; practice for correctness and effectiveness in presentation. (No prereq for 1-301; 1-301 for 1-302. Credit for 1-301 without 1-302 by petition only. Limited to 30 students)

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Fall Semester

1-301 W-6:20-8:00, FolH 102, Brock

## Fall Quarter

1-301 T-7:00-9:30, Kel HS  
229, Smith

## Spring Semester

1-302 W-6:20-8:00, FolH 102, Brock

## Winter Quarter

1-302 T-7:00-9:30, Kel HS  
229, Smith

Spch 3-201 **INTRODUCTION TO BROADCASTING PRODUCTION** (old Spch 65). 3 degree credits. Tuition plus \$10 laboratory fee.

Fundamentals of practice and theory in radio and television. Emphasis on projects and exercises in performance and scripting; introduction to studio equipment and procedures. Historical and sociological aspects of broadcasting. (Prereq 1-101 or 1-106 or 1-302)

## Spring Semester

W-6:20-8:00, Aero 21, Bart

Spch 5-411 **SMALL GROUP COMMUNICATION** (old Spch 106). 3 degree credits.

Study of communication and dynamics within small, task-oriented group. Group cohesiveness, leadership, role structure, information processing, and decision making. (Prereq 3-641 or § Qualified students may register for graduate credit at the University of Minnesota)

## Fall Semester

T-6:20-8:00, FolH 306, Bormann

For information on non-credit conferences or workshops in speech and communications, please contact the Department of Conferences and Institutes, 131 Nolte Center for Continuing Education; telephone, 373-3151.

(English for Foreign Students—See page 130)

(Theatre Arts—See page 236)

## Student Project for Amity Among Nations (SPAN) Special Language Classes

S. K. Affram, Instructor in Twi

Frank Hirschbach, Professor of German

Barbara Younoszai, Assistant Professor of Spanish

The following classes are open to students and others interested in language competency for foreign study or travel.

Ger 3-021/3-022/3-023 **INTERMEDIATE CONVERSATIONAL GERMAN** (old Ger 61E-62E). 3 degree credits each quarter. Tuition plus \$3 laboratory fee.

Emphasis on conversational ability for use in German speaking countries. (Prereq one recent college year of language or § for 3-021; 3-021 for 3-022; 3-022 for 3-023)

## Fall Quarter

3-021 S-9:00 a.m.-12:00,  
FolH 105,  
Hirschbach

## Winter Quarter

3-022 S-9:00 a.m.-12:00,  
FolH 105,  
Hirschbach

## Spring Quarter

3-023 S-9:00 a.m.-12:00,  
FolH 105,  
Hirschbach

MdGk 1-001/1-002/1-003 **BEGINNING MODERN GREEK** (old MdGk 1-2-3). 3 degree credits each quarter. Tuition plus \$3 laboratory fee.

Basic grammar leading to practical conversational ability. (No prereq for 1-001; 1-001 for 1-002; 1-002 for 1-003)

## Fall Quarter

1-001 S-9:00 a.m.-12:00,  
FolH 104

## Winter Quarter

1-002 S-9:00 a.m.-12:00,  
FolH 104

## Spring Quarter

1-003 S-9:00 a.m.-12:00,  
FolH 104

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

**Span 1-207/1-208/1-209 INTERMEDIATE CONVERSATIONAL SPANISH.** 3 degree credits each quarter. Tuition plus \$3 laboratory fee.

Emphasis on conversational ability for use in Spanish speaking countries. (Prereq one recent college year of language or # for 1-207; 1-207 for 1-208; 1-208 for 1-209)

Fall Quarter	Winter Quarter	Spring Quarter
1-207 S-9:00 a.m.-12:00, FolH 109, Younoszai	1-208 S-9:00 a.m.-12:00, FolH 109, Younoszai	1-209 S-9:00 a.m.-12:00, FolH 109, Younoszai

**Twi 1-331/1-332/1-333 BEGINNING TWI.** 3 degree credits each quarter. Tuition plus \$3 laboratory fee.

Spoken predominantly in Ghana, the Ivory Coast and Togoland. Basic grammar and pronunciation with an emphasis on conversation. (No prereq for 1-331; 1-331 for 1-332; 1-332 for 1-333)

Fall Quarter	Winter Quarter	Spring Quarter
1-331 S-9:00 a.m.-12:00, FolH 102, Affram	1-332 S-9:00 a.m.-12:00, FolH 102, Affram	1-333 S-9:00 a.m.-12:00, FolH 102, Affram

**For further information about these courses call: General Extension Division, 373-3195; or SPAN office, 373-3677.**

See also the course listings under German and Spanish.

## Study Skills

*Warren Y. Gore, Instructor in Rhetoric*  
*James R. Holloway, Assistant Professor of Rhetoric*  
*Richard O. Horberg, Assistant Professor of Rhetoric*  
*Sue Johnson, Instructor, Student Counseling Bureau*  
*Alex Kurak, Associate Professor, General College*  
*William M. Marchand, Associate Professor of Rhetoric*  
*Starling W. Price, Associate Professor of Rhetoric*  
*William A. Stockdale, 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. ★

A class designed to extend the range and increase the quality of one's vocabulary for social and business purposes and for the benefit of one's intellectual development. Students master 150 word elements which furnish a basis for the analysis and formation of thousands of English words, learn to use the dictionary as an instrument for expanding their vocabularies and for enhancing their precision and flexibility in reading, writing, and speaking, and steadily extend their familiarity with additional vocabulary in written and spoken contexts. A programmed-learning sequence and reading sequences and tape recordings especially designed for the systematic expansion and effective use of one's vocabulary are employed as instructional aids. (No prereq. This course may, by petition, be used on a degree program in General College)

Fall Quarter	Winter Quarter	Spring Quarter
M-7:00-9:30, Kel HS 237, Kurak (Limited to 30 students*)	M-6:20-8:50, NH 213, Stockdale	W-7:00-9:30, Sand JHS 206, Stockdale (Limited to 35 students*)
W-6:20-8:50, NH 213, Stockdale	T-7:00-9:30, Rich HS 215, Kurak (Limited to 35 students*)	

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

\*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.) Tuition equivalent to 3 credits plus \$2 materials fee. ★

Practical assistance to the student in developing efficient methods of study and concentration, organizing material, preparing for examinations, and improving reading ability. Attention to the orientation of students in their attitudes and motivation, and the relation of these to satisfactory performance. Each student receives individual testing and practice to develop basic skills in reading, spelling, vocabulary, and elementary composition. (No prereq. Limited to 25 students)

**Fall Semester**

M-6:20-8:00, EdH 102, Wark

**Fall Quarter**

M-7:00-9:30, Rich HS 213,  
Johnson

W-5:30-8:00, StP Ext,  
Johnson

**Spring Semester**

M-6:20-8:00, EdH 102, Wark

**Spring Quarter**

W-7:00-9:30, MacP 327,  
Johnson

**Winter Quarter**

W-7:00-9:30, Kel HS 235,  
Johnson

\*Rhet 1-147 **EFFICIENT READING** (old Rhet 47). 3 degree credits. Tuition plus \$2 materials fee.

Designed for students, business, or professional people of average or above-average reading ability who wish to improve their reading speed and comprehension. Emphasis is on reading techniques of particular use in achieving or maintaining superior scholastic or professional status. A suggested follow-up for PO 1-001, How to Study. (No prereq. Limited to 30 students)

**Fall Quarter**

M-6:20-8:50, ForH 115,  
Price

T-6:20-8:50, ForH 115,  
Horberg

T-6:20-8:50, AgEng 315,  
StP Campus, Gore

W-7:00-9:30, Rich HS 216,  
White

Th-6:00-8:30, StP Ext,  
Marchand

S-9:30 a.m.-12:00, ForH  
115, Gore

**Winter Quarter**

M-6:20-8:50, ForH 115,  
Price

W-6:00-8:30, MacP 416,  
Horberg

W-7:00-9:30, Sand JHS  
206, Holloway

Th-6:00-8:30, StP Ext,  
Marchand

**Spring Quarter**

M-6:20-8:50, ForH 115,  
Price

T-6:20-8:50, ForH 416,  
Horberg

W-6:00-8:30, MacP 327,  
White

Th-6:00-8:30, StP Ext,  
Marchand

\*Rhet 1-251 **EFFECTIVE LISTENING** (old Rhet 48). 3 degree credits.

Designed to increase listening comprehension by developing three central abilities. Readings, research, theory, and practice. (No prereq. Limited to 45 students)

**Fall Quarter**

W-6:30-9:00, ForH 285,  
Holloway

**LEARN ANOTHER LANGUAGE**

- . . . a boon to the overseas traveler
- . . . a giant step toward world citizenship
- . . . a key to another culture

Arabic

Chinese

Danish

Finnish

French

German

Greek

Hebrew

Italian

Japanese

Norwegian

Portuguese

Russian

Spanish

Swedish

Twì

(See index in back of Bulletin for page number of course description.)

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Swedish

(See Scandinavian Languages)

## Theatre Arts

- H. Lee Adey, Associate Professor of Speech, Communication, and Theatre Arts*  
*Arthur H. Ballet, Professor of Speech, Communication, and Theatre Arts*  
*Louis Campbell, Teaching Associate in Speech, Communication, and Theatre Arts*  
*David Feldshuh, Teaching Associate in Speech, Communication, and Theatre Arts*  
*Warren Frost, Instructor in Speech, Communication, and Theatre Arts*  
*Robert Kanter, Teaching Associate in Speech, Communication, and Theatre Arts*  
*Charles Nolte, Assistant Professor of Speech, Communication, and Theatre Arts*  
*Donald Seay, Instructor in Theatre Arts*  
*Mary Elin Wright, Instructor in Speech, Communication, and Theatre Arts*

**Th 1-101 INTRODUCTION TO THE THEATRE** (old Th 11). 3 degree credits.

An orientation in the great dramatic tradition through a consideration of plays and playwrights from Sophocles to Tennessee Williams. It covers the history of theatrical customs, conventions, and traditions as they affect modern stage production and includes a view of the highlights of theatre, architecture, scenic design, stagecraft, lighting, costumes, make-up and special effects. (No prereq. Concurrent registration with 1-501 strongly recommended but not required)

**Fall Quarter**

T-6:20-8:50, SciCB 175,  
Ballet

**Spring Quarter**

W-6:20-8:50, SciCB 175,  
Ballet

**\*Th 1-321 BEGINNING ACTING: CREATIVE APPROACH** (old Th 21). 3 degree credits.

Creation and presentation of original scenes and exercises. Ability to respond to the imaginative situation with individuality and effectiveness is stressed. (Prereq 1-501 or ¶1-501. Limited to 24 students)

**Fall Quarter**

W-6:20-8:50, WeH 302,  
Campbell

**Spring Quarter**

W-6:20-8:50, WeH 302

**Th 1-322 BEGINNING ACTING: CREATING A ROLE** (old Th 22). 3 degree credits.

Application of creative techniques to analysis, understanding, and theatrically effective communication of roles from dramatic literature. (Prereq 1-321)

**Winter Quarter**

W-6:20-8:50, StP Ext,  
Kanter

**Th 1-328 MIME** (old Th 25). 3 degree credits.

The basic techniques and the domain of Mime discussed and explored through class participation. (Prereq 1-321 or §)

**Winter Quarter**

S-9:00-11:30 a.m., MacP 221,  
Feldshuh

**Th 1-501 INTRODUCTION TO THE THEATRE: LABORATORY SECTION** (old Th 12). 1 degree credit.

A laboratory in the practice of the arts and crafts of the theatre; scenery and

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

particularly construction and painting; stage operation, costuming. (Prereq 1-101 or ¶1-101. Further sessions will be scheduled at first class meeting)

**Fall Quarter**

Th—6:20-8:50, AAnnex 53,  
Seay

**Spring Quarter**

Th—6:20-8:50, AAnnex 53,  
Seay

**Th 3-707 PLAY PRODUCTION IN SECONDARY SCHOOL** (old Th 74). 3 degree credits.

Technical fundamentals: stagecraft, design, lighting, and costuming. (Prereq 1-501)

**Fall Quarter**

T—6:20-8:50, WeH 306, Adey

**Th 3-708 PLAY PRODUCTION IN SECONDARY SCHOOL** (old Th 75). 3 degree credits.

Fundamentals including the analysis and production of selected scenes. (Prereq 3-707)

**Winter Quarter**

T—6:20-8:50, PeikG 55,  
Adey

**\*Th 5-115 PLAYWRITING** (old Th 115). 3 degree credits. Tuition plus \$10 special fee.

After evidence of thorough groundwork in established techniques of well-made play, student is encouraged to use other, more experimental forms. (Prereq 1-321 or ‡. Limited to 12 students. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Quarter**

S—2:00-4:30, MacP Annex 3, Frost

**DRAMA ADVISORY SERVICE**

Assistance to Community Theatres, Loan Play Library

320 Wesbrook

373-4947

**Transportation**

*Frederick J. Beier, Assistant Professor of Transportation and Logistics*

*Nicholas A. Glaskowsky, Jr., Professor of Management and Logistics*

*Donald V. Harper, Professor of Transportation and Logistics*

*Edmund A. Nightingale, Professor of Economics and Transportation*

**\*Tran 3-054 FUNDAMENTALS OF TRANSPORTATION** (old Tran 54). 3 degree credits, \$8-154.

Organization and economic aspects of the transportation system of the United States including rail, highway, air, pipeline, and water transportation. Nature of the transportation function in business. Regulatory problems. Current developments and problems. (Prereq Econ 1-001 and 1-002 or ‡. Limited to 50 students)

**Fall Quarter**

M—5:30-8:00, AndH 210,  
Harper

**Winter Quarter**

M—5:30-8:00, AndH 310,  
Harper

**Spring Quarter**

M—5:30-8:00, AndH 230,  
Harper

W—5:30-8:00, StP Ext, Beier

Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.

