

General Extension Division

Correspondence Study Courses

1960-1962



*Learn
for
Living
Through
Home
Study*

Bulletin

of the UNIVERSITY of MINNESOTA

THE GUIDE TO CORRESPONDENCE STUDY

The Correspondence Study Department is a member of the Correspondence Division of the National University Extension Association. The Division publishes a **GUIDE TO CORRESPONDENCE STUDY** which lists correspondence courses offered from 52 colleges, universities, and comparable educational agencies. It is available from the Business Office: National University Extension Association, 112 TSMc, University of Minnesota, Minneapolis 14. For single copies, the cost is 25 cents.

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CORRESPONDENCE STUDY DEPARTMENT

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General Information

Location

The Correspondence Study Department is a part of the General Extension Division which is housed in the east wing of Nicholson Hall on the Minneapolis Campus. The main office is in room 251 Nicholson Hall. The telephone number is FEderal 8-8791.

Eligibility

The University's correspondence courses are open to everyone who can handle them successfully.

Cost

Tuition fees are \$8 per credit hour or equivalent. Most courses cost \$24 plus a \$3 per course fee for registrations originating outside of Minnesota. The tuition fee for each course is stated in the course description section of this bulletin. Some courses have a material fee. Textbooks are not included in the tuition cost.

Applicants, except military personnel, living outside Minnesota must add the \$3 per course fee to their remittance. (See Application Blank in the back of this bulletin)

Books

Because textbooks are subject to change and because prices are not stable, it is not feasible to list the required books or costs in this bulletin. The required books are listed in the introduction to each course study guide. A list of the required books for any course will be sent on request.

The Nicholson Hall Bookstore, University of Minnesota, has made a special effort to stock books required in correspondence courses, but texts may be purchased from other campus bookstores or from the publishers. In the back of this bulletin there is a Book Order Blank which can be completed and sent *directly* to the Nicholson Hall Bookstore. The books will be sent immediately, and you will be billed for the correct amount, including a nominal fee for postage and handling. Such procedure will allow you to begin your course without delay.

Students must purchase or have constant access to the required textbooks and materials. Under certain conditions textbooks may be returned to the bookstore for partial refund.

Registration

Complete the Application Blank that is on page 61 of this bulletin and send it with the proper fee to the Correspondence Study Department, University of Minnesota, Minneapolis 14. Payment should be made by post office or express money order, personal check, or draft. Make remittance payable to the University of Minnesota and for the *exact* amount of the fee.

With the acceptance of the application and the mailing of lesson materials, the student is enrolled.

No receipts for payments by check or money order will be issued unless requested. No receipts issued for cash payments of less than \$1.

Beginning Date

A correspondence course may be started at any time, and the department operates throughout the calendar year. This is an advantage of home study.

Completion Date

Ordinarily no more than 3 lessons will be accepted in 1 week. You have 1 year for completion.

Students, teachers, and others working against a deadline for submission of credits must take full responsibility for arranging the work in such a manner as to allow ample time for completion, including examinations.

Reinstatements

If, for valid reasons, a course is not completed in 1 year, reinstatements are provided as follows:

First 6 months for a fee of \$2 per course

Second 6 months, or for any subsequent 6-month period, a fee of \$3 per course

Lesson Service

The department will make every effort to provide reasonable and prompt lesson service throughout the calendar year. Service may become delinquent, however, due to circumstances over which the department has no control. A critical period is the summer months when some faculty are off the campus.

See the General Directions card in your study guide for submitting lessons.

Credit

Most of the courses in this bulletin are listed for credit, which means credit toward a degree in the appropriate college of the University of Minnesota, subject to limitations mentioned in the bulletin. Credits are not applicable in Graduate School.

These credits are *quarter* credits: 3 quarter credits equal 2 semester credits.

The few courses listed for Extension credit only cannot be used for a degree from the University of Minnesota or for a teacher's certificate issued by the Minnesota State Department of Education. Extension credits may be used only in Extension certificate programs.

Transfer of Credits

The Extension clerk in the University Office of Admissions and Records has an official record of credits earned through correspondence study. To transfer these credits to a college within the University or to another institution or to the State Department of Education, you should request the Extension clerk to send an official transcript. Final grades and credits are not automatically transferred.

Students completing courses listed in this bulletin for credit that is to be applied toward an educational program at another university or college should determine acceptance of such credit before registration. Many colleges and universities will accept credits earned through correspondence, but the amount and application varies with each institution. You should check the credit policy of the institution from which you expect to receive transfer credit.

Program Advising

Advisers in the department will assist in the selection of courses and programs of study leading to occupational or educational objectives. They will also assist in making contact with advisers in the resident colleges at the appropriate stage of the educational program.

When you write or call for such advice, please give full information about your past training, educational and occupational experience, and your objectives.

Examinations

To earn credit in a correspondence course the student must pass the final examination.

All supervised examinations may be taken at the following offices or under the supervision of the following individuals:

1. Correspondence Study Department, 251 Nicholson Hall, University of Minnesota
2. General Extension offices in Minneapolis, St. Paul, or Duluth
3. School superintendent or principal; college instructor or administrator
4. Commissioned officers (for military personnel)

Refunds

To receive a partial refund of tuition, the student must make application within 3 months from the date of registration. This application must be submitted prior to the completion of half of the lessons in the course.

Of the tuition fee, provided the student is eligible for a refund, 20 per cent of the cost and \$1.10 for each lesson serviced are nonrefundable.

High School Courses

This bulletin carries only a brief listing of high school courses (see page 58). A more complete course description is contained in a separate high school bulletin.

These courses, with the approval of the local school authorities, may be used toward the completion of requirements for graduation from high school. The diploma, however, is granted by the local school, not the University.

High school deficiencies for admission to universities and colleges can be rectified by approved correspondence courses. See the high school bulletin for details.

Military Personnel

Most of the courses in this bulletin are offered under special contract with the United States Armed Forces Institute. Under this contract, eligible military personnel can save more than half of the cost of each course. Write to the Correspondence Study Department for special USAFI folder or to USAFI Headquarters, Madison 3, Wisconsin.

Veterans

Courses in this bulletin have been approved under Public Law 550 (Korean Bill). Military personnel who were in service between June 27, 1950 and January 31, 1955 are eligible for educational benefits, provided the educational program or training is started within 3 years from the date of separation from service.

Correspondence courses may be used to initiate or continue a program leading to a certificate or degree, a vocational or professional objective. The veteran may change from resident classes to correspondence study or from correspondence to resident study without penalty. Under Public Law 550, however, the veteran cannot be enrolled in correspondence courses and resident classes at the same time.

A veteran must register and pay his tuition and fees, after which such costs are refunded quarterly by the Veterans Administration, on a prorated basis according to the number of completed lessons. The Veterans Administration will not pay for textbooks. No subsistence (monthly educational allowance) is paid for enrollment in correspondence courses.

Write to the Correspondence Study Department for instructions for enrolling under Public Law 550.

Teachers' Certificates

With some limitations, correspondence courses may be used to acquire and renew teachers' certificates. Note that the Correspondence Study Department can only provide the courses and cannot evaluate teaching or educational experience for a certificate. Questions concerning the regulations related to teachers' certificates should be directed to the State Department of Education or similar agency. (In Minnesota—Director of Teacher Personnel, 4th Floor, Centennial Bldg., St. Paul 1.)

Grades

The grades A, B, C, and D indicate work of varying degrees of merit, D being the lowest passing grade. The grade F, failure, indicates marked deficiency and that the student must repeat the course to earn credit. A failure in a continuation course should be made up before proceeding with the sequence.

Official grade reports are sent by the Office of Admissions and Records.

Course Transfers

A student may transfer from one correspondence course to another correspondence course within 6 months from the date of registration. The transfer fee is \$2 per course and the student pays \$1.10 for each of the completed lessons. The balance of the original fee is applied to the tuition for the new course. The second course must be completed within the year from the original registration date, or be reinstated. When a transfer is recommended by this department, there is no charge, except for lessons serviced.

Transfers cannot be made from one individual to another.

Transfers to the Evening Class Department of the Extension Division have special regulations. Consult department.

Permits

Students, including University of Minnesota students, expecting to earn additional credit through correspondence instruction, should have the permission of their adviser or registrar. Submit approval with correspondence application or write for permit blank.

Tapes and Recordings

Special records and tapes have been prepared to cover basic pronunciation for nearly all of the language courses in this bulletin. The size and content of each record varies. Recordings are sold at cost. Generally the tape for a language can be supplied for about one-half the cost of the record or records. No refunds on tapes or records.

Miscellaneous Information

Postage—The student prepays postage on all mail sent to the University; return mail to the student is prepaid by the Correspondence Study Department.

Maximum Load—A student may enroll for not more than two courses at a time without special permission from advisers in Correspondence Study.

Noncredit Registration—A noncredit registration is made by writing "noncredit" in the credits column on the application blank. Noncredit students need not complete the examinations but must pay the regular fees.

Course Numbers—In general, courses listed for University credit numbered below 50 are completed during freshman and sophomore years, courses numbered 50 or above during the junior and senior years of college.

Tuition Assistance Fund—Through the Correspondence Tuition Assistance Fund a limited amount of money is available to offset the cost of tuition for those confined to institutions or otherwise financially unable to enroll. Preference for assistance will be given to residents of Minnesota; but all applications will be considered. The fund originated with a gift and must be supported by contributions. You are invited to participate in this work, and contributions should be sent to the Correspondence Tuition Assistance Fund, Greater University Fund, Coffman Union, University of Minnesota, Minneapolis 14.

Working Toward a Degree by Correspondence

There are some limitations on the use of credits earned by correspondence for a degree from the University of Minnesota. No college of the University will grant a degree without a minimum of 1 year (45 quarter credits) of resident study. Moreover, many of the courses completed during the junior and senior years are not available by correspondence study. Credits earned by correspondence do not count as resident credits, nor do they apply toward a Master's or Doctor's degree.

Following are applications to some of the programs at the University. It is understood that a student who wishes to become a candidate for a degree must meet the admission requirements of the University and the entrance and degree requirements of the college in which the degree is sought. Consult the advisers in the department for assistance.

College of Science, Literature, and the Arts

Leading to B.A. degree with a minimum of 180 quarter credits

All of the requirements (except the laboratory in Group D) for the first 2 years (Lower Division) could be accomplished by correspondence study.

A. Freshman English Courses: Engl A-B-C or Engl 1B-2B-3B or Comm 1-2-3 or Engl 1A-2A-3A or exemption. (Only Engl 1B-2B-3B offered by correspondence study)

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 1 language
1 year	(a) 10 credits in same language <i>or</i> (b) 15 credits in different language
2 years in 1 language	(a) 5 credits in same language <i>or</i> (b) 10 credits in different language
3 or more years in 1 language	No college requirement if the high school work is validated by the appropriate college department
2 years in each of 2 languages	No college requirement if 1 language is validated at the 2-year level by the appropriate college department

C. Courses in Social Science Departments: At least 15 credits in 2 or more of the following departments. At least 5 credits must be offered in 1 department to count.

- | | |
|---|----------------------|
| 1. Anthropology | 5. Political Science |
| 2. Economics and Business Administration (only BA 1 and 5 accepted) | 6. Psychology |
| 3. Geography | 7. Sociology |
| 4. History | 8. Social Science |

D. Courses in Natural Science Departments: At least 15 credits (of which a minimum of 8 must include laboratory from 2 or more of the following groups. At least 5 credits must be offered from 1 department to count.

1. Biological sciences: botany, psychology, zoology, General Biology (NSci 7-8-9)
2. Physical sciences: astronomy, chemistry, geology, physics, Physical World (NSci 4-5-6)
3. Mathematics (except 1, 8, 20, 21)
4. Orientation in the natural sciences (NSci 1-2-3) (a student presenting credits in only NSci 1-2 must take his additional work in other than group D2).

E. Courses in Humanistic Departments: At least 15 credits from 2 or more of the following categories. At least 5 credits must be offered from 1 category to count.

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

F. Courses in Health: PubH 2 or PubH 3 or equivalent.

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

Note—Only 3 credits by correspondence in student's major sequence in courses numbered 50 or above.

School of Business Administration

Leading to B.S.B. degree with a minimum of 180 quarter credits

Nearly all of the requirements in the prebusiness curriculum can be satisfied by correspondence courses.

Prebusiness Course Requirements for the B.S.B. Degree

1. **Business and Economics:** BA 1, Business and the American Economy; BA 5, Elements of Statistics; BA 24-25-26, Principles of Accounting; Econ 1-2, Principles of Economics.
2. **Freshman English:** Engl A-B-C; or Engl 1A-2A-3A; or Engl 1B-2B-3B; or Comm 1-2-3; or GC 31A, 31B, and 31C or 31D (with required score); or exemption.
3. **Mathematics:** Math 10 or 7 or equivalent (college algebra level).
4. **Social Sciences:** 15 credits in 2 or more of the following departments (at least 5 credits taken in a department to count): anthropology, geography, history, political science, psychology, sociology (except Soc 45). SSci 1-2-3 and 5 credits in 1 of the above departments will satisfy this requirement.
5. **Natural Sciences:** 8 credits in 1 of the following 2 groups:
 - a. Biological sciences: biology, botany, zoology;
 - b. Physical sciences: chemistry, geology, physics, NSci 4-5-6 (Physical World).
 All courses must include laboratory to meet this requirement.
6. **Humanities:** 9 to 15 credits in 2 or more of the following departments (at least 5 credits taken in a department to count): art, English literature, foreign literature, history, humanities, music, philosophy, speech and theater arts (except Spch 3, 6, 9 and 39), 1 foreign language.
7. **Electives:** Sufficient to complete the minimum of 90 credits required for admission.

Students planning to enter the accounting program are required to complete the following courses in addition to those specifically listed above: Comp 27, Advanced Writing; Math 40, Mathematical Analysis I, or equivalent.

Note—Only 15 credits by correspondence in courses numbered 50 or above. (This means that a total of about 95 credits toward the B.S.B. degree may be earned by correspondence study.)

Institute of Technology

(College of Engineering; School of Architecture, School of Chemistry, School of Mines and Metallurgy, School of Physics)

Leads to degrees in aeronautical, agricultural, civil, electrical, geological, mechanical, metallurgical, and mining engineering; chemistry, chemical engineering; applied mathematics; architecture; physics.

About 250 quarter credits are needed for a degree in the Institute of Technology.

The first-year curriculum is the same for all students in the College of Engineering, School of Architecture, School of Mines and Metallurgy, and School of Physics while some courses are the same in the School of Chemistry. The common first year of the College of Engineering is listed here to assist in guiding those who must or wish to begin their work through correspondence study. (See the *Bulletin of the Institute of Technology* for more details and the complete curriculum)

I.T. First-Year Curriculum

(Credits shown in parentheses)

ITM 11, 12, 13—College Algebra and Trigonometry I; College Algebra and Trigonometry II; Calculus I; Analytic Geometry and Calculus (5-5-5)	EC 14, 15, 16—Engineering Graphics (3-3-3) Engl A-B-C, or 1A-2A-3A, or 1B-2B-3B— Freshman English (4-4-4) Phys 11-12-13—General Physics (5-5-5)
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Note that all of the first-year subjects, *except physics*, can be completed by correspondence.

Following is a list of the correspondence courses that may be used for full credit in the Institute of Technology.

Engl 1B-2B-3B—Freshman English	ITM 13A—Calculus I: Analytic Geometry and Calculus
EC 14-15-16—Engineering Graphics	ITM 24A—Calculus II: Analytic Geometry and Calculus
ITM 11—College Algebra and Trigonometry I	
ITM 12—College Algebra and Trigonometry II	

ITM 25A—Calculus III: Analytic Geometry and Calculus

ITM 26A—Calculus IV: Differential Equations and Calculus

MM 26—Engineering Statics

MM 127—Engineering Dynamics

MM 128—Engineering Solid Mechanics

CE 146—Concrete and Concrete Materials

Note—Elementary and higher algebra and plane and solid geometry are prerequisites for the college level mathematics sequence that begins with ITM 11. Any deficiencies in these preparatory subjects may be made up by correspondence study.

The MM sequence, 26, 127 and 128, has been replaced in resident instruction by 27, 28 and 29, Rigid Body Mechanics I-II-III, and 40, 41, Deformable-Body Mechanics I and II. For the academic years 1959-60 and 1960-61 the correspondence sequence may be substituted. By October 1961 many of the new courses in mechanics and materials should be prepared for correspondence instruction.

The required 30 credits in the Social-Humanistic Area may be satisfied by selecting correspondence courses in history, psychology, economics, political science, philosophy, and English. Consult the *Bulletin of the Institute of Technology* or write the Correspondence Study Department.

College of Medical Sciences and College of Pharmacy

No professional courses are offered by correspondence.

Several elective and some required courses in the premedical, pre dental, and prepharmacy curriculums could be done by correspondence instruction. Required courses in the basic sciences are ordinarily not offered by home study. Write to the Correspondence Study Department for additional details.

Law School

It is recommended that students applying for admission to the University of Minnesota Law School obtain a Bachelor's degree from an accredited college or university. In this 4-year program the student may apply a *maximum* of 45 quarter credits or 30 semester hours that have been earned from accredited correspondence courses.

Students seeking admission to the Law School upon completion of a special 3-year prelaw course, *cannot* use credits earned through correspondence study. The special 3-year program *must be completed in residence*.

Students expecting to attend another law school should contact that school for admission requirements.

No accredited college or university attempts to teach professional law courses by correspondence.

College of Education

Leading to B.S. degree with a minimum of 180 quarter credits

Because of the variety of programs offered in this college it is not feasible to present a specific curriculum and to indicate appropriate correspondence courses. Here are two general suggestions that may be helpful.

1. If you have had no college experience, the 2-year program listed under the College of Science, Literature, and the Arts could be used as a guide in completing many of the basic requirements in this college. Several credits must be earned in academic subjects, and these credits may be transferred to the College of Education.
2. Those with 2 or more years of college work should write to the College of Education or to the Correspondence Study Department for guidance. Some correspondence courses will apply on professional or academic requirements.

College of Agriculture, Forestry, and Home Economics and College of Veterinary Medicine

Leading to B.S. degree or other Bachelor's degrees with a minimum of 180 quarter credits

There are a number of programs within these colleges and no specific curriculum can be listed. Correspondence courses, however, may satisfy several general academic requirements as well as provide elective credits. The English requirement, 18 credits in social science, 3 credits in personal health, and other conditions can be satisfied by correspondence courses. For additional information write to the Correspondence Study Department or to the Associate Dean, College of Agriculture, Forestry, and Home Economics, University of Minnesota, St. Paul 1.

School of Nursing

Leading to B.S. degree with a minimum of 255 quarter credits

1. Those with no college experience and no professional training might use the 2-year curriculum in the College of Science, Literature, and the Arts as a guide in completing many of the requirements in prenursing. (Some of the required courses in chemistry, zoology, and physical education are not offered by correspondence study.) (See page 9.)
2. Graduate professional nurses seeking a degree can satisfy general requirements with the following correspondence courses:

(Credits shown in parentheses)

Engl 1B-2B-3B—Freshman English (12)
Sociology (6)
Psy 1-2—General Psychology (6)

CD 89—Child Rearing (3)
(or) CD 80—Child Psychology (3)

Note—There are a number of nursing programs with a variety of requirements. It is recommended that the student contact the School of Nursing for details.

Graduate School

The University of Minnesota will not accept correspondence courses for advanced degrees; that is, Master's or Doctor's degrees. But graduate students may use these courses to satisfy undergraduate requirements or for subject matter content.

Certificates

The General Extension Division, of which the Correspondence Study Department is a part, awards certificates for satisfactory completion of approved programs. The work may be done by correspondence courses, evening classes, or both. Day school or Summer Session credits are approved where applicable. A student may also transfer credits from other accredited institutions, including those credits earned by correspondence study, provided the minimum of 25 per cent of the credits required for the certificate is earned at the University of Minnesota.

The following three sections, designated as Extension Certificates, Sections I-II-III, indicate those programs that are most accessible through University of Minnesota correspondence courses. The first section lists those certificates that can be earned *entirely* through completion of courses chosen from this bulletin. The second section indicates programs leading to certificates that can be *partially* accomplished by home study. In most instances, the student would have to earn credits in resident classes or have credits from accredited sources that would be applicable to the requirements. The third section indicates other certificate programs of the General Extension Division. Correspondence study can be used for some of the requirements

but is the least helpful in these programs. A list of the requirements will be sent on request.

EXTENSION CERTIFICATES SECTION I

All of the requirements for the following certificates can be met by completing courses selected from this bulletin.

Liberal Arts Certificate

(45 credits)

English Requirement

Engl 1B-2B-3B; or equivalent

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

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

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

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

Concentration Requirement: at least 12 credits in 1 subject, or in approved related liberal arts subjects, in addition to the credits earned in that subject under the spread and English requirements above.

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

Certificate in Engineering Mathematics and Science

(45 credits)

Core Requirements

Basic Technical Writing I or Engl 1B

ITM 11—College Algebra and Trigonometry I

ITM 12—College Algebra and Trigonometry II

ITM 13A—Calculus I: Analytic Geometry and Calculus

ITM 24A—Calculus II: Analytic Geometry and Calculus

ITM 25A—Calculus III: Analytic Geometry and Calculus

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

Astronomy

Engineering Graphics

Geology

Physics

Electrical Engineering

Mechanical Engineering

Mechanics and Materials

Civil Engineering

Management of Administrative Services Certificates

The management of Administrative Services Certificate Program has been developed by the General Extension Division in co-operation with the School of Business Administration and the National Office Management Association. In addition to the granting of the Junior or Senior Certificate by the General Extension Division on completion of the prescribed program, the student is entitled to the Junior or Senior N.O.M.A. Management of Administrative Services Certificate. (Only the Junior Certificate is available through Correspondence Study Department.)

Junior Certificate

(45 credits)

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

Core Requirement

Review of Business English; or Business Correspondence; or Engl 1B	BA 24-25-26—Principles of Accounting
Econ 1-2—Principles of Economics	BA 58—Business Law
BA 5—Business Statistics	BA 99—Survey of Office Management
	Psy 1-2—General Psychology

Electives: additional courses to be selected from the following:

BA 52—Modern Industrial Relations: Labor Marketing	BA 56—Corporation Finance
BA 72—Modern Industrial Relations: Manpower Management	BA 55C—Managerial Costs
BA 53—Insurance Principles	BA 55D—Analysis of Financial Statements
	BA 88—Business Law

World Affairs Certificate

(45 credits)

This certificate is offered in co-operation with the University of Minnesota World Affairs Center, and approved by the Interdepartmental Committee on International Relations and Area Studies. Students transferring credits to this certificate program from other accredited institutions must take a minimum of 15 credits from the University of Minnesota, including at least 9 credits in political science.

Core Requirement

Pol 1-2—American Government and Politics (or) Pol 10C—Survey of American Government and Politics	Hist 20 or 21 or 22—American History I or II or III
Pol 7C—Comparative European Governments	Hist 95—American Diplomatic History
Pol 25—World Politics	Hist 127—Russian History III
Pol 4C—United Nations	Pol 94—The Far East in International Relations

Recommended

Foreign Language—5 credits or equivalent

Electives: selected from the following to make a total of 45 credits:

Anth 1A or 2A—Introduction to Anthropology	Hist 125 or 126—Russian History I or II
Econ 1-2—Principles of Economics	Hum 3 or 4—Humanities in Modern World III or IV
Engl 4C—Masterpieces of World Literature	Pol 89—Japanese Government and Politics
Hist 1 or 2 or 3 or 8C—Civilization in the Modern World (or) Foundations of Modern Civilization	Soc 1—Introduction to Sociology
Hist 93—American Diplomatic History I	Soc 120—Social Psychology
	Your Trip to Europe (preparation for)

*Business Administration Certificates**Junior Certificate*

(45 credits)

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

Core Requirement

Review of Business English; or Business Correspondence; or Engl IB; or equivalent	BA 5—Elements of Statistics
Econ 1-2—Principles of Economics	BA 24-25-26—Principles of Accounting
	BA 58—Business Law

Spread Requirement (9 credits): at least one 3-credit course in 3 of the following 4 fields, in addition to credits earned under core requirement:

- | | |
|--------------------------|-------------------------|
| 1. Industrial Management | 3. Industrial Relations |
| 2. Economics and Finance | 4. Business Law |

Concentration Requirement: at least 9 credits in 1 of the following fields, in addition to credits earned under core and spread requirements:

- | | |
|-----------------------|----------------------|
| Accounting | Industrial Relations |
| Economics and Finance | Insurance |
| Industrial Management | |

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

Senior Certificate

(90 credits)

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

Core Requirement

Business English (6 cr)	BA 24-25-26—Principles of Accounting
(or) Engl 1B-2B-3B or equivalent	BA 58—Business Law
Econ 1-2—Principles of Economics	Econ 67—Money and Banking
BA 5—Elements of Statistics	

Spread Requirement: at least 12 credits from the following courses:

BA 52—Modern Industrial Relations: Labor Marketing	BA 78 or 88—Business Law (not both)
BA 56—Corporation Finance	BA 99—Survey of Office Management
Econ 68—Elements of Public Finance	(or) BA 50—Production Management

Concentration Requirement: at least 18 additional credits in 1 or 2 of the following fields, in addition to credits earned under core and spread requirement:

- | | |
|------------------|-----------------------|
| Accounting | Insurance |
| Economics | Industrial Management |
| Business Finance | Industrial Relations |
| Statistics | |

Electives: additional courses from engineering or the physical sciences approved by the Committee on Student Scholastic Standing to make a minimum of 90 credits for the certificate.

EXTENSION CERTIFICATES SECTION II

The following certificate programs can be partially completed with appropriate courses from this bulletin. Students would have to present acceptable equivalent credit for some of the required courses or sequence of courses. Each of the sequences marked with an asterisk (*) is NOT listed in this bulletin.

Accounting Certificates

Junior Certificate

(45 credits)

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

Requirements

BA 24-25-26—Principles of Accounting	Econ 1-2—Principles of Economics
BA 105A-B-C—Intermediate Accounting*	BA 56—Corporation Finance
BA 115A-B—Cost Accounting*	Engl 1B-2B-3B—Freshman English

Senior Certificate

(90 credits)

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

Requirements

BA 24-25-26—Principles of Accounting	Two courses from the following:
BA 105A-B-C—Intermediate Accounting*	BA 50—Production Management
BA 115A-B—Cost Accounting*	BA 52—Industrial Relations
Four additional accounting courses numbered above 100*	BA 53—Insurance
BA 56—Corporation Finance	Econ 67—Money and Banking
Econ 1-2—Principles of Economics	Econ 68—Public Finance
BA 5—Elements of Statistics	ITM 11-12—College Algebra and Trigonometry I-II
BA 51—Business Statistics*	Engl A-B-C, or 1A-2A-3A, or 1B-2B-3B—
BA 58—Business Law	Freshman English, or Comm 1-2-3—Com-
BA 78-88—Business Law (or approved substitu-	munication (only 1B-2B-3B offered by corre-
tutions in industrial management or industrial	spondence study)
engineering)	Comp 27—Advanced Writing

Secretarial Certificate

(45 credits)

The Secretarial Certificate is awarded to those who, in addition to the necessary skills and experience in typewriting and shorthand, have completed a selection of courses appropriate to a background in business administration, such as needed for qualifying for Certified Professional Secretary examinations. Candidates for the certificate must take a test in transcription under the supervision of the secretarial faculty in the School of Business Administration.

Core Requirement

Review of Business English and Business Correspondence; or Comp 58, Business Reports* and Letters*	BA 58, 88—Business Law
Econ 1-2—Principles of Economics	BA 79A-79B—Administrative Secretarial Studies*
BA 24-25—Principles of Accounting	BA 99—Survey of Office Management
BA 36—Office Procedures*	Psy 1-2—General Psychology

Electives: additional courses selected from the following or other approved courses to make a minimum of 45 credits.

Communication in Management*	BA 53—Insurance Principles
BA 5—Elements of Statistics	Econ 67—Money and Banking
BA 26—Principles of Accounting	BA 78, 98—Business Law

Industrial Relations Certificate

(46 credits)

Core Requirement

- Econ 1-2—Principles of Economics
- BA 52—Modern Industrial Relations: Labor Marketing
- BA 72—Modern Industrial Relations: Manpower Management
- Econ 172—Public Policy: Labor Relations
- Econ 182—Economic Security
- Psy 1-2—General Psychology
- Psy 4-5—Introductory Laboratory Psychology*
- Psy 122-123—Vocational and Personnel Psychology*

- One course from the following:
 - Survey of Current Problems in Industrial Relations*
 - BA 182B—Intermediate Manpower Management*
 - BA 262-272-282—Graduate Topics in Industrial Relations*
- One course from the following:
 - BA 142—Settlement of Industrial Relations Disputes*
 - Econ 152—Labor Movements*
 - Econ 162—Union Government and Policies*

Electives (any two courses from the following):

- BA 50—Production Management
- BA 99—Survey of Office Management
- Psy 144-145—Abnormal Psychology
- Soc 120—Social Psychology
- IR 1C-2C—Supervision I, II

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

Interior Design Certificate

(45 credits)

The Interior Design Certificate is awarded upon successful completion of a program of courses in interior design and related fields, totaling 45 credits. A student holding the certificate will have a background indicating proficiency in the field of home furnishings or as a junior decorator in a studio or store.

Core Requirement

- Art 83A—Interior Design I
- Art 84A—Interior Design II
- Art 103A—Seminar in Interior Design I*
- Art 104A—Seminar in Interior Design II*
- Art 1—Introduction to Art

- Architectural Drafting I*
- (or) Home Design and Planning*
- Review of Business English
- (or) Engl 1B—Freshman English
- Business Correspondence
- Psy 1A—Application of Psychology to Living

Spread Requirement: not more than 2 courses in at least 3 of the following groups, to total 18 credits; courses subject to approval of the certificate program adviser, Mrs. Lewis, telephone Federal 8-8791 or West 8-3431.

- 1. History of Art, Art Appreciation
- 2. Design, Drafting, Color Photography
- 3. Ceramics, Sculpture, Weaving
- 4. French, Humanities, Psychology

Public Administration Certificate

(45 credits)

Core Requirement

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

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

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

- Pol 58—Governmental Accounting*
- Pol 61—Municipal Law and Administration*
- Pol 64—Employee Training Techniques*
- Pol 66—Practice of Public Administration*
- Pol 67—Administrative Analysis*
- Pol 68—Administrative Communication*

Pol 69—Problems in Tax Administration*
 Pol 73—City and County Planning*
 Pol 76—Business and Government*
 Pol 77—Administrative Regulation*

Pol 78—Administrative Responsibility*
 Jour 78—Public Relations
 BA 5—Elements of Statistics

Concentration Requirement: at least 15 credits in 1 of the following fields or in any approved combination thereof to make a minimum of 45 credits for the certificate:

Accounting	Political Science
Child Development and Welfare	Psychology
Economics and Business Finance	Recreation
Engineering	Social Work
Industrial Relations	Sociology
Insurance	

Basic Engineering Science Certificate

(52 credits)

Prerequisite: high school graduate or equivalent, higher algebra, solid geometry, satisfactory completion of the English Placement Test

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

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

The requirements for the Basic Engineering Science Certificate program are listed below. No electives or substitutions are permitted in this program, nor will any prerequisite be waived. Credits earned in day school applicable to this program can be transferred. Transcripts of credits earned at other institutions of higher learning will be evaluated by the Advanced Standing Office of the University of Minnesota. Transfer of approved credits will be permitted. Certificates are awarded to students who complete with a minimum C average the prescribed program of study.

ITM 11—College Algebra and Trigonometry I	EG 14-15-16—Engineering Graphics
ITM 12—College Algebra and Trigonometry II	Phys 11-12-13—General Physics*
ITM 13A—Calculus I: Analytic Geometry and Calculus	GE 70—The Slide Rule
	Engl 1B-2B-3B—Freshman English

EXTENSION CERTIFICATES SECTION III

Below is listed other certificate programs of the General Extension Division. Correspondence courses are the least helpful in meeting these requirements, but some of the courses are offered through home study. A list of the requirements for these certificates will be sent on request.

Senior Management of Administrative Services Certificate (90 credits)
 Senior Engineering Science Certificate (102 credits)
 Senior Civil Engineering Technician Certificate (102 credits)
 Senior Electrical Engineering Technician Certificate (102 credits)
 Senior Industrial Engineering Technician Certificate (102 credits)
 Senior Mechanical Engineering Technician Certificate (102 credits)

College Courses

Note—There is a \$3 per course fee for registrations originating outside of Minnesota.

The letter (c) after the number of a course means that there is no parallel campus course or that the correspondence course is a material modification of the campus course for extension purposes.

AGRICULTURE

Mykola H. Haydak, Ph.D., Associate Professor of Entomology and Economic Zoology

Truman Nodland, Ph.D., Associate Professor of Agricultural Economics

A4. Beekeeping. Useful to the nonexperienced and experienced beekeeper. Some of the topics considered are: the study of the honey bee colony and of the individual bee, fundamentals of bee behavior, the value of bees in pollination, colony development, apiary management, and preparation of honey and wax for market. (No prerequisite and no credit toward a degree)

Haydak — 3 Extension credits only — \$24 — 16 lessons

AgEc 80. Farm Accounting. Forms and procedure for recording inventories, cash receipts and expenses, crop acreages and yields, feed consumed by livestock, family living secured from the farm, and other information concerning the farm business. Calculation of measures of farm earnings and factors affecting earnings. (No prerequisite)

Nodland — 3 credits — \$24 — 16 lessons

Agricultural Education (Rural Education). Kitts. See page 26.

Home Economics (Textiles). Babcock. See page 21.

Horticulture. Phillips. See page 40.

Parliamentary Law. Miller. See page 46.

ANTHROPOLOGY (Anth)

Alan Mingo, B.A., Instructor in Anthropology (Correspondence Study)

1A. Introduction to Anthropology: Prehistoric Man and Culture. Origins of man and development of modern races. Growth and differentiation of the cultures of man from the Dawn Stone Age of early glacial times through the Old and New Stone Ages to the dawn of civilization in the Bronze and Iron Ages. (No prerequisite)

Mingo — 5 credits — \$40 — 27 lessons

2A. Introduction to Anthropology: Cultural Anthropology. The varieties and range of human behavior as revealed through the study of primitive societies in all parts of the world. A scientific analysis of the ways in which primitive men organize their lives, directed toward a deeper and broader understanding of human capacities and purposes. (No prerequisite)

Mingo — 5 credits — \$40 — 27 lessons — Registrations accepted after January 1, 1961

80. The American Indian. A survey of the native cultures of the Americas. Descriptive accounts of the physical types, languages, prehistory, and cultures of North, Central, and South America. (Prerequisite: Anth 2A or equivalent)

Mingo — 3 credits — \$24 — 16 lessons

- 165. Culture and Personality.** Role of culture in the formation of personality. Problems of individual adjustments to the demands of culture. Psychological approach to culture. (Prerequisite: Anth 2A or consent of instructor)
3 credits — \$24 — 16 lessons

ART (Art) and ART EDUCATION (ArEd)

Clifton Gayne, Jr., Ph.D., Professor and Chairman, Department of Art Education

Lorenz E. A. Eitner, Ph.D., Professor of Art

Gladys Babcock, M.A., Associate Professor of Textiles, University of Texas

Leah Lewis, B.S., Assistant Professor of Art

Lucile S. Robinson, B.A., Instructor in Handcraft (Correspondence Study)

- 1. Introduction to Art.** Offers a survey of the visual arts—architecture, sculpture, painting, the graphic techniques, photography, and film—combining a broad coverage of the main periods of art-history with an exploration of fundamental problems of meaning, form, and style. It attempts to enable students to interpret works of art by relating them to their geographic, historical, and social origins and by explaining the aims which have motivated artists of the past and present. (No prerequisite)
Eitner — 4 credits — \$32 — 21 lessons
- 4(c). Design I.** Fundamental principles of design applied to a series of interesting and practical problems using a variety of techniques; a basic course that is useful in public school teaching and as a foundation for art courses. (No prerequisite)
Lewis — 3 credits — \$24 — 16 lessons
- 43A(c). General Handcrafts I.** A practical course which includes chip carving, block printing, stenciling, and puppets. Also included are projects and gift suggestions to be made from scraps of material such as paper, tin, yarn, and wire. For teachers, occupational therapists, camp and playground workers, and homemakers. (No prerequisite; may precede or follow General Handcrafts II)
Robinson — 3 credits — \$24 — 16 lessons
- 43A(c). General Handcrafts II.** Similar to General Handcrafts I, but may precede or follow the first course. Lessons cover paper sculpture, stick printing, bead weaving, glass etching, clay craft, braiding, and simple book binding. Course may be taken for 1 or 2 credits. (No prerequisite)
Robinson — 1 credit — \$8 — 6 lessons
Robinson — 2 credits — \$16 — 12 lessons
- 43B(c). Textile Crafts.** A practical course in needlework and other textile crafts such as hooked rug and braided rug making, crocheting, knitting, and simple weaving suitable for use in homes, schools, camps, playgrounds, social service, and for those interested in adult education. (No prerequisite)
Robinson — 3 credits — \$24 — 16 lessons
- 83(c). Interior Design I. (Interior Decoration)** A study of traditional and modern furniture and how to combine various styles successfully. Additional subjects include floor coverings, wall treatment, how to build color schemes, and general trends in home decoration. Of interest to teachers, homemakers, and home furnishings sales people. (No prerequisite)
Lewis — 3 credits — \$24 — 16 lessons
- 84(c). Interior Design II.** Trends in decorative fabrics and floor coverings including a study of the new fibers used in curtain, drapery, and upholstering fabrics. How to estimate. Major accessories such as picture selection, ceramics, and the use of metals in decoration are considered. Another major emphasis is on window treatment and planning room color schemes. (Prerequisite: Art 83(c))
Lewis — 3 credits — \$24 — 16 lessons
- ArEd 19(c). Art Appreciation in Education.** An introductory survey of art to provide a background for personal growth and for effective co-operation in modern educational

programs. The role of the artist, his ideas, materials, and techniques will be examined in terms of his contributions to enriched living. Painting, sculpture, architecture, city planning, personal appearance, and industrial design are some of the specific areas studied in relation to current personal and social problems. (No prerequisite; recommended for elementary school teachers but of general interest; not open for credit to art majors or those who have completed ArEd 19)

Gayne — 4 credits — \$32 plus \$1.50 materials fee — 21 lessons

ArEd 21. Freehand Lettering. Lessons in construction and spacing of single stroke vertical and inclined letters and numerals used in offices, stores, hospitals, libraries, schools, etc. (No prerequisite)

Palmer — 1 credit — \$8 — 6 lessons

HE 2(c). Introduction to Textiles. For consumers and people in the field of merchandising. A study of textiles commonly used in clothing and home furnishings including fiber identification and properties, yarn and fabric construction, fabric finishing, determination of fabric quality in relation to use, and care of fabrics. (No prerequisite)

Babcock — 3 credits — \$24 plus \$1.50 for materials — 16 lessons

ASTRONOMY (Ast)

Willem J. Luyten, Ph.D., Professor and Chairman, Department of Astronomy

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

Luyten — 5 credits — \$40 — 27 lessons

BUSINESS ADMINISTRATION (BA)

Herbert G. Heneman, Jr., Professor and Director, Industrial Relations Center
 Reuel I. Lund, Ph.D., C.P.A., Associate Professor of Accounting and Assistant Dean
 Ernestine C. Donaldson, M.A., Associate Professor of Business Administration
 C. Arthur Williams, Ph.D., Associate Professor of Economics and Insurance
 Donald H. Bruer, LL.B., Instructor in Business Law (Correspondence Study)
 Stephen J. Carroll, Jr., M.A., Research Assistant, Industrial Relations Center
 Keith R. Heller, M.S., Lecturer in Business Administration
 Coenraad L. Mohr, M.A., Instructor in Business Administration
 Elvin Peterson, B.B.A., Instructor in Industrial Management (Correspondence Study)

Note—See page 10 for limitation on amount of credit earned by correspondence courses toward B.S.B. degree. See page 25 for courses in economics.