## Evening Classes

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**Tran 3-064 BUSINESS LOGISTICS I (old Tran 164A). 3 degree credits.**

Organization and control of transportation services for the firm. Topics covered include transportation alternatives, documentation, cost levels and rate negotiation, warehousing, and introduction to the logistics concept. (Prereq 3-054. For graduate credit, register in 8-264. Meets concurrently with 8-264)

**Winter Quarter**

T-5:30-8:00, BA 632, Beier

**Tran 5-144 TRANSPORTATION PRICING (old Tran 144). 3 degree credits.**

Rationale and applications of modern rate and fare structures (including grain rates) of the regulated carriers. Principles, problems, and cases relating to the construction, interpretation, and application of carrier classifications and tariffs. Competitive aspects of exempt and private transportation. Fundamentals of rate negotiation between shippers and carrier pricing departments or rate bureaus. Relation of transportation pricing to the successful operation of business logistics systems. (Prereq 3-054 or 8-154. Qualified students may register for graduate credit at the University of Minnesota)

**Spring Semester**

W-8:15-9:55, BA 837, Nightingale

**Tran 5-165 BUSINESS LOGISTICS II (old Tran 164B). 3 degree credits.**

The development of a logistics system for the firm. Topics covered include inventory control, customer service, internal warehousing operations, fixed facility location, and a reexamination of the logistics concept. (Prereq 3-054 or 8-154. Qualified students may register for graduate credit at the University of Minnesota)

**Spring Quarter**

T-5:30-8:00, BA 632, Beier

**Tran 5-184 CARRIER MANAGEMENT (To be offered 1971-1972)**

**Tran 5-194 and 5-196 are strongly recommended for nonlawyers who plan to take the Interstate Commerce Commission's examination for admission to practice.**

**Tran 5-194 TRANSPORTATION REGULATION AND NATIONAL POLICY I: DOMESTIC TRANSPORTATION (old Tran 194A). 3 degree credits.**

National policies (regulatory and promotional) with respect to railway, highway, air, water, pipeline, and urban transportation. Interstate Commerce Act, Federal Aviation Act, Administrative Procedure Act, and Department of Transportation Act, 1966. Organization, functions, and powers of Interstate Commerce Commission, Civil Aeronautics Board, and Department of Transportation. Overview of practice and procedure before Interstate Commerce Commission. Analysis of leading I.C.C., C.A.B., and Supreme Court decisions. (Prereq 3-054 or 8-154. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Semester**

W-6:20-8:00, BA 933, Nightingale

**Tran 5-195 TRANSPORTATION REGULATION AND NATIONAL POLICY II: INTERNATIONAL TRANSPORTATION MARINE AND AIR (old Tran 194B). 3 degree credits.**

National policies (regulatory and promotional), U.S. Merchant Marine statutes, and Federal Aviation Act. Organization, functions, and powers of Federal Maritime Commission, Maritime Administration, and those of Civil Aeronautics Board and Department of Transportation (Federal Aviation Administration) with respect to international air transportation. Pricing activities of marine shipping conferences and the dual-rate contract system; regulation of foreign freight forwarders and custom brokers. Agreements and organizations among governments (I.C.A.O.) and among carriers (I.A.T.A.) for the facilitation of international air transport. Analysis of leading F.M.C., C.A.B., and Supreme Court decisions. (Prereq 3-054 or 8-154. Qualified students may register for graduate credit at the University of Minnesota)

**Fall Semester**

W-8:15-9:55, BA 933, Nightingale

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Symbols explained on page 32.

See new and old course number Conversion Table in back of bulletin.



**Tran 5-196 TRANSPORTATION REGULATION AND NATIONAL POLICY III** (old Tran 194C).  
3 degree credits.

Analysis of current major issues, pertinent studies and reports in national policy and regulatory areas, including recent and proposed legislation and Congressional hearings thereon. I.C.C. and C.A.B. cost studies. Practice and procedure before the Interstate Commerce Commission. Evaluation of the impact of regulation and national policies on the economy. Role of federal government as largest user of transportation services and as an operator of transportation facilities (MAC and MSTs). Individual research. (Prereq 3-054 or 8-154; 5-194 advised. Qualified students may register for graduate credit at the University of Minnesota)

**Spring Semester**

W-6:20-8:00, BA 933, Nightingale

**Tran 8-264 BUSINESS LOGISTICS I** (old Tran 164A). 3 degree credits.

Organization and control of transportation services for the firm. Topics covered include transportation alternatives, documentation, cost levels and rate negotiation, warehousing, and introduction to the logistics concept. (Prereq 3-054 or 8-154. Meets concurrently with 3-064. Open only to students currently enrolled in the Graduate School at the University of Minnesota)

**Winter Quarter**

T-5:30-8:00, BA 632, Beier

## Urban Affairs

For information on non-credit conferences or workshops in urban affairs, please contact Mrs. Dorothy Anderson, 3300 University Ave. S.E.; telephone 373-3977.

## 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.

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 7 to April 29)

Th-7:30-9:30, VetC, StP Campus,  
Hanson and Mather (coordinators)

## World Affairs

For information on non-credit conferences or workshops in world affairs, please contact Mr. William C. Rogers, 3300 University Ave. S.E.; telephone, 373-3709.

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

### **FIRE PROTECTION CERTIFICATE (Proposed)**

A certificate program is being considered by the General Extension Division 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

# Day by Day Schedule of Evening and Special 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	Spec Class	Special Class
		Spec Term	Special Term

The following abbreviations are used to show location of each course:

Cam	Minneapolis or St. Paul Campus	Cen	Central High School
StP Ext	St. Paul Extension Center	Kell	Kellogg Senior High School
MacP	MacPhail Center	Rich	Richfield High School
Hop	Hopkins High School	Sand	Sandburg Junior High School
See Course Desc	Refer to Course Offerings section for location of course		

## MONDAY

CLASSES	LOCATIONS								
	Cam	STP Ext	MacP	Hop	Cen	Kell	Rich	Sand	See Course Desc
<b>Accounting</b>									
Acct 0-130C	FS								
0-131C	SS								
1-024/1-025, 1-026	SS								
1-024	SS	F		F	F		F		
1-025		W		W	W		W		
1-026	FS/SS	S		S	S		S		
3-160	SS								
3-220	FS								
3-221	SS								
5-180	SS								
5-275	W								
<b>Afro-American Studies</b>									
Afro 1-030	F								
<b>American Studies</b>									
AmSt 1-101	F								
1-102	W								
1-103	S								
<b>Architecture</b>									
Arch 3-055	F								
<b>Art Education</b>									
ArEd 1-207	S								
1-208	F								
<b>Art History</b>									
ArtH 1-012	S								
5-213	W								
5-431	F								
5-432	W								

Monday (continued)

CLASSES	LOCATIONS								See Course Desc
	Cam	StP Ext	MacP	Hop	Cen	Kell	Rich	Sand	
<b>Art Studio</b>									
<b>ArtS</b>									
1-101	FS/SS					W		F	
1-102									
1-113	FS								
1-119	FS								
1-302	F								
1-701	FS/SS								
3-111	FS/SS								
3-112	FS/SS								
3-113	FS/SS								
3-116	SS								
3-121	FS/SS								
3-122	FS/SS								
3-123	FS/SS								
3-127	FS/SS								
3-128	FS/SS								
3-129	FS/SS								
3-131	FS								
3-132	SS								
3-133	FS								
3-134	SS								
3-701	F/W/S								
3-702	F/W/S								
3-703	F/W/S								
5-113	SS								
<b>Astronomy</b>									
<b>Ast</b>									
1-008		W							
1-009		F							
<b>Biology</b>									
<b>Biol</b>									
1-001	F/S								
1-002	W								
3-051	SS								F
<b>Business Law</b>									
<b>BLaw</b>									
3-058			FS						
			SS						
<b>Business Studies</b>									
<b>(General College)</b>									
<b>GC</b>									
1-731						S	F		
<b>Child Psychology</b>									
<b>CPsy</b>									
3-301								F	
5-311	SS								
<b>Civil Engineering</b>									
<b>CE</b>									
3-300	F								
5-310	W								
5-311	S								
<b>Classics</b>									
<b>Clas</b>									
1-122	F								
3-081	F								
3-082	W								
5-081	F								
5-082	W								
5-122	F								
<b>Commercial Skills</b>									
<b>(General College)</b>									
<b>GC</b>									
1-471		W							
<b>Computer Information</b>									
<b>CICS</b>									
1-100	F								
1-101	W								
1-102	S								
5-101	F								

Monday (continued)

CLASSES	LOCATIONS								See Course Desc
	Cam	STP Ext	MacP	Hop	Cen	Kell	Rich	Sand	
5-102	W								
5-103	S								
<b>East Asian Languages</b>									
Chin									
1-101	FS								
1-102	SS								
Jpn									
1-005	FS								
1-006	SS								
<b>Economics</b>									
Econ									
1-001	FS								
(Sec 1, 2, 3, 4)									
1-001			FS				FS		
1-001		FS/SS							
(Sec 1)									
1-002	SS								
(Sec 1, 2)									
1-002			SS					SS	
1-002		FS/SS							
(Sec 1)									
3-101	FS								
3-102	SS								
3-131	SS								
5-131	FS								
5-401 & 5-431	FS								
<b>Electrical Engineering</b>									
EE									
1-500	FS								
1-501	SS								
3-050	FS								
3-051	SS								
3-100	F								
3-101	W								
5-100	S								
<b>Engineering Graphics</b>									
EG									
1-025	SS								
<b>English</b>									
Comm									
1-001	F								
1-002	W								
1-003	S								
Comp									
0-001	W								
0-002C	F								
1-027	FS								
Engl									
0-006C	FS/SS								
1-001	F	W					F		
1-002	W	S					W		
1-003	S						S		
1-821	F								
1-822	W								
1-823	S								
1-937	F								
1-938	W								
1-939	S								
3-085	FS/SS								
3-601	F/S								
3-685	F								
3-827	F								
3-828	W								
3-875	FS								
5-645	F								
5-646	S								
5-875	FS								
5-887	W								
5-888	W								
5-894	S								

Monday (continued)

CLASSES		LOCATIONS								
		Cam	StP Ext	MacP	Hop	Cen	Kell	Rich	Sand	See Course Desc
<b>Family Studies</b>										
FamS	1-001	F		S						
	1-025	F					W		S	F
	3-001							F		
	5-001	W								
<b>Finance</b>										
Fin	0-001C	FS								
<b>French</b>										
Fren	0-001	F/W/S								
	1-101	F								
	1-102	W								
	1-103	F/S								
<b>Geography</b>										
Geog	1-401	FS							SS	
	3-181	S								
	3-511	S								
	5-900	F								
<b>Geology</b>										
Geo	1-001	SS								
	1-002	FS								
	1-003	SS								
	1-004	FS								
<b>German</b>										
Ger	0-221	FS/SS								
	0-222	FS/SS								
	1-101	FS								
	1-102	SS								
	1-103	FS								
	1-301	SS								
	1-302	SS								
<b>History</b>										
Hist	1-001									
	1-002									
	1-003									
	1-301	FS								
	1-302	SS								
	1-451	F								
	1-452	W								
	1-453	S								
	3-001									
	3-002									
	3-003									
	3-451	F								
	3-452	W								
	3-453	S								
	3-591	F								
	3-592	W								
	5-101	F								
	5-102	W								
	5-103	S								
	5-264	F								
	5-265	W								
	5-266	S								
<b>Humanities</b>										
(General College)										
GC	1-331								F	
	1-536			W						
	1-812	S								
<b>Hum</b>	1-001									
	1-002									
	1-003									
	1-004	FS								

Monday (continued)

CLASSES		LOCATIONS								See Course Desc
		Cam	STP Ext	MacP	Hop	Cen	Kell	Rich	Sand	
<b>Industrial Engineering</b>										
IE	0-100C	FS								
	0-210C	SS								
<b>Industrial Relations</b>										
IR	0-001C	FS/SS					S			
	0-002C	W								
	0-003C	S								
	0-004C	SS								
	3-002		FS						S	
	3-007	FS								
	3-017	S								
	5-002	F								
<b>Insurance</b>										
Ins	3-100	FS								
IIA Ins	0-021C	F								Spec Term
	0-023C									
IIA ADJ	0-031C	F								Spec Term
	0-032C									
IIA RM	0-054C	F								Spec Term
	0-055C									
CPCU	0-001C	FS/SS								
CLU	0-001C		FS							FS
	0-002C		SS							SS
	0-009C									FS
	0-010C									SS
<b>Italian</b>										
Ital	0-001	S								
	1-004	F								
<b>Journalism</b>										
Jour	1-001	FS								
	3-176	SS								
	3-178	FS								
	3-221	SS								
	3-231	FS								
	5-549	SS								
<b>Library Science</b>										
Lib	5-201	W								
	5-401	F/W								
<b>Management</b>										
Mgmt	3-001	FS								
	3-004	FS								
<b>Management Information Systems</b>										
MIS	0-001C	FS/SS								
<b>Marketing</b>										
Mktg	3-000	FS					S			
	3-075	SS								
	3-095	FS								
	8-000	S								
<b>Mathematics</b>										
Math	0-006	FS/SS								
	0-007	FS								
	0-011	FS/SS		FS			S			
	0-012	F/FS/SS	F						F/W	
	1-005								W	
	1-006								S	

Monday (continued)