5. Elements of Statistics. The elementary tools for the collection, analysis, and interpretation of statistical data in economics and business; the collection of material; the use of tables, charts, and averages in economic analysis; the measurement of variation and association in statistical data, particularly with relation to the errors of sampling; the construction and use of index numbers in measuring cost of living, price levels, and production. The objective throughout is a reasonable familiarity with widely used statistical techniques. (No prerequisite)

3 credits — \$24 — 16 lessons

24. Elements of Accounting. The form and content of financial statements; ledgers; debit and credit; journals; control accounts; special books; the trial balance; adjusting and closing entries; the work sheet; and the preparation of financial statements. Each lesson will include a reading assignment in a text and a number of problems to work. (No prerequisite)

Lund — 3 credits — \$24 — 16 lessons

- 25. Principles of Accounting I.** Deals mainly with corporation accounting. Formation of a corporation; types of stock; opening entries; donated and other treasury stock; surplus; dividends; reserves; surplus statement; valuation of stocks and bonds. The remainder of the lessons will consider peculiarities of accounting for partnership. (Prerequisite: BA 24 or equivalent)
Lund — 3 credits — \$24 — 16 lessons
- 26. Principles of Accounting II.** Accounting for manufacturing inventory methods; the job order method; process costs; departmental accounting; branch accounting; consolidated statements; funds statements; and an analysis and interpretation of financial statements. Each lesson includes problems which are to be worked and submitted by the student. A longer practice set is also assigned near the end of the course. (Prerequisite: BA 25 or equivalent)
Lund — 3 credits — \$24 — 16 lessons
- 50. Production Management.** A survey course in the techniques of modern management of production. The basic principles of the techniques of scientific management are studied with particular emphasis on the need for the scientific method of approach to the solution of management problems. The following topics are considered: organization, the physical plant, product development, material control, quantity control, quality control, and production control. (Prerequisite: Econ 2 or equivalent; recommended to businessmen to whom it is open without prerequisites)
Peterson — 3 credits — \$24 — 16 lessons
- 52. Modern Industrial Relations: Labor Marketing.** Deals with (a) marketing of manpower resources, (b) institutional structure of labor markets, (c) economic and social problems arising from labor marketing processes, (d) methods, procedures, and proposals for solving these problems. (Prerequisite: Econ 2 or equivalent)
Mohr — 3 credits — \$24 — 16 lessons
- 53. Insurance Principles.** An analysis of the role insurance plays in combating risk; fundamentals of personal, property, and liability insurance contracts; types of insurers; sales, underwriting, actuarial, finance, and claims functions of insurers; regulation; and social insurance. Designed primarily for the insurance consumer and as an introductory course for a person who wishes to take more work in insurance. (Prerequisite: Econ 2)
Williams — 3 credits — \$24 — 16 lessons
- 55C. Managerial Costs.** The uses of cost information in modern industry, the accounting mechanism for costs, types of cost systems, the definition of cost terms; the use of the factory ledger; the accounting for materials, their purchase, storage, use, the stores ledger, and the calculation of materials costs; the accounting for labor with particular reference to applying labor costs to production; the accumulation and analysis of overhead and its application to product; cost reports and statements for the management. (Prerequisite: BA 26 or approximate equivalent)
Lund — 3 credits — \$24 — 16 lessons
- 55D. Analysis of Financial Statements.** Comparative statements; vertical and horizontal analysis; significance of per cents and ratios; analysis of working capital; age of accounts receivable; book value per share of stock; causes of change in gross profit; changes in manufacturing costs; distortion in ratios; profit and loss analysis; a statement of variation in net profit; causes of variations in profits; changes in quantity volume; the breakeven point; use of breakeven computations in management; statement of application of funds; funds provided by profits; other sources of funds; and analysis of fixed asset and reserve accounts. (Prerequisite for credit: BA 26 or equivalent)
Lund — 3 credits — \$24 — 16 lessons
- 56. Corporation Finance.** A study of the organization and financial management of corporations, with reference to types of securities, conditions under which they should be issued, and facilities for marketing them. (Prerequisite: Econ 2 or equivalent)
3 credits — \$24 — 16 lessons

58. **Business Law—Contracts.** Deals with the basic law of contracts, the formation, operation, effect, and discharge of contracts. Inasmuch as a knowledge of the general rules of contract law is fundamental to all work in business law, this course must precede BA 78, 88, and 98. (No prerequisite)
Bruer — 3 credits — \$24 — 16 lessons
- 64(c). **Operation of a Small Business.** The practical problems of operating a small business. Covers all phases of organization and management including advertising, layout, financing, location, buying, pricing, personnel. Emphasis on retailing. (No prerequisite)
3 credits in General College — \$24 — 16 lessons
72. **Modern Industrial Relations: Manpower Management.** Evaluation of managerial policies and devices designed to secure the co-operation and efficient participation of employees in business, industry, and government. Attention is directed especially to the determination of labor needs, job analysis and classification, methods of recruiting workers, selection devices, training and safety programs, service rating, employment stabilization, collective bargaining, and compensation. (Prerequisite: BA 52 or concurrent registration)
Heneman — 3 credits — \$24 — 16 lessons
73. **Life and Accidental Injury and Sickness Insurance.** Business and personal uses of life and accidental and injury insurance; types of contracts; principal policy provisions; special characteristics of industrial, group, fraternal, and government insurance and pensions; premiums and reserves; dividends; investments; underwriting and reinsurance; regulations; some legal aspects. (Prerequisite: Econ 2; BA 53 highly recommended but not required)
Williams — 3 credits — \$24 — 16 lessons
78. **Business Law—Agency, Partnerships, and Corporations.** The law of agency and a consideration of problems of partnerships and corporations, including business associations. Includes a study of the nature, creation, and terms of relationships, and rights and liabilities of the parties when doing business through agents, partnerships, and corporations. (Prerequisite: BA 58)
Bruer — 3 credits — \$24 — 16 lessons
88. **Business Law—Sales, Bailments, and Negotiable Instruments.** Law of sales of goods under the Uniform Sales Act and law of commercial paper under the Uniform Negotiable Instruments Law. Includes a study of negotiable notes, checks, drafts, etc., and rights of parties thereto. (Prerequisite: BA 58)
Bruer — 3 credits — \$24 — 16 lessons
93. **Property and Liability Insurance I.** A discussion of the nature and relative importance of losses covered under property and liability insurance contracts; a detailed analysis of the contract provisions in the most important fire, marine, and casualty insurance contracts and surety bonds. (Prerequisite: Econ 2; BA 53 highly recommended but not required)
Williams — 3 credits — \$24 — 16 lessons
98. **Business Law—Property Rights and Obligations.** Nature and classification of real and personal property; deeds and conveyances; landlord and tenant; recording and abstracting; Torrens titles; liens and mortgages; wills, probating of estates, and duties of administrators and executors. (Prerequisite: BA 58)
Bruer — 3 credits — \$24 — 16 lessons
99. **Survey of Office Management.** The office as a producing unit; organization and control of clerical services; selection of equipment and supplies; flow of work layout, and working conditions; office personnel; relation of the office to operating divisions; work simplification; scientific management as applied to the office. (Prerequisite for credit: Econ 2 or equivalent)
Donaldson — 3 credits — \$24 — 16 lessons
125. **Auditing and Public Accounting.** The purposes and principles of auditing. The verification and certification of published statements by public accountants. Specific pro-

cedures 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: BA 26 or approximate equivalent)

Lund — 4 credits — \$32 — 21 lessons

- 135. Income Tax Accounting.** The application of the federal income tax law to individuals and corporations. Begins with a consideration of what types of income are taxable and which are not. Consideration is then given to gains and losses, dividends, and deductions. Actual preparation of tax returns for individuals and corporations is practiced as a final step. (Prerequisite: first year elementary course in accounting at college level, or equivalent)

K. R. Heller — 3 credits — \$24 — 16 lessons

- 146. Real Estate.** The valuation of urban real estate with consideration of problems of real estate financing, rent control, housing land development, zoning and other factors affecting real estate values. (Prerequisite: Econ 2 or equivalent; recommended to businessmen to whom it is open without prerequisite)

3 credits — \$24 — 16 lessons

- 176. Investments.** Study of the principles of investment and their application to actual cases. Lessons developed out of concrete examples to assist in a critical appraisal of specific securities and to add to working knowledge of investment issues. Principal emphasis on the most important groups of securities—railroad, industrial, public utility, and governmental issues. (Prerequisite: BA 56; recommended to businessmen to whom it is open without prerequisite)

3 credits — \$24 — 16 lessons

Business Correspondence. See page 34.

Salesmanship. See page 53.

Industrial Supervision. See page 41.

Other business courses. See Economics, page 25.

CHILD DEVELOPMENT AND WELFARE (CD)

(See Education, page 26)

Armin Grams, Ph.D., Associate Professor of Child Development and Welfare

Eleanor C. Robinson, Ph.D., Assistant Professor of Child Development and Welfare

Elizabeth Peterson, B.S., Instructor in Child Development and Welfare

- 80. Child Psychology.** A survey of child psychology from infancy to adolescence. Development of motor skills, language, intelligence, emotional behavior, personality, social behavior, and character. Learning and adjustment. Of interest to the teacher, the general student, and parents. (Prerequisite: Psy 1 and 2 or equivalent)

Grams — 3 credits — \$24 — 16 lessons

- 81. Adolescent Psychology.** What it means to grow up; the effect of physical, mental, and emotional growth on the developing personality; guidance of youth's interests and social life—sex, recreation, friends, and vocation. (Prerequisite: Psy 1 and 2 or equivalent; not open to those who have completed Psychology of Adolescence in the College of Education)

Grams — 3 credits — \$24 — 16 lessons

- 83. The Guidance of Children's Activities.** Furthering the child's development by directing his natural activities and interests. Discussion of stories, music, art, and dramatics, as well as the use of tools, toys, and a variety of occupational materials. The value of play and activities initiated and carried out by the children. (Prerequisite: Psy 1 and 2 or equivalent)

Robinson — 3 credits — \$24 — 16 lessons

86. **The Gifted Child.** Survey course for parents and professional workers. Intellectual, physical, social, and personal characteristics. Guidance of gifted children. (No prerequisite)
Grams — 2 credits — \$16 — 12 lessons
89. **Child Rearing.** A brief survey of physical and mental development together with a discussion of the training of young children. Behavior problems in their various aspects, and the techniques of good and poor management are considered. (Prerequisite: Psy 1 and 2 or equivalent)
Peterson — 3 credits — \$24 — 16 lessons
90. **Psychology of Parent-Child Relationships.** Relation of adults and children within the family; the influence of family practices with respect to finance discipline, recreation, social relations, affections, etc., on the development of children. (No prerequisite)
Robinson — 2 credits — \$16 — 12 lessons

CHINESE (Chin)

Richard B. Mather, Ph.D., Associate Professor and Chairman, Department of Slavic and Oriental Languages

1. **Beginning Chinese I.** Prepares for the reading and writing of colloquial Chinese (Mandarin), the language of conversation, modern fiction and newspapers. Principles of pronunciation and intonation will be treated; principles of grammar will be implemented with ample exercises. (No prerequisite)
Mather — 5 credits — \$40 — 27 lessons — Record (78 rpm) \$4 (tape about one-half cost of record)

CLASSICS

R. A. Swanson, Ph.D., Assistant Professor of Classics

24. **Technical Terms of Science, Medicine and the Humanities.** Presentation in English contexts of Greek and Latin prefixes, suffixes, and root words in modern technical vocabularies; special attention to medical terminology. No previous acquaintance with Greek or Latin is required. (No prerequisite)
R. A. Swanson — 3 credits — \$24 — 16 lessons

ECONOMICS (Econ)

Arthur M. Borak, Ph.D., Associate Professor of Economics

Allan N. Nash, M.A., Research Assistant, Industrial Relations Center

1. **Principles of Economics I.** Analysis of the principles determining the production (supply) and exchange (demand) of goods and services by individual firms and households. Determination of costs and prices under conditions of competition and monopoly. Forms of business organization and economic activity of government. Economic significance of taxation and labor organizations; study of wages, rents, interest, and profit. (No prerequisite)
3 credits — \$24 — 16 lessons
2. **Principles of Economics II.** Analysis of national income, employment, and price level, with attention to aggregate consumption and investment. Financial organization of society; distribution of wealth and income. Fiscal and monetary policies; economic significance of banking; business cycles; foreign trade. Review of systems of economic organization: capitalism, socialism, fascism, and communism. (Prerequisite: Econ 1)
3 credits — \$24 — 16 lessons
67. **Money and Banking.** Historical development, present pattern and economic role of financial institutions, with special emphasis upon commercial banks, the money supply, and the Federal Reserve System. (Prerequisite: Econ 2 or equivalent)
3 credits — \$24 — 16 lessons

68. **Elements of Public Finance.** Public expenditures, revenues, debts, fiscal policy, and financial administration. Includes a study of the nature of public expenditures, various kinds of nontax public revenues, various forms of taxation, shifting and incidence of taxation, budgetary and legislative control, and fiscal reforms. (Prerequisite: Econ 2 or equivalent)

Borak — 3 credits — \$24 — 16 lessons

172. **Labor Policy: Labor Relations.** An analysis of (a) employer-employee-union relationships and their social control; emphasis is placed upon the actions of legislative, executive, and judicial branches of the government; and (b) the economic and social implications of issues arising in this area. (Prerequisite: BA 52 or equivalent)

Nash — 3 credits — \$24 — 16 lessons

182. **Economic Security.** An analysis of (a) the origins and development of economic and social problems of the individual worker, (b) executive, legislative, and judicial attempts to deal with these problems, and (c) economic and social consequences of the developments. Treatment of "protective labor legislation" involving child labor, hours and wages, industrial accidents and illness, old age, and unemployment. (Prerequisite: BA 52 or equivalent)

Nash — 3 credits — \$24 — 16 lessons

EDUCATION (Ed)

Donovan Johnson, Ph.D., Professor of Education

Harry W. Kitts, Ph.D., Professor of Agricultural Education

Gordon Mork, Ph.D., Professor of General Education

Adrian Dupuis, Ph.D., Associate Professor of Education, Marquette University

Dewey G. Force, Jr., Ph.D., Assistant Professor of Educational Psychology

Helen P. Mudgett, M.A., Assistant Professor of Intercultural Education

Note—See Child Development and Welfare, page 24, for courses in Child Training, Child Psychology, Guidance of Children's Activities, Adolescent Psychology, The Gifted Child, etc. These courses accepted for credit in College of Education. See page 47 for courses in physical education.

- 4(c). **Introduction to Philosophy of Education.** A study of the ideas influencing contemporary education in the United States. An effort will be made to show how these ideas might influence the day-to-day work of the teacher. The central objective of this course is to help teachers clarify their thinking in respect to the many conflicting viewpoints in educational philosophy. (No prerequisite)

Dupuis — 4 credits — \$32 — 21 lessons

- AgEd 20. **Rural Education and Community Leadership.** Appraisal of community educational agencies; process of and responsibilities for community leadership; role of the school in the rural community; co-ordination of the school with nonschool educational agencies. (No prerequisite)

Kitts — 3 credits — \$24 — 16 lessons

60. **Introduction to Measurement and Statistics.** A study of elementary statistical methods and their application to educational problems. The commonly used statistical terms and methods such as mean, median, mode, percentiles, graphs, standard deviation, correlation, standard scores, and test analysis are considered. An attempt is made to give the student some understanding of these terms, practice problems with educational data, and applications and interpretations of statistics. Emphasis is placed on the intelligent interpretation of statistical methods so that the student may interpret educational data correctly. (Prerequisite: 6 credits in psychology)

Johnson — 3 credits — \$24 — 16 lessons

65. **Teaching of Science in the Elementary Schools.** Designed to acquaint the elementary school teacher with objectives, methods, and materials of importance in the teaching of science to children. Special attention is given to developing understanding of

science concepts and scientific method among children. Those phases of science content of importance in elementary education are identified and special attention is given to their explanation. (No prerequisite)

Mork — 3 credits — \$24 — 16 lessons

77. **Critical Issues in Modern Education.** The principal aim is to answer the following: What are the outstanding points of view in education today? Such practical questions as discipline, freedom, indoctrination, teacher-pupil relations, progressive methods will be treated as they relate to underlying theory; but the central objective will be to appreciate the crucial agreements and differences among leading thinkers in contemporary education. (May be substituted for HED 141 in undergraduate curriculums; not open to students who have taken HED 141)

Dupuis — 3 credits — \$24 — 16 lessons

- EPsy 82. Education of Exceptional Children.** Provides an overview of the field of special education. The major objective is to develop a beginning understanding of the characteristics and needs of socially maladjusted, gifted, mentally retarded, crippled, visually and auditorially handicapped children. A number of general problems in special education (such as prevention of handicaps, current trends, research needs, teacher training opportunities, patterns of school organization and administration, etc.) are also given brief consideration. Especially planned for classroom teachers, counselors, supervisors, and administrators. Also is a suitable first course for students working for special certificates to teach exceptional children. (Prerequisite: Psy 1 and 2 or equivalent or teacher's certificate)

Force — 3 credits — \$24 — 16 lessons

- HED 92(c). Techniques of Intergroup Education for Rural Schools.** Designed to help rural teachers gain clearer insight into the need of their school community for a better understanding, both of themselves and of others. (No prerequisite)

Mudgett — 2 credits — \$16 — 12 lessons

ENGINEERING

Robert Edward Summers, M.S.(Ch.E.) M.E., Dean of Admissions and Records and Professor of Mechanical Engineering

Miles Kersten, Ph.D., Professor of Civil Engineering

Forrest E. Miller, M.S.(M.E.), Professor of Mechanics and Materials

James K. Threlkeld, Ph.D., Professor of Mechanical Engineering

Paul A. Cartwright, M.S., Associate Professor of Electrical Engineering

Edward S. Loye, Ph.D., Associate Professor of Mathematics

Theodor W. Thomas, M.S.(C.E.), Associate Professor of Civil Engineering

Immanuel C. Fischer, M.S., Assistant Professor of Engineering

Lewis G. Palmer, M.A., Assistant Professor of Mechanical Engineering

Jerome L. Novotny, M.S., Instructor in Mechanical Engineering

Russell S. Nyquist, M.S., Instructor in Mechanical Engineering

The Institute of Technology consists of the College of Engineering, the School of Architecture, the School of Chemistry, the School of Mines and Metallurgy, and the School of Physics. See page 10 for the amount of credit earned by correspondence courses for degrees in the Institute of Technology.

Civil Engineering (CE)

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

Kersten — 3 Extension credits only — \$24 — 16 lessons

- 146. Concrete and Concrete Materials.** Includes a study of the materials from which concrete is made, methods of designing a concrete mixture, the principles of air-entrained concrete, methods of measuring and controlling the air content, the chemical constitution of cement, properties of concrete, the practical aspects of proportioning, mixing, placing, and curing concrete and other special related topics. (Prerequisite: knowledge of elementary algebra, physics, and chemistry; if credit is desired, prerequisite is MM 128 or 40 or consent of instructor)

Thomas — 3 credits — \$24 — 16 lessons

Electrical Engineering (EE)

- 1(c). Elements of Electric Circuits.** Fundamental laws of direct-current circuits, the magnetic field and magnetic properties of iron and steel, induced and generated electromotive forces. Fundamental laws of alternating current circuits, complex representation. Series and parallel circuits, polyphase circuits, power measurements in electric circuits. (No prerequisite)

Cartwright — 3 Extension credits only — \$24 — 16 lessons

- 2(c). Elements of Electronics.** Electronic emission, conduction through vacuums and gases; characteristics of vacuum tubes, of gas and vapor tubes. Amplifier circuits, oscilloscopes, and control circuits; application of electronic devices to industry. (Prerequisite: EE 1(c) or equivalent)

Cartwright — 3 Extension credits only — \$24 — 16 lessons

- 4(c). Elements of Electric Control Systems and Devices.** Introduction to basic theory of operation of transformers and rotational electromechanical energy conversion devices—volt-ampere and torque-speed characteristics. Control amplifiers and associated equipment, instrumentation, methods of measurement; introduction to feedback control systems, transfer functions and block diagrams—stability considerations. (Prerequisite: EE 1(c) or equivalent in experience and consent of instructor)

Cartwright — 3 Extension credits only — \$24 — 16 lessons

- Basic Mathematics and Practical Electricity for Electrical Workers.** A great deal of the material covered is very basic in nature although later courses are directed toward individuals doing electrical maintenance and construction work for power utilities. The work is divided into 4 separate courses, each course consisting of 12 lessons (plus an examination if credit is desired).

A. Basic Mathematics (Algebra).

Cartwright — 2 Extension credits — \$16 — 12 lessons

B. Basic Mathematics (Trigonometry).

Cartwright — 2 Extension Credits — \$16 — 12 lessons

C. DC Circuits and Fundamentals of Electricity.

Cartwright — 2 Extension Credits — \$16 — 12 lessons

D. DC Equipment and Introduction to AC Circuits.

Cartwright — 2 Extension Credits — \$16 — 12 lessons

Engineering Graphics (EG)

- 14. Engineering Graphics I.** Engineering representation and analysis of systems of projection, the co-ordinate system, graphical solution of metric and nonmetric space problems, intersections and developments. Precision in graphics and techniques of sketching. (Prerequisite: solid geometry or ITM 8)

Palmer — 3 credits — \$24 — 16 lessons

- 15. Engineering Graphics II.** Engineering representation and analysis. Pictorial projection systems, sketching, principles of shading, size description, and accuracy control. The

application of theory and standard practices to graphic communication. (Prerequisite: EG 14...and ITM 11 or concurrent enrollment in ITM 11)

Palmer — 3 credits — \$24 — 16 lessons

16. **Engineering Graphics III.** Graphical computation of engineering problems involving algebra, calculus, and statics. Functional scales, nomography, representation and analysis of empirical data. (Prerequisite: EG 15...and ITM 12 or concurrent enrollment ITM 12)

Palmer — 3 credits — \$24 — 16 lessons

General Engineering (GE)

70. **Slide Rule.** Practical course for engineers and office workers. Position of decimal point in computation stressed. (No prerequisite)

Palmer — 1 credit — \$8 — 6 lessons — slide rule \$3.25 and up

Mathematics (ITM)

(For additional credit courses in mathematics, see page 44)

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

Fischer — 3 Extension credits only — \$24 — 16 lessons

- 3(c). **Basic Mathematics Review II.** Covers the material of the second semester of high school algebra and the numerical part (called mensuration) of plane and solid geometry, plus numerical trigonometry and logarithms. *In algebra:* simultaneous linear equations; exponents and radicals; solution of quadratic equations, irrational equations; ratio, proportion, variation; graphical representation of statistical data and of equations; and the use of formulas. *In geometry:* formulas from plane and solid geometry and how to apply them. *In trigonometry:* logarithms and how to use them; the trigonometric functions; and solution of right and oblique triangles. (Prerequisite: equivalent of ITM 1(c))

Fischer — 3 Extension credits only — \$24 — 16 lessons

8. **Solid Geometry.** Standard theorems and exercises. Practice in special proofs and original exercises to develop imagination and initiative. (Prerequisite: Plane Geometry A-B or 1 year of high school plane geometry)

Fischer — $\frac{1}{2}$ entrance unit — \$25 — 20 lessons

9. **Higher Algebra.** Review of elementary algebra, linear equations, factoring, fractions, simultaneous linear equations, exponents, radicals, graphical methods, quadratic equations, systems of quadratics, ratio and variation, binomial theorem, logarithms, progressions. (Prerequisite: 1 year of elementary algebra in high school or equivalent)

Loye — $\frac{1}{2}$ entrance unit — \$25 — 20 lessons

Note—Courses 8 and 9 meet the entrance requirements in mathematics of the Institute of Technology.

11. **College Algebra and Trigonometry I.** Review of elementary algebra, factoring, fractions, functions and graphs, linear equations, determinants, exponents and radicals, quadratic equations, inequalities, systems of quadratic equations, proportion and variation, mathematical induction, binomial theorem, trigonometric functions, right triangles, oblique triangles, radian measure, slide rule. (Prerequisite: ITM 9 or equivalent)

Loye — 5 credits — \$40 — 27 lessons

12. **College Algebra and Trigonometry II.** Progressions, logarithms. Trigonometric formulas and identities, trigonometric curves, inverse trigonometric functions, trigonometric

equations, complex numbers. Theory of equations, permutations, combinations, probabilities, partial fractions, hyperbolic functions. (Prerequisite: ITM 11 or equivalent)

Loye — 5 credits — \$40 — 27 lessons

- 13A. Calculus I: Analytic Geometry and Calculus.** Rectangular co-ordinates, locus and equation, straight line, conic sections. Limit, derivative, rules of differentiation, rates, curve tracing, maxima and minima. Elements of integration and applications. (Prerequisite: ITM 10, 11, and 12 or equivalent)

Loye — 5 credits — \$40 — 27 lessons

- 24A. Calculus II: Analytic Geometry and Calculus.** Mean value theorem, definite integral. Differentiation and integration of elementary functions, polar co-ordinates. Applications of integration: plane areas, length of curve, area of curved surfaces, volumes, moments, centroids, moments of inertia, hydrostatic pressure, work. (Prerequisite: ITM 13A or equivalent)

Fischer — 5 credits — \$40 — 27 lessons

- 25A. Calculus III. Analytic Geometry and Calculus.** Parametric equations, vector algebra, and vector calculus. Solid analytic geometry treated by vector methods, partial differentiation, geometry of surfaces, differentials, directional derivative, maxima, and minima. Multiple integrals, volume, surface area, physical applications: (Prerequisite: ITM 24A or equivalent)

Fischer — 5 credits — \$40 — 27 lessons

- 26A. Calculus IV: Differential Equations and Calculus.** Infinite series; convergence tests, Taylor's formula and expansion of functions. Differential equations; equations of first order; standard methods of solutions; linear equations with constant coefficients, applications; simultaneous equations, integration by series, numerical methods. (Prerequisite: ITM 25A or equivalent)

Loye — 5 credits — \$40 — 27 lessons

- 80. Elementary Differential Equations.** Equations of first order, singular solutions; linear equations with constant coefficients, simultaneous equations, integration in series. (Prerequisite: ITM 25 or equivalent)

Loye — 3 credits — \$24 — 16 lessons

Mechanical Engineering (ME)

- 1(c). Steam Power Plants I.** For boiler operators. Fuels, combustion, furnaces, steam generators, pumps, pipes, and fittings. Boiler room practices. Properties of steam; boiler-water conditioning. (Prerequisite: proficiency in arithmetic)

Summers — 3 Extension credits only — \$24 — 16 lessons

- 2(c). Introduction to Heat Transfer.** Examination of the fundamentals of heat transfer by conduction, convection, and radiation, and their application to engineering analysis. (Prerequisite: basic physics and differential and integral calculus)

Novotny — 3 Extension credits only — \$24 — 16 lessons

- 3(c). Selected Advanced Topics in Heat Transfer.** Mathematical investigations of selected advanced topics in conduction, convection, and radiation. Particular emphasis is placed on approximate solutions of the boundary layer momentum and energy equations and on modern developments in forced convection heat transfer. Temperature measurements and temperature measurement errors are discussed. (Prerequisite: ME 2(c) or equivalent, ordinary differential equations, or consent of instructor)

Novotny — 2 Extension credits only — \$16 — 12 lessons

- 4(c). Air Conditioning.** Fundamental topics involved with year-around air conditioning. Definitions and fundamental terms, comfort conditions for people, heat gains and cooling loads for spaces, properties of atmospheric air, psychrometric charts, air conditioning calculations, refrigeration equipment and refrigeration calculations, use of water in air conditioning, centrifugal fans, and air flow in ducts. Primary emphasis

is upon summer air conditioning. (Prerequisite: elementary algebra or consent of instructor)

Threlkeld — 3 Extension credits only — \$24 — 16 lessons

- 17(c). **Industrial Plant Layout.** Lessons on the application of industrial engineering principles in simplifying and improving the layout of manufacturing plants, shops, and warehouses, and in planning new layouts. Topics covered include: types of layouts; analysis of flow; safety factors in layout work; determination of equipment and space requirements; service facilities; buildings. (No prerequisite)

Nyquist — 5 Extension credits only — \$40 — 27 lessons

- 18(c). **Motion and Time Study Engineering.** One of the most necessary and most used branches of industrial engineering, this work is absolutely essential for efficient plant operation and accurate wage determination. Beginning with the skeletal structure of the subject, which gives the student a firm grasp of the logical development of the subject matter, all phases are explained, first in terms of present practice, and then in terms of the most recently developed techniques. Some of the topics covered are: the importance of motion and time study; the skeletal structure of methods analysis; process analysis; operation analysis; micromotion study; motion study problems; the skeletal structure of time study; breakdown of job into elements; determination of time consumed; job rating; personal, fatigue, and delay allowances; new techniques in the field; timing techniques for typical industrial operations; time study problems. (No prerequisite)

Nyquist — 5 Extension credits only — \$40 — 27 lessons

Mechanics and Materials (MM)

26. **Engineering Statics.** Characteristics of a force and of a couple, resolution of force systems, equilibrium of rigid bodies, analysis of framed structures, graphical methods. Centroids and moments of inertia. Friction. Virtual work. (Prerequisite: ITM 25A)

Fischer — 5 credits — \$40 — 27 lessons

127. **Engineering Dynamics.** Kinematics and its application to structural elements. Dynamics of particles and of rigid bodies. Work and energy. Impulse and momentum. Introduction to mechanical vibrations. (Prerequisite: MM 26)

Fischer — 5 credits — \$40 — 27 lessons

128. **Engineering Solid Mechanics.** Mechanical and elastic properties of engineering materials. Stress, strain, and deformation in continuous solids. Applications to simply stressed members, joints, shafts, beams, and columns. State of stress at a point, combined stresses, and Mohr's circle. (Prerequisite: MM 26)

Miller — 5 credits — \$40 — 27 lessons

Note—The MM sequence listed above has been replaced in resident instruction by 27, 28, and 29, Rigid Body Mechanics I, II, III; and 40 and 41, Deformable-Body Mechanics I and II. Through the academic year 1960-61, the correspondence sequence may be substituted. University of Minnesota students may use the correspondence courses, MM 26 and 127 for MM 27, 28, and 29. MM 128 in correspondence will substitute for MM 40 and 41. By October of 1961 many of the new courses in mechanics and materials should be prepared for correspondence instruction.

ENGLISH

(See Humanities, page 41)

Harold J. Alford, M.A., Assistant Professor of English

Clifford I. Haga, B.A., Assistant Professor of English

Robert R. Owens, Ph.D., Assistant Professor of English

Helen A. Anderson, M.A., Instructor in English (Correspondence Study)

Ada Carson, M.A., Instructor in English (Correspondence Study)

Sumner J. Ferris, B.A., Instructor in English
 Ralph Haug, Ph.D., Instructor in English (Correspondence Study)
 Louise Klohn, M.A., Instructor in English (Correspondence Study)
 John Lippert, B.S., Instructor in English (Correspondence Study)
 Agnes Macdonald, M.A., Instructor in English (Correspondence Study)

English (Engl)

- 1B. Freshman English I.** A combined course in composition (3 credits) and literature (1 credit). The entire series (1B-2B-3B) concentrates upon developing the student's skill in writing expository prose; the first (1B) emphasizes clarity and correctness, especially in the sentence and paragraph. The literature consists of assignments in narrative prose. (Prerequisite: Preparatory English or satisfactory score on English Placement Test, or satisfactory Trial Lesson)
 Haug — 4 credits — \$32 — 21 lessons
- 2B. Freshman English II.** Continuation of Engl 1B. Emphasis is on effectiveness in composition, how to use printed sources, and how to draw inferences from them. Several plays are studied, and much of the writing of the course concerns them. (Prerequisite: Engl 1B)
 Haug — 4 credits — \$32 — 21 lessons
- 3B. Freshman English III.** Continuation of Engl 2B. Emphasis is on clarity of thought and organization of material, culminating in the preparation of a research paper. English and American poems provide several topics for critical writing. Students who do not have access to libraries may arrange a special writing project with the instructor. (Prerequisite: Engl 2B)
 Haug — 4 credits — \$32 — 21 lessons
- 4(c). Masterpieces of World Literature.** For those who want to learn to read well, to raise the standard of their reading, and to acquaint themselves with the classics which everyone should know. The books on the reading list have been selected from the world's great stories and are treated in a way to help the reader discuss intelligently with others the problems of today. Of interest to prospective college students, club women, book reviewers, writers, teachers, and other professional people, as well as to homemakers and those in the business world who realize the opportunities that a command of reading and intelligent conversation has to offer. (No prerequisite; cannot be used for credit toward teachers' certificates; see page 7)
 Klohn — 2 Extension credits only — \$16 — 12 lessons
- 21.** Introduction to Literature I.** An intensive study of the leading writers of poetry and prose and of their historical background. The entire course of 3 terms (21, 22, 23) begins with Marlowe and ends with Arnold. A knowledge of English history from Elizabeth to Victoria is required. The first term includes Marlowe, Spenser, Bacon, Browne, Milton, Bunyan, and Shakespeare. (Prerequisite: Freshman English)
 Anderson — 5 credits — \$40 — 27 lessons
- 22.** Introduction to Literature II.** Continuation of Engl 21. Addison and Steele, Swift, Pope, Fielding, Johnson, Boswell, Sheridan, Congreve, and Dryden. (Prerequisite: Freshman English)
 Anderson — 5 credits — \$40 — 27 lessons
- 23.** Introduction to Literature III.** Continuation of Engl 22. Wordsworth, Coleridge, Lamb, Byron, Shelley, Keats, Carlyle, Tennyson, Browning, and Arnold. (Prerequisite: Freshman English)
 Anderson — 5 credits — \$40 — 27 lessons

** Students may enter any course of 21, 22, 23. Two courses are required as a prerequisite for a major sequence; the second and third are required for a teacher's certificate.

39. **Twentieth-Century Literature III.** The novel since Thomas Hardy. Covers at least the following 3 English novels: Thomas Hardy's *Tess of the D'Urbervilles*, Joseph Conrad's *Lord Jim*, Arnold Bennett's *The Old Wives Tale*; and the following 3 American novels: Ernest Hemingway's *A Farewell to Arms*, Thomas Wolfe's *Of Time and the River*, John Steinbeck's *The Grapes of Wrath*. (Prerequisite: Freshman English)
Anderson — 3 credits — \$24 — 16 lessons
52. **English Novel I.** A study of the English novel from its 18th-century beginning with the work of Defoe, through its development by Richardson, Fielding, Smollett, and Sterne, to its early 19th-century refinement in the realism of Jane Austen and the romance of Sir Walter Scott. Emphasis will be placed upon the contributions of the successive works to the evolution of the novel as a literary form. (Prerequisite: Freshman English and 5 additional credits in English)
Anderson — 3 credits — \$24 — 16 lessons
53. **English Novel II.** A study of the novel during the age of Victoria, showing the progression from older forms and earlier taste toward the anticipation of the modern naturalistic and psychological novel at the end of the 19th century. Works of Thackeray, Dickens, the Brontë sisters, George Eliot, Trollope, Meredith, and Hardy will be read. (Prerequisite: Freshman English and 5 additional credits in English)
Anderson — 3 credits — \$24 — 16 lessons
55. **Shakespeare I.** The development of Shakespeare's dramatic art is traced chronologically from the earliest plays to one of the mature tragedies. The student becomes familiar with the various types of Shakespeare's drama: comedy, tragedy, and history plays. (Prerequisite: Engl 1B-2B-3B and 5 additional credits in English)
Owens — 3 credits — \$24 — 16 lessons
56. **Shakespeare II.** Continuation of Engl 55. Is devoted to Shakespeare's later career from 1599 to 1611. It includes tragedies, romantic comedies, romances, and one problem comedy. (Prerequisite: Engl 55 or consent of instructor)
Owens — 3 credits — \$24 — 16 lessons
72. **American Literature I.** The development of American literature and thought from the beginnings through the early American Renaissance. (Prerequisite: Engl 3A or 3B or Comm 3 and 5 additional credits or 5 credits in 21-22-23)
Carson — 3 credits — \$24 — 16 lessons
73. **American Literature II.** Continuation of Engl 72. American literature from the American Renaissance to the end of the 19th century. (Prerequisite: Engl 72)
Carson — 3 credits — \$24 — 16 lessons — Registrations accepted after July 1, 1960
74. **American Literature III.** Continuation of Engl 73. American literature from the end of the 19th century to the present. (Prerequisite: Engl 73)
Carson — 3 credits — \$24 — 16 lessons — Registrations accepted after November 1, 1960
75. **Chaucer.** Reading of selections from *The Canterbury Tales*. Emphasis will be on content and literary forms. Only such attention as is necessary to illuminate the text and to make the reading easy and enjoyable will be given to the life, times, and the language of Chaucer. (Prerequisite: Freshman English and 5 additional credits in English)
Ferris — 4 credits — \$32 — 21 lessons

Composition (Comp)

Vocabulary Building. See page 56.

Grammar Review. A step-by-step explanation of traditional grammar, punctuation, spelling, and vocabulary. Recommended both for those who have little or no knowledge of

language fundamentals and for those, such as teachers or secretaries, who wish a systematic and complete review of basic principles. (No prerequisite)

Alford — no credit — \$16 — 12 lessons

Preparatory English. The simple fundamentals of correct English, intended to give additional drill to high school graduates who need further preparation for college English. (No prerequisite)

Klohn — no credit — \$16 — 12 lessons

Review of Business English. For those who have been out of school or who had poor preparation for Business English while in school. Modern, streamlined sentence structure, paragraphing, punctuation, and spelling. Brief introduction to letter form and organization. Emphasis on brevity, accuracy, meaning, and vividness. (No prerequisite)

Lippert — 3 Extension credits only — \$24 — 16 lessons

1(c). Business Correspondence. A practical course for people in business or those preparing to enter it. The ways of developing effective letter-writing habits are analyzed and presented in a study of diction, grammar, and the mechanics of letter forms. (No prerequisite)

Haga — 3 Extension credits only — \$24 — 16 lessons

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

Lippert — 3 Extension credits only — \$24 — 16 lessons

27. Advanced Writing I—Exposition. Study and writing of essays with emphasis on structure and organization. The student is free to choose his own essay subjects. Intended to aid the student in working out individual problems. (Prerequisite: Freshman English or equivalent)

Haug — 3 credits — 24

28. Advanced Writing II—Narration and Description. Study of principles of description and narration with analysis of specimens and exercises in writing. (Prerequisite: Comp 27)

Haug — 3 credits — \$24

69. Short Story Writing I. A basic study of short story technique, with emphasis on the student's completion of several original stories. Manuscripts will be carefully read, and suggestions for improvement will be offered. The textbook is the work of a successful author, and the stories studied illustrate a variety of writing methods. (Prerequisite: Comp 27-28)

Macdonald — 3 credits — \$24

70. Short Story Writing II. The student should here reap the benefits of what he has learned in Comp 69. He will write 4 stories, in all approximately 10,000 words, and these stories will be carefully read and criticized. He will read a number of useful stories and consider such things as style, tone, pace, suggestion, and symbols. (Prerequisite: Comp 69)

Macdonald — 3 credits — \$24

80(c). Independent Writing. Specifically designed for advanced students. The student is given complete freedom; but assignments will be made and lesson material supplied from time to time. The instructor will criticize any writing which the student submits. (No prerequisite)

Anderson — 3 Extension credits only — \$24 — 16 installments of a total of approximately 8,000 words

FAMILY LIFE (FL)

Maurine Hansen, M.A., Instructor in Family Life

- 1(c). Building a Better Marriage.** Designed to gain a clearer picture of marriage and of participation in a satisfying family life. The general areas covered include: what you bring to marriage—backgrounds and self-understanding; what you expect of marriage—changing roles and goals for men and women, choice of mate and engagement; what you put into marriage—marriage adjustments including husband-wife interactions, finances, children, social and family relationships, and facing crises. Arrangements may be made for attending 1 or 2 on-campus sessions, day or evening classes to view films. If there are several people in an area who arrange a group meeting, an instructor will be sent for group conference, with travel expenses to be paid with an agreed-upon fee. (No prerequisite)

Hansen — 3 credits — \$24 — 16 lessons

FRENCH (Fr)

Henry E. Kalb, B.A., Teaching Assistant in Romance Languages

A 33 $\frac{1}{3}$ rpm record, "The Sounds of French" has been prepared to accompany the correspondence courses. Sounds are articulated by an authentic voice. As it is difficult to teach French pronunciation by correspondence, the student is strongly urged to purchase the record and to hear it repeatedly, imitating the sounds as accurately as possible. The record is available from the EMC Recordings Corp., 806 East 7th Street, St. Paul 6, Minnesota. The price \$1.50. Also available on phonotape for \$2.50.

- 1. Beginning French I.** Essentials of the French language; grammar, reading, pronunciation, easy composition. (No prerequisite)
Kalb — 5 credits — \$40 — 27 lessons
- 2. Beginning French II.** Continuation of Fr 1. (Prerequisite: Fr 1, or 1 year of high school French)
Kalb — 5 credits — \$40 — 27 lessons
- 3. Intermediate French I.** Review of grammar; composition; reading of representative authors. (Prerequisite: Fr 2, or 2 years of high school French)
Kalb — 5 credits — \$40 — 27 lessons
- 4. Intermediate French II.** Continuation of Fr 3. (Prerequisite: Fr 3, or 3 years of high school French)
Kalb — 5 credits — \$40 — 27 lessons

GEOGRAPHY (Geog)

Fredric R. Steinhauser, M.A., Instructor, General College

- 7(c). Geography of Minnesota.** A geographical survey of the physical and human resources of Minnesota with emphasis on major regional differences and economic aspects of the state. The map study of various distributional patterns is stressed. (No prerequisite)
- Steinhauser — 4 credits — \$32 — 21 lessons

GEOLOGY (Geol)

Robert E. Sloan, Ph.D., Assistant Professor of Geology

- 2. Historical Geology.** An introductory treatment of the geological history of the earth. The changing physical conditions and the record of life during geologic times, with emphasis on the North American continent. (Prerequisite Geol 1 or 8)
Sloan — 3 credits — \$24 — 16 lessons

8. **Introductory Geology.** An introductory treatment of the materials of the earth and of geologic processes; principles of earth sculpture, glaciation, volcanic activity, mountain building, etc., as a key to the interpretation of the surface features and the history of the earth. (No prerequisite)
Sloan — 5 credits — \$40 — 27 lessons

GERMAN (Ger)

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

A German pronunciation record (33½ revolutions per minute) prepared by the German Department is available for about \$8. Each side will give about 13 minutes of basic German. A tape recording of the same material is available for approximately \$4.50. The recording is not required but strongly recommended. Order from the Correspondence Study Department.