CLASSES		LOCATIONS							See Course Desc
		Cam	StP Ext	MacP	Hop	Cen	Kell	Rich	
	1-141	SS							
	1-142	FS							
	1-210	FS/W/SS						W	
	1-220	FS/S/SS						S	
	1-230	F						F	
	1-240	W							
	1-250	FS/S							
	1-260	SS							
	1-441	F							
	1-442	W							
	1-443	S							
<b>Mechanical Engineering</b>									
ME	0-110C	FS							
	5-320	F							
	5-340	S							
<b>Metallurgical Engineering</b>									
MetE	0-001C	FS							
	0-002C	SS							
<b>Middle Eastern Languages</b>									
Arab	1-101	FS							
	1-102	SS							
Heb	1-501	F							
	1-502	W							
	1-503	S							
	3-501	F							
	3-502	W							
<b>Music</b>									
Mus	0-011	F							
	0-012	W							
	1-001			F/W/S					
	1-501			F					
	1-420	F/W/S							
(men)	1-430	F/W/S							
(U chorus)	1-430	F/W/S							
	3-430	F/W/S							
	5-440			F/W/S					
<b>Music Education</b>									
MuEd	3-011	F							
<b>Natural Science (General College)</b>									
GC	1-132							W	
	1-181	F							
<b>Philosophy</b>									
Phil	1-001	F/W							
	1-002	S	F						
	1-003	F/W/S							
	3-001	F							
	3-003	W							
	5-501	F							
	5-701	S							
<b>Physical Education</b>									
PE	5-150	S							
<b>Physics</b>									
Phys	1-210	FS							
	1-215	FS							
	1-220	SS							
	1-225	SS							
	1-230	FS							
	1-235	FS							

Monday (continued)

CLASSES	LOCATIONS								See Course Desc	
	Cam	StP Ext	MacP	Hop	Cen	Kell	Rich	Sand		
	3-500	SS								
	3-505	SS								
<b>Political Science</b>										
<b>Pol</b>										
	1-031	F								
	1-051	F								
	5-308	SS								
	5-316	FS								
	5-318	SS								
	5-443	FS								
	5-454	SS								
<b>Portuguese</b>										
<b>Port</b>										
	1-101	F								
	1-102	W								
	1-103	S								
<b>Production</b>										
<b>Prod</b>										
	0-050C	F								
	3-050	F/S								
	8-150	W								
<b>Psychology</b>										
<b>Psy</b>										
	1-001		W	W			F			
	1-002		S	S			W			
	1-003	F	S							
	1-911	F								
	3-031	S								
	5-605	SS								
	5-721	F								
	5-722	W								
	5-723	S								
<b>Psychology Foundation of Education</b>										
<b>PsyF</b>										
	5-160	FS/SS								
<b>Public Administration</b>										
<b>PA</b>										
	0-053C									F
	0-054C									S
	0-062C	F								
	0-106C									W
<b>Public Health</b>										
<b>PubH</b>										
	5-181	FS								
	5-182	SS								
	5-192	S								
<b>Real Estate</b>										
<b>RE</b>										
	0-002C	FS								
<b>Recreation</b>										
<b>PE</b>										
	0-150									Spec Class
	0-250									Spec Class
										Spec Class
<b>Salesmanship</b>										
<b>Sal</b>										
	0-001C	FS/S								
<b>Scandinavian Languages</b>										
<b>Finn</b>										
	1-101	FS								
	1-102	SS								
<b>Nor</b>										
	1-101	FS								
	1-102	SS								
<b>Swed</b>										
	1-101	FS								
	1-102	SS								
<b>School Health Education</b>										
<b>Hlth</b>										
	5-350							S		



Monday (continued)

CLASSES	LOCATIONS								
	Cam	STP Ext	MacP	Hop	Cen	Kell	Rich	Sand	See Course Desc
<b>Secondary Education</b> SeEd 5-602							Spec Term		
<b>Slavic Languages</b> Russ 0-221	FS								
0-222	SS								
1-101	FS								
1-102	SS								
3-601	F								
3-602	W								
3-603	S								
<b>Social Sciences</b> SSci 3-102	W								
3-103	S								
3-203	F								
3-402									W
<b>Social Work</b> SW 5-412	FS								
5-413	SS								
<b>Sociology</b> Soc 1-001			FS			S			
5-151	W								
5-401	F								
5-405	S								
<b>Spanish</b> Span 1-103	F								
1-104	W								
3-011	S								
5-711	S								
<b>Speech</b> Spch 0-001C	F/W/S								
<b>Study Skills</b> SSk 0-001C	W					F			
PO 1-001	FS/SS						F		
Rhet 1-147	F/W/S								
<b>Transportation</b> Tran 3-054	F/W/S								

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<b>Accounting</b> Acct 1-024	F/S/FS					F			
1-025	W								
1-026	S								
3-105		F						F	
3-106	W								
3-107	S								
<b>Aerospace Engineering and Mechanics</b> AEM 0-001C									Spec Term
<b>Afro-American Studies</b> Afro 1-025	F/W/S								
<b>American Studies</b> AmSt 1-101		S							
1-102		F							
1-103		W							

Tuesday (continued)

CLASSES	LOCATIONS								
	Cam	StP Ext	MacP	Hop	Cen	Kell	Rich	Sand	See Course Desc
<b>Anthropology</b>									
Anth	1-001 5-381	F/W S							
<b>Art Education</b>									
ArEd	3-020 3-030	F/S S							
<b>Art History</b>									
Arth	1-001 3-001	F/W/S F/W/S							
<b>Art Studio</b>									
Phot	0-001C 0-002C	FS/SS SS							
ArtS	1-101 1-102 1-501 1-502 1-702 1-801 3-114 3-131 3-132 3-501 3-502 3-503 3-701 3-702 3-703 5-111 5-112 5-501 5-502 5-503	FS/SS FS/SS FS/SS FS/SS SS FS/SS FS/SS FS/SS SS FS/SS FS/SS FS/SS F/W/S F/W/S F/W/S FS SS FS/SS FS/SS FS/SS							
			FS SS						
<b>Astronomy</b>									
Ast	1-008 1-009	FS SS							
<b>Business Law</b>									
BLaw	3-058 3-078 3-088	FS F/S	F/W S				W	S	
<b>Business Studies (General College)</b>									
GC	1-535 1-551 1-552 1-553	F W S	S						
<b>Chemistry</b>									
GeCh	1-004 1-005 1-006	FS SS FS							
<b>Child Psychology</b>									
CPsy	3-301 5-303 5-317 5-319	FS/SS S S FS							
<b>Cinematography</b>									
Cin	0-001 0-002 0-003	F W S							

Tuesday (continued)

CLASSES	LOCATIONS								
	Cam	STP Ext	MacP	Hop	Cen	Kell	Rich	Sand	See Course Desc
<b>Civil Engineering</b>									
CE 5-410	F								
5-411	W								
<b>Classics</b>									
Clas 1-045	F								
5-145	F								
<b>Communication Skills (General College)</b>									
GC 1-471								S	
<b>Computer, Information, and Control Sciences</b>									
CICS 1-104	F								
5-301	F								
5-302	W								
5-303	S								
<b>Economics</b>									
Econ 1-001	FS								
(Sec 5, 6, 7, 8)									
1-001	SS							FS/SS	
(Sec 1, 2)									
1-001								FS	
(Sec 2)									
1-002								FS/SS	
1-002	SS								
(Sec 3, 4)									
3-101	FS/SS								
3-851	FS								
5-811	SS								
<b>Elementary Education</b>									
Elem 5-103								S	Spec Term
<b>Engineering Graphics</b>									
EG 0-001C	F								
0-004C	W								
0-005C	S								
1-025	FS								
<b>English</b>									
Comm 1-001	W		F						
1-002	S		W						
1-003			S						
Comp 0-001	F/S								
0-002C	W		F						
0-003C	W								
0-004C	F								
1-027	FS								
1-028	SS								
Engl 1-001	S		W		F	F		F	
1-002	F		S		W	W		W	
1-003	F/W				S	S		S	
3-155	F								
3-156	W								
3-877	F								
3-878	W								
3-879	S								
5-705	S								
5-713	F/W/S								
5-751	W								
5-752	S								
5-771	F								
5-862	F								

Tuesday (continued)

CLASSES		LOCATIONS							See Course Desc	
		Cam	StP Ext	MacP	Hop	Cen	Kell	Rich		Sand
<b>Finance</b>										
<b>Fin</b>	3-000	FS/SS								
	3-100	S								
	3-400	FS								
<b>French</b>										
<b>Fren</b>	3-201	W								
	3-305	S								
<b>Geography</b>										
<b>Geog</b>	3-101	W								
<b>Geology</b>										
<b>Geo</b>	1-001	FS								
	1-002	SS								
	1-003	FS								
	1-004	SS								
	5-051	FS								
	5-052	SS								
<b>History</b>										
<b>Hist</b>	1-051		F							
	1-052		W							
	1-053		S							
	1-111	F								
	1-112	W								
	1-113	S								
	1-151	F								
	1-152	W								
	1-153	S								
	1-301		F							
	1-302		W							
	1-431	F								
	1-432	W								
	1-433	S								
	3-051		F							
	3-052		W							
	3-053		S							
	3-151	F								
	3-152	W								
	3-153	S								
	3-883	S								
	5-071	F								
	5-072	W								
	5-073	S								
	5-211	F								
	5-212	W								
	5-213	S								
	5-401	F								
	5-402	W								
	5-403	S								
<b>History and Philosophy of Education</b>										
<b>HEd</b>	5-200									F
	5-201									W
	5-202									S
<b>Horticulture</b>										
<b>Hort</b>	1-010	F								
	3-051	W								
<b>Humanities (General College)</b>										
<b>GC</b>	1-357						W			
	1-367	F								
	1-371						S			

Tuesday (continued)

CLASSES		LOCATIONS								See Course Desc
		Cam	StP Ext	MacP	Hop	Cen	Kell	Rich	Sand	
Hum	1-001	F/S								
	1-002	W								
	1-003	S								
	1-011	F								
	1-012	W								
	1-013	S								
	3-013	F								
<b>Industrial Engineering</b>										
IE	0-350C	SS								
	0-408C	FS								
	0-409C	SS								
<b>Industrial Relations</b>										
IR	0-001C		FS/SS							
	0-002C			SS						
	3-010	FS								
	3-012	SS						F		
	5-032	SS								
<b>Insurance</b>										
IIA CLU	0-022C	F								
	0-003C									FS
	0-004C									SS
<b>Italian</b>										
Ital	1-001	F								
	1-002	W								
	1-003	S								
<b>Journalism</b>										
Jour	1-201	SS								
	5-501	FS								
<b>Library Science</b>										
Lib	5-101	F								
	5-201	F								
	5-202	S								
	5-203	W								
	5-301	W								
<b>Management</b>										
Mgmt	3-001									F
	8-001	S								
<b>Management Information</b>										
MIS	0-001C						F			
	0-003C	F/ FS/SS								
	3-100	F/ FS/SS								
<b>Marketing</b>										
Mktg	3-000	FS/SS								W
	3-077	F								
	3-080	SS								
BA	3-001	FS								
<b>Mathematics</b>										
Math	0-005	SS								
	0-006	FS								
	0-011	FS/SS	FS					W	F	
	0-012	FS/SS	SS							
	0-090	FS								
	1-008	FS/SS								
	1-119	S								
	1-141	FS								
	1-142	SS								
	1-210	FS/SS	F							
	1-220	FS/SS	W							

Tuesday (continued)

CLASSES	LOCATIONS								See Course Desc
	Cam	StP Ext	MacP	Hop	Cen	Kell	Rich	Sand	
1-230	SS	S							
1-240	FS	F							
1-250	SS	W							
1-260	FS								
<b>Mechanical Engineering</b>									
ME 0-030C	SS								
3-301	FS								
3-302	SS								
<b>Middle Eastern Languages</b>									
Arab 3-541	F								
3-542	W								
3-545	S								
<b>Music</b>									
Mus 0-051	FS								
0-052	SS								
1-014	F								
1-420	F/W/S								
(U chorus) 1-430	F/W/S								
(women) 1-430	F/W/S								
(StP chorus) 1-430	F/W/S								
1-501	F								
1-502	W								
1-503	S								
1-504			F						
1-505			W						
1-506			S						
3-430	F/W/S								
3-584	F								
3-585	W								
3-586	S								
3-701	F								
3-702	W								
3-703	S								
3-704	F								
3-705	W								
3-706	S								
<b>Natural Science</b>									
NSci 1-001	F								
1-002	W								
1-003	S								
<b>Nursing</b>									
Nurs 0-040C	S								
0-200C	F								
0-500C	F								
<b>Philosophy</b>									
Phil 1-001							F		
1-002	F						W		
1-003							S		
1-011	W								
3-605	S								
<b>Physical Education</b>									
PEW 1-800	S								
<b>Physics</b>									
Phys 1-010	F								
1-020	W								
1-030	S								
<b>Political Science</b>									
Pol 1-001	FS								
1-002	SS								
1-051							W		
1-052							S		

Tuesday (continued)