1. **Beginning German I.** Grammar and easy composition. Aims to give the student a knowledge of the elements of German grammar, the facility to read easy German, and to write simple German sentences. (No prerequisite)
Ramras — 5 credits — \$40 — 27 lessons
2. **Beginning German II.** Continuation of Ger 1. (Prerequisite: Ger 1, or 1 year of high school German)
Ramras — 5 credits — \$40 — 27 lessons
3. **Beginning German III.** Grammar and composition continued; selected readings in easy prose and verse. (Prerequisite: Ger 2, or 2 years of high school German)
Menze — 5 credits — \$40 — 27 lessons
4. **Intermediate German.** Selections from modern narrative and descriptive prose. Assigned outside readings and reports. (Prerequisite: Ger 1, 2, and 3 or equivalent)
Menze — 5 credits — \$40 — 27 lessons
24. **Introduction to Chemical German.** Selections of simple chemical German prose. Vocabulary and grammatical exercises. (No prerequisite)
Menze — 3 credits — \$24 — 16 lessons
- 25-26. **Chemical German.** Reading of works on chemistry. Vocabulary exercises. (Prerequisite: Ger 24, 1, or 1 year of high school German)
Course 25: Menze — 3 credits — \$24 — 16 lessons
Course 26: Menze — 3 credits — \$24 — 16 lessons
33. **Medical German.** Intended primarily for medical students. Articles on anatomy, biology, embryology, comparative anatomy, surgery, and other fields of medicine. (Prerequisite: Ger 3 or equivalent)
Menze — 5 credits — \$40 — 27 lessons
57. **Elementary Composition I.** A review of the fundamentals of German grammar with particular attention to the idioms and characteristics of conversational and written German. (Prerequisite: Ger 4)
Menze — 2 credits — \$16 — 12 lessons
58. **Elementary Composition II.** Translation and grammar review. (Prerequisite: Ger 50)
Menze — 2 credits — \$16 — 12 lessons
59. **Elementary Composition III.** Translation and writing of an original dialogue. (Prerequisite: Ger 51)
Menze — 2 credits — \$16 — 12 lessons

73. **Drama: The Classical Period.** Selected plays of Lessing, Schiller, and Goethe; with assigned readings and reports. (Prerequisite: Ger 4 or equivalent)
Menze — 3 credits — \$24 — 16 lessons
74. **Drama: The 19th Century.** Selected plays of Kleist, Grillparzer, and Hebbel; with assigned readings and reports. (Prerequisite: Ger 73 or consent of instructor)
Menze — 3 credits — \$24 — 16 lessons
75. **Drama: The Modern Period.** Selected plays representing the more recent movements in German literature: naturalism, impressionism, expressionism. (Prerequisite: Ger 74 or consent of instructor)
Menze — 3 credits — \$24 — 16 lessons

GREEK (Grk)

(See Classics, page 25)

Roy A. Swanson, Ph.D., Assistant Professor of Classics

1. **Beginning Greek I.** Introduction to the classical Greek language: alphabet, vocabulary texts, and idioms. Selected short readings in ancient Greek authors of moderate difficulty. Written translation exercises, Greek to English and English to Greek. (No prerequisite)
Roy A. Swanson — 5 credits — \$40 — 27 lessons
2. **Beginning Greek II.** Review of the fundamentals of classical Greek. Readings in authentic selections from the body of ancient Greek literature. Written translation exercises, Greek to English and English to Greek, of greater extent and scope than in Grk 1. Successful completion of course should enable student to read classical Greek well, and the New Testament Greek very well, with the aid of a dictionary. (Prerequisite: Grk 1 or equivalent or consent of instructor)
Roy A. Swanson — 5 credits — \$40 — 27 lessons

HEALTH (PubH)

Murray Bates, M.D., Assistant Professor of Public Health

3. **Personal Health.** Elementary principles of normal body function; predisposing and actual causes of disease; ways in which disease may be avoided. (No prerequisite; not open to students who have taken 10C [Human Biology] in General College or PubH 2, 5, 50 or 51)
Bates — 2 credits — \$16 — 12 lessons
50. **Personal and Community Health.** Causes of diseases and of physical defects; fundamental principles and working methods of health conservation and disease prevention. (No prerequisite; not open to students who have taken 10C in General College or PubH 2, 3, 4, 5 or 51)
Bates — 3 credits — \$24 — 16 lessons

HISTORY (Hist)

(See European Travel, page 57)

Maude L. Lindquist, Ph.D., Professor and Head, Department of History, Duluth Campus

Tom B. Jones, Ph.D., Professor of History

Clarke A. Chambers, Ph.D., Associate Professor of History

David W. Noble, Ph.D., Associate Professor of History

Donald F. Warner, Ph.D., Associate Professor of History, Wisconsin State College (Eau Claire)

George A. Olkhovsky, B.A., Instructor in History (Correspondence Study)

Alfred L. Roe, B. A., Instructor in History (Correspondence Study)

Mary L. White, B.S., Instructor in History (Correspondence Study)

1. **Civilization in the Modern World I.** A survey of European history from 1500 to 1763. The emphasis is upon the rise of the state. (No prerequisite)
White — 3 credits — \$24 — 16 lessons
2. **Civilization in the Modern World II.** A survey of European history from 1763 to 1870. Emphasis is placed upon the struggle for control of the state. (No prerequisite)
White — 3 credits — \$24 — 16 lessons
3. **Civilization in the Modern World III.** A survey of European history from 1870 to the present. Emphasis is placed upon impact of industrialism in 19th-century civilization and the development of the problems that have upset world civilization in the 20th century. (No prerequisite)
White — 3 credits — \$24 — 16 lessons
4. **English History I.** Conquest and settlement, the feudal age, foreshadowings of limited monarchy and popular government. (No prerequisite)
White — 3 credits — \$24 — 16 lessons
5. **English History II.** Tudors and Stuarts, parliament versus king, colonization. (No prerequisite)
White — 3 credits — \$24 — 16 lessons
6. **English History III.** The coming of democracy, Britain and Europe, Empire and Commonwealth. (No prerequisite)
White — 3 credits — \$24 — 16 lessons
- 7(c). **Survey of Minnesota History.** The political, social, and economic development of Minnesota from the period of European explorations to the present. Access to W. W. Folwell's *History of Minnesota* and the *Minnesota History* magazine and other publications of the State Historical Society will be required. (No prerequisite; not open to those who have completed Hist 79)
Lindquist — 4 credits — \$32 — 21 lessons
- 8(c). **The Foundations of Modern Civilization.** An insight into the development of human institutions and practices which comprise what is called modern civilization. A study of primitive man, civilizations of the Ancient Near East, Greece, and Rome; the decline of Rome and, with it, ancient civilization in the West; the development of modern civilization which may be said to have been launched by A.D. 1500. Throughout, emphasis is placed on culture traits, such as religion, art, literature, science, economics, political institutions, and whatever else made up a civilization at a given time. (No prerequisite; not open for credit to those who have completed Hist 1, 2, 3)
White — 4 credits — \$32 — 21 lessons
14. **History of Ancient Civilization I.** A survey of the rise of civilization in the Ancient Near East from the earliest times to 500 B.C. Emphasis is placed upon the origin of culture and its development in complexity from the primitive to the civilized stage. Special attention is given to the civilizations of Babylonia, Egypt, Indus Valley, Syria, Palestine, and Crete. (No prerequisite)
Jones — 3 credits — \$24 — 16 lessons
- 14A. **Basic Readings in Ancient Civilization I.** An introduction to the literature of the Ancient Near East and its relation to the Old Testament. The reading will include translations of Babylonian and Egyptian epics, religious texts, folk tales, and public records, Assyrian, Hittite, and North Syrian literature as well as the Greek epics. (Prerequisite: Hist 14 or concurrent registration)
Jones — 2 credits — \$16 — 12 lessons
15. **History of Ancient Civilization II.** The history of the rise and flowering of Greek civilization from the earliest times to the death of Alexander the Great in 323 B.C. Special emphasis is placed on Greek civilization in the fifth century (Age of Pericles) with attention to the political, social, literary, artistic, and philosophic achievements

of that period. (No prerequisite; Hist 14 helpful in providing a background for the Greek period)

Jones — 3 credits — \$24 — 16 lessons

15A. Basic Readings in Ancient Civilization II. An introduction to the major authors of the classical Greek period. Selections from the poets, the dramatists, Herodotus, Thucydides, Xenophon, the orators, Plato and Aristotle. (Prerequisite: Hist 15 or concurrent registration)

Jones — 2 credits — \$16 — 12 lessons

16. History of Ancient Civilization III. The climax of ancient civilization during the Hellenistic Age (323-133 B.C.) and the Roman Imperial Period followed by the decline of Rome and of ancient civilization (to about A.D. 300). The three main topics to be considered are (a) the civilization of the ancient world at its peak, (b) the rise and flowering of Roman culture, and (c) the reasons for the decline of ancient civilization. Special attention will be paid to political institutions, art, literature, economics and society, philosophy, and ancient science. (No prerequisite; suggested that Hist 16 be preceded by Hist 14 and 15 in order that the student may acquire a background for the history of the Roman period)

Jones — 3 credits — \$24 — 16 lessons

16A. Basic Readings in Ancient Civilization III. An introduction to the literature of the Hellenistic and Roman periods. Selections from poetry, drama, history, biography, science, philosophy, oratory, and letters. The New Testament and early Christian writings will be considered in their relation to pagan literature. (Prerequisite: Hist 16 or concurrent registration)

Jones — 2 credits — \$16 — 12 lessons

20. American History I, 1600-1844. Colonial establishments; social, economic, and political development of the colonies; mercantilism; problems of empire; the Revolution; the Constitution; Westward expansion; development of the American party system; foreign relations and the Monroe Doctrine; problems of nationalism and sectionalism. (No prerequisite)

Roe — 4 credits — \$32 — 21 lessons

21. American History II, 1844-1896. Manifest Destiny and the Mexican War; problems of slavery; politics of sectionalism; roots of the Civil War; the war at home and abroad; Reconstruction; the passing of the frontier; the triumph of industrial capitalism; the problems of labor; immigration; agriculture and the Populist revolt. (No prerequisite)

Noble — 4 credits — \$32 — 21 lessons

22. American History III, 1896 to present. Resurgence of Manifest Destiny and the Spanish-American War; social problems at the turn of the century; the theory and practice of progressivism; Roosevelt, Taft, and Wilson; World War I; normalcy and reaction; Harding, Coolidge, and Hoover; the Jazz Age; retreat to isolation; depression and the New Deal; the world crisis and Pearl Harbor; problems of peace; Truman and foreign policy; the Eisenhower administrations. (No prerequisite)

Chambers — 4 credits — \$32 — 21 lessons

93. American Diplomatic History I. (1776-1846) Traces the early history of our foreign policy. Three principal aspects are treated: the origins and basic principles of American foreign policy; the fight for survival and recognition after the Revolution; and the drive for continental expansion. (Prerequisite: Hist 20 or equivalent)

Warner — 3 credits — \$24 — 16 lessons

95. American Diplomatic History III. A survey of the history of American foreign policy since 1909. The principal emphasis is placed upon the causes and consequences of our entry into the two world wars and our shift from isolationism to world leadership in foreign affairs. (No prerequisite)

Warner — 3 credits — \$24 — 16 lessons

- 100. History of the Ancient Near East I.** The first civilization in the Ancient Near East. Main topics: the sources of our knowledge about the past with special attention to the role of archaeology; the beginnings of agriculture and the advent of civilization in the great river valleys; the Old Kingdom in Egypt and Sumerian period in Mesopotamia; the Egyptian Middle Kingdom; the Age of Hammurabi; characteristics of ancient Near Eastern civilization: literature, art and architecture, law, religion, economics, society, and technology. (Prerequisite: 9 credits in history; open to juniors and seniors without prerequisite)
Jones — 3 credits — \$24 — 16 lessons
- 101. History of the Ancient Near East II.** The Age of Empires: 1600-1000 B.C. Main topics: the New Kingdom (Empire) in Egypt; the Hittite Empire; developments in Syria and Palestine with special attention to the Canaanites, Philistines, and Hebrews; the spread of civilization to Asia Minor and Aegean lands. (Prerequisite: same as Hist 100)
Jones — 3 credits — \$24 — 16 lessons
- 102. History of the Ancient Near East III.** A survey of developments in the period 1000-500 B.C. Main topics: Phoenicians; Hebrews; the Assyrian Empire; Assyrian civilization; the Age of Nebuchadnezzar; Saite period in Egypt; the Lydian kingdom; contacts between Greece and the Near East; the Persian Empire. (Prerequisite: same as Hist 100)
Jones — 3 credits — \$24 — 16 lessons
- 125. Russian History I.** A survey of Russian history to the time of Peter the Great, including the origins of the Russian state, Kievan Russia, and the rise of Muscovy. (Prerequisite: Hist 1, 2, and 3 or equivalent)
Olkovsky — 3 credits — \$24 — 16 lessons
- 126. Russian History II.** Covers the period from Peter the Great through the Crimean War and includes the study of the Europeanization of Russia and the crystallization of the Empire. (Prerequisite: Hist 1, 2, and 3 or equivalent)
Olkovsky — 3 credits — \$24 — 16 lessons
- 127. Russian History III.** A survey of the last years of the Russian Empire, the background of the revolution, and the establishment and history of the Soviet State. (Prerequisite: Hist 1, 2, and 3 or equivalent)
Olkovsky — 3 credits — \$24 — 16 lessons

HOME ECONOMICS (HE)

(See page 21)

HORTICULTURE (Hort)

Robert A. Phillips, M.S., Assistant Professor of Horticulture

- 24. Home Landscape Planning.** Planning the home grounds for greater use and enjoyment, with an introduction to the principles of landscape design, their application and importance in the use and decoration of the home grounds. Uses an artistic approach to the problems and prospects of home landscaping which will also serve as a background for the pursuit of the popular hobby of gardening. There will be an independent student project of planning either a hypothetical home plot or the home place of the student. In this project the student will be guided by the instructor. A practical program of study for nurserymen, teachers, homeowners, and others interested in home landscaping. (No prerequisite)
Phillips — 3 credits — \$24 — 16 lessons
- 51. Garden Flowers and Home Gardening.** A broad general study of the principles and practices of gardening especially prepared for beginners, but also valuable for the advanced or experienced gardener. There will be textbook assignments and practical home projects in propagating plants for the garden. Some of the topics covered will

be planting, transplanting, seeds, soils, fertilizers, preparing beds and planting areas, selecting a good garden site, controlling insects and diseases, weeding, watering, cultivating, pruning, tools, and equipment. Lists of recommended varieties of annuals, perennials, bulbs, and roses for northern gardens will be supplied. Similar lists for other areas of the country can be secured from state agricultural colleges and experiment stations and from the U.S. Department of Agriculture. (No prerequisite)

Phillips — 3 credits — \$24 — 16 lessons

HUMANITIES (Hum)

(See Classics, page 25)

Stephenie G. Edgerton, M.A., Instructor (Correspondence Study)
Gwendolyn K. E. Wetter, M.A., Instructor (Correspondence Study)

- 1. Humanities in the Modern World I.** Examination of the mainstream of western European intellectual history from the early 18th century to the first few decades of the 19th century. The Age of Reason and neoclassicism. The old regime, the French Revolution, the rise and fall of Napoleon, the rise of romanticism.* Authors: Mandeville; Pope, *An Essay on Man*; Voltaire, *Candide*; Wordsworth; Goethe, *Faust*; Rousseau, *The Social Contract*; Burke, *Reflections on the Revolution in France*; Tolstoy, *War and Peace*. (No prerequisite)

Wetter — 3 credits — \$24 — 16 lessons

- 3. Humanities in the Modern World III.** The impact of science—especially Darwinism—on philosophy, religion, and the prevailing values of western Europe from about the middle of the 19th century to the opening of World War I. Writings by the influential scientists and philosophers of the age, including essays by Lamarck, Darwin, Wallace, John Dewey, G. B. Shaw, and others. Full length works by Kierkegaard, *Fear and Trembling*; Nietzsche, *Thus Spake Zarathustra*; Tolstoy, *The Death of Ivan Ilych*; Joyce, *The Dead*; Mann, *Death in Venice and the Magic Mountain*. (No prerequisite)

Wetter — 3 credits — \$24 — 16 lessons

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

Edgerton — 3 credits — \$24 — 16 lessons

INDUSTRIAL RELATIONS (IR)

(See Industrial Relations Certificate Requirements, page 17)

(See courses in Business Administration and Economics, pages 21, 25)

Stephen J. Carroll, M.A., Instructor, Industrial Relations Center

- 1(c). Supervision I.** A study of the basic principles of supervision and leadership. Survey of the problems of industrial relations and personnel management met with in day-to-day supervision with emphasis upon human relations. Practical aspects of these problems are emphasized. Included is a coverage of selection, induction, and training of employees, status of supervisors, merit rating, giving orders, and labor legislation affecting the supervisor's job. (No prerequisite)

Carroll — 3 Extension credits only — \$24 — 16 lessons

- 2(c). Supervision II.** Covers advanced techniques based on principles of supervision discussed in 1(c). Morale measurement, job analysis, employee selection and training, principles of work organization and employee communications are discussed. (Prerequisite: IR 1(c))

Carroll — 3 Extension credits only — \$24 — 16 lessons

INTERIOR DECORATION

(See Art, page 20)

JAPANESE

Edward M. Copeland, B.A., Instructor in Slavic and Oriental Languages

- 1. Beginning Japanese I.** As an introduction to reading and writing modern Japanese, the course provides the basic grammar and vocabulary for learning to read modern fiction, newspapers, magazine styles, as well as for conversational Japanese. (No prerequisite)
Copeland — 5 credits — \$40 — 27 lessons

JOURNALISM (Jour)

George S. Hage, Ph.D., Associate Professor of Journalism

John C. Sim, M.A., Assistant Professor of Journalism

Willis L. Winter, Jr., M.S., Assistant Professor of Journalism

Robert C. Lindsay, M.A., Instructor in Journalism

- 13. Introduction to Reporting.** Study of the newspaper audience; structure and writing of the news story; study of news values; exercises in journalistic style; analysis of newspapers; news gathering and reportorial methods. Numerous writing assignments. (Prerequisite: Freshman English or equivalent)
Sim — 3 credits — \$24 — 16 lessons
- 14. Newspaper Reporting I.** Continued study of the news gathering and of writing the "straight" news story; the human interest or feature story; analysis of newspapers; special types of reporting; advanced interviewing. Numerous writing assignments. (Prerequisite: Jour 13 or consent of instructor)
Sim — 3 credits — \$24 — 16 lessons
- 15. Newspaper Reporting II.** Study of newspaper law, including libel, rights of the press, study of "privilege," and other legal regulations affecting the press; advanced reporting; the interpretative story; the newspaper feature story. Numerous writing assignments. (Prerequisite: Jour 14 or consent of instructor)
Sim — 3 credits — \$24 — 16 lessons
- 73. Magazine Articles I.** A study in the writing of factual and opinion articles, interviews and expository articles, both serious and feature, for newspapers and magazines. Main emphasis is laid on the journalistic type of article rather than the essay type. (Prerequisite: Jour 15; not open to those who have completed Jour 69)
Hage — 3 credits — \$24 — 16 lessons
- 78. Public Relations.** Techniques of interpreting business and industrial organizations, educational and scientific institutions, social welfare groups, government agencies, and other organizations to the public through the press, radio, trade papers, magazines, pamphlets, circulars, bulletins, direct mail, etc. An analysis of the methods of using each of the media. Policy determinants in public relations. (Prerequisite: Jour 69 or 73 or consent of instructor)
Lindsay — 3 credits — \$24 — 16 lessons
- 79. Advertising Copy Writing.** Problems, procedures, and techniques for writing advertising copy for newspapers, direct mail, radio and television. Study of the relation of advertising appeals to the audience and application of copy research. (Prerequisite: Jour 13, 18 and 41 or 51 or consent of instructor)
Winter — 3 credits — \$24 — 16 lessons
- 86. Problems of Radio and Television Writing.** Introduces the student to the lines of experience in both major fields of broadcasting. More emphasis is placed on radio than on television since radio is good foundation for learning television. Starts with the

simplest kind of radio writing and progresses by logical steps to more complex work. Numerous writing assignments are made, and optional exercises are provided for additional experience. (Prerequisite: Freshman English or consent of instructor)

Lindsay — 3 credits — \$24 — 16 lessons

LATIN (Lat)

(See Classics, page 25)

Margaret Forbes, M.A., Assistant Professor of Classics

The following courses represent a graded sequence completing Lower Division requirements, or the equivalent of 4 years of high school Latin. The prerequisite for each course (except course 1) is the course immediately preceding, or equivalent credit. Students who have completed the first 3 courses or the equivalent, however, may register for Lat 4, 5, or 6. Those who wish to increase aural-oral facility may want to supplement their course work by using drill-practice records or tapes. While these are not required for the courses outlined, students will find their individual study made easier, more interesting, and more satisfying if they are able to make use of these audio-aids. There are at least two private sources making recordings in Latin. Names and addresses will be sent on request. Write to the Correspondence Study Department or to the Classics Department, University of Minnesota.

1. **Beginning Latin I.** Basic grammar and vocabulary; practice in reading and writing Latin; workbook exercises; easy Latin readings and Roman legends. (No prerequisite)
Forbes — 5 credits — \$40 — 27 lessons
2. **Beginning Latin II.** Continuation of Lat 1. Similar in content and method, leading to connected reading in *Fabulae Faciles* (Easy Stories). (Prerequisite: Lat 1 or equivalent)
Forbes — 5 credits — \$40 — 27 lessons
3. **Intermediate Latin Reading.** A review of the elements of Lat 1 and 2, with a shift of emphasis to longer passages of continuous reading on Roman life. A considerable amount of historical and literary background is presented in English to orient the student to the material. (Prerequisite: Lat 2 or equivalent)
Forbes — 5 credits — \$40 — 27 lessons
4. **Selections from Latin Prose and Poetry.** The student has an opportunity to read selections from the most famous public addresses of Cicero, and to gain, through the English descriptive passages, an understanding of their importance then and now. Through reading some of the *Tales of Ovid* in the original Latin verse, he may become better acquainted with mythology and its influence upon the literature of our time. Other poets and prose writers are included. These selections have been made from the standpoint of present-day interest. (Prerequisite: Lat 3 or equivalent)
Forbes — 3 credits — \$24 — 16 lessons
5. **Vergil's Aeneid.** Readings of selections from Books I-II; background reading in Roman life and thought is included in the text. (Prerequisite: Lat 3 or equivalent)
Forbes — 5 credits — \$40 — 27 lessons
6. **Cicero.** Readings from the most famous humanistic essays. (Prerequisite: Lat 3 or equivalent)
Forbes — 3 credits — \$24 — 16 lessons

LIBRARY SCIENCE (Lib)

Joyce Davenport, M.A., Instructor in Library Science (Correspondence Study)

52. **Descriptive Cataloguing.** The forms and principles involved in making a dictionary card catalogue. Based primarily on *Akers Simple Library Cataloging*. Directions for

the use of printed cards prepared by the Wilson Company and the Library of Congress. (No prerequisite; recommended that Lib 52 precede 54)

Davenport — 3 credits — \$24, materials \$2.15 — 16 lessons

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

Davenport — 3 credits — \$24, materials \$3.10 — 16 lessons

MATHEMATICS (Math)

(For students who want credit in the College of Science, Literature, and the Arts
or for teaching mathematics)

Edward Nelson, Ph.D., Associate Professor of Mathematics, University of North Dakota

Robert W. Deming, M.A., Instructor in Mathematics, Duluth Campus

David Lewis, M.A., Instructor in Mathematics (Correspondence Study)

Note—The Department of Mathematics in the College of Science, Literature, and the Arts has developed an entirely new sequence in mathematics. Within the next 2 years the Correspondence Study Department will attempt to write courses to correspond to the new arrangement of course numbers and titles. In most instances, however, the courses listed below can be substituted for the new courses. Specific substitutions are indicated in the descriptions. Where such substitutions are not listed, University of Minnesota students should consult the Correspondence Study Department or the SLA Department of Mathematics.

Engineering Mathematics. See page 29.

High School Mathematics. See page 59.

1. **Higher Algebra.** (May be substituted for Math H) A review and a collegiate treatment of the topics of elementary algebra for those who have 1 year of elementary algebra. (Prerequisite: open for credit to any student offering 1 year of elementary algebra but not more than $\frac{1}{2}$ year of high school higher algebra for entrance)

Lewis — 5 credits — \$40 — 27 lessons

6. **Trigonometry.** (May be substituted for Math T and C) A beginning course of collegiate grade in plane trigonometry and logarithms. Solutions of triangles with applications to surveying and physics. Emphasis on properties of trigonometric functions, identities, and equations. (Prerequisite: plane geometry and either Math 1 or high school higher algebra^{††}; students offering high school trigonometry for entrance will receive college credit)

Deming — 5 credits — \$40 — 27 lessons

7. **College Algebra.** (May be substituted for Math 10) Quadratic equations, simultaneous quadratic equations, progressions, the binomial theorem, mathematical induction, inequalities, complex numbers, theory of equations, permutations and combinations, probability, and determinants. (Prerequisite: Math 6 or high school trigonometry)

Loud — 5 credits — \$40 — 27 lessons

20. **Mathematics of Investment.** The mathematical theory of simple interest, simple discount, compound interest, and annuities certain. The applications deal with promissory notes, banking practice in the lending of money, the discharge of debts by periodic

^{††} A *substantial* high school course in advanced algebra for 1 semester is sufficient. However, some students with less than 1 year of advanced high school algebra may prefer to take Math 1 before 6 or 8.

payments, depreciation funds, perpetuities, capitalization problems, and bonds. (Prerequisite: Math 6 and 7, or 7 and 9(c), or 8, or 15 and 16)

Lewis — 5 credits — \$40 — 27 lessons

30. **Analytic Geometry.** The elements of plane analytic geometry including the geometry of the conic sections, with a brief introduction to solid analytic geometry. (Prerequisite: Math 6 and 7, or 15 and 16)

Lewis — 5 credits — \$40 — 27 lessons

50. **Calculus I.** Differential calculus. Limits, continuity, differentiation, maxima and minima, applications to geometry and physics, differentials, law of the mean, indeterminate forms, convergence of series, series expansion and partial differentiation. (Prerequisite: Math 30)

Nelson — 5 credits — \$40 — 27 lessons

51. **Calculus II.** Integral calculus. Indefinite integrals, definite integrals, convergence of improper integrals, the definite integral as the limit of a sum, multiple integrals and applications to geometry and mechanics. (Prerequisite: Math 50)

Nelson — 5 credits — \$40 — 27 lessons

62. **Theory of Equations I.** Complex numbers, solution of algebraic equations, properties of polynomials, isolation of the real zeros of a real polynomial, determinants and linear equations. (Prerequisite: Math 50)

Lewis — 3 credits — \$24 — 16 lessons

106. **Differential Equations.** A problem course in the solution of ordinary differential equations, with the basic theory necessary for the development of the methods to be used. (Prerequisite: Math 51)

3 credits — \$24 — 16 lessons

MUSIC (Mus)

Paul Fetler, Ph.D., Associate Professor of Music

Mary E. Malcolm, M.A., Associate Professor of Music

4. **Harmony I.** Intervals, triads, major and minor scales, the structure and progression of four-part chords based upon the triad and its inversions, part-writing, melody harmonization, modulation, analysis. (No prerequisite)

Malcolm — 3 credits — \$24 — 16 lessons

5. **Harmony II.** Continuation of Mus 4, with the addition of nonharmonic tones and diatonic seventh chords. (Prerequisite: Mus 4)

Malcolm — 3 credits — \$24 — 16 lessons

6. **Harmony III.** Continuation of Mus 5, with the addition of chromatically altered nonharmonic tones, chromatically altered chords, and modes. (Prerequisite: Mus 5)

Malcolm — 3 credits — \$24 — 16 lessons

Note—Mus 4, 5, 6 correspond to the written portion of Music Theory for resident students in the Department of Music, University of Minnesota.

- 9(c). **Counterpoint.** Counterpoint is the creative study of writing one or more independent melodies against each other in a strict style. Such a study is of great value in particular to the student of composition. Course is based directly on the 16th-century polyphony. Works of Lassus and Palestrina are examined and the rules for writing formulated accordingly. An elementary course. The student learns the writing of good melodic lines and gradually continues with two-voice counterpoint. The writing of canon is an important part of this course. (Prerequisite: general knowledge of music theory)

Fetler — 3 credits — \$24 — 16 lessons

NORWEGIAN (Scan)

Marion J. Nelson, Ph.D., Assistant Professor of Scandinavian

1. **Beginning Norwegian I.** A complete survey of Norwegian grammar. Composition. Reading of easy prose. (No prerequisite)
Nelson — 5 credits — \$40 — 27 lessons
2. **Beginning Norwegian II.** Study of folk tales and short stories. Reading and composition. (Prerequisite: Scan 1 or equivalent)
Nelson — 5 credits — \$40 — 27 lessons
3. **Intermediate Norwegian.** Continuation of Scan 2. Based on Björnson's *Synnöve Solbakken*. Reading and composition. (Prerequisite: Scan 2 or equivalent)
Nelson — 5 credits — \$40 — 27 lessons

PARLIAMENTARY PROCEDURE

Ralph E. Miller, M.S., Associate Professor, School of Agriculture

- A41. Parliamentary Procedure.** Fundamental principles and practices of parliamentary law essential for conducting meetings and participating in community organizations. Particular emphasis is given to discussion of problems relative to federated clubs, P.T.A., Legion Auxiliary, extension organizations, farm organizations, such as: Grange, Farm Bureau, Farmers Union, 4-H clubs, and Future Farmers of America. Topics to be considered will include formation of organizations, drafting of constitutions, duties of officers, motions, amendments, nominations, and elections. (No prerequisite)
- Miller — 2 Extension credits only — \$16 — 12 lessons

PHILOSOPHY (Phil)

(See Humanities, page 41)

Paul Holmer, Ph.D., Professor of Philosophy

A. Carl Ahlen, Ph.D., Professor of Philosophy, Northwestern Lutheran Theological Seminary

Daniel D. Merrill, M.A., Instructor in Philosophy, Knox College

1. **Problems of Philosophy.** Is there any principle or set of principles in terms of which we can understand man, experience, and the world? Does life have a meaning? What, if anything, can we know? What are good and evil? Is the nature of reality discoverable? How, if at all, are religion, science, art, and politics interrelated? Attempts to answer these questions are considered. Proposed solutions by the world's great minds, ancient and modern, are examined. The student is encouraged to do critically reflective thinking of his own concerning these basic issues. (No prerequisite)
Ahlen — 3 credits — \$24 — 16 lessons
2. **Logic.** There is a difference between "straight" and "crooked" thinking. Logic is the study of these differences. What is a fallacy? How many pitfalls beset the attempt to think straight? When is a term properly defined? Why are sound definitions important? What is meant by a "syllogism"? What is meant by a "dilemma"? What do you understand by proof? When is proof of a statement called for? When is it complete? What is a hypothesis? How many of these do you use in an average conversation? What is meant by "scientific thinking"? Logic is the systematic analysis of these and other related questions. The study of logic will show you what is involved in straight thinking. (No prerequisite)
Ahlen — 3 credits — \$24 — 16 lessons
3. **Ethics.** A study of the principles and problems of right and wrong in human relationships. The course will include such topics as the following: The history of moral de-

velopment, the ethical theories of classical philosophy, the problems of free-will, the nature of man, the ethical problem involved in international relations and in other social problems, the relationship of religion to ethics. (No prerequisite)

Ahlen — 3 credits — \$24 — 16 lessons

10. **Science and Religion.** Inquiry into nature of science and religion as currently interpreted, with an attempt to find grounds of conflict and/or reconciliation. (No prerequisite)

Merrill — 2 credits — \$16 — 12 lessons

50. **History of Ancient Philosophy.** The first of three courses surveying major developments in Western philosophic thought from its beginning among the Greeks to the end of the 19th century. This course is concerned with the origins of philosophy, the culture of ancient Athens, Socrates, Plato, Aristotle, the early Roman philosophies, the philosophies of Alexandria, and the differences introduced by Judaism and Christianity to philosophic thought. Philosophy from 600 B.C. to A.D. 100. (No prerequisite)

Holmer — 5 credits — \$40 — 27 lessons — Registrations accepted after August 1, 1960

51. **History of Medieval Philosophy.** Stoicism, Epicureanism, popular Roman philosophies, St. Augustine. Attempts at synthesis of Greek and Judaic-Christian traditions. Anselm, Abelard, Bonaventura, Thomas Aquinas, and the breakdown of the medieval synthesis. Philosophy from A.D. 100 to A.D. 1500. (No prerequisite)

Holmer — 5 credits — \$40 — 27 lessons — Registrations accepted after October 1, 1960

52. **History of Modern Philosophy.** The effects of early science and the Renaissance. Philosophers from Descartes to Hegel and evolutionary views. Rationalism, empiricism, romanticism, idealism, background of contemporary philosophies. Philosophy from 1500 to 1900. (No prerequisite)

Holmer — 5 credits — \$40 — 27 lessons — Registrations accepted after December 1, 1960

PHYSICAL EDUCATION (PE)

(Including Courses in Recreation)

Gertrude Baker, Ed.D., Professor and Director of Physical Education for Women
 Richard J. Donnelly, Ph.D., Professor and Director of Physical Education for Men
 Ralph Piper, Ed.D., Professor of Physical Education
 Fred Chapman, Re.D., Associate Professor of Physical Education
 Herschel R. Giles, Re.D., Associate Professor of Physical Education
 William Heusner, Ph.D., Associate Professor of Physical Education
 Eloise M. Jaeger, Ph.D., Associate Professor of Physical Education
 Helen Slocum, Ph.D., Associate Professor of Physical Education
 Marjorie U. Wilson, Ph.D., Associate Professor of Physical Education
 Clarence E. Mueller, M.A., Assistant Professor of Physical Education
 Gordon L. Starr, M.Ed., Assistant Professor of Physical Education
 Gerald B. Fitzgerald, Re.D., Lecturer in Physical Education

- 11A,B,C. **Survey of Recreational Activities.** Serves the student as an introduction to many areas of and kinds of recreational activities. It is designed to acquaint the student with many recreational activities that surround him every day, and enable him to better understand the world in terms of leisure and recreation. The beginning student should find the course and course material a good orientation for his professional choice, and other students should be encouraged to seek additional information and training. (No prerequisite)

Starr — 3 credits — \$24 — 16 lessons

- 32. Introduction to Physical Education.** Principles and problems connected with the philosophy, organization, administration, program construction, and methods of teaching physical education. (No prerequisite; open to men only)
Heusner — 3 credits — \$24 — 16 lessons
- 48. Methods in Supervision of Recreation.** The various in-service training devices and supervisory techniques common to recreation programs in communities and hospitals are considered. Necessary qualities, traits, and characteristics of the supervisor are reviewed along with the purposes and advantages of good supervision. This course should be of value to those in formal and informal settings who find it necessary to deal effectively with personnel in working relationships. (No prerequisite)
Chapman — 3 credits — \$24 — 16 lessons
- 49. Social Aspects of Leisure.** Designed to acquaint the student with leisure and recreation as basic forces in the social and economic structure of our society. It stresses the nature of leisure and recreation with particular reference to their relationships. Attention is focused upon leisure and recreation as parts of daily living in our society and as products of our social progress. (No prerequisite)
Fitzgerald — 3 credits — \$24 — 16 lessons
- 50. Orientation to Recreation in Hospitals.** Introductory principles of hospital recreation are examined. A general description of types of hospitals and their patients' activities programs are studied. The philosophy and purposes of hospital recreation as well as the program content is highlighted. Beginning methods in the leadership and supervision of recreation programs for patients in hospitals are featured. (No prerequisite)
Chapman — 3 credits — \$24 — 16 lessons
- 56. Nature and Function of Play.** A fundamental background course for either recreation or physical education. Proceeds from an understanding of the biological play drive, theories and philosophies of play, to the place of play in the modern world and its function in building an integrated personality. (No prerequisite)
Giles — 3 credits — \$24 — 16 lessons
- 57. Operation of Recreation Centers.** Designed especially to aid the teacher of art, music, industrial, or physical education who has been given the responsibility of assisting with, or directing, the summer recreation program. Programs, leadership, facilities and equipment, and problems of operation and administration. (No prerequisite)
Fitzgerald — 3 credits — \$24 — 16 lessons
- 61. History of Physical Education.** The influence of social, economic, political, and religious factors in the development of physical education from primitive times to the present. Origin and development of games and sports. (No prerequisite)
Donnelly — 3 credits — \$24 — 16 lessons
- 63. Organization and Administration of Physical Education.** Problems of organization, administration, and supervision. Arrangement of programs in physical education activities. Discussion of place of athletics in the program; schedule making; construction, equipment, and care of gymnasium and athletic fields. (Prerequisite: PE 32 or Principles and Methods of Physical Education or consent of instructor)
Piper — 3 credits — \$24 — 16 lessons
- 82. Principles of Physical Education.** Principles of philosophy, curriculum, method, and evaluation are studied in the light of their psychological, biological, and social significance. (Prerequisite: minimum of 5 credits in skills courses and 3 credits in methods courses in physical education)
Wilson — 3 credits — \$24 — 16 lessons
- 83. School Health Education: Method and Content.** Study of scope of field, principles underlying the development of a program, curricular suggestions on elementary and secondary level, methods and materials for teaching, steps in unit planning, and evaluation of the instructional program. (No prerequisite)
Slocum — 3 credits — \$24 — 16 lessons

- 84A. The Physical Education Program in the Elementary and Secondary School.** Curricular problems in physical education are studied in relation to the best thinking in general education. Both elementary and secondary levels are considered but individual application may be made to specific level. (Prerequisite: senior major or minor in physical education; minimum of 5 credits in skills courses and 3 credits in methods courses in physical education)
Jaeger — 3 credits — \$24 — 16 lessons
- 84B. The Physical Education Program in the Elementary School.** Designed to help the elementary classroom teacher assume responsibility in teaching physical education. Planning, methods, selection of appropriate activities and organization are emphasized. (Prerequisite: open to elementary classroom teachers only; minimum of 5 credits in skills and methods courses in physical education)
Jaeger — 3 credits — \$24 — 16 lessons
- 95. Administration of Physical Education.** A study of the co-ordination of the various aspects of the physical education department concerned with children, girls, and women. Stress is placed upon the administration of the balanced program, organization of groups, persistent problems in the conduct of the girls' physical education program, facilities, equipment, finance, promotion, and ethics; relationships to the school as a whole and the community are considered throughout. (Prerequisite: minimum of 5 credits in skills courses and 3 credits in methods courses in physical education)
Baker — 3 credits — \$24 — 16 lessons
- 96. The Administration of Intramural Sports.** Principles, policies, procedures, personnel, and planning involved in administration of intramural sports program with emphasis on secondary school level. (Prerequisite: consent of instructor)
Mueller — 3 credits — \$24 — 16 lessons

PHYSICS (Phys)

Fritjof E. Christensen, M.A., Professor of Physics, St. Olaf College

Joseph Valasek, Ph.D., Professor of Physics

- 1. Introduction to Physical Science I.** A study of the basic physical laws and principles relative to mechanics and molecular physics. The use of mathematics usually enhances the understanding of these laws and, to this extent, it is the purpose of the course that a certain amount of problem solving be done. (Prerequisite: high school elementary algebra and plane geometry)
Christensen — 3 credits — \$24 — 16 lessons
- 2. Introduction to Physical Science II.** A sequential course to Phys 1. Topics: heat, wave motion, sound, and light. (Prerequisite: Phys 1)
Christensen — 3 credits — \$24 — 16 lessons — Registrations accepted after July 1, 1960
- 3. Introduction to Physical Science III.** A sequential course to Phys 1 and 2. Topics: electricity, magnetism, and modern physics. Topics in modern physics include: radioactivity, X-rays, gaseous conduction, Bohr atom, etc. (Prerequisite: Phys 1)
Christensen — 3 credits — \$24 — 16 lessons — Registrations accepted after January 1, 1961
- 16(c). Elements of Mechanics.** Basic principles of mechanics such as Newton's laws of motion, conservation of energy and momentum. The solution of numerous problems will be required. Prepares the student to continue with other courses in physics or engineering. (Prerequisite: trigonometry and higher algebra, preferably college algebra)
Christensen — 3 credits — \$24 — 16 lessons