CLASSES	LOCATIONS								
	Cam	STP Ext	MacP	Hop	Cen	Kell	Rich	Sand	See Course Desc
	5-442	FS							
	5-457	S							
	5-737	F							
<b>Psychology</b>									
<b>Psy</b>	1-001	SS						F	
	1-002	FS						W	
	3-011	FS/SS							
<b>Public Administration</b>									
<b>PA</b>	0-050C								F
	0-053C								W
	0-058C	F							W
	0-063C	S							S
	0-070C								
<b>Public Health</b>									
<b>PubH</b>	0-030C	F							
	0-031C	W							
	0-032C	S							
	3-001	SS							
	5-151	FS							
	5-171	S							
<b>Quantitative Analysis</b>									
<b>QA</b>	3-054	S							
<b>Real Estate</b>									
<b>RE</b>	0-003C	SS							
<b>Recreation</b>									
<b>PE</b>	0-300								Spec Class
<b>School Health Education</b>									
<b>Hlth</b>	5-130		FS						
<b>Secondary Education</b>									
<b>SeEd</b>	5-371	Spec Term						S	
<b>Social Studies (General College)</b>									
<b>GC</b>	1-221	F							
	1-815						F		
<b>Social Work</b>									
<b>SW</b>	5-402	FS							
	5-403	SS							
<b>Sociology</b>									
<b>Soc</b>	1-001	SS	F						
	5-951	FS/SS							
<b>Spanish</b>									
<b>Span</b>	1-101	F							
	1-102	W							
	1-103	S							
	3-024	W							
<b>Special Education</b>									
<b>SpEd</b>	5-150	F							
<b>Speech</b>									
<b>Spch</b>	1-301					F			
	1-302					W			
	5-411	FS							
<b>Study Skills</b>									
<b>SSk</b>	0-001C						W		
<b>Rhet</b>	1-147	F/S							

**Tuesday (continued)**

CLASSES	LOCATIONS								
	Cam	STP Ext	MacP	Hop	Cen	Kell	Rich	Sand	See Course Desc
<b>Theatre</b>									
<b>Th</b>	1-101	F							
	3-707	F							
	3-708	W							
<b>Transportation</b>									
<b>Tran</b>	3-064	W							
	5-165	S							
	8-154	W							
	8-264	W							

**WEDNESDAY**

<b>Accounting</b>									
<b>Acct</b>	1-024		F						
	1-025	FS/SS	W						
	1-026		S						
	3-105	FS							
	3-106	SS							
	3-107	FS							
	5-125	FS							
	5-275	W							
	8-050	FS							
	8-051	SS							
<b>Afro-American Studies</b>									
<b>Afro</b>	1-045				F				
<b>American Studies</b>									
<b>AmSt</b>	1-101							W	
	1-102							S	
	1-103				F			F	
					W				
<b>Anthropology</b>									
<b>Anth</b>	1-002		W						
	3-211	F							
	5-532	S							
<b>Architecture</b>									
<b>Arch</b>	1-021	F/W/S							
<b>Art History</b>									
<b>ArtH</b>	1-001	S							
	1-011	S							
	1-013	F							
	3-001	S							
	5-358	W							
	5-711	W							
	5-712	S							
<b>Art Studio</b>									
<b>ArtS</b>	1-101	FS/SS					W		
	1-102	FS/SS							
	1-104	S							
	1-111	FS/SS							
	1-112	FS/SS							
	1-301	FS/SS							
	1-701	FS/SS							
	3-101	FS/SS							
	3-102	FS/SS							
	3-103	FS/SS							
	3-131	FS/SS							
	3-132	SS							
<b>Astronomy</b>									
<b>Ast</b>	1-008	S							



Wednesday (continued)

CLASSES		LOCATIONS								See Course Desc
		Cam	StP Ext	MacP	Hop	Cen	Kell	Rich	Sand	
<b>Biology</b>										
Biol	1-001	F/S								
	1-002	W								
	3-051									F
<b>Business Law</b>										
BLaw	3-058	FS/SS								
	3-078	FS								
	3-098	SS								
<b>Business Studies (General College)</b>										
GC	1-511		F							
	1-551		W							
	1-552		S							
	1-553									
<b>Child Psychology</b>										
CPsy	3-301							S		
	5-311	FS								
<b>Civil Engineering</b>										
CE	5-100	F								
	5-101	S								
	5-102	W								
<b>Communication Skills (General College)</b>										
GC	1-471	F								
<b>Computer, Information, and Control Sciences</b>										
CICS	3-101	FS/SS								
<b>Ecology</b>										
Ecol	1-003									Spec Term
<b>Economics</b>										
Econ	1-001	FS								
	(Sec 9, 10, 11)									
	1-001		FS/SS							
	(Sec 2)									
	1-002		FS/SS							
	(Sec 2)									
	1-002	SS								
	(Sec 5, 6)									
	3-102	FS								
	3-501	FS								
	3-651	SS								
	5-541	SS								
<b>Electrical Engineering</b>										
EE	3-100	F								
	3-101	W								
<b>Elementary Education</b>										
Elem	3-378	F								
<b>English</b>										
Comm	1-001		F							
	1-002		W							
	1-003		S							
Comp	0-002C	S								
	0-003C	F								
	0-004C	W								
Engl	1-028	FS/SS								
	1-001	F/W	S							
	1-002	F/W/S								

Wednesday (continued)

CLASSES	LOCATIONS								See Course Desc
	Cam	StP Ext	MacP	Hop	Cen	Kell	Rich	Sand	
1-003	F/W/S								
1-821		F							
3-155		W							
3-156		S							
3-721	F								
3-722	W								
3-723	S								
5-128	W								
5-129	S								
5-135	F								
5-837	F								
5-839	S								
5-991	F								
5-992	W								
5-993	S								
<b>Finance</b>									
Fin									
0-002C	S								
3-000		F							
<b>French</b>									
Fren									
1-004	F								
1-005	W								
<b>Geography</b>									
Geog									
1-311	SS								
5-173	W								
<b>History</b>									
Hist									
1-001	F								
1-002	W								
1-003	S								
1-301							W		
1-302							S		
3-001	F								
3-002	W								
3-003	S								
3-804	F								
3-805	W								
5-224	F								
5-225	W								
5-226	S								
5-271	F								
5-272	W								
5-273	S								
5-274	W								
5-275	S								
5-465	F								
5-467	W								
5-468	S								
5-472	F								
<b>Home Economics</b>									
HE									
5-381	FS								
<b>Humanities</b>									
Hum									
1-001	FS/W								
1-002	S								
1-003									
3-003	F								
3-004	W								
3-005	S								
<b>Humanities (General College)</b>									
GC									
1-374	S								
<b>Industrial Engineering</b>									
IE									
0-360C	FS								
0-410C	SS								

Wednesday (continued)

CLASSES	LOCATIONS								See Course Desc
	Cam	StP Ext	MacP	Hop	Can	Kell	Rich	Sand	
<b>Industrial Relations</b>									
IR 0-002C	FS								
0-005C	FS								
0-006C	FS								
3-002	FS/SS			F					
3-010	SS								
3-012		FS					S		
5-032							S		
<b>Insurance</b>									
IIA 0-023C			F						
CLU 0-005C									FS
0-006C									SS
<b>Italian</b>									
Ital 1-004	F								
1-005	W								
3-104	S								
<b>Journalism</b>									
Jour 1-001	W								
1-005	F								
3-021							S		
3-173	F								
<b>Latin</b>									
Lat 1-101	FS								
1-102	SS								
<b>Library Science</b>									
Lib 5-201	W								
5-401	F/W								
<b>Management</b>									
Mgmt 3-001	FS/SS	S					W		
3-002	FS/SS								
<b>Manufacturing Information Systems</b>									
MIS 0-003C	FS								
3-100	FS								
5-101	FS/SS								
<b>Mathematics</b>									
Math 0-006	FS/SS								
0-007	FS								
0-011	FS/SS		FS			S			
0-012	F/SS/FS	F						F/W	
1-005	F								
1-006	W								
1-141	SS								
1-142	FS								
1-210	FS/W/SS							W	
1-220	FS/SS/S							S	
1-230	F							F	
1-240	W								
1-250	S								
1-441	F								
1-442	W								
1-443	S								
3-060	SS								
<b>Mechanical Engineering</b>									
ME 0-001	W								

Wednesday (continued)

CLASSES	LOCATIONS								
	Cam	StP Ext	MacP	Hop	Con	Kell	Rich	Sand	See Course Desc
<b>Middle Eastern Languages</b>									
Arab 1-501	F								
1-502	W								
1-503	S								
<b>Music</b>									
Mus (U chorus) 1-430	F/W/S								
(men) 1-430	F/W/S								
1-501			F						
1-801	F								
1-802	W								
1-803	S								
3-430	F/W/S								
<b>Music Education</b>									
MuEd 3-304	S								
<b>Natural History</b>									
NatS 0-001									Spec Term
<b>Natural Science (General College)</b>									
GC 1-112							W		
<b>Nursing</b>									
Nurs 0-030C	F								
<b>Philosophy</b>									
Phil 1-001	F/S	W							
1-002	W/S							F	W
1-003			S			F			
5-401	F								
<b>Physics</b>									
Phys 1-210	FS								
1-215	FS								
1-220	SS								
1-225	SS								
1-230	FS								
1-235	FS								
3-500	SS								
3-505	SS								
<b>Political Science</b>									
Pol 1-001		F	W						
1-002		W	S						
1-031			S						
1-041	FS								
1-051			F						
1-052	W								
5-659	FS								
5-738	SS								
5-877	FS								
5-884	SS								
<b>Portuguese</b>									
Port 1-101	F								
1-102	W								
1-103	S								
<b>Psychology</b>									
Psy 1-001	FS								
1-002	SS								
1-003			W				F		
1-004	FS								
1-005	SS								
3-051	SS								
5-104	FS/SS								

Wednesday (continued)

CLASSES	LOCATIONS								See Course Desc
	Cam	StP Ext	MacP	Hop	Con	Kell	Rich	Sand	
<b>Public Administration</b>									
PA 0-060C	W								
0-067C	S								
0-145C									S
<b>Quantitative Analysis</b>									
QA 3-052	F								
3-053	W								
8-151	F								
8-158	W/S								
<b>Real Estate</b>									
RE 0-001C			S						
<b>Recreation</b>									
PE 0-150									Spec Class
0-255									Spec Class
									Class
<b>Scandinavian Languages</b>									
Swed 1-103	FS								
1-104	SS								
<b>School Health Education</b>									
Hlth 5-350									F/W
<b>Secondary Education</b>									
SeEd 5-100							Spec Term		Spec Term
5-101							Spec Term		Spec Term
							Spec Term		Spec Term
<b>Social Sciences</b>									
SSci 3-402									W
<b>Social Studies (General College)</b>									
GC 1-502	S								
1-813	W								
<b>Social Work</b>									
SW 5-011	F								
<b>Sociology</b>									
Soc 1-001					S		F	W	
3-101	FS/SS								
5-141	FS								
5-145	SS								
5-315	SS								
<b>Spanish</b>									
Span 0-221	F/W/S								
1-103	F								
1-104	W								
1-201	F								
1-202	W								
1-203	S								
3-014	F								
5-374	S								
5-414	F								
5-571	W								
<b>Speech</b>									
Spch 1-301	FS								
1-302	SS								
3-201	SS								
<b>Study Skills</b>									
SSk 0-001C	F							S	

Wednesday (continued)

CLASSES		LOCATIONS								See Course Desc
		Cam	STP Ext	MacP	Hop	Gen	Kell	Rich	Sand	
PO Rhet	1-001		F	S			W			
	1-147			W/S				F	W	
	1-251	F								
Theatre Th	1-101	S								
	1-321	F/S								
	1-322		W							
Transportation Tran	3-054		F							
	5-144	SS								
	5-194	FS								
	5-195	FS								
	5-196	SS								

THURSDAY

Accounting Acct	1-024/1-025, 1-026	SS								
	1-024	F/S	F	FS/SS					F	
	1-025	W	W	FS					W	
	1-026	S	S	SS					S	
Aerospace Engineering and Mechanics AEM	0-001C									Spec Term
	1-015	FS								
	3-009	F/W/S								
	3-016	SS								
	3-036	FS								
American Studies AmSt	1-101	F								
	1-102	W								
	1-103	S								
Anthropology Anth	1-002	F								
	5-361	S								
Architecture Arch	0-024									Spec Term
Art Education ArEd	1-207	F								
	1-208	W								
	1-209	S								
Art History Arth	1-009	F/S								
Art Studio ArtS	0-003C			F						
	1-101	FS/SS								
	1-701	F/W/S								
	3-115	FS/SS								
	3-131	FS/SS								
	5-104	FS								
	5-105	FS								
5-106	FS									

Thursday (continued)

CLASSES	LOCATIONS								See Course Desc
	Cam	StP Ext	MacP	Hop	Con	Kell	Rich	Sand	
<b>Business Law</b>									
BLaw	0-001C	FS	SS						
	3-098							SS	
	8-158	W							
<b>Business Studies (General College)</b>									
GC	1-513	W							
	1-535	F							
<b>Chemistry</b>									
GeCh	1-004	FS							
	1-005	SS							
	1-006	FS							
<b>Child Psychology</b>									
CPsy	3-301		W						
	5-315	SS							
<b>Civil Engineering</b>									
CE	0-005	W							
<b>Classics</b>									
Clas	3-071	W							
	3-089	S							
	5-071	W							
	5-089	S							
<b>Economics</b>									
Econ	1-001	FS							
	(Sec 12-13)								
	1-001	SS							
	(Sec 3-4)								
	1-002	FS							
	(Sec 1-2-3)								
	3-751	SS							
	5-031	FS							
	5-301	FS							
	5-331	FS							
<b>English</b>									
Comp	0-001	F							
	0-003C	F							
	0-005C		FS/SS						
Engl	0-007	F							
	1-001			F					
	1-002			W					
	1-003			S					
	1-937		F						
	1-938		W						
	1-939		S						
	3-685	F							
	5-163	S							
	5-674	W							
	5-757	F							
	5-758	S							
	5-811	F							
	5-813	S							
<b>Family Studies</b>									
FamS	3-001	S							
<b>Finance</b>									
Fin	3-000	F		FS					
	3-300	FS	SS						
	8-000	S							
<b>French</b>									
Fren	1-101	F							

Thursday (continued)