29. **Introduction to Meteorology.** Fundamental physical principles and first elements underlying meteorological study, weather map analysis and construction; also local meteorological observation. (Prerequisite: algebra and high school physics)
Valasek — 3 credits — \$24 — 16 lessons
35. **Photography.** An elementary course on the science and technique of photographic reproduction in monochrome and in color. Emphasis will be on the physical principles which are the basis for the operation or use of cameras, lenses, shutters, enlargers, filters, exposure meters, and sensitive materials used in black-and-white and in color photography. It is expected that those registered for the course possess and use some kind of photographic equipment. However, there will not be any assigned laboratory projects, but some will be recommended for those who wish to improve their photographic skill or learn new procedures. Essentially a course in physics on the college freshman level dealing with selected topics which have important applications in the science and practice of photography. (Prerequisite: high school algebra and geometry)
Valasek — 3 credits — \$24 — 16 lessons

POLISH (Plsh)

Kristina Trendota, Ph.D., Assistant Professor, University of Kansas

1. **Beginning Polish I.** An introduction to the Polish language. Students will acquire a working knowledge of the structure of the language and facility in reading selected works of Polish prose. There are two 12-inch, 78 rpm recordings that accompany the course. The first is required, the other recommended. These cover basic pronunciation. The same material is available on phonotapes at about half the cost of records. (No prerequisite)
Trendota — 5 credits — \$40 — records \$3.50 each
2. **Beginning Polish II.** Continuation of Plsh I. Stress is on vocabulary building and comprehension. The reading material consists mainly of easy short stories. A contemporary play is studied to promote conversational abilities. Review and continuation of grammar. (Prerequisite: Plsh I or equivalent and consent of instructor)
Trendota — 5 credits — \$40 — 27 lessons — Registrations accepted after October 1, 1960

POLITICAL SCIENCE (Pol)

(See European Travel, page 57)

Lennox A. Mills, Ph.D., Professor of Political Science
Harold S. Quigley, Ph.D., Professor Emeritus of Political Science
John E. Turner, Ph.D., Professor of Political Science
George Warp, LL.B., M.A., Professor of Political Science
Dorothy Dodge, Ph.D., Assistant Professor of Political Science, Macalester College
William A. Hambley, M.A., Teaching Assistant in Political Science
Richard Lindblad, M.A., Teaching Assistant in Political Science

1. **American Government and Politics I.** Designed to provide an intelligent understanding of certain fundamental features of our national government: the nature of the constitution, the protection of individual rights and liberties, political parties, public opinion, nominations, and elections. (No prerequisite)
Hambley — 3 credits — \$24 — 16 lessons
2. **American Government and Politics II.** Gives the student knowledge of the formal legal structure and operation of the legislative, executive, and judicial departments of the government and the informal and extra-legal practices that determine its vital character. Problems related to all branches of the government will be considered. (No prerequisite)
Hambley — 3 credits — \$24 — 16 lessons

- 4(c). **The United Nations.** For students, community leaders, teachers, and others interested in learning more about the functions and activities of the United Nations. The 12 lessons give a comprehensive survey of the economic, political, and social programs of the UN—their successes and failures. The course is useful also for discussion or study groups. (No prerequisite)
Dodge — 2 Extension credits only — \$16 — 12 lessons
- 7(c). **Comparative European Governments.** Deals with the governmental systems and politics of Great Britain, France, Soviet Russia, Germany, and Sweden. Emphasis is placed on the institutional structures, political customs, ideologies, problems of administration, and crisis government. (No prerequisite)
Turner — 3 credits — \$24 — 16 lessons
- 10(c). **Survey of American Government and Politics.** Designed to give the student an understanding of the fundamental principles and practices of national, state, and local government in the United States. Includes an analysis of constitutions and charters; citizenship; civil liberties; political parties and public opinion; legislative, executive, and judicial organization and procedures; and of the principal functions and activities of modern American government. (No prerequisite; not open for credit to those who have completed Pol 1 and 2)
Lindblad — 4 credits — \$32 — 21 lessons
25. **World Politics.** The world since 1914. Explains the significance of contemporary events in Europe and the Far East by a study of their causes. The policies of the Great Powers, the influence of geographic position, and of domestic politics on foreign policy, imperialism, armaments and international organizations including the League of Nations and the United Nations. The effect of world events on American interests. (No prerequisite)
Mills — 3 credits — \$21 — texts \$7
54. **Chinese Government and Politics.** A survey of political development in China from imperial times to the present day. Major attention is given to recent and contemporary systems of government. Aspects treated include political ideas, parties, personalities, problems, and policies. (No prerequisite)
Quigley — 3 credits — \$24 — 16 lessons — Registrations accepted after October 1, 1960
55. **Government of the Soviet Union.** An analysis of the government and politics of Soviet Russia that seeks to explain the rise of Bolshevism; the sources and nature of its ideology; the history of the Communist regime, institutional character; the organization of power; the role of the party; foreign, economic, and cultural policies; significance for Western civilization. (No prerequisite)
Turner — 3 credits — \$24 — 16 lessons — Registrations accepted after January 1, 1961
60. **Introduction to Public Administration.** Study of administrative organization and management, emphasizing formal and informal organization structure, intergovernmental administrative relations, current reorganization theory, and administrative powers and responsibilities. (No prerequisite)
Warp — 3 credits — \$24 — 16 lessons
62. **Public Personnel Administration.** Survey of personnel administration on all levels of government. Organization, position classification, pay standardization, recruitment, training, employee relations, employee conduct, working conditions, efficiency ratings, separation, and retirement. (No prerequisite)
Warp — 3 credits — \$24 — 16 lessons
89. **Japanese Government and Politics.** A survey of political development in Japan, with emphasis upon the postwar period. Topics included are the emperor, cabinet and civil service, the parliament, the courts, political parties and elections, and local government. Deals with the transition from feudalism to constitutional government, the

struggle between democratic elements and militarism, the reforms of the postwar occupation, and recent changes. (No prerequisite)

Quigley — 3 credits — \$24 — 16 lessons

94. **The Far East in International Relations.** World War II expanded our conception of the "Far East," adding to China, Japan, and Korea, Thailand and the new states which were regarded formerly as parts of colonial Southeast Asia. This course, therefore, includes the postwar position and foreign policies of Japan, the two "Chinas," Korea, the Philippines, Vietnam, Malaya, Burma, Thailand, and Indonesia. (No prerequisite)

Quigley — 3 credits — \$24 — 16 lessons

PSYCHOLOGY (Psy)

Wendell White, Ph.D., Associate Professor of Psychology

Dorothy M. Bird, Ph.D., Instructor in Psychology (Correspondence Study)

- IA(c). **Application of Psychology to Living.** Devoted to psychology in personal relationships and in the achievement of mental health. Centers, for the most part, around our fundamental needs—the source of all our actions and satisfactions—and presents principles highly applicable in the life of every person. (No prerequisite; may be taken with the same satisfaction before or after Psy 1-2)

White — 3 credits — \$24 — 16 lessons

1. **General Psychology I.** An introduction to the study of human behavior with emphasis on its development. Includes motivation, emotion, learning, memory, and the neural bases of behavior. (No prerequisite)

Bird — 3 credits — \$24 — 16 lessons

2. **General Psychology II.** Continuative study of human behavior. Factors which determine individual differences in personality. Measurement of personality traits. Consideration of behavior disorders and determinants of social adjustment. (Prerequisite: Psy 1)

Bird — 3 credits — \$24 — 16 lessons

144. **Abnormal Psychology I.** A comparison of normal and abnormal behavior. The nature of personality maladjustments with emphasis on the dynamics and social determinants of behavioral disorders. Study of the functional psychoses. (Prerequisite: 9 credits in psychology, or 6 credits in psychology with either 10 credits in zoology or 12 credits in social science, or consent of instructor)

Bird — 3 credits — \$24 — 16 lessons

145. **Abnormal Psychology II.** Continuative study of abnormal behavior, with emphasis on the psychoneuroses, organic psychoses, and associated personality disorders. Consideration of therapeutic methods. (Prerequisite: Psy 144 or consent of instructor)

Bird — 3 credits — \$24 — 16 lessons

Child Psychology. See page 24.

Psychology of Adolescence. See page 24.

Social Psychology. See page 54.

PUBLIC HEALTH

(See page 37)

READING

Louise Klohn, M.A., Instructor in English (Correspondence Study)

- 1(c). **Home Reading Course.** The 8 lessons in this course provide 8 lists of books on subjects of current interest, such as science, history, sociology, fine arts, government, etc.

The student reads at least two books from each list and reports on them. The aim is to follow a systematic plan of reading that will help the average person to become better informed. Particularly designed for members of the Federation of Women's Clubs who are anxious to qualify for the Epsilon Sigma Omicron reading award. Course is available on an individual lesson basis. Write for introduction that will give topic for each lesson. (No prerequisite and no credit toward university degree or certificate programs)

Klohn — \$8 or \$1 per lesson

RECREATION

(See page 47)

ROMANCE LANGUAGES

(See pages 35, 55)

RUSSIAN (Russ)

Pearl C. Niemi, Ph.D., Assistant Professor of Slavic Languages

Phillip E. Nice, M.A., Instructor in Slavic and Oriental Languages

An 11-minute, 33 $\frac{1}{3}$ -rpm vinylite record, "The Sounds of Russian," has been prepared. Sounds are articulated by a native Russian. The record is accompanied by three pages of text, with English meanings supplied. As it is almost impossible to teach Russian pronunciation by correspondence, the student is strongly urged to purchase this record and to hear it repeatedly, imitating the sounds as accurately as possible. Price is \$1.00, and may be purchased from the EMC Recordings Corp., 806 East 7th Street, St. Paul 6, Minnesota. Also available on phono-tape (3.75 ips) for \$1.00.

1. **Beginning Russian I.** Prepares for the reading and writing knowledge of the Russian language. Acquaints the student with the Russian script; pronunciation; the essentials of grammar; translations from Russian and into Russian; interpretation of easy Russian short stories. (No prerequisite)

Niemi — 5 credits — \$40 — 27 lessons

2. **Beginning Russian II.** Continuation of Russ 1. (Prerequisite: Russ 1)

Niemi — 5 credits — \$40 — 27 lessons

- 24C. **Scientific Russian I.** An introduction to the basic grammar and structure of the Russian language. Prepares for the development of ability to read Russian scientific texts. (No prerequisite)

Nice — 2 credits — \$16 — 12 lessons

- 25C. **Scientific Russian II.** Directed reading and translation of Russian scientific texts in a field of the student's choice. (Prerequisite: Russ 24C)

Nice — no credit — \$16 — 12 lessons

- 26C. **Scientific Russian III.** Continuation of Russ 25C. (Prerequisite: Russ 25C)

Nice — no credit — \$16 — 12 lessons

SALESMANSHIP

Steele S. Stanchfield, B.A., Instructor in Business (Correspondence Study)

- 1(c). **Salesmanship.** A course in the art and techniques of effective salesmanship. Major emphasis placed on practical aspects with various case histories presented. (No prerequisite)

Stanchfield — 3 Extension credits only — \$24 — 16 lessons

SCANDINAVIAN LANGUAGES

(See pages 46, 56)

SLAVIC (Slav)

Thomas F. Magner, Ph.D., Professor, Penn State University

A pronunciation record (33½ rpm) covering basic Serbo-Croatian is available for \$8. Each side will run for about 13 minutes. A tape recording of the same material is also available from the Correspondence Study Department. The recording is not required but is strongly recommended.

- 1. Beginning Serbo-Croatian.** An introduction to the Serbo-Croatian language. Objectives of the course will be the mastery of the essentials of grammar, facility in reading easy texts in both the Cyrillic and the Latin alphabet, and the ability to write simple themes in Serbo-Croatian. (No prerequisite)

Magner — 5 credits — \$40 — 27 lessons

Other Slavic and Oriental languages. See pages 50, 53.

SOCIOLOGY (Soc)

Elio D. Monachesi, Ph.D., Professor and Chairman, Department of Sociology

Arnold M. Rose, Ph.D., Professor of Sociology

George A. Donohue, B.A., Associate Professor and Extension Sociologist

- 1. Man in Modern Society.** (Introduction to Sociology) A study of the characteristics of human group life. An analysis of the factors associated with the development of human group life and man's social environment; the structure of the social environment and its influence upon the individual's behavior; the processes involved in social change and the social problems that accompany social change. A survey of the fundamental social institutions such as the family and the church; the development and decline of social institutions; change in the institutional functions and social disorganization. Intended to introduce the student to the fundamental concepts of sociology and to give him a better understanding of the contemporary social order. (No prerequisite)

Monachesi — 3 credits — \$24 — 16 lessons

- 3. Social Problems.** A study of the structure of modern society and the on-going changes in it that create problems. The approach is two-fold: (a) a study of the sociological and social psychological theories that explain social problems; and (b) an attempt to find practical solutions of modern social problems within a carefully defined framework of values. (No prerequisite)

Rose — 3 credits — \$24

- 53. Elements of Criminology.** A general survey of the field of criminology that analyzes the factors associated with the development of criminal behavior and reviews the methods of treating the adult offender. Affiliated problems of crime control and prevention are also considered. (Prerequisite: Soc 1 or consent of instructor)

Donohue — 3 credits — \$24 — 16 lessons

- 120. Social Psychology.** Consideration of the leading social psychology theories with special attention to the development of the self, the process of socialization, social roles, reference groups, and the processes of social interaction. Attention will be paid to prejudice, public opinion, propaganda, leadership, fads, fashion, and other forms of collective behavior. (Prerequisite: Soc 1 or consent of instructor)

Rose — 3 credits — \$24 — 16 lessons

- 123. Racial and Cultural Minorities.** A consideration of the historical and sociological factors in prejudice and discrimination with special emphasis on the United States. Includes study of racial and religious minorities and the problems of immigration.

Analysis of the social values involved and of social changes now occurring. (Prerequisite: Soc 1 or consent of instructor)

Rose — 3 credits — \$24 — 16 lessons

141. **The Family.** Origin of family life; variability and change of family institutions and mating customs; contemporary parent-child relationships; adolescence; mate finding; marital adjustments; divorce and other family problems; prediction of marital success; theories of family reform. (Prerequisite: Soc 1 or consent of instructor)

Rose — 3 credits — \$24 — 16 lessons

SPANISH (Span)

James Cuneo, Ph.D., Associate Professor of Romance Languages

Herbert Willging, Ph.D., Associate Professor of Foreign Language, St. Thomas College

Two 12-inch, 78 rpm records have been prepared covering basic Spanish pronunciation. The first gives the pronunciation of vowels, consonants, diphthongs, and triphthongs. The second record gives pronunciation exercises in Spanish with some translation. Two voices are used, and each record will run 10 minutes. The cost of each record is \$4. The same material is available on tapes for about half the cost. Order from the Correspondence Study Department.

- 1A(c). **Spanish in Slow Motion.** Oral and written drills based on 16 tape programs (each 15 minutes in length) give the equivalent of a classroom course conducted in Spanish. The sounds of Spanish are presented through a series of words, phrases, and sentences each pronounced slowly (twice) by authoritative voices. The grammar is presented in the form of simple drills, with a conversational approach. True-false type tests give the student regular opportunities for self-testing of aural comprehension. Tapes, costing \$20.85 and including Sounds and Sentence booklet, are available from Bookstore, College of St. Thomas, St. Paul 1, Minnesota. (No prerequisite)

Willging — 3 credits — \$24

1. **Beginning Spanish I.** To teach the fundamentals of Spanish grammar, to develop good ear training by means of records or tapes, to read and write simple Spanish. The question and answer method is used in connection with the reader. The emphasis is on a cultural approach and a practical knowledge of Spanish. (No prerequisite)
Cuneo — 5 credits — \$40 — 27 lessons
2. **Beginning Spanish II.** Continues the training given in Span 1. (Prerequisite: Span 1 or equivalent)
Cuneo — 5 credits — \$40 — 27 lessons
3. **Beginning Spanish III.** Grammar review and composition. Reading of short plays. Study of the Spanish-speaking nations. (Prerequisite: Span 2 or equivalent)
Cuneo — 5 credits — \$40 — 27 lessons
7. **Latin American Culture (in English).** Offers a panoramic view of Latin American culture. It attempts to interpret the land, the people and their history; the political, social, and economic organization; the cultural and literary traditions in such a way as to give the North American a unified picture of the 20 countries of Latin America. Readings in English; Spanish not necessary. (No prerequisite)
Cuneo — 3 credits — \$24 — 16 lessons
20. **Intermediate Spanish.** A more detailed study of the principles of Spanish grammar. Extensive reading and composition. (Prerequisite: Span 3 or equivalent)
Cuneo — 5 credits — \$40 — 27 lessons
52. **Spanish Commercial Correspondence.** Specialized material in Spanish commercial correspondence. Main parts of a Spanish letter; various kinds of commercial letters; commercial documents; Spanish abbreviations used in Spanish correspondence; business vocabulary. Spanish composition. (Prerequisite: Span 20 or equivalent)
Cuneo — 5 credits — \$40 — 27 lessons

53. **Elementary Spanish Composition.** Connected prose composition. Reading and grammar. The aim is the ability to write Spanish. (Prerequisite: Span 20 or equivalent)
Cuneo — 3 credits — \$24 — 16 lessons
60. **Advanced Spanish Composition.** Continuation of Span 53. (Prerequisite: Span 53)
Cuneo — 3 credits — \$24 — 16 lessons

SPEECH AND THEATER ARTS (Spch)

Kenneth L. Graham, Ph.D., Professor of Speech and Theater Arts
Herbert C. Carson, Ph.D., Instructor, University of Nebraska
Louise Klohn, M.A., Instructor in English (Correspondence Study)

- 1(c). **Vocabulary Building.** A practical course designed to increase the student's speaking and reading vocabulary. The lessons and exercises will stimulate interest and afford practice in the proper use of words, provoke word collecting and suggest substitutes for overworked words. (No prerequisite; course cannot be used for credit toward a teacher's certificate; see page 7)
Klohn — 3 Extension credits only — \$24 — 16 lessons
115. **Playwriting.** Reading assignments as an introduction to dramatic form and content. Practice in writing dramatic plots, characters, themes, and dialogue. The writing exercises will include scenario, rough draft, and final revision of a one-act play (approximately 15 typed pages or 30 minutes in playing time). (Prerequisite: Spch 31 or consent of instructor)
Carson — 3 credits — \$24 — 16 lessons
- 180(c). **Independent Playwriting.** Specifically designed for advanced students. The student is given complete freedom. Plays in any stage of development will receive detailed criticism. (Prerequisite: Spch 115 and consent of instructor)
Carson — 3 Extension credits only — \$24 — 16 lessons (2 full-length plays or approximately the same amount of writing made up of shorter dramatic forms)
- 184(c). **Independent Playwriting for Children's Theater.** For advanced students who are interested in writing plays for child audiences. Long or short plays will be given detailed criticism. (Prerequisite: consent of instructor)
Graham — 3 Extension credits only — \$24 — 16 lessons (2 full-length plays or approximately the same amount of writing made up of shorter forms)

SWEDISH (Swed)

Alrik Gustafson, Ph.D., Professor and Chairman, Department of Scandinavian

A Swedish pronunciation record (78 revolutions per minute) prepared by the Scandinavian Department and the Correspondence Study Department may be purchased for \$4. Not required but recommended.

7. **Beginning Swedish I.** Grammar and composition; selected readings in easy prose and verse. (No prerequisite)
Gustafson — 5 credits — \$40 — 27 lessons
8. **Beginning Swedish II.** Continuation of Swed 7. (Prerequisite: Swed 7)
Gustafson — 5 credits — \$40 — 27 lessons

Special Courses

CITIZENSHIP

John M. Huebner, B.A., Instructor in Citizenship (Correspondence Study)

Citizenship. Given by the Extension Division of the University of Minnesota in co-operation with the public schools and the Immigration and Naturalization Service. Course is intended to assist the foreign-born applicant for citizenship in acquiring a better understanding of the American Constitution and Government, and is primarily designed for the rural alien to whom a class in such citizenship instruction is not available. Enrollment is limited to applicants for naturalization. All persons wishing to enroll should write to the Correspondence Study Department, University of Minnesota.

Huebner — no credit — \$4 — 21 lessons

TRAVEL

Vernie Wolfsberg, Research Assistant, World Affairs Center

Your Trip to Europe. Offers information on sightseeing, shopping, and travel techniques—in addition to a broad coverage of the cultural aspects, economy, government, and life today in the various countries; and the relations of these countries with the United States. The students of the course—"would be" travelers—will acquire not only practical information, but such knowledge as will add to their enjoyment, understanding, and appreciation of their travel in Europe.

Wolfsberg — no credit — \$24 — 16 lessons

High School Courses

These courses are more completely described in a special high school bulletin. Write for a copy.

Each $\frac{1}{2}$ unit has 20 lessons and is equivalent to 1 semester of resident high school work.

BIOLOGY

1. **Biology, Part A**
Walters — $\frac{1}{2}$ unit — \$25 — 20 lessons
2. **Biology, Part B**
Walters — $\frac{1}{2}$ unit — \$25 — 20 lessons

BOOKKEEPING

1. **Bookkeeping, Part A**
Harrigan — $\frac{1}{2}$ unit — \$25 — 20 lessons
2. **Bookkeeping, Part B**
Harrigan — $\frac{1}{2}$ unit — \$25 — 20 lessons

ENGLISH

1. **Ninth Grade English, Part A**
Grassl — $\frac{1}{2}$ unit — \$25 — 20 lessons
2. **Ninth Grade English, Part B**
Grassl — $\frac{1}{2}$ unit — \$25 — 20 lessons
3. **Tenth Grade English, Part A**
Grassl — $\frac{1}{2}$ unit — \$25 — 20 lessons
4. **Tenth Grade English, Part B**
Grassl — $\frac{1}{2}$ unit — \$25 — 20 lessons
5. **Eleventh Grade English, Part A**
Grassl — $\frac{1}{2}$ unit — \$25 — 20 lessons
6. **Eleventh Grade English, Part B**
Grassl — $\frac{1}{2}$ unit — \$25 — 20 lessons
7. **Twelfth Grade English, Part A**
Grassl — $\frac{1}{2}$ unit — \$25 — 20 lessons
8. **Twelfth Grade English, Part B**
Grassl — $\frac{1}{2}$ unit — \$25 — 20 lessons
9. **Preparatory English.** (Prerequisite: consent of counselor and Correspondence Study Department)
Klohn — no credit — \$16 — 12 lessons

- 10. **Review of Business English.** (Prerequisite: consent of department)
Lippert — ½ unit — \$24 — 16 lessons
- 11. **Vocabulary Building.** (Prerequisite: consent of instructor)
Klohn — ½ unit — \$24 — 16 lessons

MATHEMATICS

- 1. **Elementary Algebra, Part A**
D. Johnson — ½ unit — \$25 — 20 lessons
- 2. **Elementary Algebra, Part B**
D. Johnson — ½ unit — \$25 — 20 lessons
- 3. **Plane Geometry, Part A.** (Prerequisite: Math 1 and 2)
Jackson — ½ unit — \$25 — 20 lessons
- 4. **Plane Geometry, Part B.** (Prerequisite: Math 3)
Jackson — ½ unit — \$25 — 20 lessons
- 5. **Trigonometry.** (Prerequisite: Math 2 and 4)
Ziebarth — ½ unit — \$25 — 20 lessons
- 9. **Higher Algebra.** (Prerequisite: 1 year of elementary algebra or equivalent)
Loye — ½ unit — \$25 — 20 lessons
- 10. **Solid Geometry.** (Prerequisite: 1 year of plane geometry or equivalent)
Fischer — ½ unit — \$25 — 20 lessons

LANGUAGES

French

- Beginning French I and II**
Kalb — 1 unit each — \$40 per unit — 27 lessons each

German

- Beginning German I, II, and III**
Ramras — 1 unit each — \$40 per unit — 27 lessons each

Latin

- Beginning Latin I and II**
Forbes — 1 unit each — \$40 per unit — 27 lessons each

Norwegian

- Beginning Norwegian I and II**
Nelson — 1 unit each — \$40 per unit — 27 lessons each

Russian

- Beginning Russian I and II**
Niemi — 1 unit each — \$40 per unit — 27 lessons each

Spanish

Elementary Spanish I and II

Cunco — ½ unit each — \$25 per half unit — 20 lessons each unit

Swedish

Beginning Swedish I and II

Gustafson — 1 unit each — \$40 per unit — 27 lessons each

SOCIAL STUDIES

1. Problems of American Democracy, Part A

F. Johnson — ½ entrance unit — \$25 — 20 lessons

2. Problems of American Democracy, Part B

F. Johnson — ½ entrance unit — \$25 — 20 lessons

3. World History, Part A

Gardner — ½ entrance unit — \$25 — 20 lessons

4. World History, Part B

F. Johnson — ½ entrance unit — \$25 — 20 lessons

5. American History, Part A

Gardner — ½ entrance unit — \$25 — 20 lessons

6. American History, Part B

Gardner — ½ entrance unit — \$25 — 20 lessons

FEES

Fees must be paid at the time of registration. Make money orders, drafts, or checks payable to the University of Minnesota. Send both sections of "Application for Registration" (see page 61 for second section) to Correspondence Study Department, University of Minnesota, Minneapolis 14. Make check for *exact amount* of course fee. Remember, there is a \$3 per course fee for all registrations originating outside of Minnesota, except military personnel.

Use the Book Order Blank for textbooks (see page 65) and send your order directly to Nicholson Hall Bookstore, University of Minnesota, Minneapolis 14.

Cut along this line

(Please complete both parts of this blank. See reverse side).

UNIVERSITY OF MINNESOTA
GENERAL EXTENSION DIVISION
CORRESPONDENCE STUDY DEPARTMENT
Minneapolis 14

Application for Registration

Date _____

Please print _____
(Mr., Mrs., Miss) First Name Middle or Maiden Name Last Name

Mailing Address _____
Street Address

City Zone State

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

Date of Birth _____ Place of Birth _____

Department	Course No.	Descriptive Title of Course	Credits

Have you attended any division of the University of Minnesota before? Yes No .

If you have previously attended the University of Minnesota indicate all divisions and date of last attendance in each:

Correspondence, year _____; Evening Classes, year _____;

Day Classes, College _____, year _____.

(To be filled out with pen and ink by the student. Do not print.)

Signature _____ Occupation _____

Mailing Address _____
Street Address City Zone State

Title of courses for which you are registering (no more than 2 at one time)

CHECK YOUR OBJECTIVE: Credit for Degree; Teacher's Certificate; High School;
 Extension Certificate; Prerequisite for College Entrance; Non-Credit (self interest)

Your Educational Experience	Name of Institution	Dates Attended	Date Graduated
High School			
College			

If enrolling under Korean Bill (P.L. 550) check here

List the courses you have previously taken which are related to the courses for which you are now registering:

MONEY ENCLOSED: Tuition fee \$ _____; Out-of-State Nonresident fee \$ _____ (at \$3.00 per course);
Total money enclosed \$ _____ (Make checks or money orders payable to the "University of Minnesota")

NOTICE—Twenty per cent of the cost of each course and \$1.10 per lesson serviced are nonrefundable. No fees refunded after three months from date of registration. No money will be returned after one-half of the course is completed regardless of date of registration.

Cut along this line

Cut along this line

(Please complete both parts of this blank. See reverse side).

UNIVERSITY OF MINNESOTA
GENERAL EXTENSION DIVISION
CORRESPONDENCE STUDY DEPARTMENT
Minneapolis 14

Application for Registration

Date _____

Please print _____
(Mr., Mrs., Miss) First Name Middle or Maiden Name Last Name

Mailing Address _____
Street Address

City State Zone

Permanent Address _____
(To which mail may be sent with certainty of delivery)

Date of Birth _____ Place of Birth _____

Department	Course No.	Descriptive Title of Course	Credits

Have you attended any division of the University of Minnesota before? Yes No .
If you have previously attended the University of Minnesota indicate all divisions and date of last attendance in each:

- Correspondence, year _____; Evening Classes, year _____;
 Day Classes, College _____, year _____.

(To be filled out with pen and ink by the student. Do not print.)

Signature _____ Occupation _____

Mailing Address _____
Street Address City Zone State

Title of courses for which you are registering (no more than 2 at one time)

CHECK YOUR OBJECTIVE: Credit for Degree; Teacher's Certificate; High School;
 Extension Certificate; Prerequisite for College Entrance; Non-Credit (self interest)

Your Educational Experience	Name of Institution	Dates Attended	Date Graduated
High School			
College			

If enrolling under Korean Bill (P.L. 550) check here

List the courses you have previously taken which are related to the courses for which you are now registering:

MONEY ENCLOSED: Tuition fee \$ _____; Nonresident fee \$ _____ (at \$3.00 per course);
Total money enclosed \$ _____ (Make checks or money orders payable to the "University of Minnesota")

NOTICE—Twenty per cent of the cost of each course and \$1.10 for each lesson serviced are nonrefundable. No fees refunded after three months from date of registration. No money will be returned after one-half of the course is completed regardless of date of registration.

Cut along this line

TEXTBOOKS

Necessary textbooks may be obtained wherever convenient. The Nicholson Hall Bookstore will send the required books and will bill you for the correct amount, including a nominal charge for postage and handling. The ordering of textbooks at the time of enrollment will prevent delay in starting your course. If you wish a list of books and prices, however, you can wait for your study guide or write for a separate listing. It is assumed that you will remit promptly when billed. Make checks payable to the University of Minnesota.

Cut along this line

BOOK ORDER FORM

(Mail directly to the Nicholson Hall Bookstore, University of Minnesota, Minneapolis 14)
(Please type or print plainly)

Field of Study _____

Course No. _____ Course Name _____

Author _____ Title _____

Author _____ Title _____

Author _____ Title _____

Supplies

Name _____

Street Address _____

City _____ Zone _____ State _____

(I will pay promptly)

Signature _____

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Other Services of the General Extension Division . . .

Audio-Visual Extension Service

operates a large library of films available on a rental basis to schools, organizations, and individuals, and provides advisory service for audio-visual institutes and workshops. For information, contact: Audio-Visual Extension Service, 115 TSMa, University of Minnesota, Minneapolis 14.

Center for Continuation Study

presents institutes and short courses in professional and postgraduate, business, and cultural fields. For information, contact: Center for Continuation Study, University of Minnesota, Minneapolis 14.

Evening and Special Classes

is a department offering more than 400 collegiate and special interest courses for residents of the Twin Cities area and Duluth. Courses are provided for those interested in degrees, certificates, occupational advancement, and hobbies. The part-time arrangement makes Extension evening classes attractive to the adult population. A current bulletin is available from: General Extension Division, 54 Nicholson Hall, University of Minnesota, Minneapolis 14.

Municipal Reference Bureau

co-operates with the League of Minnesota Municipalities in supplying information about city and village affairs to civic officials and others interested. For information, contact: Municipal Reference Bureau, 15 Library, University of Minnesota, Minneapolis 14.

Radio and Television Broadcasting (KUOM)

broadcasts educational musical, news, and sports programs to the Upper Midwest; its staff produces educational telecasts which may be shown on educational or commercial stations. For a schedule, contact: KUOM, 1 Eddy Hall, University of Minnesota, Minneapolis 14.

State Organization Service

assists voluntary nonprofit associations on a community or statewide basis by supplying them with secretarial, mimeograph, mailing, and general organizational services, subject matter aid, and space. For information, contact: State Organization Service, 15th and Washington Avenues Southeast, University of Minnesota, Minneapolis 14.

University Program Service

brings concerts, lectures, and assembly programs to audiences of the area and maintains a drama advisory service and loan play library. For information, contact: University Program Service, 229 Northrop Memorial Auditorium, University of Minnesota, Minneapolis 14.

111-18

DESK COPY

Delivery 9/12/60

BULLETIN OF THE

UNIVERSITY OF MINNESOTA

TWIN CITIES 1960 - 1961

Evening
and Special
Classes

GENERAL EXTENSION DIVISION

UNIVERSITY OF MINNESOTA-

Board of Regents

The Board of Regents is composed of The Honorable Ray J. Quinlivan, St. Cloud, First Vice-President and Chairman; The Honorable Charles W. Mayo, M.D., Rochester, Second Vice-President; The Honorable James E. Bell, Minneapolis; The Honorable Edward B. Cosgrove, Le Sueur; The Honorable Daniel C. Gabeay, Owatonna; The Honorable Richard L. Griggs, Duluth; The Honorable Robert E. Hess, White Bear Lake; The Honorable Marjorie J. Howard (Mrs. C. Edward), Excelsior; The Honorable A. I. Johnson, Benson; The Honorable Lester A. Malkerson, Minneapolis; The Honorable A. J. Olson, Beaville; and The Honorable Herman F. Skyberg, Fisher.

Administrative Officers

O. Meredith Wilson, Ph.D., President
Malcolm M. Willey, Ph.D., LL.D., LL.D., Vice-President, Academic Administration
Laurence B. Lunden, B.A., LL.D., Vice-President, Business Administration
Stanley J. Weinberg, M.A., Vice-President and Administrative Assistant

GENERAL EXTENSION DIVISION

Administration for Evening and Special Classes

Julius M. Nolte, B.A., LL.B., Dean of University Extension
Huntington Miller, B.A., LL.B., Associate Dean; Chairman of Committee on Student Scholastic Standing
Harold J. Alford, M.A., Manager of St. Paul Extension Center (on leave, 1960-61)
Albert M. Fulton, Ph.M., Coordinator for Curriculum Development; Head of Extension Veterans' Affairs
Charles R. Magel, Ph.D., Co-ordinator of Administrative Services
Gilford W. Remington, M.A., Manager of Duluth Extension Office
Eleanor M. Salisbury, M.A., Assistant to the Dean; Co-ordinator of Scholastic and Counseling Services

Extension Departments and Directors

Audio-Visual Extension Service, Erwin C. Welke, 115 TSMA
Center for Continuation Study, Fred E. Berger, 136 Center for Continuation Study
Correspondence Study Department, F. Lloyd Hansen, 251 Nicholson Hall
Evening and Special Classes, Huntington Miller, 54 Nicholson Hall
Municipal Reference Bureau, Orville Peterson, 15 Library Building
Radio and Television Broadcasting (KUOM), Burton Pauls, 1 Eddy Hall
State Organization Service, William C. Rogers, 104 TSME
University Program Service, James S. Lombard, 229 Northrop Memorial Auditorium

The **Committee on Student Scholastic Standing** of the General Extension Division consists of the following: Huntington Miller, *chairman*, Harold J. Alford, Albert M. Fulton, F. Lloyd Hansen, Charles R. Magel, Gilford W. Remington, and Eleanor M. Salisbury, *secretary*.

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Calendar of Registration and Term Dates - 14

S M T W T F S

Sept. 1 2 3
 4 5 6 7 8 9 10
 11 12 13 14 15 16 17
 18 19 20 21 22 23 24
 25 26 27 28 29 30

Oct.
 2 3 4 5 6 7 8
 9 10 11 12 13 14 15
 16 17 18 19 20 21 22
 23 24 25 26 27 28 29
 30 31

Nov. 1 2 3 4 5
 6 7 8 9 10 11 12
 13 14 15 16 17 18 19
 20 21 22 23 24 25 26
 27 28 29 30

Dec. 1 2 3
 4 5 6 7 8 9 10
 11 12 13 14 15 16 17
 18 19 20 21 22 23 24
 25 26 27 28 29 30 31

Jan.
 1 2 3 4 5 6 7
 8 9 10 11 12 13 14
 15 16 17 18 19 20 21
 22 23 24 25 26 27 28
 29 30 31

Feb. 1 2 3 4
 5 6 7 8 9 10 11
 12 13 14 15 16 17 18
 19 20 21 22 23 24 25
 26 27 28

Mar. 1 2 3 4
 5 6 7 8 9 10 11
 12 13 14 15 16 17 18
 19 20 21 22 23 24 25
 26 27 28 29 30 31

Apr. 1
 2 3 4 5 6 7 8
 9 10 11 12 13 14 15
 16 17 18 19 20 21 22
 23 24 25 26 27 28 29
 30

May
 1 2 3 4 5 6
 7 8 9 10 11 12 13
 14 15 16 17 18 19 20
 21 22 23 24 25 26 27
 28 29 30 31

June 1 2 3
 4 5 6 7 8 9 10
 11 12 13 14 15 16 17
 18 19 20 21 22 23 24
 25 26 27 28 29 30

1960

September 12 Monday Fall quarter and semester registration begins. Special office hours: weekdays, 12 noon to 8 p.m.; Saturday, 9 a.m. to 1 p.m.

September 21 Wednesday Registration closes; all fees due. Late registration fee in effect at midnight; mail registrations post-marked after midnight liable for late fee.

September 26 Monday Fall quarter and semester classes begin. All offices resume regular hours.

December 17 Saturday Fall quarter closes. Christmas recess begins for all classes.

December 27 Tuesday Winter quarter registration begins. Office hours: *Campus*—December 27-30, 8 a.m. to 12, 1 to 5 p.m.; January 3-5, 8 a.m. to 12, 1 to 8 p.m.; January 6, 8 a.m. to 12, 1 to 5 p.m. *Minneapolis*—December 27-30, January 3-6, 8 a.m. to 1, 2 to 4:30 p.m. *St. Paul*—December 27-30, 8 a.m. to 1, 2 to 4:30 p.m.; January 3-5, 8 a.m. to 1, 2 to 8 p.m.; January 6, 8 a.m. to 1, 2 to 4:30 p.m.

1961

January 3 Tuesday Winter quarter classes begin; fall semester classes resume.

January 6 Friday Winter quarter registration closes; all fees due. Mail registrations post-marked after midnight will not be accepted.

January 30 Monday Spring semester registration begins. Special office hours: weekdays, 12 noon to 8 p.m.; Saturday, 9 a.m. to 1 p.m.

February 4 Saturday Fall semester closes. Semester recess begins for semester classes only.

February 8 Wednesday Spring semester registration closes; all fees due. Late registration fee in effect at midnight; mail registrations postmarked after midnight liable for late fee.

February 13 Monday Spring semester classes begin. All offices resume regular hours.

March 18 Saturday Winter quarter closes. Spring recess begins for quarter classes only.

March 20 Monday Spring quarter registration begins. Office hours: *Campus*—March 20-24, 8 a.m. to 12, 1 to 5 p.m.; March 27-30, 8 a.m. to 12, 1 to 8 p.m. *Minneapolis*—March 20-24, 27-30, 8 a.m. to 1, 2 to 4:30 p.m. *St. Paul*—March 20-24, 8 a.m. to 1, 2 to 4:30 p.m.; March 27-30, 8 a.m. to 1, 2 to 8 p.m.

March 27 Monday Spring quarter classes begin.

March 30 Thursday Spring quarter registration closes; all fees due. Mail registrations post-marked after midnight will not be accepted.

June 10 Saturday Spring quarter and semester close. Summer recess begins.

Calendar of Holidays and Examination Periods

November	11	Friday	Veterans Day, holiday
November	24	Thursday	Thanksgiving Day, holiday
December	12-16	Monday-Friday	Final examinations for fall quarter.
December	26	Monday	(Sunday, Christmas Day) holiday.
1961			
January	2	Monday	(Sunday, New Year's Day) holiday.
January	30-	Monday-	Final examinations for fall semester.
February	3	Friday	Final examinations for fall semester.
February	22	Wednesday	Washington's Birthday, holiday.
March	13-17	Monday-Friday	Final examinations for winter quarter.
March	31	Friday	Good Friday, holiday.
May	30	Tuesday	Memorial Day, holiday.
June	5-9	Monday-Friday	Final examinations for spring quarter and spring semester.

S	M	T	W	T	F	S
Sept.				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Oct.						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Nov.	1	2	3	4	5
6	7	8	9	10	11
12	13	14	15	16	17
18	19	20	21	22	23
24	25	26	27	28	29
30					

Dec.				1	2	3
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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Jan.	1	2	3	4	5	6	7
8	9	10	11	12	13	14	
15	16	17	18	19	20	21	
22	23	24	25	26	27	28	
29	30	31					

Feb.		1	2	3	4
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11	12	13	14	15	16
17	18	19	20	21	22
23	24	25	26	27	28
29	30				

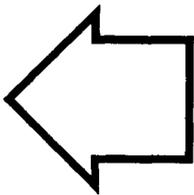
Mar.		1	2	3	4
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11	12	13	14	15	16
17	18	19	20	21	22
23	24	25	26	27	28
29	30	31			

Apr.						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

May	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

June		1	2	3
4	5	6	7	8
9	10	11	12	13
14	15	16	17	18
19	20	21	22	23
24	25	26	27	28
29	30			

Classes meet on all holidays not designated in the calendar, unless instructor advises to the contrary. Opening and closing dates for classes on other than semester or quarter basis are indicated below description of each class. Registration should be made during the two weeks preceding the opening of such classes.



NOTE
NOON OPENING
 during
Semester Registration

Twin Cities General Extension Division Offices

University Campus: Southeast entrance, Nicholson Hall, University of Minnesota, Minneapolis 14, Federal 8-8791.

Minneapolis: 690 Northwestern Bank Building, Marquette Avenue and Sixth Street South, Minneapolis 2, Federal 2-0624.

St. Paul: Second floor, 555 Wabasha Street. St. Paul 2, Capital 2-6175.

Special office hours are in effect at all three extension offices during the *semester registration* periods: weekdays, 12 noon to 8 p.m.; Saturday, 9 a.m. to 1 p.m.

Throughout the remainder of the academic year, hours differ at the three Twin Cities offices.

The University campus office hours are as follows: Monday through Thursday, 8 a.m. to 12 noon and 1 p.m. to 8 p.m.; Friday 8 a.m. to 12 noon and 1 p.m. to 5 p.m.; closed Saturday. During the Christmas recess and the spring recess, the office will close at 5 p.m. daily. During the summer recess, the office is open Monday through Friday from 7:45 a.m. to 12 noon and from 1 p.m. to 4:30 p.m.

The Minneapolis and St. Paul office hours are as follows: Monday through Friday, 8 a.m. to 1 p.m. and 2 p.m. to 4:30 p.m.; closed Saturday. Either office may be closed without notice for short periods of time during the summer.

Department of - 18878

Evening and Special Classes - 30 B

Twin Cities Area - 10 M 21 M

(An index will be found on pages 142-143-144)

INTRODUCTION - 12 36

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

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

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

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

I. EXTENSION CERTIFICATE PROGRAMS

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

Seventeen intensive certificate programs in the areas of liberal arts, business administration, and engineering science (for engineers and technicians) are conducted by the General Extension Division. These programs may be completed entirely in the Evening and Special Classes Department. The curriculums are described in detail in the following pages.

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

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

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

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

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

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

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

Evening and Special Classes

Liberal Arts Certificate -- 12 M.C.T.

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.

(45 credits)

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

English requirement:

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

Spread requirement (18 credits): at least 6 credits in each of the following fields:

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

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

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

Concentration requirement: at least 12 credits in 1 subject, or in approved related liberal arts subjects, in addition to the credits earned in that subject under the spread and English requirements above.

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

Interior Design Certificate

The Interior Design Certificate is awarded upon successful completion of a program of courses in interior design and related fields. A student holding the Certificate will have a background indicating proficiency in the field of home furnishings or as a junior decorator in a studio or store.

(45 credits)

Students transferring credits to this certificate program from other institutions accredited by the University of Minnesota must take a minimum of 12 credits at the University of Minnesota, including the 4 courses in interior design.

Core requirement:

Art 83A—Interior Design I

Art 84A—Interior Design II

Art 103A—Seminar in Interior Design I

Art 104A—Seminar in Interior Design II

Architectural Drafting I;
or Home Design and Planning

Art 1—Introduction to Art

Psy 1A—Application of Psychology to Living

Engl 1B—Freshman English; or Review of
Business English

Business Correspondence

Spread requirement: not more than 2 courses in at least 3 of the following groups, to total 18 credits; courses subject to approval of the certificate program adviser, Mrs. Lewis, telephone FEderal 8-8791 or WEst 8-3431.

1. History of Art, Art Appreciation
2. Design, Drafting, Color Photography

3. Ceramics, Sculpture, Weaving
4. French, Humanities, Psychology

Public Administration Certificate

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.

(45 credits)

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

Core requirement:

Pol 1-2—American Government and Politics
Pol 60—Organization and Management
Pol 62—Public Personnel Administration
Pol 63—Public Financial Administration

Spread requirement: at least 15 credits in the following courses:

Pol 58—Governmental Accounting	Pol 73—City and County Planning
Pol 61—Municipal Law and Administration	Pol 76—Business and Government
Pol 64—Employee Training Techniques	Pol 77—Administrative Regulation
Pol 66—Practice of Public Administration	Pol 78—Administrative Responsibility
Pol 67—Administrative Analysis	Jour 78—Public Relations
Pol 68—Administrative Communication	BA 5—Elements of Statistics
Pol 69—Problems in Tax Administration	

Concentration requirement: at least 15 credits in 1 of the following fields or in any approved combination thereof to make a minimum of 45 credits for the certificate:

Accounting	Nursing Education
Child Development and Welfare	Political Science
Economics and Business	Psychology
Finance	Recreation Leadership
Engineering	Social Work
Industrial Relations	Sociology
Insurance	Transportation

Secretarial Certificate

The Secretarial Certificate is awarded to those who, in addition to the necessary skills and experience in typewriting and shorthand, have completed a selection of courses appropriate to a background in business administration, such as needed for qualifying for Certified Professional Secretary examinations. Candidates for the certificate must take a test in transcription under the supervision of the secretarial faculty in the School of Business Administration.

(45 credits)

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

Core requirement:

Review of Business English and Business Correspondence; or Comp 58, Business Reports and Letters	BA 58, 88—Business Law
Econ 1-2—Principles of Economics	BA 79A-79B—Administrative Secretarial Studies
BA 24-25—Principles of Accounting	BA 99—Survey of Office Management
BA 36—Office Procedures	Psy 1-2—General Psychology

Electives: additional courses selected from the following or other approved courses to make a minimum of 45 credits.

Communication in Management	BA 53—Insurance Principles
BA 5—Elements of Statistics	Econ 67—Money and Banking
BA 26—Principles of Accounting	BA 78, 98—Business Law

Industrial Relations Certificate

This program of study is arranged and co-ordinated by the Industrial Relations Center of the University. 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.

(46 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 industrial relations courses at the University of Minnesota.

Core requirement:

Econ 1-2—Principles of Economics
BA 52—Modern Industrial Relations: Labor Marketing
BA 72—Modern Industrial Relations: Manpower Management
Econ 172—Public Policy: Labor Relations
Econ 182—Economic Security
Psy 1-2—General Psychology
Psy 4-5—Introductory Laboratory Psychology
Psy 122-123—Vocational and Personnel Psychology

One course from the following:
Survey of Current Problems in Industrial Relations
BA 182B—Intermediate Manpower Management
BA 262-272-282—Graduate Topics in Industrial Relations
One course from the following:
BA 142—Settlement of Industrial Relations Disputes
Econ 152—Labor Movements
Econ 162—Union Government and Policies

Electives (any two courses from the following):

BA 50—Production Management
BA 99—Survey of Office Management
Pol 64—Employee Training Techniques
Pol 68—Administrative Communication
Psy 125-126—Psychology of Individual Differences
Psy 144-145—Abnormal Psychology
Soc 120—Social Psychology
Soc 146—Industrial and Occupational Sociology

Supervision I, II, III
Economics of Collective Bargaining
Problems of Union Administration
Personnel Methods
Human Relations
Methods Engineering
Work Measurement
Industrial Engineering and Management
Layout Engineering and Materials Handling Systems

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

Business Administration Certificates

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

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

Junior Business Administration Certificate

This certificate, requiring the satisfactory completion of 45 credits of course work, is the equivalent of 1 academic year of full-time study. It offers a firm grounding in most of the basic fields of business administration, while still allowing a reasonable emphasis on the subject area in which the student is currently interested. 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.

(45 credits)

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

Core requirement:

Review of Business English; or Business Correspondence; or Engl 1B; or Comm 1; or exemption	BA 5—Elements of Statistics
Econ 1-2—Principles of Economics	BA 24-25-26—Principles of Accounting
	BA 58—Business Law

Spread requirement (9 credits): at least one 3-credit course in 3 of the following 5 fields, in addition to credits earned under core requirement:

1. Industrial Management
2. Distribution: Marketing, Transportation
3. Economics, Business Finance, Statistics
4. Industrial Relations
5. Business Law

Concentration requirement: at least 9 credits in 1 of the following fields, in addition to credits earned under core and spread requirements:

Accounting	Insurance
Economics, Business Finance, Statistics	Marketing
Industrial Management	Real Estate
Industrial Relations	Transportation

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

Evening and Special Classes

Senior Business Administration Certificate

The Senior Business Administration Certificate is a continuation of the Junior Certificate: expanding the core, spread, and concentration requirements to provide a broader base of general knowledge and a greater 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.

(90 credits)

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

Core requirement:

Business English (6 cr); or Engl 1B-2B-3B;
or Comm 1-2-3; or exemption
Econ 1-2—Principles of Economics
BA 5—Elements of Statistics

BA 24-25-26—Principles of Accounting
BA 58—Business Law
Econ 67—Money and Banking

Spread requirement: at least 12 credits from the following courses:

BA 50—Production Management
(or) BA 99—Survey of Office Management
BA 52—Modern Industrial Relations: Labor
Marketing
BA 54—Transportation I; Principles
BA 56—Corporation Finance

BA 57—Principles of Marketing
Econ 65, 66—Intermediate Economic Analysis
Econ 68—Elements of Public Finance
Econ 69—Government Regulation of Business
BA 78 or 88—Business Law (not both)

Concentration requirement: at least 18 additional credits in 1 or 2 of the following fields, in addition to credits earned under core and spread requirement:

Accounting
Economics, Business Finance, Statistics, Insurance
Industrial Management, Industrial Relations
Marketing
Real Estate
Transportation

Electives: additional courses approved by the Committee on Student Scholastic Standing to make a minimum of 90 credits for the certificate. Some courses in the liberal arts field are recommended as electives.

Accounting Certificates

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.

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.

Junior Accounting Certificate

(45 credits)

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

Requirements:

Engl 1B-2B-3B—Freshman English
Econ 1-2—Principles of Economics
BA 56—Corporation Finance

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

Senior Accounting Certificate

(90 credits)

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

Requirements:

Engl A-B-C, or 1A-2A-3A, or 1B-2B-3B, or
Comm 1-2-3
Comp 27—Advanced Writing
ITM 11-12—College Algebra and Trigonometry I-II
BA 24-25-26—Principles of Accounting
BA 105A-B-C—Intermediate Accounting
BA 115A-B—Cost Accounting
Four additional accounting courses numbered
above 100
BA 56—Corporation Finance
Econ 1-2—Principles of Economics
BA 5—Elements of Statistics
BA 51—Business Statistics
BA 58—Business Law

BA 78-88—Business Law, or approved substitutions in Industrial Management or Industrial Engineering
Two courses from the following:
BA 50—Production Management
BA 52—Industrial Relations
BA 53—Insurance
BA 54—Transportation
BA 57—Marketing
Econ 65—Intermediate Economic Analysis
Econ 66—Intermediate Economic Analysis
Econ 67—Money and Banking
Econ 68—Public Finance
Econ 69—Government Regulation of Business

Management of Administrative Services Certificates

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

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.

Evening and Special Classes

Junior Management of Administrative Services Certificate

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

(45 credits)

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

Core requirement:

Review of Business English; or Business Correspondence; or Engl 1B; or Comm 1; or exemption

Econ 1-2—Principles of Economics
BA 5—Business Statistics

BA 24-25-26—Principles of Accounting
BA 58—Business Law
BA 99—Survey of Office Management
Psy 1-2—General Psychology

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

Senior Management of Administrative Services Certificate

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

(90 credits)

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

Core requirement:

Review of Business English and Business Correspondence; or Engl 1B-2B-3B; or Comm 1-2-3; or exemption

Econ 1-2—Principles of Economics
BA 5—Business Statistics
BA 24-25-26—Principles of Accounting

BA 52—Modern Industrial Relations: Labor Marketing
BA 58—Business Law
BA 99—Survey of Office Management
Psy 1-2—General Psychology
Comp 58—Business Reports and Letters (or) Communication in Management

Group requirements:

Group I—at least three courses from the following:

BA 53—Insurance Principles
BA 54—Transportation I: Principles

BA 56—Corporation Finance
BA 57—Principles of Marketing

Group II—at least six courses from the following:

BA 55C—Managerial Costs
BA 55D—Analysis of Financial Statements
BA 70—History of Management Thought
BA 72—Modern Industrial Relations
BA 76—Finance Management
BA 80—Administrative Practices
BA 88—Business Law
BA 102—Human Relations in Industry
BA 110—Systems and Procedures Analysis:
Work Measurement; or equivalent

BA 119—Office Management: Business Communications and Correspondence Control
BA 129—Office Management: Records Administration
BA 139—Office Management: Analysis of Office Functions
Psy 122-123—Vocational and Personnel Psychology

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

BA 87—Credits and Collections
BA 89B—Tabulating Equipment Applied to Business
Supervision I, II, III
Pol 64—Employee Training Techniques
Pol 68—Administrative Communication
Psy 156—Psychology of Advertising

Industrial Management and Relations
Insurance
Marketing
Office Management
Real Estate
Sales Management
Traffic
English
Humanities
Social Science
Speech

Accounting
Business Finance
Economics

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

It is recognized that many capable students would like to complete an engineering degree. Such students should plan to complete the Senior Engineering Science Certificate and apply for admission to the Institute of Technology. Beginning in the fall, 1960, the Department of Evening and Special Classes will start one third-year Upper Division class sequence each in the fields of electrical engineering and industrial engineering, respectively. It is hoped that such a class sequence will also be started in mechanical engineering in the near future. However, it must be remembered that most engineering curriculums are 5 years in length on a full-time basis. It is unlikely that it will be possible to complete any degree program entirely in the evening for some time to come.

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

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

Basic Engineering Science Certificate

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

Students who complete the Basic Engineering Science Certificate may plan to continue in either the Senior Engineering Science Certificate, or 1 of the 4 senior Engineering Technician Certificate programs, which are offered in the evening. Qualified students are urged to make application for admission to the Institute of Technology and, if possible, enroll in day school and work toward a degree in engineering.

The requirements for the Basic Engineering Science Certificate program are listed below. No electives or substitutions are permitted in this program, nor will any prerequisite be waived. Credits earned in correspondence study or day school applicable to this program can be transferred. Transcripts of credits earned at other institutions of higher learning will be evaluated by the Advanced Standing office of the University of Minnesota. Transfer of approved credits not to exceed 75 per cent will be permitted. Certificates are awarded to students who complete with a minimum C average the prescribed program of study.

Prerequisite: high school graduate or equivalent, higher algebra, solid geometry, satisfactory completion of the English Placement Test and the Placement Examination in High School Algebra.

(52 credits)

ITM 11—College Algebra and Trigonometry I
ITM 12—College Algebra and Trigonometry II
ITM 13A—Calculus I: Analytic Geometry and
Calculus

EG 14-15-16—Engineering Graphics
Phys 11-12-13—General Physics
GE 70—The Slide Rule
Engl 1B-2B-3B—Freshman English

Senior 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 the social-humanistic area (nontechnical electives) is also required throughout the entire engineering program. This is intended to broaden viewpoints and to add perspective.

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

The requirements for the Senior Engineering Science Certificate program are listed below. No substitutions are permitted in this program, nor will any prerequisite be waived. Credits earned in correspondence study or day school applicable to this program can be transferred. Transcripts of credits earned at other institutions of higher learning will be evaluated by the Advanced Standing office of the University of Minnesota. Transfer of approved credits not to exceed 75 per cent will be permitted. Certificates are awarded to students who complete with a minimum C average the prescribed program of study.

Prerequisite: completion of Basic Engineering Science Certificate.

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

Core requirement:

- | | |
|--|--|
| ITM 24A—Calculus II: Analytic Geometry and Calculus
ITM 25A—Calculus III: Analytic Geometry and Calculus
ITM 26A—Calculus IV: Analytic Geometry and Calculus | MM 27—Rigid-Body Mechanics I
Phys 14—Intermediate Physics
Phys 14A—Intermediate Physics Laboratory
Phys 50—Intermediate General Physics
Phys 50A—Intermediate Physics Laboratory
InCh 4-5—General Inorganic Chemistry |
|--|--|

Spread requirement: a minimum of 6 credits from the following courses:

- | | |
|--|---|
| ITM 90—Elementary Engineering Statistics
MM 28—Rigid-Body Mechanics II
MM 40—Deformable-Body Mechanics I | MM 41—Deformable-Body Mechanics II
InCh 11—Semimicro Qualitative Analysis
OrCh 61-62—Elementary Organic Chemistry |
|--|---|

Electives: additional courses from the *social-humanistic area*†† (IT nontechnical required courses), or engineering Engl 85-86, or additional courses from the spread requirement to make a minimum of 102 credits, including those from the Basic Certificate.

†† Institute of Technology nontechnical required courses in the social-humanistic area may be chosen from the following: Bot 1-2-3; Psy 1-2, 155; Biol 1-2-3; Econ 1-2, 172; BA 52; Pol 1-2, or 5, or A-B, 25; Soc 1-2, 14 or 104; SSci 1-2-3; Hum 51, 52, 53 or 21, 22, 23, or 71, 72, 73; Hist 20, 21, 22 or 79, 80, 81; Philosophy; Engl 37, 38, 39; Foreign Language, except scientific language courses; Religion.

Senior Civil Engineering Technician Certificate

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

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

The requirements for the Senior Civil Engineering Technician Certificate program are listed below. No substitutions are permitted in this program. Credits earned in correspondence study or day school applicable to this program can be transferred. Transcripts of credits earned at other institutions of higher learning will be evaluated by the Advanced Standing office of the University of Minnesota. Transfer of approved credits not to exceed 75 per cent will be permitted. Certificates are awarded to students who complete with a minimum C average the prescribed program of study.

Prerequisite: completion of Basic Engineering Science Certificate.

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

Core requirement:

ITM 24A—Calculus and Calculus	II: Analytic Geometry	MM 27—Rigid-Body Mechanics I
ITM 25A—Calculus and Calculus	III: Analytic Geometry	Engl 85—Advanced Technical Communication
		CE 18-19—Surveying
		MM 40—Deformable-Body Mechanics I

Concentration option: a student may select one of the following concentration sequences.

No electives or substitutions permitted once a concentration has been selected.

Hydraulics

Hydr 103—Fluid Mechanics
CE 160—Applied Hydraulics
CE 161—Hydrology

CE 130—Statically Indeterminate Structures
CE 131—Structural Analysis
CE 132—Structural Design

Structural

CE 31-32-33—Elementary Structural Analysis and Design

Highways and Pavements

CE 20—Surveying
CE 141—Reinforced Concrete
CE 142—Reinforced Concrete Design
CE 144—Prestressed Reinforced Concrete

Electives: additional courses from the *social-humanistic area*†† (IT nontechnical required courses) to make a minimum of 102 credits, including those from the Basic Certificate.

†† Institute of Technology nontechnical required courses in the social-humanistic area may be chosen from the following: Bot 1-2-3; Psy 1-2, 155; Biol 1-2-3; Econ 1-2, 172; BA 52; Pol 1-2, or 5, or A-B, 25; Soc 1-2, 14 or 104; SSci 1-2-3; Hum 51, 52, 53 or 21, 22, 23, or 71, 72, 73; Hist 20, 21, 22 or 79, 80, 81; Philosophy; Engl 37, 38, 39; Foreign Language, except scientific language courses; Religion.

Senior Electrical Engineering Technician Certificate

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

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

The requirements for the Senior Electrical Engineering Technician Certificate program are listed below. No substitutions are permitted in this program. Credits earned in correspondence study or day school applicable to this program can be transferred. Transcripts of credits earned at other institutions of higher learning will be evaluated by the Advanced Standing office of the University of Minnesota. Transfer of approved credits not to exceed 75 per cent will be permitted. Certificates are awarded to students who complete with a minimum C average the prescribed program of study.

Prerequisite: completion of Basic Engineering Science Certificate.

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

Core requirement:

ITM 24A—Calculus II: Analytic Geometry and Calculus ITM 25A—Calculus III: Analytic Geometry and Calculus MM 27—Rigid-Body Mechanics I MM 28—Rigid-Body Mechanics II	Elements of Electric Circuits Elements of Electric Machines and Control Systems Elements of Electronics I-II Engl 85—Advanced Technical Communication Phys 14—Intermediate Physics Phys 14A—Intermediate Physics Laboratory
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Electives: additional courses from the *social-humanistic area*†† (IT nontechnical required courses) to make a minimum of 102 credits, including those from the Basic Certificate.

†† Institute of Technology nontechnical required courses in the social-humanistic area may be chosen from the following: Bot 1-2-3; Psy 1-2, 155; Biol 1-2-3; Econ 1-2, 172; BA 52; Pol 1-2, or 5, or A-B, 25; Soc 1-2, 14 or 104; SSci 1-2-3; Hum 51, 52, 53 or 21, 22, 23, or 71, 72, 73; Hist 20, 21, 22 or 79, 80, 81; Philosophy; Engl 37, 38, 39; Foreign Language, except scientific language courses; Religion.

Senior Industrial Engineering Technician 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. Credits earned in correspondence study or day school applicable to this program can be transferred. Transcripts of credits earned at other institutions of higher learning will be evaluated by the Advanced Standing office of the University of Minnesota. Transfer of approved credits not to exceed 75 per cent will be permitted. Certificates are awarded to students who complete with a minimum C average the prescribed program of study.

Prerequisite: completion of Basic Engineering Science Certificate.

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

Core requirement:

ITM 24A—Calculus II: Analytic Geometry and Calculus

ITM 25A—Calculus III: Analytic Geometry and Calculus

MM 27—Rigid-Body Mechanics I

MM 40—Deformable-Body Mechanics I

Engl 85—Advanced Technical Communication

IE 50—Elements of Industrial Engineering and Management

ITM 90—Elementary Engineering Statistics

Concentration requirement: select at least 5 courses from the following industrial engineering courses:

Methods Engineering

Work Measurement

Inventory and Production Control

Statistical Quality Control

Manufacturing Cost Analysis

Introduction to Operations Analysis

Layout Engineering and Materials Handling

Process Engineering

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

Industrial Engineering

Mechanical Engineering

Electrical Engineering

Mathematics

Psy 1-2

Supervision I, II, or III

Econ 1-2

BA 52—Modern Industrial Relations: Labor Marketing

BA 72—Modern Industrial Relations: Manpower Management

Senior Mechanical Engineering Technician Certificate

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

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

The requirements for the Senior Mechanical Engineering Technician program are listed below. No substitutions are permitted in this program. Credits earned in correspondence study or day school applicable to this program can be transferred. Transcripts of credits earned at other institutions of higher learning will be evaluated by the Advanced Standing office of the University of Minnesota. Transfer of approved credits not to exceed 75 per cent will be permitted. Certificates are awarded to students who complete with a minimum C average the prescribed program of study.

Prerequisite: completion of Basic Engineering Science Certificate.

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

Core requirement:

ITM 24A—Calculus II: Analytic Geometry and Calculus
 ITM 25A—Calculus III: Analytic Geometry and Calculus
 EG 21—Applied Graphics: Mechanical Engineering

MM 27—Rigid-Body Mechanics I
 MM 40—Deformable-Body Mechanics I
 Engl 85—Advanced Technical Communication Instrumentation and Automatic Control
 Energy Utilization and Transfer
 Kinematics of Machinery I-II

Electives: at least one class from the list of courses below and additional courses from the *social-humanistic area*†† (IT nontechnical required courses) to make a minimum of 102 credits, including those from the Basic Certificate.

Machine Design I-II
 Refrigeration and Air Conditioning I-II

Servomechanisms
 Tool Design

†† Institute of Technology nontechnical required courses in the social-humanistic area may be chosen from the following: Bot 1-2-3; Psy 1-2, 155; Biol 1-2-3; Econ 1-2, 172; BA 52; Pol 1-2, or 5, or A-B, 25; Soc 1-2, 14 or 104; SSci 1-2-3; Hum 51, 52, 53 or 21, 22, 23, or 71, 72, 73; Hist 20, 21, 22 or 79, 80, 81; Philosophy; Engl 37, 38, 39; Foreign Language, except scientific language courses; Religion.

II. UNIVERSITY DEGREE PROGRAMS

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

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

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

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

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

Bulletins of the various colleges of the University can be obtained by telephoning FEederal 2-8158, Extension 6281, and asking for the Service Bureau.

Associate in Liberal Arts (A.L.A.) — 12 107

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 Science, Literature, and the Arts. Students find this degree desirable as an evidence of liberal arts achievement if they are transferring to a professional school. Extension students may be especially interested in the A.L.A. degree, since the Bachelor's degree programs take twice as long to complete through extension; the A.L.A. may be looked upon as a half-way point to the B.A. degree or to one of the business degrees. A student wishing to complete the A.L.A. degree through extension should talk with a member of the Extension Committee on Student Scholastic Standing as soon as he has made this decision.

Requirements for the A.L.A. degree are based on the Course Requirements for Admission to the Upper Division of S.L.A. From that list, these distribution requirements must be met: English (A), and at least 3 of the other 4—Foreign Language (B), Social Science (C), Natural Science (D), and Humanities (E). The student must complete 90 credits, at least 45 of which must be earned following admission to the College of Science, Literature, and the Arts. This constitutes the college residence requirement.

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

Bachelor of Arts (B.A.)

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

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

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

Evening and Special Classes

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

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

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

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

C. Social Science: At least 15 credits in 2 or more of the following departments. At least 5 credits must be offered in a department to count.

- | | |
|---|---|
| 1. Anthropology | 5. Political Science |
| 2. Economics and Business Administration (in B.A., only 1 and 5 accepted) | 6. Psychology |
| 3. Geography | 7. Sociology |
| 4. History | 8. Social Science (Interdepartmental Courses) |

D. Natural Science: At least 15 credits (of which a minimum of 8 must include laboratory††) from 2 or more of the following groups. At least 5 credits must be offered in a department to count.

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

E. Humanities: At least 15 credits from 2 or more of the following categories. At least 5 credits must be offered from 1 category to count.

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

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

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

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

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

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

†† Introductory natural science courses which count toward the laboratory requirement are: Biol 1-2-3; Bot 1-2-3; InCh 4-5, 24-25; Geol 1 with A, 2 with B, 8 with A, 23-24-25; NSci 4-5-6, 7-8-9; Phys 1-2-3 with 1A-2A-3A, 4-5-6, 7-8-9, 12-13; Psy 1-2 with 4-5; Zool 1-2-3, 14-15. Non-laboratory courses include Ast 11, 20; Bot 10, 12, 14; Geol 1, 2, 8; Math 6, T, 7, 10, 15-16, 40; NSci 1-2-3; Phys 1-2-3, 11; Psy 1-2.

Candidates for the B.S.B. degree complete a minimum of 180 credits. The first 90 credits may be taken in the College of Science, Literature, and the Arts, or the Institute of Agriculture, or the Institute of Technology, of the University of Minnesota, or in some other accredited college or university offering a comparable program. The final 90 credits are taken in the School of Business Administration. Listed here is the prebusiness program for the S.L.A. College. Other programs are found in the *Bulletin of the School of Business Administration*, a copy of which is essential for the B.S.B. degree student. In addition, a copy of *Procedures for Obtaining the Bachelor of Science in Business Degree Through Extension* should be obtained from the Extension office.

Prebusiness Course Requirements in S.L.A. for B.S.B. Degree

1. **Business and Economics:** BA 1, Business and the American Economy; BA 5, Elements of Statistics; BA 24-25-26, Principles of Accounting; Econ 1-2, Principles of Economics.
2. **Freshman English:** Engl A-B-C; or Engl 1A-2A-3A; or Engl 1B-2B-3B; or Comm 1-2-3; or GC 31A, 31B, and 31C or 31D (with required score); or exemption.
3. **Mathematics:** Math 10 or equivalent (college algebra level).
4. **Social Sciences:** 15 credits^{††} in 2 or more of the following departments (at least 5 credits taken in a department to count): anthropology, geography, history, political science, psychology, sociology (except Soc 45). SSci 1-2-3 and 5 credits in 1 of the above departments will satisfy this requirement.
5. **Natural Sciences:** 8 credits in 1 of the following 2 groups:
 - a. Biological sciences: biology, botany, zoology;
 - b. Physical sciences: chemistry, physics, NSci 4-5-6 (Physical World).All courses must include laboratory to meet this requirement.
6. **Humanities:** 9 to 15 credits^{††} in 2 or more of the following departments (at least 5 credits taken in a department to count): art, English literature, foreign literature, history, humanities, music, philosophy, speech and theater arts (except Spch 3, 6, 9 and 39), 1 foreign language.
7. **Electives:** Sufficient to complete the minimum of 90 credits required for admission.
8. **Note:** Students planning to enter the accounting program are required to complete the following courses in addition to those specifically listed above: Comp 27, Math 40 or equivalent.

Candidates for the B.S.E. degree complete a minimum of 180 credits, of which the first 90 are taken in the Lower Division of the College of Science, Literature, and the Arts, or another accredited college or university, and the final 90 in the School of Business Administration. Listed here is the Lower Division program. The Upper Division economics major, which is available through evening classes, is found in the *Bulletin of the School of Business Administration*, a copy of which is essential for the B.S.E. degree student. In addition, a copy of *Procedures for Obtaining the Bachelor of Science in Economics Degree Through Extension* should be obtained from the Extension office.

Lower Division Course Requirements for B.S.E. Degree

1. **Freshman English:** Engl A-B-C; or Engl 1A-2A-3A; or Engl 1B-2B-3B; or Comm 1-2-3; or exemption.
2. **Mathematics:** *Economics major*—10 credits, including Math 10 or equivalent (college algebra level). *Statistics major*—mathematics through Math 40 or equivalent (analytic geometry level).
3. **Political Science or History:** 9 credits.
4. **Philosophy:** Phil 1 or 2.
5. **Economics:** Econ 1-2, Principles of Economics; BA 5, Elements of Statistics.
6. **Additional Requirements:** *Economics major only*—10 credits additional mathematics or laboratory science; *Statistics major only*—BA 24-25-26, Principles of Accounting.
7. **Electives:** Additional credits to make a total of 90.

^{††} If courses in history are used to satisfy the requirements in one area, courses from the same department may not be used to satisfy the requirements in a second area. Courses in Interdepartmental Courses and General Education (humanities, natural science, and social science) may be used to satisfy requirements in only 1 of the 3 areas: 4, 5, and 6.

Master of Business Administration (M.B.A.)

Beginning in September of 1960, the master of business administration degree is being offered during evening hours by the Graduate School, in conjunction with the Department of Business Administration and the General Extension Division of the University of Minnesota.

This program is designed to broaden the individual's knowledge and understanding in the areas necessary to prepare professional managers for leadership responsibilities in their respective organizations. It consists of two parts. The candidate's background and academic preparation will determine whether he must take Part I; all candidates must complete Part II.

Part I of the program is designed to prepare the person with a nonbusiness undergraduate degree for advanced training in business administration. It has been developed expressly for the liberal arts, engineering, or similar nonbusiness undergraduate who desires to further his formal business education at the graduate level.

Part II of the program is designed for the candidate who holds a Bachelor's degree in business administration from the University of Minnesota or the equivalent degree from another institution.

Because of the maturity and experience of participants enrolled in both parts of the program, heavy reliance is placed on the case method and group conference techniques of instruction.

Participation in all or part of the program is open to any holder of a Bachelor's degree from a recognized college or university provided he has been admitted to the Graduate School of the University of Minnesota in accordance with Graduate School standards and policies. No transfer of graduate credit is permitted by the Graduate School. However, courses satisfactorily completed at other institutions may be used to meet some or all of the course requirements in Part I of the program.

Applications for admission will be considered individually by the Graduate Admissions Committee of the graduate faculty in the Department of Business Administration, which will recommend action by the Graduate School. Not only the individual's record in undergraduate studies, but also other evidence of administrative ability and academic promise will be taken into account.

The program is offered on an academic quarter basis. A student may take one or two 3-credit classes each quarter. Each class will meet 1 night per week.

Part I of the program is offered on Tuesday and Thursday evenings. Part II of the program is given on Monday and Wednesday evenings. Classes begin at 6:20 and conclude at 8:50.

A program administrator who is a member of the graduate faculty of the Department of Business Administration serves as program adviser and planner. He must approve the program of any student accepted for the M.B.A. degree.

Interested persons should write Co-ordinator for Curriculum Development, General Extension Division, 56 Nicholson Hall, University of Minnesota, Minneapolis 14, Minnesota, for a brochure describing this program in further detail. Kindly identify your company or employer. Application forms will also be furnished upon request.

III. INFORMATION) 12/2

GENERAL INFORMATION) 12/14/54

Admission Requirements) - 10/14/54

There are no entrance or residence requirements for admission into the General Extension Division; however, for registration in specific programs or classes there may be prerequisite courses or experience. See Prerequisites, page 28. Service veterans may register under Public Laws 550 and 894. See Special Information for Veterans and Members of the Armed Forces, page 34.

A student who has had university or college work any place and who intends to work on a degree or certificate program should submit a transcript of his record to the secretary of the Committee on Student Scholastic Standing. This must be done at least 3 weeks in advance of the opening of a registration period if the student wants help in planning a program. Obtain transcripts from the registrar of an institution previously attended. Korean veterans, see page 34 for special instructions.

Credits

The credits listed in the class descriptions are quarter credits. However, most evening classes are of semester length.

All credits are clearly labeled as to use: "degree credit" means that a course carrying such a designation may be used on a degree program at the University of Minnesota, provided certain other conditions are met; "certificate credit" means that the course so marked may be used in appropriate Extension certificate programs (certificate credits usually are not usable in teacher certification); "entrance credit" designates a course which can be used to meet University admission requirements; "no credit" means that no credit is given for the course indicated, although grades may be assigned; "special class" means that the class carries no credit and no grades will be assigned.

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

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

Transfer—Credits may sometimes be transferred from one college to another, or from another accredited institution to this University, but requests for such transfer are always ruled on individually and according to their merits; consult a member of the Committee on Student Scholastic Standing of the General Extension Division.

Established by Special Examination—A student who, by independent study or by experience, has gained knowledge which is equivalent to that covered by a particular

Evening and Special Classes

evening class may establish credit for such class by passing a special examination on the subject matter covered by the class, provided he is an Extension student at the time he takes the examination. A student may establish credit for work done at a non-accredited institution in the same way.

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

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

A student wishing to take a special examination should request a Special Examination Form at the campus office of the Extension Division. He will take the form to the department in which he expects to take the examination, where he will be advised as to the wisdom of his taking it. If it is determined that he should take an examination, he shall arrange the time for examining with the department concerned and pay a fee of \$5 to the General Extension Division. He may then take the examination.

Residence—Credits earned in undergraduate evening classes in Minneapolis, St. Paul, and Duluth are "residence" credits. They may be used to satisfy the residence requirements of the University of Minnesota. They do not, however, meet the residence requirements of individual colleges of the University, until a student who is working on a degree program is formally admitted to the college from which he expects to get a degree. See University Degree Programs, page 22.

Graduate—A graduate student may, upon the approval of his graduate adviser, petition the dean of the Graduate School to have transferred to his graduate record not more than 6 quarter credits under Plan A or 9 quarter credits under Plan B in courses numbered 100 and above. (Under Plan A for the Master's degree in certain fields of engineering, 9 credits taken in Extension may be allowed.) Such courses must be taught by regularly approved members of the graduate faculty (for this information, consult the chairman of the Committee on Student Scholastic Standing). A student registering for graduate credit must ask at the registration office for the appropriate special form at the time of registration. Petition to transfer is limited to credits earned in evening classes since September, 1943. Such transfer of credits will not give graduate residence credit.

For a special program of study leading to the master of business administration degree, see page 108 and page 109.

For special adjustments which are possible regarding graduate credit in the School of Social Work, consult the School of Social Work.

Prerequisites

Prerequisites are stated for information, not as obstacles. Some advanced evening classes are of such a nature that they cannot be carried through without certain previous study. Prerequisites, therefore, are listed for these classes. Students who have had a reasonable equivalent of study, training, or experience related to the course desired may be exempted from the prerequisites upon consultation with 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, or that the course does not meet your needs, your class card properly endorsed to this effect on the back, by the instructor, will permit you to transfer to another class or to cancel (see Cancellations and Refunds, page 33). A prerequisite course may not usually be taken for credit after the advanced course has been satisfactorily completed.

Grades

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

There is a permanent grade of F (failure), indicating noncompletion or unsatisfactory completion of a course. A student who cancels officially or drops out of a class and is failing at the time shall receive an F.

There is a temporary grade of I (incomplete), assigned when the instructor has insufficient information to permit a permanent grade. It indicates that some required work is unfinished or that the student, though officially registered, did not attend or left without officially canceling. The instructor shall turn in to the evening class office a "deficiency report" for each grade of I indicating: (1) the assignments required to remove the I; or (2) that the course must be repeated because of excessive absences. An I which is not turned into a permanent grade within 1 year from the time it is assigned shall become an F at such time as the student indicates his intention of applying his credits to a degree or certificate or other University of Minnesota program, or of transferring his credits to another institution. An extension of time may be permitted for removal of an I grade upon recommendation of the instructor concerned and approval of the Extension Scholastic Committee. If an extension of time is granted, a special examination fee of \$5 will be required.

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

There is a registration symbol W, indicating official cancellation without grade.

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

Grade Reports—Reports of students' grades are sent them by the University Office of Admissions and Records, and cannot be furnished by the Extension offices. Students are asked to allow a month's time from the close of a term for the record office to get grades to them. A student who needs a grade sooner than that may leave a self-addressed postcard with his instructor, who will mail it to him as soon as his grade is determined. Requests for complete transcripts of records may be made by telephoning the University, Federal 2-8158, and asking for the Transcripts Department.

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

For Extension certificates, grade points are used usually only to ascertain whether a student has the required C average; they are not used to reduce the number of credits required for a certificate except upon special action of the Committee on Student Scholastic Standing. Students in evening classes who are seeking degrees should consult the bulletin of the college in which the degree is sought regarding the status of grade points in that college.

Probation

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

Evening and Special Classes

Auditors

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

These regulations apply to all classes listed in this bulletin.

Committee on Student Scholastic Standing

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

Special Classes and Short Courses

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

Correspondence Study Courses

A large selection of correspondence study courses is available. Much of the work required for Extension certificates and for some University degrees may be earned through correspondence study. Bulletins are available from any Extension office or from Director, Correspondence Study Department, 254 Nicholson Hall, University of Minnesota, Minneapolis 14.

REGISTRATION REGULATIONS AND FEES

The following regulations apply to veteran as well as nonveteran students, unless otherwise indicated. In addition, all service veterans and military personnel should read the Special Information for Veterans and Members of the Armed Forces section starting on page 34.

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

Business firms may register their employees in evening classes by special arrangement with the General Extension Division. Instructions for such an arrangement are available from any Extension office.

10- (How to Use This Bulletin for Registering

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

The first line or two of the listing gives the department abbreviation, the class number, if any, the title of the class, the number of credits and the kind of credit, and the tuition per term (semester, quarter, or special), plus special fees, if any. With a very few exceptions, all arabic-numbered listings are degree credit classes and are the same as those of corresponding day classes or have been approved for evening class use by the department concerned. Other classes are indicated as for certificate credit; any of these classes may be applicable toward an appropriate Extension certificate (see Credits, page 27).

The description of the course content follows. Such regulations as prerequisites, class size limitations, number of meetings, etc., will be found in the parenthetical statement following the course description. (See Prerequisites, page 28.)

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

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

Symbols

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

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

Registration Periods

All registrations should be made and fees paid during the official registration period preceding the opening of a term. Late registration may be permitted through the first week of a quarter or special term, and through the first 2 weeks of a semester, subject to regulations and fees as indicated. (See Late Registrations and Additions, page 32.)

Present or Former University Day-School Students

A student who is regularly registered for day class work in any unit of the University may register for Extension classes only with the permission of the college office where he is basically enrolled. Ask for appropriate form at registration office.

Evening and Special Classes

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

Work Load

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

Tuition and Fees

The tuition for each class is designated in the listing of the class in this bulletin. Special fees, such as laboratory and materials fees, may be added to the tuition for some courses. Fees do not cover books.

The full amount of the tuition and other special fees is payable at the time of registration. No arrangements for partial payment can be made. Checks or money orders must be drawn for the exact amount due and made payable to the University of Minnesota. Students in need of special financial assistance see Extension Student Loan Fund, page 37.

A student is not registered until his fees are paid.

Late Registrations and Additions

All registrations, whether initial or added, received after the close of the registration period, will be considered late registrations and will be subject to the late fee. Late fees are assessed as follows: Semester classes—through the first week following the close of the registration period, the late fee will be \$3; through the second week, \$4. Fall Quarter and Fall Special Term classes—through the first week following the close of the registration period, \$3; no registrations accepted beyond that time. Winter and Spring Quarter and Special Term classes—no late fee during the first week of classes; no registrations accepted beyond that time.

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

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

There are no exceptions to payment of late fees.

Transfers

Students may transfer without penalty through the first week of classes; there will be a fee of \$3 for transferring through the second week. However, transferring *into* Quarter or Special Term classes is not permitted after the first week of the term.

See also regulations concerning Limited Classes, below.

Limited Classes

In order to supply the instruction or equipment needed in certain courses, some evening classes are limited to a specific number of students.

Registration in limited classes is subject to the following conditions:

1. Registration must be made individually, in person, at any Extension office.

2. No refunds or transfers may be made after the close of the registration period, except for reasons beyond the control of the student, in which case the student must petition on a special form provided for that purpose. No refunds will be considered after the third week of a Quarter or Special Term class or the fourth week of a Semester class. If a refund is made, a registration fee of \$3 will be retained.

Cancellations and Refunds

For limited class regulations, see above.

Cancellation of registrations must be made in writing or in person at any Extension office. No cancellations will be accepted by telephone. *No instructor is authorized to accept cancellation of any registration.* The effective date of cancellation will be the day on which the cancellation is received in any Extension office, regardless of date of last attendance.

In case of cancellation before the opening date of each semester, quarter, or special term, a registration fee of \$3 will be retained, regardless of the amount of tuition.

No cancellation will be accepted during the final 2 weeks of any term.