CLASSES	LOCATIONS								
	Cam	StP Ext	MacP	Hop	Con	Kell	Rich	Sand	See Course Desc
	1-102	W							
	1-103	F/S							
	3-104	W							
	3-021	S							
	5-395	S							
<b>Geography</b>									
<b>Geog</b>	1-301	FS/SS							
<b>German</b>									
<b>Ger</b>	1-101	FS/SS							
<b>History</b>									
<b>Hist</b>	1-051	F							
	1-052	W							
	1-053	S							
	1-101	F							
	1-102	W							
	1-103	S							
	1-301	W							
	1-302	F/S							
	3-051	F							
	3-052	W							
	3-053	S							
	3-101	F							
	3-102	W							
	3-103	S							
	3-821	SS							
	3-823	FS							
	5-221	F							
	5-222	W							
	5-223	S							
	5-392	FS							
	5-393	SS							
<b>Horticulture</b>									
<b>Hort</b>	3-091	F							
<b>Humanities</b>									
<b>Hum</b>	1-001	F							
	1-002	W							
	1-003	F/S							
	1-004	S							
	5-030	F/W/S							
<b>Humanities</b> <b>(General College)</b>									
<b>GC</b>	1-311					F	S		
<b>Industrial Engineering</b>									
<b>IE</b>	0-330C	FS							
<b>Industrial Relations</b>									
<b>IR</b>	0-001C	S							
	0-003C	FS							
	0-007	F							
	3-002	FS/SS							
	3-010							W	
	3-012	FS							
	5-022	FS/SS							
	5-032	FS							
<b>Insurance</b>									
<b>Ins</b>	3-100	SS	S						
	8-100	F							
<b>IIA Mgt</b>	0-041C	F							
<b>CLU</b>	0-007C								FS
	0-008C								SS



Thursday (continued)

CLASSES		LOCATIONS								See Course Desc
		Cam	StP Ext	MacP	Hop	Cen	Kell	Rich	Sand	
CPCU	0-002C 0-004C	FS/SS FS/SS								
Italian										
Ital	1-001	F								
	1-002	W								
	1-003	S								
Library Science										
Lib	5-101	F								
	5-201	F								
	5-202	S								
	5-203	W								
Management										
Mgmt	3-001	FS/SS								
Management Information Systems										
MIS	0-002C	FS/SS								
Marketing										
Mktg	0-088C	SS								
	3-000		F							
	3-087	FS								
Mathematics										
Math	0-005	SS								
	0-006	FS								
	0-008	SS								
	0-011	FS/SS	FS				W		F	
	0-012	FS/SS	SS							
	0-090	FS								
	1-119	S								
	1-141	FS								
	1-142	SS								
	1-210	FS/SS	F							
	1-220	FS/SS	W							
	1-230	FS	S							
	1-240	SS	F							
	1-250		W							
	3-091	S								
	5-211	S								
	5-403	F								
	5-512	W								
Mechanical Engineering										
ME	0-011C	FS								
	0-024C	FS								
	0-025C	SS								
Music										
Mus	0-051	SS								
	0-052	FS								
	1-420	F/W/S								
(Women)	1-430	F/W/S								
(StP Chorus)	1-430	F/W/S								
	1-501	F								
	1-502	W								
	1-503	S								
	3-430	F/W/S								
Music Education										
Mus	5-514	W								
Natural Science										
NSci	1-001	F								
	1-002	W								
	1-003	S								

Thursday (continued)

CLASSES	LOCATIONS								
	Cam	StP Ext	MacP	Hop	Cen	Kell	Rich	Sand	See Course Desc
<b>Philosophy</b>									
Phil 1-001	W/S								
1-002	F/W/S								
1-003	W	S							
3-004	S								
<b>Political Science</b>									
Pol 1-001								F	
1-002								W	
1-025	FS/S					W			
1-026	S								
5-305	S								
5-307	FS								
5-448	F								
5-661	SS								
<b>Psychology</b>									
Psy 1-001		F							
1-002		W							
1-003	FS/SS								
1-004	FS/SS								
1-005	SS								
3-801	FS/SS								
3-802	SS								
5-044	FS/SS								
5-125	FS								
5-126	SS								
5-604	FS								
5-751	FS/SS								
<b>Psychological Foundations of Education</b>									
PsyF 3-102	F								
5-110	W/S								
5-120	S								
<b>Public Administration</b>									
PA 0-055C									W
0-057C	W								
0-061C	F								F
0-069C									F
0-108C	W								W
0-146C	S								S
0-147C									
0-211C									
<b>Real Estate</b>									
RE 0-001C	FS								
0-004C	SS								
<b>Recreation</b>									
PE 0-200									Spec Class
<b>School Health Education</b>									
Hlth 5-130		Spec Class							
<b>Social Work</b>									
SW 5-010	FS								
5-201	FS								
5-202	SS								
<b>Sociology</b>									
Soc 1-001	FS								
5-201	F/W								
<b>Spanish</b>									
Span 1-101	F								

Thursday (continued)

CLASSES	LOCATIONS								
	Cam	StP Ext	MacP	Hop	Con	Kell	Rich	Sand	See Course Desc
1-102	W								
1-103	S								
3-021	F								
<b>Speech</b>									
Spch									
0-001C		S	F						
<b>Study Skills</b>									
Rhet									
1-147		F/W/S							
<b>Theatre</b>									
Th									
1-501	F/S								
<b>Veterinary Medicine</b>									
VM									
1-100	Spec Term								

FRIDAY

<b>Biology</b>									
Biol									
3-051									F
<b>Ecology</b>									
Ecol									
1-003									Spec Term
<b>English</b>									
Comp									
0-001		F							
Engl									
1-001		F							
1-002		W							
1-003		S							
<b>Humanities</b>									
(General College)									
GC									
1-374		F							
<b>Music</b>									
Mus (U Chorus)									
1-430	F/W/S								
(Men)									
1-430	F/W/S								
3-430	F/W/S								
<b>Social Science</b>									
SSci									
3-402									W

SATURDAY

<b>Accounting</b>									
Acct									
1-024	F								
1-025	W								
1-026	S								
<b>Art Studio</b>									
ArtS									
1-101	F/W/S								
1-701	F/S								
1-801	F/W								
3-111	F/W/S								
3-112	F/W/S								
3-113	F/W/S								
<b>French</b>									
Fren									
0-001	S								
<b>Humanities</b>									
Hum									
1-001	F								
1-002	W								
1-003	S								

Saturday (continued)

CLASSES		LOCATIONS								See Course Desc
		Cam	StP Ext	MacP	Hop	Con	Kell	Rich	Sand	
<b>Management</b>										
Mgmt	3-001	W								
<b>Mathematics</b>										
Math	1-141	FS								
	1-142	SS								
<b>Music</b>										
Mus	5-440			F						
	(Brass)									
	5-440			S						
	(Woodwind)									
	5-440									
	(Chorus)									
	5-440									
	(Band)									Spec Term
										Spec Term
<b>Physics</b>										
Phys	1-015	F								
	1-025	W								
	1-035	S								
<b>Recreation</b>										
PE	0-001									
	0-051									
	0-100									
<b>Sociology</b>										
Soc	1-001	S								
<b>SPAN</b>										
Ger	3-021	F								
	3-022	W								
	3-023	S								
<b>Md Gk</b>										
	1-001	F								
	1-002	W								
	1-003	S								
<b>Span</b>										
	1-207	F								
	1-208	W								
	1-209	S								
<b>Twl</b>										
	1-331	F								
	1-332	W								
	1-333	S								
<b>Spanish</b>										
Span	0-221	F								
<b>Special Education</b>										
SpEd	5-183	F								
	5-184	W								
	5-185	S								
<b>Study Skills</b>										
Rhet	1-147	F								
<b>Theatre</b>										
Th	1-328			W						
	5-115			F						

# New and Old Course Number Conversion Table

All University courses have been assigned new numbers this year. The table below lists the new course number and the old course number. Note: some courses do not have old numbers and will not be listed below, including all new courses offered for the first time this year, and courses previously listed by title only.

Dept. Prefix	New Number	Old Number	Dept. Prefix	New Number	Old Number
<b>Accounting</b>			<b>Anthropology</b>		
Acct	0-130C	135A	Anth	1-001	1A
	0-131C	135B		1-002	2A
	1-024	24		3-211	80
	1-025	25		5-101	100
	1-026	26		5-361	165
	3-050	55A		5-381	150
	3-051	55B		5-532	137
	3-105	105A	<b>Architecture</b>		
	3-106	105B	Arch	1-021	21
	3-107	105C		3-051	51
	3-160	55D		3-055	55
	3-220	115A		3-056	56
	3-221	115B	<b>Art Education</b>		
	3-255	55C	ArEd	0-100	95
	5-125	125		1-207	17C
	5-180	185A		1-208	18C
	5-275	175B		1-209	19C
	8-050	155A		3-020	80C
	8-051	155B		3-030	81C
<b>Aerospace Engineering and Mechanics</b>				3-090	90
AEM	1-015	MM 35	<b>Art History</b>		
	1-092	MM 92	ArtH	1-001	1
	1-093	MM 93		1-008	2
	3-009	9		1-009	10
	3-016	MM 37		1-011	11
	3-036	MM 36		1-012	12
	5-200	100		1-013	13
<b>Afro-American Studies</b>				3-001	50
Afro	1-025	25		3-059	59
	1-030	30		3-921	86
	1-045	45		3-922	87
<b>American Studies</b>				3-923	88
AmSt	1-101	Hum 21		5-213	113A
	1-102	Hum 22		5-358	128
	1-103	Hum 23		5-431	131
	3-301	90		5-432	132
	3-302	91		5-711	111
	3-303	92		5-712	112

Dept. Prefix	New Number	Old Number	Dept. Prefix	New Number	Old Number
<b>Art, Studio</b>					
<b>ArtS</b>	1-101	20		1-009	13
	1-102	23	<b>Biology</b>		
	1-103	24	<b>Biol</b>	1-001	1
	1-104	25		1-002	2
	1-105	26		3-051	57
	1-111	37	<b>BioChemistry</b>		
	1-112	48	<b>BioC</b>	1-301	1
	1-113	49		5-002	52
	1-301	40	<b>Business Law</b>		
	1-302	41	<b>BLaw</b>	3-058	58
	1-303	42		3-078	78
	1-501	32		3-088	88
	1-502	33		3-098	98
	1-701	10		8-158	158
	1-702	11	<b>Business Studies</b>		
	1-801	45	<b>(General College—GC)</b>		
	3-101	53		1-511	15
	3-102	54		1-513	17B
	3-103	55		1-535	14D
	3-111	60B		1-731	17A
	3-112	61B	<b>Marketing Sequence</b>		
	3-113	62B		1-551	18A
	3-114	63		1-552	18B
	3-115	64		1-553	18C
	3-116	65	<b>Chemistry</b>		
	3-121	70	<b>GeCh</b>	1-004	4
	3-122	71		1-005	5
	3-123	72		1-006	6
	3-127	70B		1-015	15
	3-128	71B		1-024	24
	3-129	72B		1-025	25
	3-131	83A		1-032	32
	3-132	84A	<b>Child Psychology</b>		
	3-133	96	<b>CPsy</b>	3-301	80
	3-134	97		5-303	81
	3-501	90		5-311	140
	3-502	91		5-315	143
	3-503	92		5-317	144
	3-701	66		5-319	179
	3-702	67	<b>Civil Engineering</b>		
	3-703	68	<b>CE</b>	3-100	61A
	5-104	150		3-101	63A
	5-105	151		3-102	64A
	5-106	152		3-200	51
	5-111	103A		3-300	53
	5-112	104A		3-301	52
	5-113	105		3-400	101
	5-114	106		3-605	81
	5-501	190		5-100	111
	5-502	191		5-101	113
	5-503	192		5-102	112
<b>Astronomy</b>					
<b>Ast</b>	1-008	12			

Dept. Prefix	New Number	Old Number	Dept. Prefix	New Number	Old Number
	5-310	147		5-202	111
	5-311	159		5-203	112
	5-401	160	Jpn	1-005	5
	5-405	161		1-006	6
	5-410	184		5-201	110
	5-411	185		5-202	111
	5-417	168		5-203	112
	5-600	82	Hindi	3-801	57
	5-601	83			
	5-602	142A	Ecology		
	5-603	143A	Ecol	1-003	10
	5-611	141	Economics		
Classics			Econ	1-001	1
Clas	1-042	42		1-002	2
	1-045	45		3-021	80
	1-046	46		3-101	65
	1-122	22		3-102	66
	1-142	42A		3-104	65T
	3-071	71		3-105	66T
	3-081	80		3-131	75
	3-082	81		3-501	62
	3-083	82		3-651	69
	3-089	89		3-751	67
	3-091	91		3-851	68
	3-092	92		5-021	170
	3-093	93		5-031	150A
	5-071	171		5-131	115
	5-081	180		5-141	157
	5-082	181		5-301	103
	5-089	189		5-307	160
	5-122	122		5-331	103A
	5-145	145		5-334	102
Communication Skills				5-337	160A
(General College—GC)				5-401	104
1-471	34			5-431	104A
Computer, Information, and				5-531	152
Control Sciences				5-534	182
CICS	1-100	Math 14A		5-537	172
	1-101	Math 14B		5-541	102
	1-102	Math 14C		5-561	192
	1-104	Math 30		5-811	188
	3-101	Math 65	Electrical Engineering		
	5-101	Math 164	EE	1-500	30
	5-102	Math 165		1-501	31
	5-103	Math 166		1-700	30A
	5-301	Math 184		1-701	31A
	5-302	Math 185		3-050	64
	5-303	Math 186		3-051	65
East Asian Languages				3-100	74
Chin	1-101	1		3-101	75
	1-102	2		3-400	84
	5-201	110		3-401	85
				5-100	76