Full refunds of all tuition and special fees will be made only under special circumstances, as follows:

1. When a class is canceled by the Extension Division.
2. When the hour, day, or location of the class is changed by the Extension Division, after a student has registered in it.
3. When, *in the opinion of the instructor*, the student does not have the necessary prerequisites or the class does not meet the student's needs. In this case, the student should:
 - 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 the fee statement and application for cancellation, at any Extension Office before the end of the second week of the term.

Partial refunds of tuition and special fees will be made as follows (privilege fees for late registration, additions, and transfers are not refundable):

Cancellation received	Refund Granted	
	Semester Class	Quarter Class
First week	75%	75%
Second week	75%	50%
Third week	50%	25%
After the third week		No refund
Fourth week	25%	
After the fourth week	No refund	

If, for reasons completely beyond his control, a student must cancel after the opening date of a term, he may petition the Committee on Student Scholastic Standing for a full refund of tuition and special fees, except the registration fee of \$3. No such petition will be accepted after the fourth week of the term.

A student who drops out of a class at any time during a term is urged to cancel officially, whether or not a refund is granted. If he drops out of class without officially canceling, he will receive an I (incomplete), which becomes an F within a year. The section on Grades, page 29, explains the I more fully.

Veterans and military personnel cannot cancel classes without permission of the Extension Veterans Office. Please refer to the section on Special Information for Veterans and Members of the Armed Forces.

SPECIAL INFORMATION FOR VETERANS AND MEMBERS OF THE ARMED FORCES

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

Military Personnel

All branches of the Armed Services now provide Off-Duty Academic Instruction or Tuition Assistance Programs for military personnel on active duty. There are no application forms necessary for admission to the Evening and Special Classes Division. Under these programs, eligible military personnel may be entitled to payment of \$5 per quarter credit hour for approved classes. (All classes in this bulletin are quarter credit whether designated quarter or semester length.) The remaining tuition and all fees must be paid by military personnel. Interested members of the Armed Services are urged to contact the educational officer or commanding officer of their Command for proper authorization to participate in these programs. Written authorization designating classes and amount of tuition to be paid by Army, Navy, Air Force, or Marine Corps should be presented at time of registration, at which time payment of remainder of tuition and fees must be made. Military Personnel who do not have the necessary authorization at the time of registration will be required to pay in full for their registration. When the government authorization is received, a refund for the authorized amount will be made. Registration must be made in person at the Veterans Office, 56 Nicholson Hall, Minneapolis Campus, FEderal 8-8791.

World War II Veterans

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

State of Minnesota Department of Veterans Affairs

World War II and Korean veterans, previously approved for tuition aid under State of Minnesota Department of Veterans Affairs, may continue their education through the fall of 1960 subject to availability of funds. No new applications will be accepted until and unless the State Legislature makes funds available for 1961.

Korean War Veterans

A veteran who wishes to initiate his educational training, resume his educational training, or make changes in his educational training program under Public Law 550 is urged to keep the following information in mind: (a) A veteran initiating his training for the first time must be actually enrolled in and attending classes on or before his delimiting date, which date is 3 years from his date of separation from active duty. The Veterans Administration makes no exception to this rule. The mere registration for classes does not constitute initiation of a training program. (b) A veteran can interrupt his educational program for a period not to exceed 12 calendar months from the date of interruption. For veterans who interrupt their training before their "delimiting date" the allowable 12 months interruption is counted from the delimiting date. If and when the 12 months period ends during a vacation, recess or other period where it is not

possible to re-enter school, the period may be extended to the first quarter, semester or term thereafter without Veterans Administration approval. (c) Any veteran who has initiated his educational training and then decides that he would like to change his objective can do so without restriction if the change is requested and the new program initiated prior to his delimiting date. However, if he has not used his one change in objective, a new educational objective may be approved after his delimiting date provided it involves no material loss of time or credit. The Veterans Office, 56 Nicholson Hall, should be consulted regarding such a proposed change in objective.

Registrations—All registrations by veterans must be made in person at the Veterans Office, 56 Nicholson Hall, Minneapolis Campus, FEderal 8-8791. No Korean veteran registration can be accepted at either the St. Paul or Minneapolis Extension offices. Consult the Registration section of this bulletin for exact dates.

Original Certificate for Educational Training—A veteran who has not applied previously for educational training under Public Law 550 should contact the Veterans Office, General Extension Division, 56 Nicholson Hall, for all information regarding his application, objective, and registration at the University of Minnesota.

A Certificate for Education and Training filed with the General Extension Division can be used by the veteran until his educational objective has been reached or his entitlement exhausted, provided he does not attend any other educational institution.

Supplemental Certificate for Educational Training—The veteran who has previously used his educational benefits under P.L. 550 at some institution of higher learning other than the University of Minnesota is urged to contact the Veterans Office of General Extension Division for help in completing his application for additional training (VA Form 7-1995).

Korean Veterans Previously Enrolled in the University of Minnesota—Veterans previously enrolled at the University of Minnesota who wish to pursue the same objective may enroll in correspondence courses, evening or day time classes on the Minneapolis or St. Paul campuses or at UMD without penalty and without filing VA Form 7-1995 upon presentation of U of M Form A19a at time of registration. This form can be secured from the Veterans Office, within the University of Minnesota, which accepted your last registration under P.L. 550.

Educational Requirements—There are no special entrance or residence requirements for Korean veterans. See Admission Requirements, page 27. However, all veterans previously enrolled in day school, University of Minnesota, must present a transcript of credits at time of registration. Veterans from other institutions of higher learning should present a transcript of credits for evaluation at least 1 month before registration. Contact Veterans Office, 56 Nicholson Hall, FEderal 8-8791 for instructions.

Tuition and Fees—A veteran must pay personally at the time of registration the full amount of the tuition and other special fees for evening classes. This money will be refunded to the veteran by the Veterans Administration if the enrollment is for less than ½-time work load. If the enrollment is for more than a ½-time work load an educational allowance will be paid to the veteran. (See following chart, also Monthly Certifications section.)

The Veterans Administration will not refund the cost of books and supplies.

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

Evening and Special Classes

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

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

	Semester Classes (Minimum Credits)	Quarter Classes (Minimum Credits)	Educational Allowance		
			Single	One De- pendent	Two De- pendents
Full Work Load	21	14	\$110	\$135	\$160
$\frac{3}{4}$ Work Load	15	10	80	100	120
$\frac{1}{2}$ Work Load	10½	7	50	60	80

Tuition Refund by the Veterans Administration—When a veteran enrolls in correspondence courses or for less than a ½-time credit or credit equivalent work load in either evening or day time classes, he will be refunded tuition and fees only. These refunds will be prorated monthly on the basis of monthly certifications (see paragraphs on Monthly Certifications).

Satisfactory Completion of Classes—A veteran must complete all classes in which he is enrolled and maintain a minimum grade average of C. (See Delinquent Attendance, below.)

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

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

Veterans are strongly advised to remember that signing monthly certifications is not a mere perfunctory act. Since all monies paid a Korean veteran by the Veterans Administration are based on said monthly certification, a veteran is making a legal affidavit that he is still in attendance and completing assignments in all classes in which originally enrolled unless there has been an official cancellation submitted to the Veterans Office, 56 Nicholson Hall.

Cancellations, Transfers, and Additions

Cancellation of any class, or transfer from or addition to an initial registration, must be made in person on official forms at the Veterans Office, 56 Nicholson Hall. *No instructor is authorized to accept cancellations.*

Counseling

The Veterans Office, 56 Nicholson Hall, Minneapolis Campus, FEederal 8-8791, should be consulted on all problems related to Veterans Administration authorizations

for educational training, transfers, interruptions, or cancellations, as well as Extension Division registration procedures.

SPECIAL SERVICES FOR STUDENTS

Program Advising and Personal Counseling

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

Appointments for the testing and counseling services of the University Student Counseling Bureau may also be arranged through the Committee on Student Scholastic Standing. The Counseling Bureau's fee for regularly enrolled evening students is \$10.

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

There will be special meetings arranged at the beginning of each semester registration for students who may be candidates for degrees in the College of Science, Literature, and the Arts. Such students should request specific information about the meetings from any Extension office.

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

Extension Student Loan Fund

Extension students who are able to demonstrate that attendance at the University would be very difficult without financial assistance are eligible for loans limited to \$50 a term or \$100 for the year from the Staff and Employees Extension Student Loan Fund. Applications for loans must be made not later than *1 week preceding* the beginning of the term in which the student desires to enroll. Inquiries concerning applications, eligibility, as well as attendant financial problems, may be made at any Extension office.

Aids for Handicapped Students

"Rehabilitation funds" for the education of disabled persons are available through the State Department of Education. Applications for aid from these funds should be sent to the Division of Vocational Rehabilitation, State Office Building, St. Paul 1.

Classes for Foreign-Born Students

The Evening and Special Classes Department of the General Extension Division is unable to offer any classes for foreign-born persons during the year 1960-61. However, persons interested in specialized classes in foreign-dialect speech and/or English as a second language may leave their names and addresses with Professor Albert M. Fulton, Room 56, Nicholson Hall, University of Minnesota, for future reference.

Evening and Special Classes

We are pleased to inform all persons concerned that beginning, intermediate and advanced classes in everyday English, oral and written, are available at the International House, 183 W. Kellogg at Exchange, St. Paul, and Minneapolis Vocational Evening School, Minneapolis. Interested persons should call for further information as indicated below.

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

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

University Library

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

Coffman Memorial Union

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

Convocations

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

University Theater, Artists Course, and Special Lectures

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

Minneapolis Symphony Orchestra

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

Athletic Facilities

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

Season Athletic Tickets

Any student enrolled for at least 5 credits (not including audit registration) in evening classes which carry credit may purchase 1 student athletic season ticket at \$12.

Married students may purchase a second season ticket, for use by *spouse only*, at \$16. All tickets are nontransferable. If classes are canceled, athletic tickets must be returned to athletic office. Tickets may be bought at the special student athletic ticket sale headquarters on campus the week before classes begin. The ticket sale schedule will be as follows:

Wednesday, September 21, 9 a.m.-4:30 p.m.

Thursday, September 22, 9 a.m.-9 p.m.

Friday, September 23, 9 a.m.-4:30 p.m.

Saturday, September 24, 9 a.m.-2 p.m.

Monday, September 26, 9 a.m.-9 p.m.

Tuesday, September 27, 9 a.m.-4:30 p.m.

All ticket sales will be held in Williams Arena Lobby. Reserved seat season tickets will be issued in Williams Arena Lobby on Thursday and Friday, September 29 and 30, and Saturday, October 1, from 9 a.m. to 2 p.m. Regulations governing purchase, transfer, and cancellation of these tickets are available on request to the Athletic Ticket office.

IV. COURSE OFFERINGS

AGRICULTURE

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

Horticulture

Hort 10. Home Floriculture and Gardening. 3 degree credits. \$24.

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 especially designed for beginning gardeners, it is comprehensive enough to interest the advanced amateurs as well as professional gardeners. An opportunity for gardeners to participate actively in plant culture throughout the year. (No prerequisite)

Fall Quarter

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

Hort 24. Home Landscaping Planning. 3 degree credits. \$24.

An opportunity for the home owner to learn the principles of planning the home grounds and how to apply them to his own problem of landscaping his home grounds. This course is also designed to meet the needs of the nurseryman, the landscape gardener, and the student who expects to make his living by landscaping. Anyone planning a new home will find this course especially helpful in accomplishing his ideal, which is a well-planned house and well-planned and planted grounds and gardens. (No prerequisite)

Fall Quarter

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

Hort 25. Home Landscape Planting and Construction. 3 degree credits. \$24.

More or less a continuation of the course in Home Landscape Planning; however, a beginning student may take this course without being handicapped. Special emphasis is placed upon the recognition and use of plant materials in securing artistic landscape compositions and the planning and planting of ornamental gardens. An art course in landscaping and gardening presented in a practical way for the home owner, the landscape gardener, the student of art and nature. (No prerequisite)

February 16 to April 27

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

Hort 41. Horticultural Crop Judging. 3 degree credits. \$24.

The course is designed for anyone interested in becoming a judge of horticultural produce or exhibits (other than arrangements). It should also be of special interest to vocational agricultural

Symbols explained on page 31.

instructors or anyone connected with this type of work. Course will include selection of materials for and preparation of exhibits, as well as their evaluation and judging. (Prerequisite 1, 6 or #)

Fall Quarter

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

Hort 51. Garden Flowers and Home Gardening. 3 degree credits. \$24.

A complete practical course in home gardening for the experienced gardener as well as the beginner. All the practical horticultural aspects of plant growing and garden and home grounds care are covered in lecture, demonstrations, and illustrations; student projects in propagating plants in greenhouses, hot beds, and home facilities. Special emphasis on pruning, fertilizing; weed, insect, and disease control. Also a survey of all the plants recommended for Minnesota gardens and yards. (No prerequisite)

February 14 to April 25

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

***Hort. Flower Arranging.** No credit. \$24 plus \$15 for floral supplies.

A practical course in the fundamentals of flower arranging. Emphasis will be given to art principles related to design; to materials for design and how to handle them; to useful types of flower arrangements. Students will be given opportunity to practice flower arranging and judging in a supervised laboratory period. (No prerequisite. Limited to 25 students)

Winter Quarter

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

Soils

Soil 6. Garden and Turf Soils. 3 degree credits. \$24.

A practical course in the use and management of garden soils. It offers complete discussion of soil properties such as texture, structure, drainage, organic matter content, and fertility as they relate to management practices such as use of lime, tillage, fertilizer use, and erosion control. Soil and fertility requirements of many garden plants will be discussed. The course is designed so that the beginner can understand the material, and so that the experienced gardener will obtain information that will be helpful to him. Soil properties will be observed in the laboratory by the individual students. (No prerequisite)

Fall Quarter

M 7:00-9:30, Soils 115, St. Paul Campus,
Arneman

ARTS AND SCIENCES

Your attention is called to the Liberal Arts Certificate program; see page 8.

Anthropology - 12

Anth 1A. Introduction to Anthropology: Prehistoric Man and Culture. 3 degree credits. \$24.

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

Fall Semester

Th 8:10-9:50, Ford 120, Jones

Anth 2A. Introduction to Anthropology: Cultural Anthropology. 3 degree credits. \$24.

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

Spring Semester

Th 8:10-9:50, Ford 120, Holt

Anth 161. Primitive Religion. 3 degree credits. \$24.

Beliefs and practices in primitive religious systems, the roles of sacred, the supernatural, and beliefs in continuance of life after death, and the role of the dead in the life-ways of primitive peoples. (No prerequisite)

Spring Semester

T 8:10-9:50, Ford 130, Jones

Anth 164. Social Anthropology. 3 degree credits. \$24.

Forms of social structure, especially kinship systems and their relation to economic, religious, and politico-legal activities in primitive and folk culture. Theories and methods of structural analysis. (No prerequisite)

Fall Semester

T 8:10-9:50, Ford 150, Holt

12 Art

Art History and Criticism

Art 1. Introduction to Art. (°°Art 50) 3 degree credits. \$24 plus \$1 laboratory fee.

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

Fall Quarter

Th 7:30-9:45, Jones 207b,
Torbert

Winter Quarter

Th 7:30-9:45, Jones 207b,
Eitner

Spring Quarter

Th 7:30-9:45, Jones 207b,
Eitner

Symbols explained on page 31.

Course Offerings—Arts and Sciences

Art 2. Great Masters and Works: Egypt to the Middle Ages. 3 degree credits. \$24 plus \$1 laboratory fee.

A survey of the arts from the age of the Pyramids to that of the Cathedrals: Egypt and Mesopotamia, the classical art of Greece and Rome, the early church, the monasteries, the Gothic city. (Prerequisite: 1 or #)

Fall Quarter

M 7:30-9:45, Jones 207a, Torbert

Art 3. Great Masters and Works: Renaissance to the Twentieth Century. 3 degree credits. \$24 plus \$1 laboratory fee.

A survey of the main artistic achievements of the Renaissance, the Baroque and the Rococo, and the main currents of nineteenth and twentieth century art. Among the artists discussed will be Leonardo da Vinci, Michelangelo, Raphael, Titian, Dürer, El Greco, Rubens, Rembrandt, Chardin, Delacroix, Courbet, Monet, Cezanne, Van Gogh, Gauguin, Picasso and Matisse. (Prerequisite: 1 or #)

Winter Quarter

M 7:30-9:45, Jones 207a, Eitner

Art 56. Renaissance Art. 3 degree credits. \$24 plus \$1 laboratory fee.

Great masters in Italy, Flanders and Germany from the age of Dante to the Reformation. Among the artists discussed will be Giotto, Masaccio, Botticelli, Leonardo da Vinci, Raphael, Jan van Eyck and Dürer. (Prerequisite: 1 or 50, or #)

Spring Quarter

M 7:30-9:45, Jones 207a, Waldfogel

Art 67. Modern Art: Realism, Impressionism, Post-Impressionism. 3 degree credits. \$24 plus \$1 laboratory fee.

A study of the arts in the second half of the 19th century, including an intensive analysis of the development that links the Realist Movement (Courbet, Millet) with Impressionism (Monet, Renoir, Sisley, Pissarro); the reaction against material realism in the work of the belated Romantics, the Neo-Impressionists (Seurat), Manet, Degas, Cezanne, Gauguin, Van Gogh, Toulouse-Lautrec. (Prerequisite: 1 or 50, or #)

Fall Quarter

T 7:30-9:45, Walker Art Center, Waldfogel

Art 68. Modern Art: Contemporary Art in Europe and America. 3 degree credits. \$24 plus \$1 laboratory fee.

A study of the main trends of Twentieth Century painting, sculpture and architecture. Among the movements intensively treated will be that of the Fauves (Matisse, Vlaminck, Derain, Dufy), the Cubists (Picasso, Braque, Gris), the various Expressionist currents. Attention will be given to main trends in modern architecture (Wright, the Bauhaus, Le Corbusier). Stress will be laid on the various forms of abstract and non-representational art and on the abstract-expressionist current of the past decade. (Prerequisite: 1 or 50, or #)

Winter Quarter

T 7:30-9:45, Walker Art Center, Waldfogel

Art 138. Art in the United States. 3 degree credits. \$24 plus \$1 laboratory fee.

Contemporary movements. The Armory Show and development of modern realism, expressionism, and abstraction. Frank Lloyd Wright and modern American architecture. (Prerequisite: 9 credits in history of art, or 9 credits in literature or history, or #)

Spring Quarter

T 7:30-9:45, Walker Art Center, Torbert

Symbols explained on page 31.

Evening and Special Classes

Studio Courses

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

Art 10. Basic Photography I. See page 68.

Art 11. Basic Photography II. See page 69.

°Art 23-24-25. First Year Drawing and Painting. 2 degree credits each semester. \$24 plus \$4 laboratory fee each semester.

An introduction to materials and techniques; still life, figures, and landscape. (No prerequisite for 23; for 24 and 25, 2. Each section limited to 30 students)

Fall Semester

T 6:20-8:50, Jones 10, Young
T 7:00-9:30, Walker Art Center
Th 6:20-8:50, Jones 10

Spring Semester

T 6:20-8:50, Jones 10, Young
T 7:00-9:30, Walker Art Center
Th 6:20-8:50, Jones 10

°Art 30-31-32. Commercial Drawing. 2 degree credits each semester. \$24 plus \$3 laboratory fee each semester.

Elementary and advanced commercial art: design, lettering, layouts, posters in pen and ink, pencil, color, or other mediums. Solutions of practical problems stressed. (No prerequisite for 30; for 31 and 32, 2. Class limited to 30 students)

Fall Semester

M 7:30-10:00, Jones 104, Downs

Spring Semester

M 7:30-10:00, Jones 104, Downs

°Art 45-94-95. Ceramics. 2 degree credits each semester. \$24 plus \$5 laboratory fee each semester.

45. Ceramic Processes. Introduction to building pottery by hand and forming on the potter's wheel. Experiments with decorative techniques on wet clay and on bisque fired pottery. Primarily concerned with pottery as a creative expression but includes technical considerations of clays, glazes, and kilns. (No prerequisite) 94-95. Ceramic Design. Continuation of Art 45. Greater emphasis on wheel throwing. Advanced design problems and an introduction to glaze and clay experimentation. Emphasis on the development of personal expression in ceramic medium. (Prerequisite: for 94, 45; for 95, 94. 45 and 94 will be given in one section in fall semester. Class limited to 20 students. 45, 94, 95 will be given in spring semester in one section, limited to 20 students)

Fall Semester

(45 W 6:20-8:45, Holman 134, MacKenzie
(94

Spring Semester

(45 W 6:20-8:45, Holman 134, MacKenzie
(94
(95

Your attention is called to the Interior Design Certificate program; see page 8.

°Art 83A. Interior Design I. 3 degree credits. \$24 plus \$1 laboratory fee.

A study of traditional and modern furniture used today and of how to combine various styles. Additional subjects include room composition, color, floor coverings, wall treatments, window treat-

Symbols explained on page 31.

Course Offerings—Arts and Sciences

ments. Some general discussions of new ideas and materials in home building. Interesting optional field trips. Drawing not emphasized. Slides and practical demonstrations are used in the regular class procedure. (No prerequisite. Each section limited to 50 students, accepted in order of registration. Repeated spring semester)

Fall Semester

Spring Semester

M 6:20-8:00, Nicholson 209, Lewis
 T 6:20-8:00, Nicholson 209, Lewis
 Th 6:20-8:00, Nicholson 209, Lewis

W 6:20-8:00, Nicholson 209, Lewis
 Th 6:20-8:00, Nicholson 209, Lewis

Art 84A. Interior Design II. 3 degree credits. \$24 plus \$1 laboratory fee.

Trends in decorative fabrics and floor coverings including new fiber combinations in curtain, drapery, upholstery fabrics are studied. How to estimate is explained. Major accessories such as picture selection, ceramics, and use of metals in interiors are important. Planning room color schemes and window-treatments are considered throughout the course. Talks by decorators from stores and studios and a field trip add interest. (Prerequisite: 83A)

Spring Semester

M 6:20-8:00, Nicholson 209, Lewis
 T 6:20-8:00, Nicholson 209, Lewis

*Art 103A-104A. Seminar in Interior Design. 3 degree credits each semester. \$24 each semester.

A further expansion of subjects studied in Art 83A-84A. Students will work on individual projects under supervision. (Prerequisite: For 103A, 84; for 104A, 103A. Class limited to 25 students. No auditors)

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

Fall Semester

Spring Semester

103A W 8:10-9:50, Nicholson 209, Lewis

104A W 8:10-9:50, Nicholson 107, Lewis and Staff

Courses at Minneapolis School of Art

Registrations for University credit for these courses will be taken only at one of the Extension offices. The Minneapolis School of Art is located at 200 East 25th Street. Telephone number is FEderal 8-8759.

Art 15A-B. Lettering. 2 degree credits each semester. \$24 plus \$3 laboratory fee each semester.

The study and practice of free and constructed lettering. Special emphasis is placed upon the relationship of lettering to all other visual elements which make up a total composition or layout. (No prerequisite)

Fall Semester

February 6-June 1

A Th 7:00-9:30, Mpls School of Art, DeCosse

B Th 7:00-9:30, Mpls School of Art, DeCosse

Art 20A-B. Basic Drawing. 4 degree credits each semester. \$48 plus \$6 laboratory fee each semester.

Emphasis is placed on the basic principles of perspective drawing and composition. Some life drawing included. Wide variety of mediums used. (No prerequisite)

Fall Semester

February 6-June 1

A MW 7:00-9:30, Mpls School of Art, Ratner

B MW 7:00-9:30, Mpls School of Art, Ratner

Symbols explained on page 31.

Evening and Special Classes

Art 20A-B. Basic Drawing. 2 degree credits each semester. \$24 plus \$3 laboratory fee each semester.

A beginning class for students who desire to attend class only one night a week instead of two.

Fall Semester

A T 7:00-9:30, Mpls School of Art, Dietrichsen
A Th 7:00-9:30, Mpls School of Art, Olsen

February 6-June 1

B T 7:00-9:30, Mpls School of Art, Dietrichsen
B Th 7:00-9:30, Mpls School of Art, Olsen

Art 21A-B. Life Drawing. 2 degree credits each semester. \$24 plus \$3 laboratory fee each semester.

Drawing and composition from the figure. Special emphasis on surface anatomy and shape characteristics of the individual model. (No prerequisite)

Fall Semester

A M 7:00-9:30, Mpls School of Art, Mousseau
A Th 7:00-9:30, Mpls School of Art, Kappel

February 6-June 1

B M 7:00-9:30, Mpls School of Art, Mousseau
B Th 7:00-9:30, Mpls School of Art, Kappel

Art 22A-B. Still Life Painting. 2 degree credits each semester. \$24 plus \$3 laboratory fee each semester.

An introductory class in oil painting designed to acquaint the student with the medium and its uses. Emphasis is placed upon craftsmanship and the basic principles of picture making. There are assigned problems in color harmony, tone relationship, and shape organization. (Prerequisite: 20A-B)

Fall Semester

A T 7:00-9:30, Mpls School of Art, Quick

February 6-June 1

B T 7:00-9:30, Mpls School of Art, Quick

Art 40A-B. Sculpture. 4 degree credits each semester. \$48 plus \$6 laboratory fee each semester.

Figure modeling. (Prerequisite: 21A-B or #)

Fall Semester

A MW 7:00-9:30, Mpls School of Art, Klippel

February 6-June 1

B MW 7:00-9:30, Mpls School of Art, Klippel

Art 50A-B. Painting II. 4 degree credits each semester. \$48 plus \$6 laboratory fee each semester.

This class follows the Still Life Painting class. Work in oil composition with continued stress on tone relationship and shape organization. (Prerequisite: 22A-B)

Fall Semester

A TTh 7:00-9:30, Mpls School of Art, Hendler

February 6-June 1

B TTh 7:00-9:30, Mpls School of Art, Hendler

Art 54A-B. Life Drawing. 2 degree credits each semester. \$24 plus \$3 laboratory fee each semester.

Continuation of head and figure study; construction interpretation, movement. Figure composition. (Prerequisite: 21A-B)

Fall Semester

A W 7:00-9:30, Mpls School of Art, Mousseau

February 6-June 1

B W 7:00-9:30, Mpls School of Art, Mousseau

Symbols explained on page 31.

Course Offerings—Arts and Sciences

Art 54C-D. Portrait. 2 degree credits each semester. \$24 plus \$3 laboratory fee each semester.

Head study, using various media, stressing discovery of each model's individual qualities. (Prerequisite: 21A-B)

Fall Semester

C W 7:00-9:30, Mpls School of Art,
Dietrichsen

February 6-June 1

D W 7:00-9:30, Mpls School of Art,
Dietrichsen

Art 60A-B. Watercolor. 2 degree credits each semester. \$24 plus \$3 laboratory fee each semester.

A broadly designed class in watercolor painting covering a wide range of subject material. (Prerequisite: 20A-B or #)

Fall Semester

A M 7:00-9:30, Mpls School of Art, Olsen

February 6-June 1

B M 7:00-9:30, Mpls School of Art, Olsen

Art 62A-B. Life Painting. 4 degree credits each semester. \$48 plus \$6 laboratory fee each semester.

An oil painting class designed to help the student to see and use natural forms in pictorial organization. Form and form relationships are shown as they occur in the human figure. (Prerequisite: 21 and 22)

Fall Semester

A MW 7:00-9:30, Mpls School of Art, Quick

February 6-June 1

B MW 7:00-9:30, Mpls School of Art, Quick

Art 74A-B. Fashion Illustration. 2 degree credits each semester. \$24 plus \$3 laboratory fee each semester.

Specialized fashion illustration in black and white from the costumed model. Class is designed for student wishing to enter newspaper and magazine fashion illustration field. (Prerequisite: 21)

Fall Semester

A T 7:00-9:30, Mpls School of Art,
Newhouse

February 6-June 1

B T 7:00-9:30, Mpls School of Art,
Newhouse

Art 75A-B Graphic Arts (Layout). 2 degree credits each semester. \$24 plus \$3 laboratory fee each semester.

An advanced course in layout problems encountered daily in actual practice. It includes composition of visual elements as used in magazine, newspaper, poster and direct mail pieces; also study of the principles of layout, movement, balance, emphasis, legibility, color values, lettering design and typographic styling as applied to advertising design. (Prerequisite: 20 or 21 and 15)

Fall Semester

A T 7:00-9:30, Mpls School of Art, Mason

February 6-June 1

B T 7:00-9:30, Mpls School of Art, Mason

Courses at St. Paul Gallery and School of Art

Registrations will be taken only at Extension offices. The St. Paul Gallery is located at 476 Summit Avenue. Telephone is CApital 5-9621.

Art 21A-B. Life Drawing. 2 degree credits each semester. \$24 plus \$3 laboratory fee each semester.

Drawing and composition from the figure. Special emphasis on surface anatomy and shape characteristics of the individual model. (No prerequisite)

Fall Semester

Th 7:00-9:30, StP Gallery, Kramer

Spring Semester

Th 7:00-9:30, StP Gallery, Kramer

Symbols explained on page 31.

Evening and Special Classes

Art 23-24-25. First Year Drawing and Painting. 2 degree credits each semester. \$24 plus \$3 laboratory fee each semester.

An introduction to a variety of art experiences in drawing and painting. Students are encouraged to explore in a number of media such as: pencil, charcoal, water colors and oil paints. In addition to creative expression from imaginative sources the classes will provide the discipline of drawing directly from the model and still life. (No prerequisite)

Fall Semester

W 7:00-9:30, StP Gallery, Kramer

Spring Semester

W 7:00-9:30, StP Gallery, Kramer

Art 40A-B. Sculpture. 2 degree credits each semester. \$24 plus \$3 laboratory fee each semester.

Elementary figure construction; analysis of skeletal and muscular structure in relation to the life model. Preliminary studies in drawing progressing to modeling surface contours in clay, involving the making of armatures. Study of the figure in action and repose. (No prerequisite)

Fall Semester

T 7:00-9:30, StP Gallery, Haupers

Spring Semester

T 7:00-9:30, StP Gallery, Haupers

Art 45-94-95. Ceramics. 2 degree credits each semester. \$24 plus \$5 laboratory fee each semester.

Introduction to materials, forming methods, and production processes. Fundamentals of pottery including handbuilding, wheel throwing, decorative techniques in slip and glaze, glazing and firing. (No prerequisite)

Note—Workshop. The pot shop will be open Thursday mornings and afternoons for students to form pots. The kiln cannot be used at this time.

Fall Semester

T 7:00-9:30, StP Gallery, Fontaine
Th 7:00-9:30, StP Gallery, Fontaine

Spring Semester

T 7:00-9:30, StP Gallery, Fontaine
Th 7:00-9:30, StP Gallery, Fontaine

Art 49A-B. General Crafts (Metal Design). 2 degree credits each semester. \$24 plus \$3 laboratory fee each semester.

An introduction to the use of tools and basic material working techniques. Emphasis is placed upon individual solution of design problems in jewelry and other decorative metal work. The student will work in base and precious metals and supplementary material such as rare wood and gem stones. (No prerequisite)

Fall Semester

T 7:00-9:30, StP Gallery, Schmidt
W 7:00-9:30, StP Gallery, Schmidt

Spring Semester

T 7:00-9:30, StP Gallery, Schmidt
W 7:00-9:30, StP Gallery, Schmidt

Art 60-61-62. Second Year Drawing and Painting. 2 degree credits each semester. \$24 plus \$3 laboratory fee each semester.

Still life and figure problems to be carried out in charcoal, chalk, water color, and oil. Study of problems related to drawing and painting through experiments designed to suit the needs and purposes of the individual student. (Prerequisite: 22 or 25 or 25)

Fall Semester

T 7:00-9:30, StP Gallery, LeSueur

Spring Semester

T 7:00-9:30, StP Gallery, LeSueur

Symbols explained on page 31.

Course Offerings—Arts and Sciences

Art 80A-B. Metal Sculpture. 2 degree credits each semester. \$24 plus \$5 laboratory fee each semester.

Advanced study in metal working techniques with special emphasis upon the relationship between design, material, and technique. Problems limited to small-scale projects. (Prerequisite: 49A and 49B, or #)

Fall Semester

T 7:00-9:30, StP Gallery, Schmidt
W 7:00-9:30, StP Gallery, Schmidt

Spring Semester

T 7:00-9:30, StP Gallery, Schmidt
W 7:00-9:30, StP Gallery, Schmidt

Art. Creative Design Workshop. 3 certificate credits. \$24 plus \$3 laboratory fee.

This workshop has been designed to provide the student with a sequence of experience in visual organization. Creative expression, individual approach and personal vision will be encouraged through a series of meaningful projects in formal, abstract and two- and three-dimensional relationships. Line, form, color and texture in drawing, painting, sculpture, architecture, industrial design, etc., will be related as elements of design. Creative solution of individually pertinent design problems will be encouraged. Work in this course will be carried out in various media, including photography. Field trips. (Prerequisite: 40A-B)

Notes—This course will begin on October 10 in the fall. Extra makeup sessions will be held during the fall semester.

Fall Semester

Th 7:00-9:30, StP Gallery, Jacob

Spring Semester

Th 7:00-9:30, StP Gallery, Jacob

Astronomy

Ast 11. Descriptive Astronomy. 3 degree credits. \$24.

The general principles and fundamental facts of astronomy, illustrated by slides, simple problems, and naked-eye and telescopic observation. The Spitz Projection Planetarium will be used extensively to provide superior demonstration opportunities regardless of weather conditions. Higher mathematics not necessary. (No prerequisite)

Fall Semester

W 6:20-8:00, Physics 133, Luyten

Ast 13. Practical and Stellar Astronomy. 3 degree credits. \$24.

Supplements Ast 11, which, however, is not prerequisite. A detailed description of the constellations and individual stars, and structure of the sidereal universe, determination of time from the stars; extended opportunity for the use of the telescope and the observation of the heavenly bodies, supplemented by use of the Spitz Projection Planetarium. Higher mathematics not necessary. (No prerequisite)

February 8-May 31

W 6:20-8:00, Physics 133, Luyten

Biology

Biol 1-2-3. General Biology. (Replaces 1-2-3 General Zoology) 3 degree credits each quarter for 1 and 2. \$24 plus \$10 laboratory fee each quarter. 4 degree credits for 3. \$32 plus \$10 laboratory fee.

Introduction to living things both plant and animal, and to the major biological concepts. Structure, function, classification, and evolution of organisms. (No prerequisite for 1; for 2, 1; for 3, 2. §Bot 1-2-3, 4-5. Zool 1-2-3 or old 14-15, old NSci 7-8-9)

Fall Quarter

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

Winter Quarter

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

Spring Semester

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

Symbols explained on page 31.

Evening and Special Classes

Classics

Latin

Lat 1-2.† Beginning Latin. 5 degree credits each semester. \$40 each semester.

A conversational or oral approach to Latin, beginning with simple phrases (as in the modern languages), leading gradually to written work and reading. Grammar and word lists will be formalized after ease in understanding and speaking has been acquired. Reading materials will be reviewed and discussed in Latin on a question-and-answer basis. (No prerequisite for 1; for 2, 1)

Fall Semester

1 T 6:20-9:20, Folwell 303, Parker

Spring Semester

2 T 6:20-9:20, Folwell 303, Parker

Greek

Grk. Beginning Modern Greek I-II. No credit. \$24 each semester.

Today's Greek, taught on a phonetic basis. Emphasis on conversation, introduction to basic grammar and syntax. Tape recorders and records will be used and students will take part in Greek speaking activities. The course will be particularly useful for people planning to travel in Greece. (No prerequisite for I; for II, I)

Fall Semester

I W 6:20-8:00, Folwell 205, Caranicas
II M 6:20-8:00, Folwell 302, Caranicas

Spring Semester

II W 6:20-8:00, Folwell 205, Caranicas

Classics

Clas 191, 192, 193. Classical Literary Traditions. 3 degree credits each quarter. \$24 each quarter.

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

Fall Quarter

191 M 5:30-8:00, Folwell
306, Swanson

Winter Quarter

192 M 5:30-8:00, Folwell
306, Swanson

Spring Quarter

193 M 5:30-8:00, Folwell
306, Swanson

Symbols explained on page 31.

English

English Placement Tests

Admission to English classes (Engl 1B-2B-3B and Comm 1-2-3) is based on satisfactory score in the English Placement Test or satisfactory completion of Preparatory Composition. *Please note:* (a) If you are uncertain regarding your eligibility but desire to be enrolled, register for Engl 1B or Comm 1. (b) If you took the Placement Test in a Minnesota high school within the last 2 years, you must, at least 1 week before the first meeting of the class, contact the campus office of the General Extension Division giving your name, the name of your high school, and the date of your graduation. *You need not take the test again.* (c) If you have not taken the test, or if you took the test more than 2 years ago, report for testing at one of the following times and places.

Fall Quarter

7:00 p.m. Thursday, September 15, Nicholson 211
 7:00 p.m. Tuesday, September 20, Nicholson 211
 7:00 p.m. Tuesday, September 20, St. Paul Extension Center

Winter Quarter

7:00 p.m. Tuesday, January 3, Nicholson 211

Spring Quarter

7:00 p.m. Wednesday, March 22, Nicholson 211

Literature

Engl 1B-2B-3B. Freshman English. 4 degree credits each quarter. \$32 each quarter.

A combined course in composition (9 cr) and literature (3 cr). It concentrates upon developing the student's skill in writing exposition, with an introduction to literary types as the chief means of providing subject matter for writing. It satisfies the group A requirement for graduation. (Prerequisite: Preparatory Composition or satisfactory score in English Placement Test, explained above)

Fall Quarter

1B T 6:20-9:50, Folwell 104
 W 6:20-9:50, Folwell 104
 F 6:00-9:30, StP Ext
 Center 3F
 2B T 6:20-9:50, Folwell 107
 3B W 6:20-9:50, Folwell 107

Winter Quarter

1B T 6:20-9:50, Folwell 107
 W 6:20-9:50, Folwell 101
 F 6:00-9:30, StP Ext
 Center 3G
 2B T 6:20-9:50, Folwell 104
 W 6:20-9:50, Folwell 104
 F 6:00-9:30, StP Ext
 Center 3F
 3B T 6:20-9:50, Folwell 102

Spring Quarter

1B W 6:20-9:50, Folwell 107
 2B T 6:20-9:50, Folwell 107
 W 6:20-9:50, Folwell 101
 F 6:00-9:30, StP Ext
 Center 3G
 3B T 6:20-9:50, Folwell 104
 W 6:20-9:50, Folwell 104
 F 6:00-9:30, StP Ext
 Center 3F

Engl 21-22-23. Introduction to Literature. 5 degree credits each quarter. \$40 each quarter.

A chronological study of English literature with historical background. An introduction to types of literature and literary ideas. 21: Chaucer to Milton. Marlowe, Spenser, Bacon, Browne, and Bunyan. 22: The Restoration and the 18th century. Pope, Swift, Addison and Steel, Johnson, Boswell, Fielding, and Sheridan. 23: The Romantic Movement and the Victorians. Wordsworth, Byron, Shelley, Keats, Carlyle, Tennyson, Browning, and Arnold. (Prerequisite: 3B or Comm 3, or exemption from requirement. Students may enter any quarter)

Fall Quarter

21 TTh 6:00-8:00, Folwell
 226, Hurrell

Winter Quarter

22 TTh 6:00-8:00, Folwell
 226, Hurrell

Spring Quarter

23 TTh 6:00-8:00, Folwell
 226, Hurrell

Symbols explained on page 31.

Evening and Special Classes

Engl 55-56. **Shakespeare.** 3 degree credits each semester. \$24 each semester.

55: The reading of plays from Shakespeare's early and middle periods—*Richard II*, *A Midsummer Night's Dream*, *The Merchant of Venice*, *Much Ado About Nothing*, and 2 or 3 other plays selected by the instructor. 56: The reading of plays from Shakespeare's middle and later periods—*Twelfth Night*, *Hamlet*, *Macbeth*, *The Tempest*, and 2 other plays selected by the instructor. (Prerequisite: 3B or Comm 3 and 5 additional English credits; or C; or 5 credits in 21-22-23. Students may enter either semester)

Fall Semester

55 W 6:20-8:00, Folwell 103, Blum

Spring Semester

56 W 6:20-8:00, Folwell 103, Blum

Engl 72-73. **American Literature.** 3 degree credits each semester. \$24 each semester.

Notable American authors from the 17th century to the present. (Prerequisite: 3B or Comm 3 and 5 additional English credits; or C; or 5 credits in 21-22-23. Students may enter either semester)

Fall Semester

72 M 6:20-8:00, Folwell 109, Kwiat

Spring Semester

73 M 6:20-8:00, Folwell 109, Kwiat

Clas 191, 192, 193. **Classical Literary Traditions.** (See page 50)

Phil 87. **Readings in Religious Classics.** (See page 68)

Scan 61. **Swedish Literature in the Nineteenth Century.** (See page 75)

Scan 62. **Swedish Literature Today.** (See page 75)

Composition

Engl 1B-2B-3B. **Freshman English.** (See page 51)

Comm 1-2-3. **Communication.** (See page 59)

Comp. **Grammar Review.** 3 certificate credits. \$24 plus \$1 materials fee.

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

Fall Quarter

T 6:20-8:50, Folwell 105

Winter Quarter

(same schedule as fall)

Spring Quarter

(same schedule as fall)

Comp X. **Preparatory Composition.** No credit. \$24 plus \$1 materials fee.

Intensive drill on grammatical forms, structure, and theme writing. The regular sections are recommended for those whose primary need is organization and development of themes; any passing grade admits students to Engl 1B or Comm 1. The Grammar Review section is recommended for those who are very weak in fundamentals; an A or B in the Grammar Review section is required for admission to Engl 1B or Comm 1. (No prerequisite. Repeated winter and spring quarters)

Fall Quarter

T 6:20-8:50, Folwell 113

W 6:20-8:50, Folwell 113

F 6:00-8:30, StP Ext Center 3E

Winter Quarter

(same schedule as fall)

Spring Quarter

W 6:20-8:50, Folwell 113

(Grammar Review Section)

T 6:20-8:50, Folwell 105

(same schedule as fall)

(same schedule as fall)

Symbols explained on page 31.

Course Offerings—Arts and Sciences

Comp 27-28. Advanced Writing. 3 degree credits each semester. \$24 each semester.

Offers training in the fundamentals of creative writing, through lectures and the criticism of manuscripts. 27: Deals with expository writing; articles, essays, criticism, etc. 28: Deals with description and narration. (Prerequisite: Engl 3B, or 2. Students may enter either semester)

Fall Semester

27 W 6:20-8:00, Folwell 207, Macdonald

Spring Semester

28 W 6:20-8:00, Folwell 207, Macdonald

Comp 65. The Writing of Research Papers and Articles. 3 degree credits. \$24.

A course in scientific writing for students and professional people in the biological, physical, and social sciences, and for students in the humanities. The subjects treated are: the organization of data from observation and from printed sources; literature searching; abstracting; the development of a lucid, mature, articulate style; meeting the format requirements of specific types of publication. Students are encouraged to undertake investigations which are related to their professional interests. After the first meeting, instruction is done almost entirely in individual conferences at times suitable to each student. This is a tutorial course. (Prerequisite: Engl 3B or 2. Repeated spring semester)

Fall Semester

Th 6:20-8:00, Johnston 205, Lufkin

Spring Semester

Th 6:20-8:00, Johnston 205, Lufkin

Comp 101-102. Seminar in Writing (Advanced Short Story). 3 degree credits each semester. \$24 each semester.

For advanced and professional students who write with facility and desire personal direction. Criticism of manuscripts submitted. (Prerequisite: 2)

Fall Semester

101 T 6:20-8:00, Folwell 205, Macdonald

Spring Semester

102 T 6:20-8:00, Folwell 205, Macdonald

Business English. (See page 90)

Engineering English. (See page 118)

French

There are 2 sequences of courses in beginning French from which the prospective student may choose the 1 best suited to his needs. 1C-2C-3C, Beginning French, carrying 5 degree credits per unit, comprises the regular standard course in first-year French. The principal aim is to provide a solid foundation for the comprehension of the written and spoken language. Sufficient training in grammar is included to enable the student to acquire elementary skills in conversation and composition. This sequence is recommended for those planning to continue the study of French or wishing to satisfy college language requirements. 1-2-3-4, Beginning French, carrying 3 degree credits per unit, is the same sequence of courses formerly listed in evening classes as: 1-2, Beginning French and 3-4, Intermediate French. This sequence is recommended for those who desire a general introduction to the language but who wish to proceed at a slower pace than that required for the standard 5-credit units, with more time for study and preparation.

Symbols explained on page 31.

Evening and Special Classes

Fren 1C-2C. Beginning French. 5 degree credits each semester. \$40 each semester.

Grammar, pronunciation, reading, and practice in speaking. See note above. (No prerequisite for 1C; for 2C, 1C or evening course 2, or 1 year preparatory French)

Fall Semester

1C M 6:20-9:20, Folwell 204, Burks

Spring Semester

2C M 6:20-9:20, Folwell 204, Burks

Fren 1-2. Beginning French. 3 degree credits each semester. \$24 each semester.

Grammar, pronunciation, reading, and practice in speaking. See note above. (No prerequisite for 1; for 2, 1)

Fall Semester

1 W 6:20-8:00, Folwell 201, Sullivan

2 W 6:20-8:00, Folwell 202

Spring Semester

1 W 6:20-8:00, Folwell 202

2 W 6:20-8:00, Folwell 201, Sullivan

Fren 3-4. Beginning French. 3 degree credits each semester. \$24 each semester.

Reading from modern authors, review of essential grammar, emphasis on spoken French. Prerequisite: for 3, 2 or 1 year of preparatory French or #; for 4, 3 or #)

Fall Semester

3 M 6:20-8:00, Folwell 203, Falk

Spring Semester

4 M 6:20-8:00, Folwell 203, Falk

Fren 17A-B. French for Graduate Students. No credit. \$30 each semester.

Fundamentals of grammar; reading of appropriate prose. Prepares for examinations in French. (No prerequisite for 17A; for 17B, 17A or 2 years of French in high school or #)

Fall Semester

17A M 6:20-8:00, Folwell 201, Brackney

17B M 6:20-8:00, Folwell 202

Spring Semester

17A M 6:20-8:00, Folwell 302

17B M 6:20-8:00, Folwell 201, Brackney

Fren 20. Introduction to French Literary Texts. 3 degree credits. \$24.

Readings of modern masterpieces of French literature accompanied by discussions of literary problems and methods of literary analysis. (Prerequisite: 4)

Fall Semester

W 6:20-8:00, Folwell 203, Erickson

Fren 54-55. French Conversation. 3 degree credits each semester. \$24 each semester.

Informal discussion of current affairs and everyday topics. (Prerequisite: 4 or #)

Fall Semester

54 W 6:20-8:00, Folwell 206

Spring Semester

55 W 6:20-8:00, Folwell 206

Geography

Geog 1. Geography of Natural Resources. 5 degree credits. \$40.

Physical characteristics and geographic distribution of the world's natural resources; major regional differences in the problems of physical resource development. (No prerequisite)

Spring Semester

W 6:20-9:20, Ford 285, Mather

Symbols explained on page 31.

Geog 100. Geographical Exploration and Discovery. 3 degree credits. \$24.

Extension of the geographic horizons of western society, by the discovery of the basic land-sea relationships of the earth, from Portuguese explorations along the coast of Africa down to modern times. (Prerequisite: 10 credits of geography or ♯)

Fall Semester

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

Geog 101. Western Europe. 3 degree credits. \$24.

The physical and human geography of western Europe considered as a whole, followed by a more intensive discussion of selected topics on the British Isles, France, the Low Countries, the Rhine basin, Norway, and Denmark. (Prerequisite: 10 credits of geography or ♯)

Fall Semester

T 8:10-9:50, Ford 285, Webb

Geology

Geol 1-2. General Geology. 3 degree credits each semester. \$24 each semester.

1: Physical Geology, which consists of an introductory treatment of the materials of the earth and the geologic processes; principles of earth sculpture, glaciation, volcanic activity, mountain building, etc.; geologic occurrence of gems, ores, and other economic mineral resources. 2: Historical geology, which is a resume of the theories as to the origin of the earth, its geologic history, and the changes in its plant and animal life throughout the ages. (No prerequisite for 1; for 2, 1)

Fall Semester

1 T 6:20-8:00, Pillsbury 110, Sloan

Spring Semester

2 T 6:20-8:00, Pillsbury 110, Sloan

Geol A-B. General Geology Laboratory. 2 degree credits each semester. \$16 each semester.

A: Physical laboratory, the physical properties of common minerals and rocks; interpretation of topographic maps. B: Historical laboratory, identification of fossils; interpretation of geologic maps. (Prerequisite: For A, 1 or 8 or ¶1; for B, A and 2, or A and ¶2)

Fall Semester

A T 8:10-9:50, Pillsbury 22

Spring Semester

B T 8:10-9:50, Pillsbury 22

German

There are 2 sequences of courses in Beginning German from which the prospective student may choose the 1 best suited to his needs. 1B-2B-3B, Beginning German, carrying 5 credits per unit, comprise a standard course in first-year German. The principal aim is to provide a solid foundation for the comprehension of the written and spoken language. Sufficient training in grammar is included to enable the student to acquire elementary skills in conversation and composition. This sequence is recommended for those planning to continue the study of German or wishing to satisfy college language requirements. 1-2-3-4, Beginning German, carrying 3 degree credits per unit, is the same sequence of courses formerly listed in evening classes as: 1-2, Beginning German and 3-4, Intermediate German. This sequence is recommended for those who desire a general introduction to the language but who wish to proceed at a slower pace than that required for the standard 5-credit units, with more time for study and preparation.

Symbols explained on page 31.

Evening and Special Classes

Ger 1B-2B. Beginning German. 5 degree credits each semester. \$40 each semester.

Standard course in first-year German. See note above. (Prerequisite: No prerequisite for 1; for 2, 1 or former evening courses 1 and 2, or 1 year high school German)

Fall Semester

1B M 6:20-9:20, Folwell 107, Ramras

Spring Semester

2B M 6:20-9:20, Folwell 107, Ramras

Ger 3B. Beginning German. 5 degree credits. \$40.

A continuation of the five-credit sequence in Beginning German. (Prerequisite: 10 credits in Beginning German or #)

Fall Semester

M 6:20-9:20, Folwell 108

Ger 1-2. Beginning German. 3 degree credits each semester. \$24 each semester.

The objectives of the course are to provide the foundation of a reading knowledge adequate for cultural or professional purposes; and to encourage an understanding of the nature of the language by systematic comparison between German and English. See note above. (No prerequisite for 1; for 2, 1)

Fall Semester

1 M 6:20-8:00, Folwell 209, Weiss
Th 6:20-8:00, Folwell 209, Wood

Spring Semester

1 M 6:20-8:00, Folwell 226, Wood
2 M 6:20-8:00, Folwell 209, Weiss

Ger 3. Beginning German. 3 degree credits. \$24.

Readings from modern authors, review of essential grammar, with practice in spoken German. See note above. (Prerequisite: former evening course 2, or 1 year high school German)

Fall Semester

M 6:20-8:00, Folwell 108

Spring Semester

M 6:20-8:00, Folwell 108

Ger 4. Beginning German. 3 degree credits. \$24.

Modern narrative prose. See note above. (Prerequisite: former evening course 3 or #)

Spring Semester

M 6:20-8:00, Folwell 108

Ger 17A-B. German for Graduate Students. No credit. \$30 each semester.

Designed to help graduate students acquire a reading knowledge of German as required of candidates for higher degrees. Grammar is reduced to a minimum, with stress on recognition of forms encountered in reading. Rapid reading of simple, graded material. Intensive reading of more difficult material selected from the various fields of specialization. Detailed study of several sets of examinations in each of the fields. (No prerequisite for 17A; for 17B: 2 years German in high school, or equivalent)

Fall Semester

17A M 6:20-8:00, Folwell 209½, Menze
17B M 6:20-8:00, Folwell 105, Benzel

Spring Semester

17A M 6:20-8:00, Folwell 104, Menze
17B M 6:20-8:00, Folwell 202, Benzel

History

Hist 1-2-3. Civilization of the Modern World. (°Hist 53-54-55) 3 degree credits each term. \$24 each term.

1: The rise of the European state system as framework within which Western civilization developed, and the economic, cultural, political, intellectual, and religious implications of the emerging

Symbols explained on page 31.

Course Offerings—Arts and Sciences

system. 2: The struggle for control over the Western states system, and the emergence of liberal democracy in the modern world. 3: The impact of industrialism upon Western and world civilization in the 20th century. (Hist. 3, the last course in the 1-2-3 sequence on the semester basis, will be offered at the St. Paul Extension Center in the fall semester, 1961.) (No prerequisite)

Fall Semester

1 T 7:50-9:30, StP Ext Center 3G, Martin

Fall Quarter

1 W 6:20-8:50, Ford 115,
Wright

Spring Semester

2 T 7:50-9:30, StP Ext Center 3G, Martin

Winter Quarter

2 W 6:20-8:50, Ford 115,
Wright

Spring Quarter

3 W 6:20-8:50, Ford 115,
Wright

Hist 14-15-16.† History of Ancient Civilization. (*Hist 50-51-52) 3 degree credits each quarter. \$24 each quarter.

14: A survey of the rise of civilization in the Ancient Near East from the earliest times to 500 B.C. Emphasis is placed upon the origin of culture and its development in complexity from the primitive to the civilized stage. Special attention is given to the civilizations of Babylonia, Egypt, Indus Valley, Syria, Palestine, and Crete. 15: The history of the rise and flowering of the Greek civilization from the earliest times to the death of Alexander the Great in 323 B.C. Special emphasis is placed on Greek civilization in the fifth century (Age of Pericles) with attention to the political, social, literary, artistic, and philosophic achievements of that period. 16: The climax of ancient civilization during the Hellenistic Age (323-133 B.C.) and the Roman Imperial Period followed by the decline of Rome and of ancient civilization (to about A.D. 300). The three main topics to be considered are (a) the civilization of the ancient world at its peak, (b) the rise and flowering of Roman culture, and (c) the reasons for the decline of ancient civilization. Special attention will be paid to political institutions, art, literature, economics and society, philosophy, and ancient science. (No prerequisite, but it is suggested that 16 be preceded by 15, and 15 by 14 in order that student may acquire a background for following course)

Fall Quarter

14 Th 5:30-8:00, Ford 115,
Jones

Winter Quarter

15 Th 5:30-8:00, Ford 115,
Jones

Spring Quarter

16 Th 5:30-8:00, Ford 115,
Jones

Hist 17-18-19.† History of Asia. (*Hist 59-60-61) 3 degree credits each quarter. \$24 each quarter.

A survey of the history of China, Japan, India, and southeast Asia from ancient times to the present. 17: Ancient history and culture of China, Japan, and India to A.D. 1200. 18: Asia A.D. 1200-1800: Chinese empire period; India: Muslim domination; Japanese feudalism; the beginning of western influence. 19: Modern Asia: The impact of Europe, nationalism, post-World War II Asia. (No prerequisite)

Fall Quarter

17 Th 5:30-8:00, Ford 180,
Stein

Winter Quarter

18 Th 5:30-8:00, Ford 180,
Stein

Spring Quarter

19 Th 5:30-8:00, Ford 180,
Stein

Hist 21-22.† American History. 3 degree credits each semester. \$24 each semester.

A survey of the political, economic, and social history of the United States, with emphasis on the forces that resulted in the emergence of modern America. 21: Sectionalism and national development. 22: Modern America. (No prerequisite)

Fall Semester

21 M 6:20-8:00, Ford 115, Beatty

Spring Semester

22 M 6:20-8:00, Ford 115, Beatty

Hist 79-80.† American History Since 1900. 3 degree credits each semester. \$24 each semester.

A concentrated study of the social, political, economic, and cultural development of the United States since 1900 and of the rise of the United States as a world power. 79: The Spanish-American

Symbols explained on page 31.

Evening and Special Classes

War and America's overseas empire; the rise of big business; problems of the city; the Progressive Era of Reform; America in World War I. 80: Social and intellectual crises of the 1920's; prosperity and depression; the New Deal; the rise of organized labor; from isolation to intervention; the post-war scene. (No prerequisite)

Fall Semester

79 Th 6:20-8:00, Ford 120, Noble

Spring Semester

80 Th 6:20-8:00, Ford 120, Noble

Hist 86-87-88.† The American Colonies. 3 degree credits each quarter. \$24 each quarter.

86: The European and English background, foundation of colonies, establishment of colonial institutions, 1607-1689. 87: The expansion of the colonies territorially, economically, and culturally, 1689-1750. 88: The colonies in the empire, imperial struggle and its aftermath in revolution and independence, 1750-1783. (No prerequisite)

Fall Quarter

86 Th 5:30-8:00, Ford 170,
Rutman

Winter Quarter

87 Th 5:30-8:00, Ford 170,
Rutman

Spring Quarter

88 Th 5:30-8:00, Ford 170,
Rutman

Hist 95-93.‡ American Diplomatic History. 3 degree credits each semester. \$24 each semester.

95: United States as a world power. 93: American diplomacy, 1776-1848. (95 completes the sequence 93-94-95. 93 begins the sequence again; it will be completed in 1961-1962.) (No prerequisite)

Fall Semester

95 M 8:10-9:50, Ford 115, Beatty

Spring Semester

93 M 8:10-9:50, Ford 115, Beatty

Hist 100A-101A-102A.‡ Greek History. 3 degree credits each quarter. \$24 each quarter.

An advanced course in Greek history from the earliest times to the end of the Hellenistic Age. 100A: Minoan and Mycenaean civilization, the Dark Ages, the rise of Greek civilization, 750-500 B.C. 101A: Persian Wars, Periclean Athens, Peloponnesian War, classical Greek civilization (art, literature, philosophy, etc.). 102A: The fourth century, rise of Macedon, Alexander the Great, Hellenistic history and civilization, 323-133 B.C. (No prerequisite)

Fall Quarter

100A T 5:30-8:00, Ford 130,
Jones

Winter Quarter

101A T 5:30-8:00, Ford 115,
Jones

Spring Quarter

102A T 5:30-8:00, Ford 115,
Jones

Hist 109-110.‡ Europe in the Twentieth Century. 3 degree credits each semester. \$24 each semester.

109: The years 1900-1918. Background and causes of World War I; history of Europe during 4 years of war. 110: From 1918 to present. The Paris Conference and peace treaties; the new political and social order in central and eastern Europe; problems of the western democracies; the attempt at a new world order and its collapse; the background and history of World War II. (No prerequisite)

Fall Semester

109 W 6:20-8:00, Ford 155, Deutsch

Spring Semester

110 W 6:20-8:00, Ford 155, Deutsch

Hist 134-135.‡ History of World War II. 3 degree credits each semester. \$24 each semester.

134: 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. 135: The breakdown of Nazi-Soviet relations; war in the East and at sea; decline of Axis fortunes; the United States entry; interrelation of European and far Eastern wars; inter-allied relations; the battles of France and Germany; liquidation of the War; occupation prob-

Symbols explained on page 31.

Course Offerings—Arts and Sciences

lems and policies; affairs of the United Nations; relations of the victor powers and the peace settlements. (No prerequisite)

Fall Semester

134 W 8:10-9:50, Ford 155, Deutsch

Spring Semester

135 W 8:10-9:50, Ford 155, Deutsch

Hist 137A-138A.† American History 1850-1880. 3 degree credits each semester. \$24 each semester.

137A: From Compromise of 1850 to Appomattox. 138A: From 1865 to 1880. (139A, the last course of the 137A-138A-139A sequence, will be given Fall Semester 1961.) (No prerequisite)

Fall Semester

137A M 6:20-8:00, Ford 130, Loehr

Spring Semester

138A M 6:20-8:00, Ford 130, Loehr

Hist 147A-148A. History of the South. 3 degree credits each semester. \$24 each semester.

Completes a 3-semester sequence, 146A-147A-148A, covering the period from 1607 to the present. 147A: Covers the period 1840-1890. 148A: Covers the period 1890-1960. (No prerequisite)

Fall Semester

147A Th 8:10-9:50, Ford 115, Noble

Spring Semester

148A Th 8:10-9:50, Ford 115, Noble

Interdepartmental Courses and General Education

Communication

Comm 1-2-3. Communication. 4 degree credits each quarter. \$32 each quarter.

A practical course intended to prepare the student to meet more effectively the various vocational and social demands, to write and talk to others, and to receive communication from them. Constant practice in writing and speaking is uniquely based upon some understanding of how language functions to convey meaning. 1: The fundamental patterns of meaning in English, word meaning, social meaning, good usage. 2: The use of language to influence human behavior. 3: Mass communication of press, film, and radio, and how to receive it with critical discrimination. The sequence is accepted by the University as meeting all requirements which are satisfied by Engl 1B-2B-3B, Freshman English. (Prerequisite: Preparatory Composition or satisfactory score on English Placement Test, as explained on page 51)

Fall Quarter

1 W 5:30-9:00, TNM 106,
O'Hara

Winter Quarter

2 (same schedule as fall)

Spring Quarter

3 (same schedule as fall)

Family Life

***FL 1. Preparation for Marriage and Family Living.** 3 degree credits. §FL 1A. \$24 plus \$1 material fee.

This course is designed to assist individuals seeking self-understanding, mutually satisfying interpersonal relations, happy marriage and successful parenthood.

These personal goals are worked toward through discussion and study about: personal growth and maturity; desirable mate qualities and selecting a marriage partner; purposes and problems of dating, courtship and engagement; family philosophy, religion, values, and planning; early marriage adjustments, child training and discipline, sex education, income management, problem solving and decision making. Integral parts of the course are: case studies, movies, and student discussion. Students are invited for discussion and personal or family counseling with the instructor. (No prerequisite. Class limited to 25 students)

Fall Semester

M 6:20-8:00, Johnston 306, Hansen

Symbols explained on page 31.

Evening and Special Classes

*FL 1A. Marriage and Parenthood. 3 degree credits. \$FL 1. \$24 plus \$1 material fee.

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

Fall Semester

W 7:50-9:30, Forest Products 204.
St. Paul Campus, Hansen

Spring Semester

M 6:20-8:00, Johnston 307, Hansen
W 7:50-9:30, Forest Products 204,
St. Paul Campus, Hansen

Humanities

Hum 1. Humanities in the Modern World I. (**Hum 51) 3 degree credits. \$24.

An introduction to the study of the humanities in the modern world, including the old regime, the revolution, neoclassicism and romanticism, from about 1740 to 1820. Materials used are history, prose, criticism, literature, poetry, and art. Authors: Pope, Voltaire, Rousseau, Burke, Goethe, Tolstoy. (No prerequisite. Repeated spring semester)

Fall Semester

M 8:10-9:50, Johnston 113, Ames
T 6:20-8:00, Johnston 114, MacInnes
T 8:10-9:50, Johnston 114, Amberg
T 6:00-7:40, StP Ext Center 3D, Kliger

Spring Semester

M 6:20-8:00, Johnston 114, MacInnes
W 8:10-9:50, Johnston 114, Brown

Hum 2. Humanities in the Modern World II. (**Hum 52) 3 degree credits. \$24.

The industrial revolution, liberalism and socialism, the psychology of individualism. Period covered is from 1776 to 1890. Authors: Carlyle, Mill, Marx, Smith, Malthus, Ibsen, Dostoyevsky. (No prerequisite. Repeated spring semester)

Fall Semester

Th 8:10-9:50, Johnston 114, Wright

Spring Semester

M 8:10-9:50, Johnston 115, Ames
W 6:20-8:00, Johnston 114, Brown
T 6:00-7:40, StP Ext Center 3D, Kliger

Hum 3. Humanities in the Modern World III. (**Hum 53) 3 degree credits. \$24.

The impact of science and evolution; religion and morals in a changing world, from about 1840 to 1914. Authors: the evolutionists, Kierkegaard, Nietzsche, Chekhov, Thomas Mann. (No prerequisite. Repeated spring semester)

Fall Semester

W 6:20-8:00, Johnston 114, Siegelman

Spring Semester

T 6:20-8:00, Johnston 114, Wright

Hum 4. Humanities in the Modern World IV. (**Hum 54) 3 degree credits. \$24.

Civilization between two wars: the impact of psychoanalysis, communism, 20th century liberalism, new problems of human value and authority. Authors: Freud, Lenin, T. S. Eliot, Kafka, and others. (No prerequisite. Repeated spring semester)

Fall Semester

W 8:10-9:50, Johnston 114, Siegelman

Spring Semester

T 8:10-9:50, Johnston 114, Kliger

Symbols explained on page 51.

Course Offerings—Arts and Sciences

Hum 13A. Renaissance Heritage. (°°Hum 63A) 3 degree credits. \$24.

The 14th and 15th centuries in Italy: the age of Lorenzo the Magnificent in Florence: Tuscan art, architecture, literature, and political life. Readings from Petrarch, Alberti, Pico, Machiavelli, Cellini, and others. Color slides, films, and reproductions. (No prerequisite)

Fall Semester

Th 6:20-8:00, Johnston 114, Vogelbaum

Hum 13B. Renaissance Heritage. (°°Hum 63B) 3 degree credits. \$24.

The high renaissance, the Reformation in Germany, the Counter-reformation—16th and 17th centuries. Readings from Luther, Calvin, Loyola, Cervantes, Descartes, Pascal, Montaigne. Color slides, films, and reproductions of high renaissance and baroque art and architecture. (No prerequisite)

Spring Semester

Th 6:20-8:00, Johnston 114, Vogelbaum

Hum 21. American Life. 3 degree credits. \$24.

The concept of individualism and the place of the individual in American society as recorded in history, social thought, literature, and the arts. Authors: Franklin, Emerson, Thoreau, Whitman, and others. Music of Charles Ives. Architecture of Frank Lloyd Wright. (No prerequisite)

Fall Semester

T 8:10-9:50, Johnston 115, Agee

Hum 22. American Life. 3 degree credits. \$24.

The role of religious and philosophic attitudes in the formation of American beliefs. Authors: Roger Williams, Jonathan Edwards, William James, Veblen, Henry Adams, T. S. Eliot, and others. Selected religious painting, architecture, and music. (No prerequisite)

Spring Semester

T 8:10-9:50, Johnston 115, Agee

Personal Orientation

°PO 1. How to Study. 2 degree credits (see course description.) \$24.

Practical assistance to the student in developing efficient methods of study and concentration, organizing material, preparing for examinations, and improving reading ability. Attention to the orientation of students in their attitudes and motivation, and the relation of these to satisfactory performance. (No prerequisite. Class limited to 20 students. Repeated spring semester. Students intending to use this course in a degree program should consult an adviser before registering)

Fall Semester

T 6:20-8:00, Johnston 306, Carlson

T 8:10-9:50, Johnston 306, Carlson

Spring Semester

M 6:20-8:00, Johnston 306, Wark

M 8:10-9:50, Johnston 306, Carlson

Efficient Reading. See Study Skills, page 82.

Vocabulary Building. See Study Skills, page 82.

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 inte-

Symbols explained on page 31.

Evening and Special Classes

grated study of the factors, historical, political, economic, social, psychological, and cultural—that influence and are influenced by man's conduct. Each course is organized around a basic theme.

SSci 1. Introduction to Social Science. (**SSci 51) 4 degree credits. \$32.

Personality is the basic theme for Social Science 1. The student is confronted with problems involved in developing a personality and he is introduced to different interpretations and concepts of personality. He studies personality as shaped by culture and society, and as a shaper of culture and society. Readings include selections from the works of Sigmund Freud, Jean Piaget, Clyde Kluckhohn, Henry Murray, Bronislaw Malinowski, Aristotle, Tolstoy, and others. (No prerequisite. Repeated spring semester)

Fall Semester

M 5:45-8:00, Johnston 115, Engelbourg

Spring Semester

W 5:45-8:00, Johnston 115, Weinstein

SSci 2. Introduction to Social Science. (**SSci 52) 4 degree credits. \$32.

Work is the basic theme for Social Science 2. The student is introduced to the various ways of organizing the work process. He is shown the economic, sociological, and psychological implications of the ways in which work is organized. Many problems of a modern industrial economy and society are discussed, and alternatives are explored. Such problems as business cycles, automation, economic power and controls are considered. Readings include selections from the works of Plato, Frank Knight, George Orwell, C. Wright Mills, Paul Samuelson, Henry Dickinson, H. G. Wells, and Wilhelm Roepke. (No prerequisite)

Spring Semester

M 5:45-8:00, Johnston 115, Engelbourg

SSci 3. Introduction to Social Science. (**SSci 53) 4 degree credits. \$32.

Community is the basic theme for Social Science 3. The course centers on the ties that bind people to one another. Various concepts of community are examined; the student explores different ways in which men live together—their institutions, social classes and groups. Throughout the course questions concerning social ideals are raised. The course enables the student to understand better his involvement and participation in various aspects of community life through a clarification of the basic issues of community. Readings include selections from the works of Ortega, Aldous Huxley, Robert Redfield, Louis Wirth, W. Lloyd Warner, Aristotle, Mussolini, Lenin, John Stuart Mill, Bertrand Russell, Reinhold Niebuhr, and others. (No prerequisite)

Fall Semester

W 5:45-8:00, Johnston 115, Weinstein

Sociology. See page 77.

Italian

Ital 1A-2A. Beginning Conversational Italian. 3 degree credits each semester. \$24 each semester.

Conversational approach. (No prerequisite for 1A; for 2A, 1A or #)

Fall Semester

1A T 6:20-8:00, Folwell 201, Bieter

Spring Semester

2A T 6:20-8:00, Folwell 201, Bieter

Ital 3A-4A. Conversational Italian. 3 degree credits each semester. \$24 each semester.

A continuation of Ital 1A-2A. (Prerequisite for 3A, 2A; for 4A, 3A)

Fall Semester

3A W 6:20-8:00, Folwell 108, Pellegrini-Seim

Spring Semester

4A W 6:20-8:00, Folwell 108, Pellegrini-Seim

Symbols explained on page 31.

Journalism

Jour 13. Introduction to Journalistic Writing. 3 degree credits. \$24.

Lectures and assignments in journalistic media and audiences; fundamentals of fact-gathering and fact-writing for newspapers, broadcasting, and advertising. (Prerequisite: Engl 3B or ##. Repeated spring semester)

Fall Semester

W 6:20-8:00, Murphy 212, Patterson

Spring Semester

W 6:20-8:00, Murphy 212, Lindsay

Jour 18. Principles of Advertising. 3 degree credits. \$24.

The role and function of advertising in modern society. A survey of techniques and practices in creating advertising, emphasizing copy, research, and media fields. Problems and cases in advertising. (Prerequisite: 13; or ##)

Fall Semester

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

*Jour 54. Typography for Publications and Advertising. 3 degree credits. \$24 plus \$5 laboratory fee.

Study of type faces in current usage. Choosing type faces for headline forms and text. Layouts. Copyfitting and composition in typography laboratory. (Prerequisite: 13 or 18 or ##. Class limited to 20 students)

Spring Semester

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

*Jour 65. Graphic Processes and Layout Techniques for Publications and Advertising. 3 degree credits. \$24 plus \$5 laboratory fee.

Study of letterpress, offset, gravure, and silk screen printing by demonstration and movie. Evaluation of processes. Use of engravings, art, and illustration techniques in publications and advertising. Practice in layout. (Prerequisite: ##. Class limited to 20 students)

Fall Semester

M 6:20-8:00, Murphy 212, Wilson

*Jour 69. Business News and Feature Writing. 3 degree credits. \$24.

For persons in advertising or in specialized publications. Gathering material and writing of news stories, feature articles, and other types of copy in the business-advertising field. Audiences in this field; media. (Prerequisite: Engl 3B, or ##. Class limited to 18 students)

Fall Semester

T 8:10-9:50, Murphy 212, Watters

*Jour 73. Magazine Writing I. 3 degree credits. \$24.

The theory and techniques of the nonfiction magazine article for general and specialized periodicals; subjects and materials, practice assignments, manuscript criticism, editorial principles, basic instruction for beginners in this field of writing. (Prerequisite: Engl 3B, or ##. Class limited to 18 students)

Spring Semester

T 6:20-8:00, Murphy 212, Sittard

Symbols explained on page 31.

Evening and Special Classes

Jour 78. Public Relations. 3 degree credits. \$24.

A survey of the techniques and practices of workers in the public relations field. The function of the public relations counsel and publicity expert and their relationship to the communications media, to employer and employee, consumer, and citizen. The production of public relations programs and campaigns for business and industry, social work agencies, educational institutions, and government. (Prerequisite: 13 or ##)

Fall Semester

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

°Jour 79. Advertising Copy Writing. 3 degree credits. \$24.

Techniques of writing retail and national advertising copy. Application of psychological principles relating to approach, appeals and response. Use of pre-testing, post-testing and creative research findings. (Prerequisite: 18 or ##. Class limited to 18 students)

Spring Semester

Th 6:20-8:00, Murphy 212, Watters

Library Science

Lib 50. History of Libraries and Librarianship. 3 degree credits. \$24.

A survey of library development from ancient times to the present, with emphasis on library service in the United States in the 19th and 20th centuries. The characteristics and functions of libraries as social agencies. A prerequisite for graduate study. (No prerequisite)

Fall Quarter

TTh 4:30-5:45, Library 4A, Shove

Lib 53. School Library Management. 3 degree credits. \$24.

Intended only for those working toward certification as school librarians. (No prerequisite)

Winter Quarter

MW 4:30-5:45, Library 4A, Zimmerman

Lib 55. Library Administration. 3 degree credits. \$24.

Principles of library administration, organization and management. A general course for all librarians; prerequisite for graduate study. (No prerequisite)

Winter Quarter

TTh 4:30-5:45, Library 4A, Berninghausen

Lib 70. Selection of Library Materials. 3 degree credits. \$24.

Theory, principles and techniques of selection are combined with an introduction to the basic tools for selection of books, magazines, pamphlets, phonograph records, films, etc., for all types of libraries. A prerequisite for graduate study. (No prerequisite)

Spring Quarter

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

Lib 83. Cataloguing and Classification. 3 degree credits. \$24.

Basic principles of descriptive cataloguing, including rules of entry, subject headings and classification in libraries, for all types of libraries. A prerequisite for graduate study. (No prerequisite)

Fall Quarter

M 6:30-9:00, Library 4A, Simonton

Symbols explained on page 31.

Music

Applied Music

Individual instruction in music offered by the Department of Music is open to students not able to attend day classes by registration through the General Extension Division. Private lessons are given in piano, organ, voice, violin, trumpet, and all other orchestral instruments. Registration is made at the beginning of each quarter through the Department of Music, 107 Scott Hall. Time and place of lessons are also arranged through the music office. Final examinations are taken during day-time hours. The courses offered, and their fees, will be found in the program of classes for the College of Science, Literature, and the Arts in the *Class Schedule*. In addition to the regular tuition and fees, a \$4 registration fee will be charged for each quarter course. The usual fee for late registration will also be charged. For further information, consult any office of the General Extension Division or the office of the Department of Music.

Mus. Enjoying Music. No credit. \$24 each quarter.

Enjoying and understanding music heard in today's concert halls, theaters and homes. Various types, forms and styles of instrumental and vocal music, including symphony, opera, chamber music and solo works. Fall: baroque and classical periods. Winter: late classical and Romantic periods. Spring: late Romantic and modern periods. (No prerequisite)

<i>Fall Quarter</i>		<i>Winter Quarter</i>		<i>Spring Quarter</i>	
M	6:20-8:50, Scott 4, Ivory	M	6:20-8:50, Scott 4, Ivory	M	6:20-8:50, Scott 4, Ivory

Mus. Jazz Workshop: Arranging and Composing. No credit. \$40.

The purpose of the workshop will be to acquaint students with the techniques and new developments in arranging and composing for combos, miscellaneous ensembles and large bands, by means of lectures, recordings, demonstrations and class performances. Through practical workshop experience in class, registrants should become familiar with characteristics of present-day jazz (melody, harmony, rhythm, improvisation, and instrumentation).

Fall Semester
T 6:20-8:00, Scott 4, Pilhofer

***Mus. Piano Playing for Pleasure (Group Piano) I-II.** 2 certificate credits each semester. \$24 each semester.

Practical piano for the person who wishes to play the piano for pleasure. Emphasis on sight reading, transposition, harmonization, improvisation, accompanying. Student will learn to chord and to play simple tunes. In the fall semester, the Tuesday section of I will be restricted to absolute beginners with no musical experience; the Thursday section will be open to advanced beginners with some experience. (No prerequisite for I; prerequisite for II is I or ♯. Each section limited to 20 students)

<i>Fall Semester</i>			<i>Spring Semester</i>		
I	T	7:00-9:00, MusEd 103, O'Connor	I	Th	7:00-9:00, MusEd 103, O'Connor
I	Th	7:00-9:00, MusEd 103, O'Connor	II	T	7:00-9:00, MusEd 103, O'Connor

Mus 1T-2T-3T. Music Theory. 3 degree credits each quarter. \$24 each quarter.

Development of musicianship through both auditory and visual perception; basic rudiments; exercises in part-writing and harmonization of chorales in the style of Bach; ear training, sight singing. (No prerequisite for 1T; prerequisite for 2T and 3T: the previous quarter)

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

Symbols explained on page 31.

Evening and Special Classes

Mus 40-41-42. University Symphony Orchestra. 1½ degree credits each semester. \$12 each semester.

Standard orchestral literature performed. Open to players of orchestral instruments from Twin Cities area. Those enrolled with consent of chairman of Music Department are given the opportunity of rehearsing with the University Symphony and participating in three annual concerts given in Northrop Auditorium. (Prerequisite: #)

Fall Semester

Spring Semester

40-41 W 7:00-9:30, Northrop Aud, Oberg 41-42 W 7:00-9:30, Northrop Aud, Oberg

Mus 43. University Chorus. 1 degree credit each quarter. \$8 each quarter.

Performances of major symphonic-choral works with the Minneapolis Symphony Orchestra, University Symphony Orchestra, and University Concert Band. (Students may register only with #)

Fall Quarter

Winter Quarter

Spring Quarter

T 7:30-9:30, Nicholson Aud T 7:30-9:30, Nicholson Aud T 7:30-9:30, Nicholson Aud

Mus 50-51-52. American Music. 3 degree credits each semester. \$24 each semester.

Emphasis on Indian, folk, jazz, and contemporary art music; comprehensive discussion of jazz and its influence on American and European contemporary music; music of the Latin-American Indians and Mestizos. Listening to numerous studio and field recordings. (No prerequisite. For nonmusic majors)

Fall Semester

Spring Semester

50-51 T 6:20-8:00, Scott 104, Riedel 51-52 T 6:20-8:00, Scott 104, Riedel

Mus 73-74-75. Introduction to Opera. 3 degree credits each semester. \$24 plus \$1 materials fee each semester.

Designed to give an understanding of classical and romantic opera; centered on the weekly broadcasts of the Metropolitan Opera Company, and important presentations in the Twin Cities including Minneapolis Symphony Orchestra performances, St. Paul Civic Opera productions, and the spring season of the Metropolitan in Northrop Auditorium. (No prerequisite. For nonmusic majors)

Fall Semester

Spring Semester

73-74 W 6:20-8:00, Scott 4, Knowles 74-75 W 6:20-8:00, Scott 4, Knowles

Mus 147-148-149. Opera Production. 2 degree credits each quarter. \$16 plus \$4 laboratory fee each quarter.

Student is given opportunity to prepare and perform operatic roles both standard and contemporary. A union of musical and dramatic interpretation is emphasized. In addition to ensemble work scheduled private instruction is given. All projects and roles will be sung in English. (Prerequisite: auditions)

Note—Class meets on Tuesday and Thursday. See schedule below.

Fall Quarter

Winter Quarter

Spring Quarter

147 T 6:20-8:00, MusEd 204, Knowles	148 T 6:20-8:00, MusEd 204, Knowles	149 T 6:20-8:00, MusEd 204, Knowles
Th 3:30-5:00, MusEd 204, Knowles	Th 3:30-5:00, MusEd 204, Knowles	Th 3:30-5:00, MusEd 204, Knowles

Natural History

*Nath. Birds of Minnesota. Special Class. \$24.

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

Symbols explained on page 31.

Course Offerings—Arts and Sciences

class will meet in field locations on *Sunday mornings at 7:30*. (No prerequisite. Class limited to 20 students)

Spring Semester

Th 6:20-8:00, Museum of Natural History 309,
Breckenridge, Gunderson

*NatH. Wild Game of Minnesota. Special Class. \$16.

A nontechnical survey of the upland game birds, waterfowl, and mammals, particularly the fur bearers and big game of Minnesota: their habits, characteristics, and requirements. Recognition and conservation of principal game species will be discussed. Illustrated lectures and demonstrations. (No prerequisite. Class limited to 20 students)

Fall Quarter

W 6:20-8:00, Museum of Natural History 309,
Gunderson

Nursing and Nursing Administration

*Nurs 104. Role of Nursing in Maintaining Emotional Health. 3 degree credits. \$24.

Mental health principles and techniques in nursing care. (Open to registered nurses. Class limited to 35 students)

Spring Quarter

T 6:00-8:30, Owre 111, Lediger

*NuAd 58. Introduction to Ward Administration. 3 degree credits. \$24.

Place of the head nurse in the hospital organization; basic principles of maintaining nursing service; analyzing patients' needs and directing activities of ward personnel. (Open to registered nurses. Class limited to 35 students)

Fall Quarter

M 6:30-9:00, Owre 113, Walseth

*NuAd 70. Work Simplification. 3 degree credits. \$24.

Principles of work simplification with application to situations in nursing. (Open to registered nurses. Class limited to 35 students)

Fall Quarter

T 6:00-8:30, Owre 111, Grainger

Nursing Education. See page 112.

Philosophy

Phil 1. Problems of Philosophy. 3 degree credits. \$24.

Introduction to the subject; the main fields of investigation; permanent problems; principal methods and schools of philosophy; historical and contemporary views. (No prerequisite. Repeated spring semester)

Fall Semester

Th 6:20-8:00, Johnston 113, Raab

Spring Semester

Th 6:20-8:00, Johnston 113, Raab

Symbols explained on page 31.

Evening and Special Classes

Phil 2. Logic. 3 degree credits. \$24.