Dept. Prefix	New Number	Old Number	Dept. Prefix	New Number	Old Number
<b>Elementary Education</b>				5-723	132
<b>Elem</b>	3-378	EdCI 59		5-751	154
	5-100	EdCI 119		5-752	155
	5-103	EdCI 171		5-757	157
				5-758	158
<b>Engineering Graphics</b>				5-771	171
<b>EG</b>	0-001C	1		5-811	108
	0-004C	4		5-813	110
	0-005C	5		5-837	137
	1-025	25		5-839	139
				5-844	142
<b>English</b>				5-845	143
<b>Comm</b>	1-001	1		5-862	162
	1-002	2		5-875	175
	1-003	3		5-887	188
<b>Comp</b>	0-001	X		5-888	189
	1-027	27		5-894	194
	1-028	28		5-991	190
<b>Engl</b>	1-001	1		5-992	191
	1-002	2		5-993	192
	1-003	3			
	1-821	21	<b>Family Studies</b>		
	1-822	22	<b>FamS</b>	1-001	1
	1-823	23		1-025	25A
	1-937	37		3-001	1A
	1-938	38		5-001	100
	1-939	39	<b>Finance</b>		
	3-085	85 (IT)	<b>Fin</b>	3-000	BFin 56
	3-155	55		3-100	BFin 57
	3-156	56		3-300	BFin 66
	3-601	60		3-400	BFin 76
	3-685	85		8-000	BFin 156
	3-721	72	<b>French</b>		
	3-722	73	<b>Fren</b>	0-001	17A
	3-723	74		1-004	25
	3-827	52		1-004H	25H
	3-828	53		1-005	26
	3-829	54		1-101	1
	3-875	75		1-102	2
	3-877	77		1-103	3
	3-878	78		3-021	55
	3-879	79		3-104	53
	3-966	66		3-201	64
	3-967	67		3-305	88
	5-128	127		5-395	172
	5-129	129	<b>Geography</b>		
	5-135	135	<b>Geog</b>	1-301	4
	5-163	170		1-311	41
	5-645	165		1-401	1
	5-646	166		3-101	66
	5-674	174		3-181	63
	5-705	105		3-511	81
	5-713	113		5-173	103
	5-721	130		5-900	193
	5-722	131			



Dept. Prefix	New Number	Old Number	Dept. Prefix	New Number	Old Number
<b>Geology and Geophysics</b>				3-103	52A
<b>Geo</b>	1-001	1		3-151	56
	1-002	2		3-152	57
	1-003	1E		3-153	58
	1-004	2E		3-451	59
	1-111	11		3-452	60
	1-112	22		3-453	61
	5-051	109C		3-591	74A
	5-052	122C		3-592	75A
				3-804	87A
<b>German</b>				3-805	88A
<b>Ger</b>	0-221	17A		3-821	79
	0-222	17B		3-822	80
	1-101	1A		3-823	81
	1-102	2A		3-881	93
	1-103	3A		3-882	94
	1-301	4		3-883	95
	1-302	5		5-071	103C
	3-601	53		5-072	104C
	3-602	54		5-073	105C
	3-603	55		5-101	106A
				5-102	107A
<b>History</b>				5-103	108A
<b>Hist</b>	1-001	1		5-211	115B
	1-002	2		5-212	116B
	1-003	3		5-213	117B
	1-051	14		5-221	115D
	1-052	15		5-222	116D
	1-053	16		5-223	117D
	1-101	11		5-224	115E
	1-102	12		5-225	116E
	1-103	13		5-226	117E
	1-111	11A		5-264	118F
	1-112	12A		5-265	119F
	1-113	13A		5-266	120F
	1-151	4		5-271	118J
	1-152	5		5-272	119J
	1-153	6		5-273	120J
	1-301	23		5-274	118G
	1-302	24		5-275	119G
	1-431	30		5-392	137A
	1-432	31		5-393	138A
	1-433	32		5-401	145A
	1-451	17		5-402	146A
	1-452	18		5-403	147A
	1-453	19		5-465	149E
	3-001	53		5-467	150E
	3-002	54		5-468	151E
	3-003	55		5-472	149F
	3-051	50			
	3-052	51	<b>History and Philosophy of Education</b>		
	3-053	52	<b>HEd</b>	5-200	114
	3-101	50A		5-201	115
	3-102	51A		5-202	116

Dept. Prefix	New Number	Old Number	Dept. Prefix	New Number	Old Number
<b>Home Economics</b>				8-006	182A
HE	1-301	40		8-010	182B
	1-381	31		8-013	212A
	1-523	19A		8-023	212B
	1-533	26	<b>Insurance</b>		
	5-361	170	Ins	3-100	53
	5-381	172		8-100	153
	5-391	174	<b>Italian</b>		
	5-393	178	Ital	0-001	17A
<b>Horticultural Science</b>				1-001	1
Hort	1-010	10		1-002	2
	3-051	51		1-003	3
	3-091	60		1-004	25
<b>Humanities</b>				1-005	26
Hum	1-001	1		3-104	53
	1-002	2	<b>Journalism and Mass</b>		
	1-003	3	<b>Communication</b>		
	1-004	4	Jour	1-001	1
	1-011	11		1-005	5
	1-012	12		1-012	41
	1-013	13		1-201	18
	3-001	51		3-021	90
	3-002	52		3-151	51
	3-003	53		3-173	73
	3-004	54		3-176	71
	3-005	55		3-178	78
	3-011	61		3-221	60
	3-012	62		3-231	57
	3-013	63		5-501	112
	5-030	131		5-549	149
	5-030	132		5-606	103
	5-030	133	<b>Latin</b>		
<b>Humanities</b>			Lat	1-101	1
<b>(General College—GC)</b>				1-102	2
	1-311	21		3-462	62
	1-331	24A		3-463	63
	1-357	5D	<b>Library Science</b>		
	1-367	29D	Lib	5-101	101
	1-371	29E		5-201	102
	1-374	29G		5-202	104
	1-536	23B		5-203	194
	1-812	27B		5-301	114
<b>Industrial Relations</b>				5-401	103
IR	3-002	52	<b>Management</b>		
	3-007	82	Mgmt	3-001	70
	3-010	62		3-002	80
	3-012	72		3-003	90
	3-017	142		3-004	60
	5-002	152C		8-001	150
	5-003	175	<b>Management Information Systems</b>		
	5-022	152	MIS	3-100	QA 62
	5-027	162			
	5-032	172			

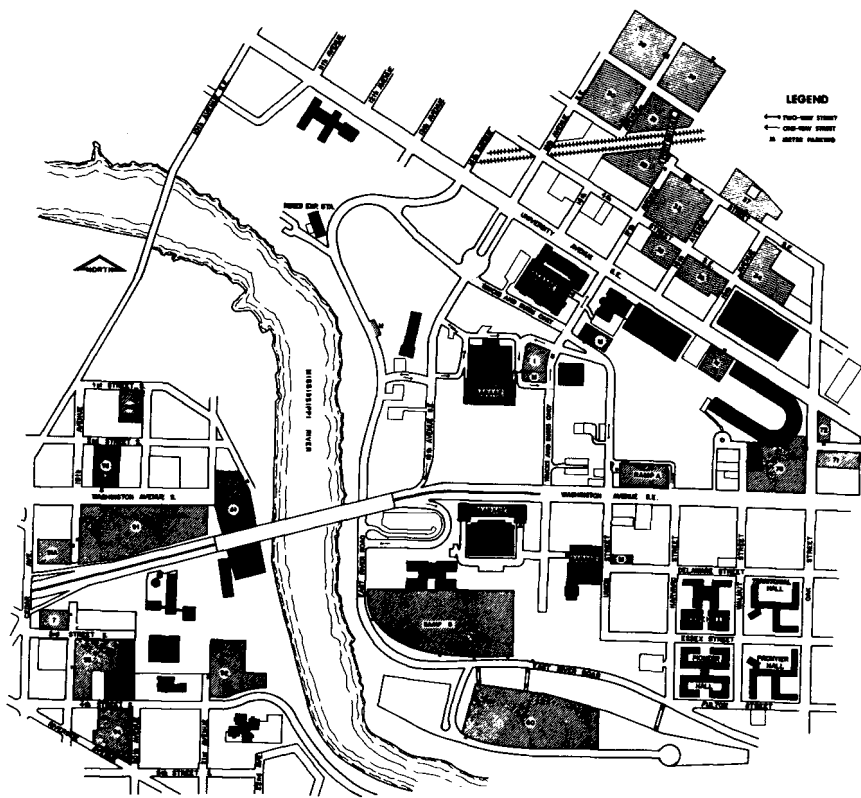
Dept. Prefix	New Number	Old Number	Dept. Prefix	New Number	Old Number
	5-101	Mgmt 109		5-320	133
	8-208	209A		5-340	134
<b>Marketing</b>			<b>Metallurgical Engineering</b>		
<b>Mktg</b>	0-087	87	<b>MetE</b>	3-401	56
	3-000	57	<b>Microbiology</b>		
	3-075	75	<b>MicB</b>	3-103	53
	3-077	77	<b>Middle Eastern Languages</b>		
	3-080	80	<b>Arab</b>	1-101	1
	3-087	87		1-102	2
	3-095	95		1-501	30
	8-000	157		1-502	31
				1-503	32
<b>Mathematics</b>				3-201	81
<b>Math</b>	0-005	5		3-202	82
	0-006	6		3-203	83
	0-007	7		3-541	71
	0-008	8		3-542	72
	0-009	Z		3-545	73
	0-011	11	<b>Heb</b>	1-501	30
	0-012	12		1-502	31
	1-002	2		1-503	32
	1-005	5A		3-501	74
	1-006	5B		3-502	75
	1-008	T	<b>Music</b>		
	1-111	10	<b>Mus</b>	1-001	4
	1-119	20		1-014	1A
	1-140	40		1-410	46,
	1-141	10A			47,
	1-142	40A			48
	1-210	21A		1-420	40,
	1-220	22A			41,
	1-230	23A			42
	1-240	31		1-430	43
	1-250	32		1-430	49
	1-260	33		1-430	39
	1-441	15		1-430	43S,
	1-442	42			44S,
	1-443	43			45S
	1-444	44		1-501	1T
	3-445	55		1-502	2T
	3-060	60A		1-503	3T
	3-091	90		1-504	4T
	5-211	149		1-505	5T
	5-242	142		1-506	6T
	5-403	147		1-801	38A
	5-506	106		1-802	38B
	5-512	148		1-803	38C
	5-521	150		3-430	57,
<b>Mechanical Engineering</b>					58,
<b>ME</b>	3-200	22			59
	3-201	23		3-584	84J
	3-301	30A		3-585	84K
	3-302	31A		3-586	84L
	3-720	99			

Dept. Prefix	New Number	Old Number	Dept. Prefix	New Number	Old Number
	3-701	50		1-020	2
	3-702	51		1-025	2A
	3-703	52		1-030	3
	3-704	54		1-035	3A
	3-705	55		1-040	4
	3-706	56		1-050	5
	5-440 (b)	102A, 102B, 102C		1-060	6
	5-440 (w)	102A, 102B, 102C		1-210	21
	5-440 (s)	102A, 102B, 102C		1-215	21A
	5-440 (band)	102A		1-220	22T
	5-440 (c)	102A		1-225	22A
<b>Music Education</b>				1-230	23T
<b>MusEd</b>	3-011	56		1-235	23A
	3-304	57		1-270	7
	5-514	118		1-280	8
<b>Natural History</b>				1-290	9
<b>NatH</b>	0-001	1		3-500	50T
<b>Natural Science</b>				3-505	50A
<b>(General College—GC)</b>				5-010	100
	1-112	11A		5-020	100A
	1-132	10B	<b>Physiology</b>		
	1-181	7E	<b>Physl</b>	3-051	51
<b>Natural Science</b>			<b>Political Science</b>		
<b>NSci</b>	1-001	1	<b>Pol</b>	1-001	1
	1-002	2		1-002	2
	1-003	3		1-025	25
	1-004	4		1-026	26
	1-005	5		1-031	30
	1-006	6		1-041	40
<b>Philosophy</b>				1-051	A
<b>Phil</b>	1-001	2A		1-052	B
	1-002	1A		5-305	131
	1-003	3A		5-307	107
	1-011	10		5-308	108
	3-001	50A		5-316	116
	3-003	52A		5-318	118
	3-004	53A		5-442	142
	5-401	108		5-443	143
	5-501	151		5-448	148
	5-701	140		5-453	153
<b>Physical Education</b>				5-454	154
<b>PEW</b>	1-800	C12		5-457	157
<b>PE</b>	5-150	100		5-659	160
<b>Physics</b>				5-661	161
<b>Phys</b>	1-010	1		5-737	137
	1-015	1A		5-738	138
				5-877	177
				5-884	184
			<b>Portuguese</b>		
			<b>Port</b>	1-101	1
				1-102	2
				1-103	3

Dept. Prefix	New Number	Old Number	Dept. Prefix	New Number	Old Number
<b>Production</b>				0-178C	178
<b>Prod</b>	3-050	50		0-211C	211
	8-150	150	<b>Public Health</b>		
<b>Psychology</b>			<b>PubH</b>	1-001	2
<b>Psy</b>	1-001	1		1-002	4
	1-002	2		1-003	5
	1-003	1A		3-001	50
	1-004	4		3-002	51
	1-005	5		5-002	100A
	3-011	75		5-151	102
	3-031	55		5-171	118
	3-051	64		5-181	155
	3-801	90		5-182	156
	3-802	91		5-192	158
	5-044	138	<b>Quantitative Analysis</b>		
	5-104	119A	<b>QA</b>	3-052	52
	5-125	125		3-053	53
	5-126	126		3-054	54
	5-604	144		8-151	151
	5-605	145		8-158	158
	5-751	156	<b>Scandinavian Languages</b>		
<b>Psychological Foundations</b>			<b>Finn</b>	1-101	1A
<b>of Education</b>				1-102	2A
<b>PsyF</b>	3-102	EPsy 60	<b>Nor</b>	1-101	1A
	5-110	EPsy 116		1-102	2A
	5-120	EPsy 110	<b>Swed</b>	1-101	1A
	5-150	EPsy 186		1-102	2A
	5-160	EPsy 159		1-103	3A
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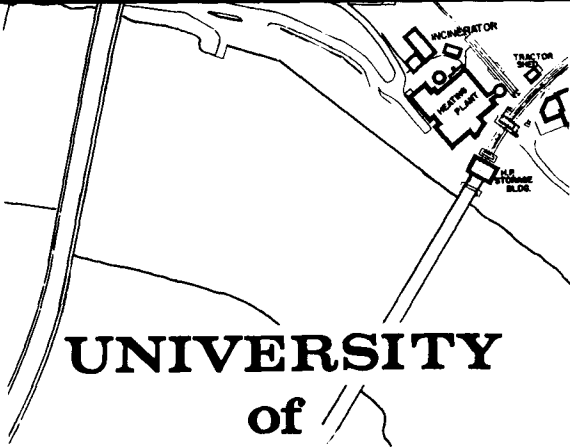
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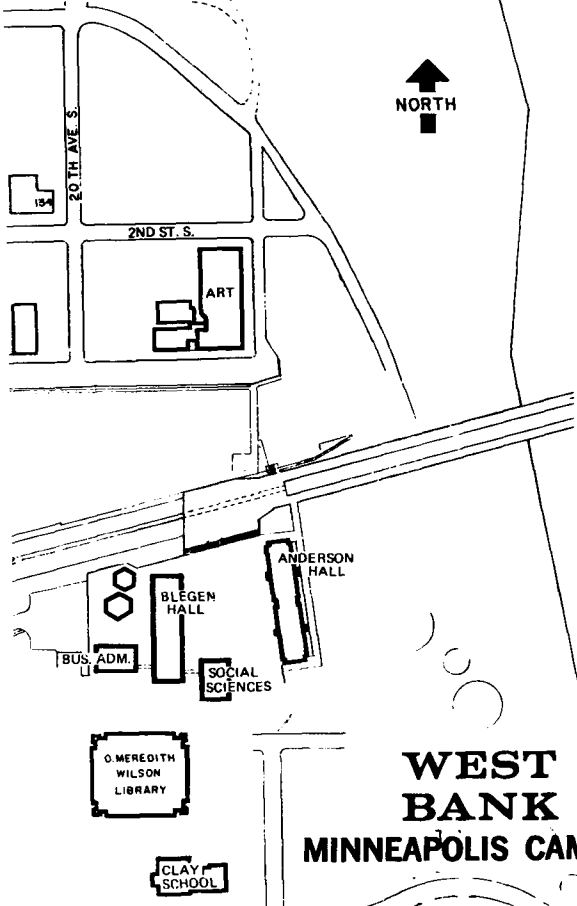
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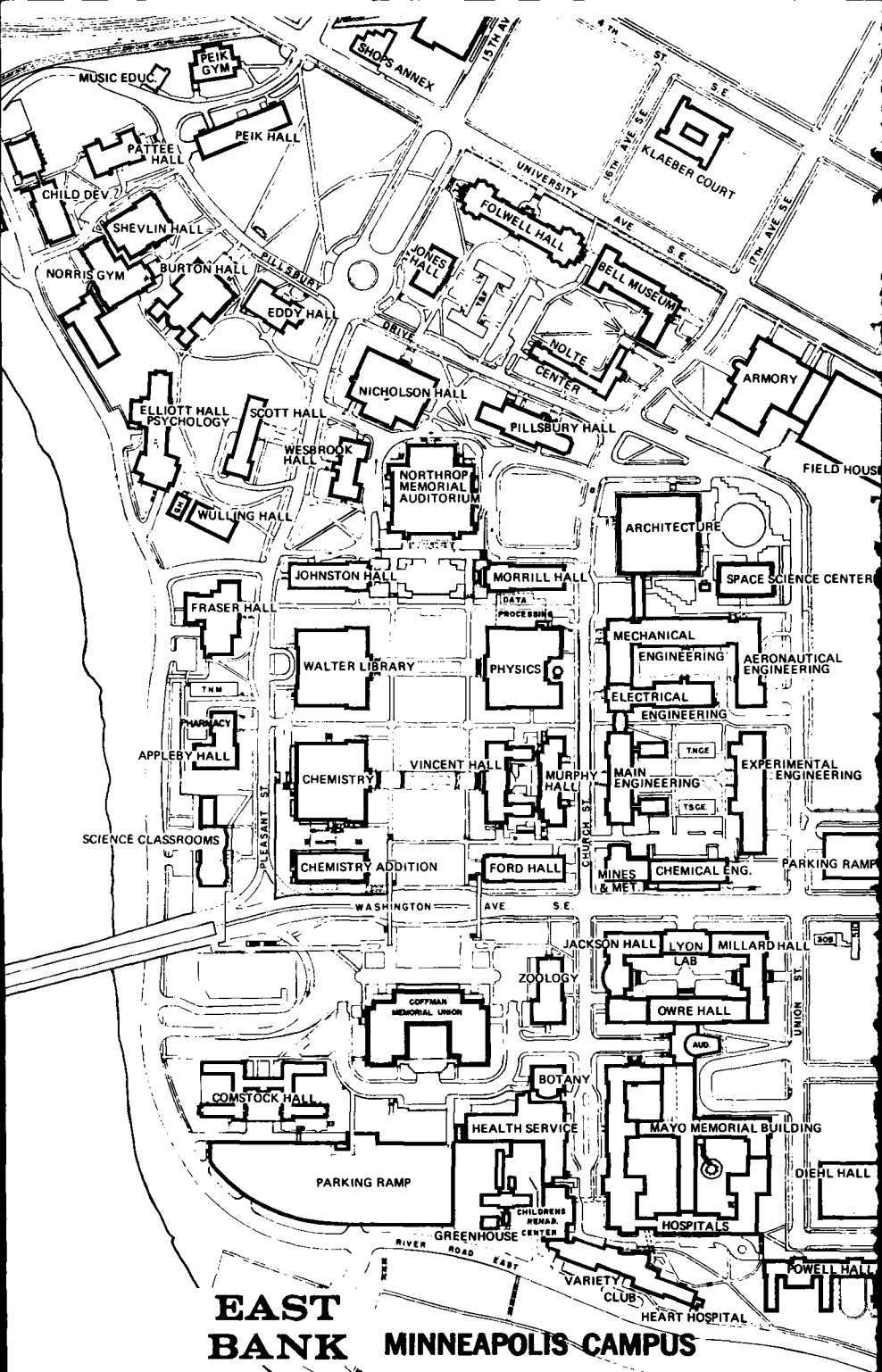


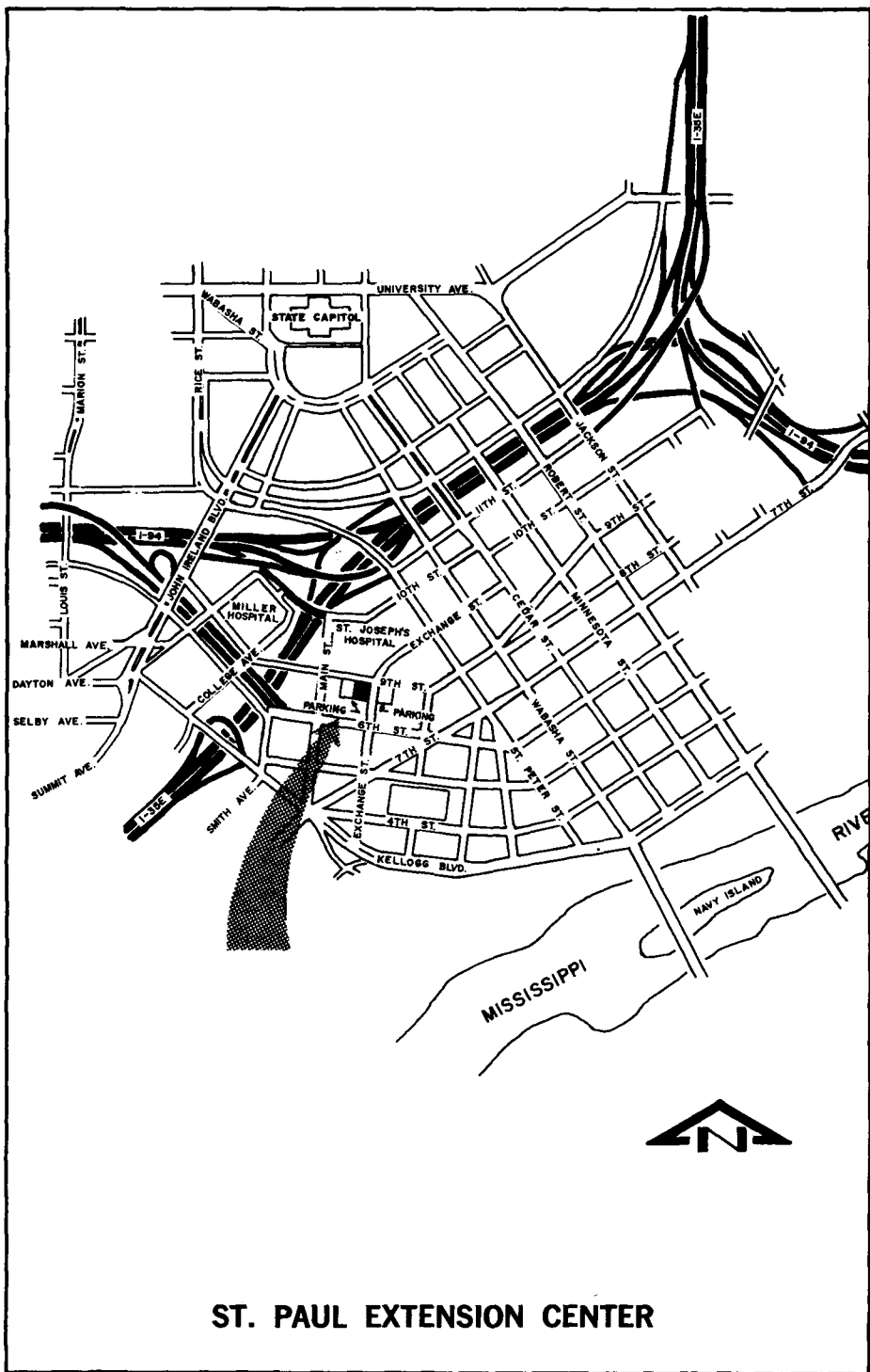
# UNIVERSITY of MINNESOTA

## MINNEAPOLIS



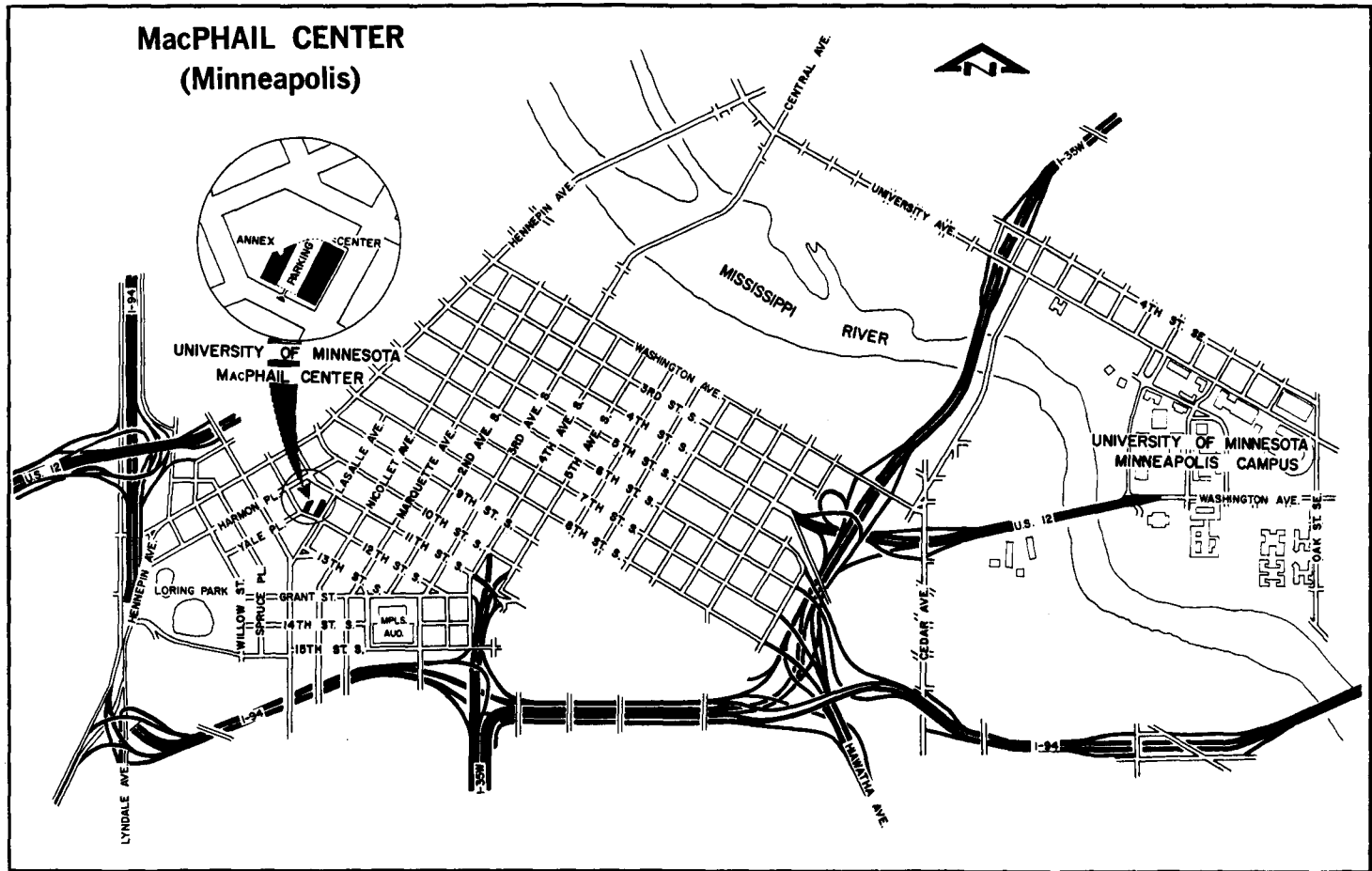
## WEST BANK MINNEAPOLIS CAMPUS

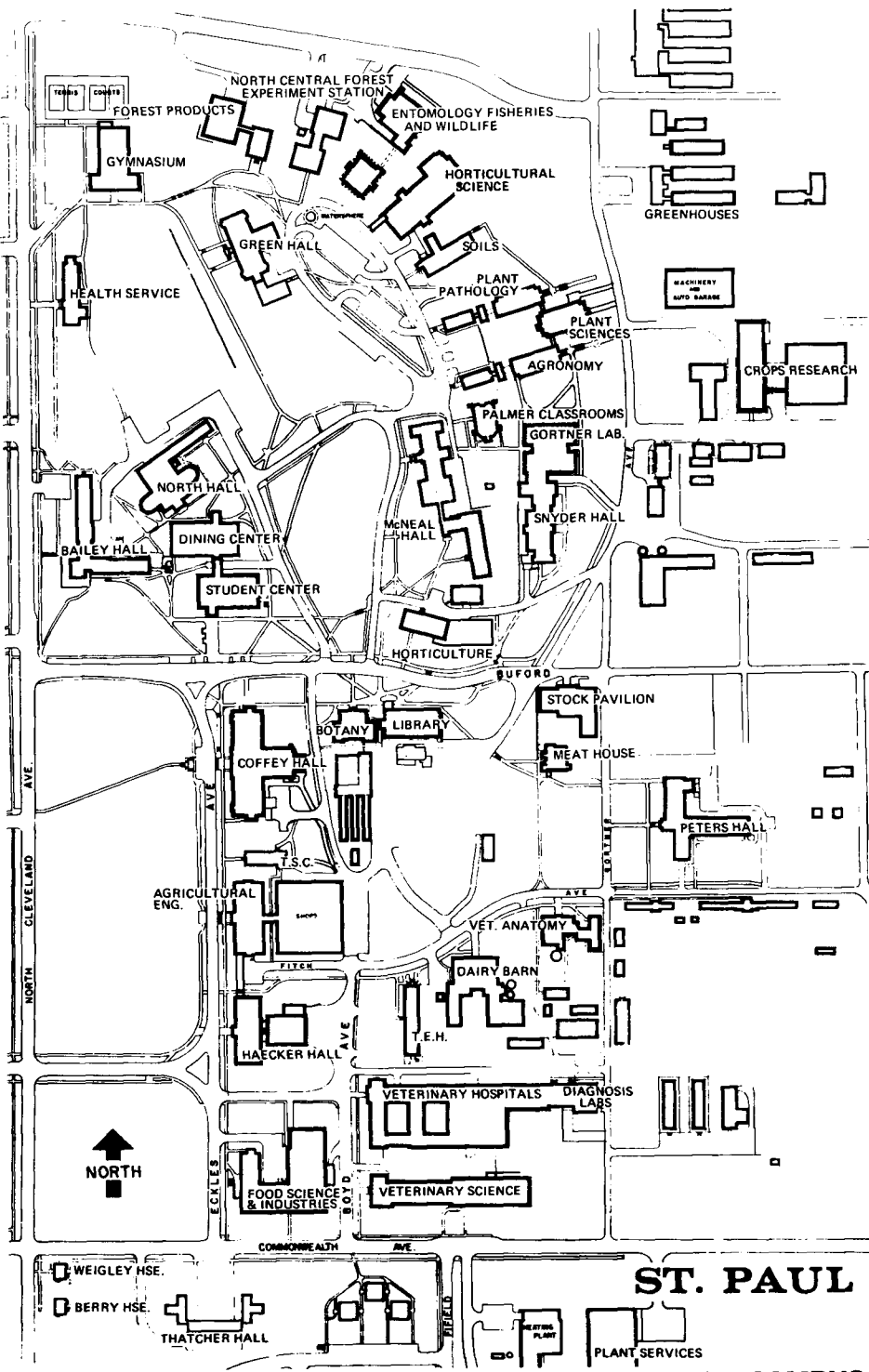




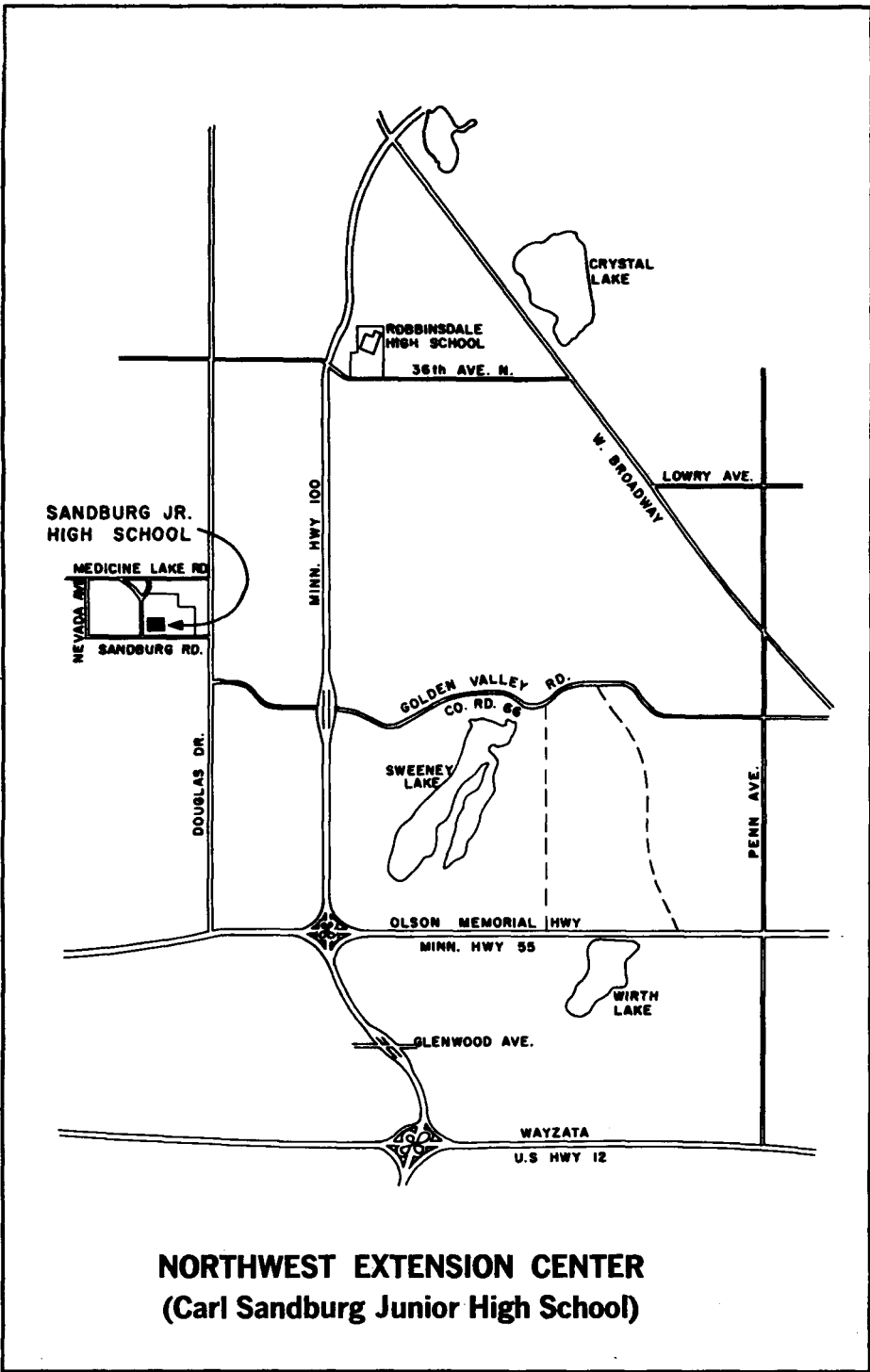
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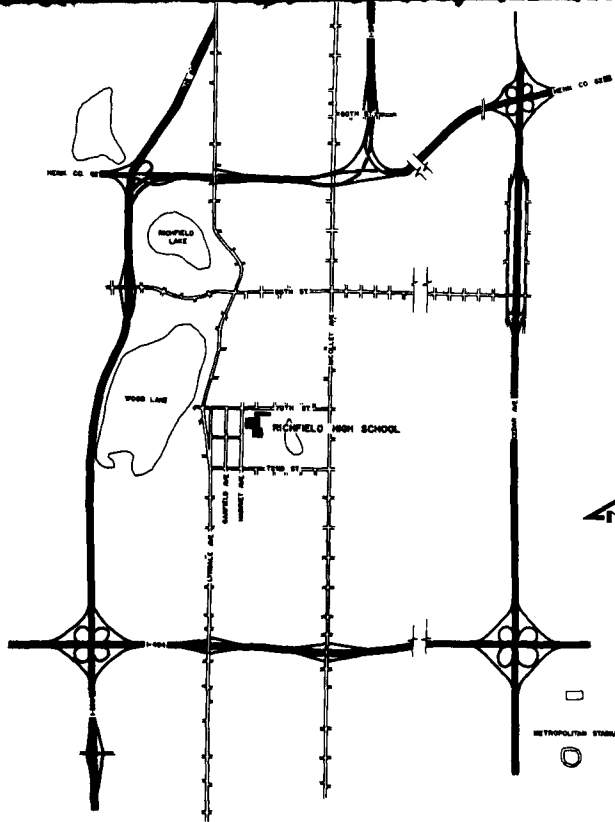




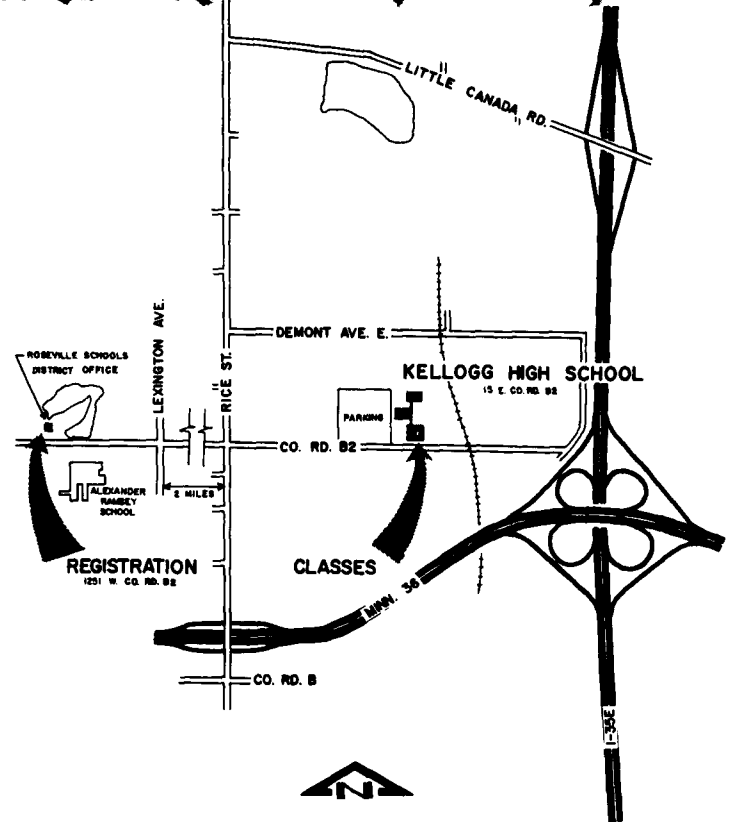
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(Carl Sandburg Junior High School)**



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 (Richfield Senior High School)



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## COURSE NUMBERING

All University courses for 1970-71 will carry new 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:

- 0-001C Certificate course
- 0-001 No credit course
- 1-001 Degree credit course primarily for freshmen and sophomores (Lower Division)
- 3-001 Degree credit course primarily for juniors and seniors (Upper Division)
- 5-001 Degree credit course for juniors, seniors, and graduate level students
- 8-001 Degree credit course open only to students admitted to the Graduate School

## 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 28.
- † 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.

**UNIVERSITY OF MINNESOTA**  
**Department of Evening and Special Classes**  
**57 Nicholson Hall**  
**Minneapolis, Minnesota 55455**

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**Evening and Special Classes Terms**

**DATES TO REMEMBER — 1970-71:**

**Fall Quarter: September 28-December 19**

**Fall Semester: September 28-January 30**

**Winter Quarter: January 4-March 20**

**Spring Semester: February 15-June 12**

**Spring Quarter: March 29-June 12**

**For Registration dates see pages 7-12.**