A study of the difference between logical and fallacious reasoning; the functions and uses of language; rules of good definitions and sound argument. (No prerequisite. Repeated spring semester)

Fall Semester

T 6:20-8:00, Johnston 115, Allen
W 8:10-9:50, Johnston 115, Potter
W 7:50-9:30, StP Ext Center 3F, Magel

Spring Semester

T 6:20-8:00, Johnston 115, Allen
Th 8:10-9:50, Johnston 115, Potter

Phil 3. Ethics. 3 degree credits. \$24.

An examination of the problems which arise when human beings attempt to think systematically about conduct and values (are there absolute standards?); the problem of free will; and a survey of historical views about the right and the good. (No prerequisite. Repeated spring semester)

Fall Semester

W 8:10-9:50, Johnston 113, Mason

Spring Semester

W 8:10-9:50, Johnston 113, Mason

Phil 10. Science and Religion. 3 degree credits. \$24.

An inquiry into the nature of science and religion as currently interpreted, with an attempt to find grounds of conflict and/or reconciliation. (No prerequisite)

Spring Semester

T 8:10-9:50, Johnston 113, Allen

Phil 52. Modern Philosophy. 3 degree credits. \$24.

Rise and development of modern philosophy. The scientific revolution of Copernicus and Galileo; attempts at a new philosophy by Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume; criticism of these earlier attempts by Kant and Hegel. (No prerequisite)

Fall Semester

W 6:20-8:00, Johnston 113, Mason

Phil 87. Readings in Religious Classics. 3 degree credits. \$24.

A course designed to acquaint the general reader with some literary expressions of religion. No attempt will be made to settle theological or sectarian issues. Emphasis will be placed on the understanding of each author's work as it relates to his life and that of his contemporaries. Selected readings are planned from the following works of authors of diverse traditions: *The Bhagavad-Gita*, *The Teachings of the Compassionate Buddha*, *The Book of Job*, *The Confessions of St. Augustine*, *The Cloud of Unknowing*, *The Little Flowers of St. Francis*, Pascal's *Pensees*, Kierkegaard's *Fear and Trembling*, Mill's *Essays on Religion*, Buber's *The Way of Man*, and Tillich's *The Courage To Be*. (No prerequisite)

Spring Semester

W 6:20-8:00, Johnston 113, Mason

Photography

Students in all photography classes must furnish their own cameras.

***Art 10. Basic Photography I.** 3 degree credits. \$24 plus \$10 laboratory fee.

A course for beginners, with little or no experience in photography. The course will include lectures and demonstrations dealing with basic photographic equipment and materials, general camera and darkroom techniques, history, and criticism. There will be some laboratory work in the use of the camera, in contact printing, and enlarging. This class is of interest to people who need a working

Symbols explained on page 31.

Course Offerings—Arts and Sciences

knowledge of photography in professions other than photography, and for those who want to know how to use a camera efficiently. (No prerequisite. Repeated spring semester. Limited to 20 students)

Fall Semester

M 6:20-8:00, Jones 2, Liebling

Spring Semester

M 6:20-8:00, Jones 2, Liebling

*Art 11. Basic Photography II. 3 degree credits. \$24 plus \$10 laboratory fee.

A course for amateurs with some experience and familiarity with special photographic equipment and techniques. Work will include some assigned projects, lectures, and demonstrations, but special attention will be given to individual interests and requirements. (Prerequisite: Art 10 or equivalent with #. Repeated spring semester. Limited to 20 students)

Fall Semester

W 6:20-8:00, Jones 2, Liebling

Spring Semester

W 6:20-8:00, Jones 2, Liebling

Phot. Color Photography I. 3 certificate credits. \$24 plus \$5 laboratory fee.

A foundation course in the growing field of color photography, designed to provide you 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. (Experience or instruction in black and white photography is desirable, but not a prerequisite. Repeated spring semester)

Fall Semester

W 6:20-8:00, Wesbrook 202, Webb

Spring Semester

T 6:20-8:00, Wesbrook 202, Webb

Phot. Color Photography II. 3 certificate credits. \$24 plus \$5 laboratory fee.

A workshop course in which the student participates in supervised group projects. Course includes lecture demonstrations, field trips, and attention to such subjects as color portraiture, dark-room techniques, color experiments, and special problems. (Prerequisite: Color Photography I)

Spring Semester

W 6:20-8:00, Wesbrook 202, Webb

Phot. Motion Picture Production I-II. (To be offered 1961-62)

Political Science

Pol 1-2.† American Government and Politics: Parts I and II. 3 degree credits each semester. \$24 each semester.

1: The impact of international events upon the American system of government and the tremendous part that government plays in our lives. This course is designed to provide an intelligent understanding of certain fundamental features of our governmental system: the nature of our Constitution, the protection of individual rights and liberties, political parties, public opinion, nominations, and elections. Special attention will be given throughout to current developments. 2: Recognizing that the American citizen must have an understanding of our system of government if he is to play an active and intelligent part in helping it meet the problems of the future, this course is designed to provide a description, analysis, and evaluation of the legislative, executive, and judicial branches of our government (national, state, and local) with special attention to current developments. (No prerequisite)

Fall Semester

1 M 6:20-8:00, Ford 155, Hathaway

1 W 6:00-7:40, StP Ext Center 2G, Mitau

Spring Semester

2 M 6:20-8:00, Ford 85, Hathaway

2 W 6:00-7:40, StP Ext Center 2G, Mitau

Symbols explained on page 31.

Evening and Special Classes

Pol 25. World Politics. 3 degree credits. \$24.

Significance of contemporary events abroad and their effect on American interests. Implications of Yalta, San Francisco, Potsdam, and other conferences. Schedule of lectures will be altered to explain current developments and trace causes. (No prerequisite)

Fall Semester

Th 6:20-8:00, Ford 150, Rogers

Pol 26. American Foreign Policy. 3 degree credits. \$24.

An introduction to the institutions and processes which determine American foreign policy. Traditional and postwar foreign policies. (No prerequisite)

Spring Semester

Th 6:20-8:00, Ford 150, McLaughlin

Pol 50. Political Behavior. (*Pol 167) 3 degree credits. \$24.

An introduction to political behavior, which considers such questions as the following: What are the main influences on the formation of political attitudes and opinions? What factors determine party preference and the outcome of elections? How are political leaders chosen and what distinguishes leaders from the led? What is the nature of organization and how does it affect political life in practice? What is the role of public opinion, campaigns, pressure groups, and the mass media in politics? (No prerequisite)

Fall Semester

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

Pol 51. Political Behavior. (*Pol 168) 3 degree credits. \$24.

This course considers other political behavior topics not taken up in Pol 50. Special attention is given to psychological factors in politics; the influence of personality on political belief and affiliation; the sources of political "extremism" and deviation; role and personality factors influencing the behavior of legislators, judges, and administrators, etc. (No prerequisite)

Spring Semester

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

Pol 53. American Political Campaigns and Elections. (*Pol 138) 3 degree credits. \$24.

Examination of national, state, and local campaigns and elections, including field work in local parties and election campaigns. (No prerequisite)

Fall Semester

M 8:10-9:50, Ford 170, Backstrom

Pol 54. Chinese Government. (*Pol 154) 3 degree credits. \$24.

An analysis that seeks to explain the rise and development of communism in China; sources and nature of ideology; organization of communist power; role of the Chinese Communist party; foreign, economic, and cultural policies of the Chinese communists. (No prerequisite)

Spring Semester

W 6:20-8:00, Ford 160, Turner

Pol 55. Government of the Soviet Union. (*Pol 143, Government and Politics of the Soviet Union) 3 degree credits. \$24.

An analysis of the government and politics of Soviet Russia that seeks to explain the rise of Bolshevism; the sources and nature of its ideology; the history of the Communist regime, institutional

Symbols explained on page 31.

Course Offerings—Arts and Sciences

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

Fall Semester

M 6:20-8:00, Ford 160, Turner

Pol 74. Recent Social Legislation. (*Pol 124) 3 degree credits. \$24.

Federal, state, and local problems in field of public assistance and social security, with particular emphasis on major programs of Social Security Act, health insurance, and housing. (No prerequisite)

Spring Semester

T 6:20-8:00, Ford 130, Warp

Pol 80. Principles of the American Constitution. (*Pol 101) 3 degree credits. \$24.

Nature of constitutions, judicial review, national-state and interstate relation. (No prerequisite)

Fall Semester

W 8:10-9:50, Ford 160, Chase

Public Administration Courses

Your attention is called to the Public Administration Certificate program; see page 9.

Pol 58. Governmental Accounting. (*BA 185C, Governmental Accounting, page 90) 3 degree credits. \$24.

A course in the principles and procedures of governmental accounting, including: fund accounting; budgetary accounting as it relates to preparation and control of appropriation and program budgets, and control of periodic allotments; revenues, expenditures, assets, and liabilities; account classification; organizational and administrative aspects including systems and simplification techniques, financial reporting; principles of governmental cost accounting. (No prerequisite. Qualified students may register for BA 185C. Consult instructor)

Fall Semester

Th 6:20-8:00, Ford 185, Magraw

Pol 60. Organization and Management. (*Pol 131, Public Administration) 3 degree credits. \$24.

Study of administrative organization and management, emphasizing formal and informal organization structure, current reorganization theory, policy formulation, planning, decision-making, direction, and responsibility. (No prerequisite)

Fall Semester

T 8:10-9:50, Ford 130, Warp

Pol 62. Public Personnel Administration. 3 degree credits. \$24.

Development and significance of the public service; organization for personnel management; classification of positions; pay standardizations and administration; recruitment, examination, and placement; in-service training, evaluation of performance, conditions of employment; separation; human relations and morale; employee organization; obligations and responsibilities of public employees; retirement systems. (No prerequisite)

Spring Semester

W 6:00-7:40, StP Ext Center 3D, Jackson

Symbols explained on page 31.

Evening and Special Classes

Pol 63. Public Financial Administration. 3 degree credits. \$24.

Survey of purchasing, contracting, revenues, taxation, special assessments, service charges, borrowing, expenditures, budgeting, accounting, cost accounting, auditing, and reporting. Emphasis on state and municipal practices. (No prerequisite)

Fall Semester

T 6:20-8:00, Ford 150, Robertson

Pol 67. Administrative Analysis. (*°BA 145C, Systems and Procedures, page 89) 3 degree credits. \$24 plus \$2 material fee.

A study of the techniques of analyzing the organization and methods of administrative agencies. Topics include organization surveys, work simplification, space and equipment layouts, evaluation of forms, preparation of procedural manuals, and problems of control, delegation, and co-ordination. (No prerequisite. Qualified students may register for BA 145C. Consult instructor)

Spring Semester

Th 6:20-8:00, Ford 185, Magraw

Pol 73. City and County Planning. 3 degree credits. \$24.

Purpose and nature of planning; organization of planning agencies; citizen participation in planning; the master plan; zoning; housing; urban redevelopment; fiscal planning, the capital budget and program; planning for various municipal functions; intergovernmental relationships in planning. (No prerequisite)

Fall Semester

W 6:20-8:00, Ford 130, Locks

Pol 78. Administrative Responsibility. 3 degree credits. \$24.

Analysis of the multiple and sometimes conflicting responsibilities of American government officers and employees to their concept of the public interest, their superiors, the legislature, and the public. Special emphasis will be placed on a critical analysis of the powers and practices exercised by superiors, the legislature, and the courts in their efforts to promote and procure administrative responsibility. (No prerequisite)

Spring Semester

T 8:10-9:50, Ford 160, Chase

Psychology

Psy 1A. Application of Psychology to Living. 3 degree credits. \$24.

This course is devoted to psychology in personal relationships and in the achievement of mental health. It centers, for the most part, around our fundamental needs—the source of all our actions and satisfactions—and it presents principles highly applicable in the life of every person. (No prerequisite; may be taken with the same satisfaction before or after Psy 1-2. Elective credit in S.L.A. Not to be confused with Elementary Psychology A. Repeated spring semester)

Fall Semester

M 6:20-8:00, Nicholson 213, White
T 6:00-7:40, StP Ext Center 3G, White
Th 8:10-9:50, Nicholson 216, White

Spring Semester

M 8:10-9:50, Nicholson 216, White
T 6:00-7:40, StP Ext Center 3G, White
Th 6:20-8:00, Nicholson 216, White

Psy 1-2.† General Psychology. 3 degree credits each semester. \$24 each semester.

This course is designed to orient the student to the whole field of psychology. Its emphasis is upon methods of investigation. Required for most other courses in psychology. (No prerequisite)

Fall Semester

1 W 6:20-8:00, Nicholson Aud, White
1 Th 6:00-7:40, StP Ext Center 2A, D'Andrea
2 T 6:20-8:00, Nicholson 213, Meier

Spring Semester

2 W 6:20-8:00, Nicholson Aud, White
2 Th 6:00-7:40, StP Ext Center 2A, D'Andrea
1 T 6:20-8:00, Nicholson 211, Meier

Symbols explained on page 31.

*Psy 4-5.† **Introductory Laboratory Psychology.** 2 degree credits each semester. \$24 each semester.

Experiments illustrating the subject matter of contemporary psychology. Included are human and animal learning, problem solving, visual perception, measurement of general and special abilities and personality traits. Supplies the laboratory science requirement in the Lower Division. (Prerequisite: 1-2 or ¶1-2. Sections limited to 36 students)

Fall Semester

4 T 8:10-9:50, Psychology 211, Quiggle
4 W 8:10-9:50, Psychology 211, Koplin
4 Th 7:50-9:30, StP Ext Center 3C, Gough

Spring Semester

5 T 8:10-9:50, Psychology 211, Quiggle
5 W 8:10-9:50, Psychology 211, Koplin
5 Th 7:50-9:30, StP Ext Center 3C, Gough

Psy 70. Principles of Psychological Measurement. 3 degree credits. \$24.

Designed to present statistical methods necessary to the practical application of psychological concepts. Especially useful to persons who work with psychological tests or with any sort of objective evaluation technique. Special emphasis is given to psycho-physical methods and to techniques of attitude scaling, directed toward the needs of persons engaged in analysis of public opinion or in market research. Topics discussed include presentation and arrangement of data, measures of central tendency and dispersion, attitude scaling techniques (including the Likert, Thurstone, and Guttman methods), psycho-physical methods, sampling methods and problems of forecasting, tests of significance of differences, and correlation analysis. (Prerequisite: 2 or #)

Fall Semester

T 6:20-8:00, Johnston 106, Sperling

Psy 119. Psychology of Personality. 3 degree credits. \$24 plus \$1 laboratory fee.

Designed to dissolve the halo of mystery surrounding the concept of personality, to the end that persons may better understand themselves and those they influence. Personality factors in relationship to business, family, and marital life. Special study of the many conditions, cultural and biological, which produce the varied traits distinguishing one person from another. Emphasis upon the importance of early experiences in forming character. (Prerequisite: 2)

Spring Semester

W 8:10-9:50, Psychology 115, Sherman

Psy 122-123.† Vocational Development and Personnel Psychology. 3 degree credits each semester, \$Psy 160. \$24 plus \$1 laboratory fee each semester.

Deals with selecting, counseling, training, and maintaining an efficient labor force in industry. Theory and practice of giving, interpreting, and evaluating psychological tests and of interviewing; constructing and using rating scales; training, maintaining, and promoting employees. There will also be actual practice in the use of psychological tests. (Prerequisite: #)

Fall Semester

122 M 6:20-8:00, Psychology 211, Longstaff

Spring Semester

123 M 6:20-8:00, Psychology 211, Longstaff

Psy 125-126. Psychology of Individual Differences. 3 degree credits each semester. \$24 each semester.

Quantitative studies of such factors as age, sex, race and nationality, physical traits, family heredity, and environment in the causation of individual differences in abilities and temperament. (Prerequisite: 2, 5, 70 or ##; 125 must precede 126)

Fall Semester

125 T 6:20-8:00, Johnston 122, Dawis

Spring Semester

126 T 6:20-8:00, Johnston 122, Dawis

Symbols explained on page 31.

Evening and Special Classes

Psy 144-145.† Abnormal Psychology. 3 degree credits each semester. \$24 each semester.

Normal and abnormal behavior contrasted. Dynamics, and particularly the social determinants, of personality and maladjustments. (Prerequisite: 9 credits in psychology, or 6 credits in psychology with either Zool 1-2-3 or 12 credits in social science)

Fall Semester

144 Th 6:20-8:00, Psychology 115, Stieper

Spring Semester

145 Th 6:20-8:00, Psychology 115, Stieper

Psy 156. Psychology of Advertising. 3 degree credits. \$24.

Psychological analysis of the basic principles underlying advertising and selling. Consumer research is stressed. Research techniques for investigating advertising problems and the analysis of consumer wants are considered in detail. (Prerequisite: 2 and Econ 2)

Spring Semester

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

Public Health

PubH 50. Personal and Community Health. 3 degree credits, §2, 3, 3A, 3B, 4, 5, 51, 52, 100, or GC 10C. \$24.

Fundamental principles of health conservation and disease prevention. (No prerequisite)

Fall Semester

T 6:20-8:00, Mayo 125, Thomson

PubH 53. Introduction to Public Health. 5 degree credits. \$40.

Occurrence and prevention of communicable, degenerative, and industrial diseases; protection of food, water, and milk; maternal and child health. (Prerequisite: 3 or 50 and course in bacteriology)

Fall Semester

T 7:00-9:30, St. Joseph's Nursing Home—Room
4, 436 Main St., St. Paul, Schuman

Scandinavian Languages

Danish

Scan 13-14. Beginning Danish. 3 degree credits each semester. \$24 each semester.

This course is intended for students with little or no previous knowledge of the Danish language. It stresses the oral approach and reading selections of cultural value. (No prerequisite for 13; for 14, 13 or §)

Fall Semester

13 F 6:20-8:00, Folwell 12, Landa

Spring Semester

14 F 6:20-8:00, Folwell 12, Landa

Scan 15-16. Intermediate Danish. 3 degree credits each semester. \$24 each semester.

This course stresses conversation and composition in the Danish language, with review of grammar and readings in Danish prose. (Prerequisite: for 15, 14; for 16, 15 or §)

Fall Semester

15 F 8:10-9:50, Folwell 12, Landa

Spring Semester

16 F 8:10-9:50, Folwell 12, Landa

Finnish

Scan 17-18. Beginning Finnish. 3 degree credits each semester. \$24 each semester.

Intended for beginners with little or no previous knowledge of Finnish; stresses fundamentals

Symbols explained on page 31.

Course Offerings—Arts and Sciences

of grammar, correct pronunciation, reading, practice in conversation and simple composition. (No prerequisite for 17; for 18, 17)

Fall Semester

17 T 6:20-8:00, Folwell 208, Halonen

Spring Semester

18 T 6:20-8:00, Folwell 208, Halonen

Norwegian

Scan 1-2. Beginning Norwegian. 3 degree credits each semester. \$24 each semester.

This course, intended for students who have little or no previous knowledge of Norwegian, stresses spoken Norwegian, but provides in addition the essentials of grammar and some practice in simple composition. (No prerequisite for 1; for 2, 1)

Fall Semester

1 W 6:20-8:00, Folwell 12, Nelson

Spring Semester

2 W 6:20-8:00, Folwell 12, Nelson

Scan 3-4. Intermediate Norwegian. 3 degree credits each semester. \$24 each semester.

Designed for students with some theoretical and practical knowledge of Norwegian. Provides a rapid review of grammar and considerable practice in conversation and composition. Readings in Norwegian. (Prerequisite: for 3, 2; for 4, 3)

Fall Semester

3 M 6:20-8:00, Folwell 12, Nelson

Spring Semester

4 M 6:20-8:00, Folwell 12, Nelson

Swedish

Scan 7-8. Beginning Swedish. 3 degree credits each semester. \$24 each semester.

Intended primarily for beginners in Swedish. A minimum of grammar, with emphasis on simple composition and conversation, and some reading of elementary Swedish prose. (No prerequisite for 7; for 8, 7)

Fall Semester

7 T 6:20-8:00, Folwell 12, Gustafson

Spring Semester

8 T 6:20-8:00, Folwell 12, Gustafson

Scan 61. Swedish Literature in the Nineteenth Century. 3 degree credits. \$24.

A rapid sketch of early nineteenth-century Romantic literature and the mid-century years, followed by a more detailed treatment of Strindberg and the realistic breakthrough together with the poetic renaissance of the 1890's. Readings may be done either in English or in Swedish. (No prerequisite)

Fall Semester

W 8:10-9:50, The Annex of the American-Swedish Institute, 2601 Oakland Avenue, Minneapolis, Gustafson

Scan 62. Swedish Literature Today. 3 degree credits. \$24.

Lectures on the chief literary trends of our century in Sweden, with special attention given to Hjalmar Bergman and Pär Lagerkvist, and other representative authors, particularly those—like Vilhelm Moberg, Eyvind Johnson, and Harry Martinson—whose origins are among the working classes. (No prerequisite)

Spring Semester

W 8:10-9:50, The Annex of the American-Swedish Institute, 2601 Oakland Avenue, Minneapolis, Gustafson

Symbols explained on page 31.

Slavic and Oriental Languages

Japanese

Japan 1-2. Beginning Modern Japanese. 3 degree credits each semester. \$24 each semester.

An introductory course to modern written and spoken Japanese intended to provide a basis for developing a modest reading and conversational ability. (No prerequisite)

Fall Semester

1 M 6:20-8:00, Folwell 305½, Copeland

Spring Semester

2 M 6:20-8:00, Folwell 305½, Copeland

Japan 3-4. Intermediate Japanese. 3 degree credits each semester. \$24 each semester.

Intended for students with some experience in modern written and spoken Japanese. The course will attempt to develop ability in reading newspapers and other comparatively simple material. (Prerequisite: 2, or #)

Fall Semester

3 M 8:10-9:50, Folwell 305½, Copeland

Spring Semester

4 M 8:10-9:50, Folwell 305½, Copeland

Russian

Russ 1-2. Beginning Russian. 3 degree credits each semester. \$24 each semester.

A beginning course with emphasis on grammar and reading. Exercises in sentence structure. Translation of narrative and expository prose. (No prerequisite for 1; for 2, 1 or #)

Fall Semester

1 M 6:20-8:00, Folwell 301, Niemi

Spring Semester

2 M 6:20-8:00, Folwell 301, Niemi

Russ 3-4. Intermediate Russian. 3 degree credits each semester. \$24 each semester.

Readings from 19th-century authors, review of essential grammar, practice in spoken Russian. (Prerequisite: 1-2)

Fall Semester

3 T 6:20-8:00, Folwell 305, Nice

Spring Semester

4 T 6:20-8:00, Folwell 305, Nice

Russ 20-21. Advanced Russian. 3 degree credits each semester. \$24 each semester.

Discussions in Russian on assigned readings. Designed for students who have had 2 or more years of Russian. (Prerequisite: 4 or #)

Fall Semester

20 W 6:20-8:00, Folwell 304, Niemi

Spring Semester

21 W 6:20-8:00, Folwell 304, Niemi

Semitic

Sem 124-125-126. Introduction to Biblical Hebrew. 3 degree credits each quarter. \$24 each quarter.

Grammatical essentials intended to lay a good foundation for reading and exegetical study of the Bible are stressed. Careful attention is given to the mastery of verb and noun forms. The standard lexicons, grammars and critical commentaries are used. (No prerequisite for 124; for 125, 124; for 126, 125)

Fall Quarter

124 M 6:00-8:30, Folwell
102, Pearson

Winter Quarter

125 M 6:00-8:30, Folwell
102, Pearson

Spring Quarter

126 M 6:00-8:30, Folwell
102, Pearson

Symbols explained on page 31.

Social Work

***SW 91. Case Methods Applied to the Study of Human Problems.** 3 degree credits. \$24.

A course on interviewing method as applied to its use in service professions and occupations. Designed for people in social work, public health nursing, speech pathology, etc. (Prerequisite: currently professionally engaged in interviewing in a service profession or occupation or ♯. Class limited to 25 students)

Spring Semester

M 6:20-8:00, Ford 175

SW 167. Casework in Authoritarian Settings. 3 degree credits. \$24.

A review of basic casework principles and how these are applied to the casework function in agencies which possess legal authority over the client. Lecture and discussion focused upon recurring problems with philosophical and skill factors emphasized. (Prerequisite: employment in a social work agency, or ♯♯)

Fall Semester

T 7:50-9:30, StP Ext Center 3F, Compton

SW 201. Special Topic—Advanced Social Group Work. 3 degree credits. \$24.

An analysis of social group work practice problems with special attention to recent research and evolving new knowledge. (Prerequisite: open to students holding the Master's degree in social work, or ♯♯)

Spring Quarter

T 9:30-12:00 noon, Ford 70, Konopka

SW 282A. Working with Task-Centered Groups. 3 degree credits. \$24.

A review of the dynamics of group relationships, and factors affecting group productivity. Principles related to committee work, and to planning and organization of training courses, workshops and seminars will be taught, and some time devoted to discussion leadership techniques. (Prerequisite: open to social agency personnel, or ♯)

Fall Semester

T 6:20-8:00, Ford 175, Pernel

Sociology

Soc 1. Man in Modern Society. 3 degree credits. \$24.

A study of the characteristics of human group life. An analysis of the factors associated with the development of human group life and man's social environment; the structure of the social environment and its influence upon the individual's behavior; the processes involved in social change and the social problems that accompany social change. A survey of the fundamental social institutions, such as the family and the church; the development and decline of social institutions; change in the institutional functions and social disorganization. (No prerequisite. Repeated spring semester)

Fall Semester

M 6:20-8:00, Ford 120, Francis

Spring Semester

M 6:20-8:00, Ford 120, Forster

W 7:50-9:30, StP Ext Center 2A, Burch

Soc 2. The American Community. 3 degree credits. \$24.

Sociological analysis of modern American society. Topics emphasized include distribution of population, urban-rural differences, social factors in business systems, occupational groups, determina-

Evening and Special Classes

tion of social status, and minority group adjustment. Attempts to familiarize student with current research methods. (Prerequisite: 1 or 3)

Fall Semester

T 8:10-9:45, Ford 160, Burch

Soc 3. Social Problems. (Formerly Soc 49) 3 degree credits. \$24.

A survey course in contemporary social problems with special emphasis on personal demoralization and social disorganization. (No prerequisite. Repeated spring semester)

Fall Semester

Th 6:20-8:00, Ford 160, Johnson

Spring Semester

Th 6:20-8:00, Ford 160, Johnson

Soc 45A-45B. Social Statistics. (Not offered 1960-61)

Soc 53. Elements of Criminology. 3 degree credits. \$24.

General survey of field of criminology. (Prerequisite: 1 or ##)

Fall Semester

W 6:20-8:00, Ford 150, Donohue

Soc 112. World Population Problems. 3 degree credits. \$24.

Population policy, both historical and present-day, in Europe, Asia, and other selected areas but with special emphasis on United States. Some discussion is given to field of population and power politics. (Prerequisite: 1 or #)

Spring Semester

M 8:10-9:50, Ford 160, Francis

Soc 120. Social Psychology. 3 degree credits. \$24.

Research and theory regarding the relation of the individual to social groups. Emphasis on the socialization processes; effects of social interaction and isolation; individual behavior under conditions of social organization and disorganization; cultural influence and its limits. (Prerequisite: 1 or ##)

Fall Semester

T 8:10-9:50, Ford 170, Forster

Soc 123. Minority Group Relations. 3 degree credits. \$24.

Interaction of social and cultural groups in America. Processes leading to group contact; characteristics and contribution of ethnic groups in the United States; mechanisms and problems of group adjustment. Democratic theory and practice; sources of prejudice; contemporary status of principal minority groups; international implications; trends and proposed solutions. (Prerequisite: 1 or ##)

Fall Semester

T 6:20-8:00, Ford 50, Forster

Soc 140. Social Organization. (Not offered 1960-61)

Soc 141. The Family. (Not offered 1960-61)

Symbols explained on page 31.

Course Offerings—Arts and Sciences

Soc 171. Social Life and Cultural Change. 3 degree credits. \$24.

Theories of social change, with particular attention to their methodological problems. Materials drawn from the comparative social thought and structure of antiquity utilized as basic data for analysis. (Prerequisite: 1 or #)

Spring Semester

M 6:20-8:00, Ford 170, Francis

Soc 180. Methods of Social Research. 3 degree credits. \$24.

Survey of major methods employed in social research, including a consideration of their advantages and limitations when applied to specific types of problems. (Prerequisite: 45 or ##)

Fall Semester

M 8:10-9:50, Ford 160, Francis

Social Science. See page 61.

Spanish

There are 2 sequences of courses in beginning Spanish from which the prospective student may choose the 1 best suited to his needs. 1C-2C-3C, Beginning Spanish, carrying 5 degree credits per unit, comprises the regular 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. 1-2-3-4, Beginning Spanish, carrying 3 degree credits per unit, is the same sequence of courses formerly listed in evening classes as: 1-2, Beginning Spanish and 3-4, Intermediate Spanish. This sequence is recommended for those who desire a general introduction to the language but who wish to proceed at a slower pace than that required for the standard 5-credit units, with more time for study and preparation.

Span 1C-2C. Beginning Spanish. 5 degree credits each semester. \$40 each semester.

Grammar, pronunciation, reading, and practice in speaking. See note above. (No prerequisite for 1C; for 2C, 1C or evening course 2, or 1 year preparatory Spanish)

Fall Semester

1C M 6:20-9:20, Folwell 206, Narvaez

Spring Semester

2C M 6:20-9:20, Folwell 206, Narvaez

Span 1-2. Beginning Spanish. 3 degree credits each semester. \$24 each semester.

Grammar, pronunciation, reading, and practice in speaking. See note above. (No prerequisite for 1; for 2, 1)

Fall Semester

1 M 6:20-8:00, Folwell 226, Rundorff

1 Th 6:20-8:00, Folwell 202, Cuneo

2 Th 6:20-8:00, Folwell 203

Spring Semester

1 Th 6:20-8:00, Folwell 206

2 M 6:20-8:00, Folwell 208, Rundorff

2 Th 6:20-8:00, Folwell 202, Cuneo

Span 3-4. Beginning Spanish. 3 degree credits each semester. \$24 each semester.

Review, composition, readings from modern authors. Attention to correspondence and commercial practice if desired. (Prerequisite: for 3, 2 or 1 year of preparatory Spanish or #; for 4, 3 or #)

Fall Semester

3 W 6:20-8:00, Folwell 208

Spring Semester

4 W 6:20-8:00, Folwell 208

Symbols explained on page 31.

Evening and Special Classes

Span 55A-55B. Spanish Conversation. 3 degree credits each semester. \$24 each semester. Informal discussion of current affairs and everyday topics. (Prerequisite: 4 or #)

Fall Semester

55A W 6:20-8:00, Folwell 109

Spring Semester

55B W 6:20-8:00, Folwell 109

Span 73A-73B. A Trip to Latin America and Spain. 3 degree credits each semester. \$24 each semester.

This course offers profitable information in English about the Spanish-speaking nations as well as half an hour of basic, simple Spanish language in each class period. No previous preparation in Spanish is required. Each student will prepare a notebook containing the Spanish vocabulary generally needed by travelers and a restricted number of practical grammar rules. Thus while enriching his mind with important and useful information on the geography, climate, art, music, places to visit, etc., of each of the Spanish-speaking countries, the student will acquire a beginning knowledge of the Spanish language. (No prerequisite)

Fall Semester

73A W 6:20-8:00, Folwell 226, Cunco

Spring Semester

73B W 6:20-8:00, Folwell 226, Cunco

Speech and Theater Arts

***Spch. Beginning Practical Speech Making.** 3 certificate credits. \$24 plus \$5.50 materials and laboratory fee.

This course is designed particularly for the adult student who wants a practical application of the fundamentals of speech to his professional, business, and social needs. The primary purpose of the course is to develop confidence and effectiveness in speaking situations. Individual attention will be given to cases of nervousness, embarrassment, inadequacy, inferiority, and stage fright. Each student speaks before the class each meeting. Voice recordings and an analysis of the speaking voice will be made. (Prerequisite: High school graduate or ##. Each section limited to 20 students. Repeated spring semester)

Fall Semester

M 6:20-8:00, Folwell 5, Fulton
W 6:20-8:00, Folwell 8

Spring Semester

M 6:20-8:00, Folwell 5, Fulton
M 8:10-9:50, Folwell 5, Fulton

***Spch. Advanced Practical Speech Making.** 3 certificate credits. \$24.

An advanced speech course designed particularly for the adult student who wishes to develop skill in sound argumentative and effective persuasive speaking. The primary purpose of the course is to present the rules of logic and the impelling motives of conduct in a practical manner. Topics of current interest will be analyzed and discussed. Each student speaks before the class each meeting. (Prerequisite: Beginning Practical Speech Making or ##. Limited to 20 students)

Fall Semester

M 8:10-9:50, Folwell 5, Fulton

Spch 5X-6X. Fundamentals of Speech. 3 degree credits each semester. \$24 plus \$1 laboratory fee each semester.

Speech as a means of social adaptation and control; techniques of body and voice; organization of speech material and study of types of speeches; practice for correctness and effectiveness in presentation. Voice recordings. (No prerequisite for 5X; for 6X, 5X or 1)

Fall Semester

5X T 6:20-8:00, Folwell 306, Fletcher

Spring Semester

5X M 6:20-8:00, Folwell 305, Scott
6X T 6:20-8:00, Folwell 306, Fletcher

Symbols explained on page 31.

Course Offerings—Arts and Sciences

Spch 31. Introduction to the Theater. 3 degree credits. \$24.

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 theater, architecture, scenic design, stagecraft, lighting, costumes, make-up, and special effects. (No prerequisite)

Fall Semester

W 6:20-8:00, Shevlin 110, Ballet

*Spch 39. Parliamentary Procedures. 2 degree credits. \$24.

Training for group leadership; emphasis is placed on a working knowledge of parliamentary procedures for chairmen and participants as well as informal approaches to group management. The course stresses the learning-by-doing approach with each student given several opportunities to practice the various skills and techniques presented. (No prerequisite. Class limited to 20 students)

Fall Semester

M 6:20-8:00, Folwell 207, Shapiro

*Spch 65. Radio and Television Speech. (Not offered 1960-61)

Spch 66. Radio and Television Drama. 3 degree credits. \$24.

Historical development of radio and television drama, including production, direction, and acting techniques. (Prerequisite: 5 or 6X or ##)

Fall Semester

M 6:20-8:00, Murphy 302, Snook

Spch 74. Play Production in the Secondary School. 3 degree credits. \$24.

Technical fundamentals; stagecraft, design, lighting, and costuming. (Prerequisite: 31 or ##)

Fall Semester

Th 6:20-8:00, Shevlin 110, Adey

Spch 75. Play Production in the Secondary School. 3 degree credits. \$24.

Fundamentals including the analysis and production of selected scenes. (Prerequisite: 5 or 6X and 32, 74 or ##)

Spring Semester

Th 6:20-8:00, Shevlin 110, Ballet

Spch 78. Advanced Acting. 3 degree credits. \$24.

Characterization, styles of acting, and stage technique. Presentation of scenes from great plays. (Prerequisite: 32 or ##)

Spring Semester

W 6:20-8:00, Shevlin 110, Adey

Spch 81. Interpretative Reading. 3 degree credits. \$24.

Aesthetic theory of literature and of oral reading. Practice in reading for interpretation and mastery of technique. Fiction. (Prerequisite: 5 or 6X)

Fall Semester

T 6:20-8:00, Wesbrook 306, Thompson

Symbols explained on page 31.

Evening and Special Classes

Study Skills

***Rhet 47. Efficient Reading.** 3 certificate credits (may be used on degree program by petition: 1 credit in S.L.A. or Bus.; 3 credits in Educ., I.T., or Ag.). \$24 plus \$2 materials fee.

Designed for students, business, or professional people of up-to-average reading ability who wish to improve their reading speed and comprehension. Emphasis is on reading techniques of particular use in achieving or maintaining superior scholastic or professional status. Maximum use is made of the tachistoscope and the Harvard Reading Films, two recently developed visual aids. Parallels Efficient Listening and is a suggested follow-up for How to Study. (No prerequisite. Class limited to 32 students. Repeated spring semester)

Fall Semester

M 6:20-8:00, Ford 15, Wright
M 8:10-9:50, Ford 15, Wright
T 6:20-8:00, Ford 15, Horberg
T 8:10-9:50, Ford 15, Horberg
W 6:20-8:00, Ford 15, Price
W 8:10-9:50, Ford 15, Price
Th 6:00-7:40, StP Ext Center 3C, Horberg

Spring Semester

M 6:20-8:00, Ford 15, Wright
M 8:10-9:50, Ford 15, Wright
T 6:20-8:00, Ford 15, Horberg
T 8:10-9:50, Ford 15, Horberg
W 6:20-8:00, Ford 15, Price
W 8:10-9:50, Ford 15, Price
Th 6:00-7:40, StP Ext Center 3C, Horberg

***SSk. Efficient Reading II. Special Class.** \$20.

A short, intensive course in efficient reading for students, business and professional people of above-average reading ability. A suggested follow-up for Efficient Reading (Rhet 47) or other reading efficiency training, either as an immediate continuation or refresher course. Emphasis on further refinement of reading techniques and skills of particular use in maintaining superior scholastic or professional status. No duplication of material with Efficient Reading I. Maximum use is made of the perceptoscope, a newly developed remote-control projector with multipurpose training functions. (Class limited to 50 students)

September 28-November 23

W 6:20-8:00, Nicholson 207, Brown

SSk. Vocabulary Building: How to Expand Your Word Power. 3 certificate credits. \$24 plus 25 cents materials fee.

A class designed to extend the range and increase the quality of one's vocabulary for social and business purposes and for the benefit of one's intellectual development in general. The core of the course consists of the study of 150 word elements which form the basis of thousands of English words. This approach not only enables an individual to enlarge his speaking, writing, and reading vocabulary in a short space of time but also provides him with the means of independently continuing that process indefinitely. Recommended as background for other courses in the communication field. (No prerequisite. Repeated spring semester)

Fall Semester

M 7:50-9:30, StP Ext Center 2G, Keeler
T 6:20-8:00, Nicholson 207, Sheldon
W 8:10-9:50, Nicholson 207, Stockdale

Spring Semester

M 7:50-9:30, StP Ext Center 2G, Keeler
T 6:20-8:00, Nicholson 207, Sheldon
W 8:10-9:50, Nicholson 207, Stockdale

Grammar Review. See English, page 52.

How to Study. See Interdepartmental Courses and General Education, page 61.

Zoology

See Biology, page 49.

Symbols explained on page 31.

LIBERAL ARTS PROGRAM

The General Extension Division of the University of Minnesota, recognizing that education is a continuing process, offers several liberal arts programs annually, designed especially for the inquiring adult.

Lecture Series

Each year the General Extension Division brings some of the country's outstanding experts to the campus for discussions of subjects of general interest. Two such lecture series are planned for 1960-61. More complete announcements will be made at a later date.

The Ocean

(Man and His Scientific Quest—Series IX)

Wednesday evenings, January 25 to March 1

January 25	Explorers of the Sea
February 1	The First Two Million Years
February 8	The Origin and Evolution of Marine Life
February 15	Ocean Boundaries
February 22	The Seas in Motion
March 1	The Living Ocean

Registration for the series is \$10. Faculty and student rate is \$6.50. No tickets to individual lectures will be sold. Registration opens December 7. Further information is available at any extension office or by calling FEderal 8-8791.

The African Character

Wednesday evenings, March 15 to May 17

March 15	The Tribal African and His World
March 22	The Urbanized African
March 29	Multi-Racial Africa
April 5	African Art
April 12	African Music
April 19	African Literature and the Mass-Media
April 26	The African Intellectual
May 3	The Economic Man
May 10	Four African Political Leaders and Their Views of the World
May 17	The Challenge of Africa

Registration for the series is \$12. Faculty and student rate is \$7.50. No tickets to individual lectures will be sold. Registration opens February 1. Further information is available at any extension office or by calling FEderal 8-8791.

Civil War Seminar

The University of Minnesota, in co-operation with The Civil War Roundtable, will present "The War in the West" (the first annual Civil War Seminar), on September 16 and 17 at the Center for Continuation Study.

Fee: \$10. Registration may be made by calling FEderal 2-8158, extension 6764.

Evening and Special Classes

Neighborhood Seminars

The first neighborhood seminar will be held at the First Universalist Church, 50th and Girard in Minneapolis, beginning November 15 at 8 p.m., and continuing for 8 Tuesday evenings, through December 13 and on January 10, 17, and 24.

"The Arts and Society: A Continuing Conversation" will start with a discussion of "The Impact of Television." This will be Part I of conversations with outstanding University faculty members and uniquely qualified community leaders on the reflection of society in its many art forms; music, drama, the dance, etc., will be covered in future conversations.

Registration for Part I, "The Impact of Television," will be \$16 a person or \$24 a couple. Registrations must be limited for purposes of discussion and will be accepted in order of their receipt.

Application may be made by calling FEderal 8-8791 before November 1.

Seminars for Women

As part of the Minnesota Plan for the Continuing Education of Women, the General Extension Division offers two seminars especially designed for the adult woman.

New Worlds of Knowledge

A liberal arts seminar for adult women. Assigned readings supplement class discussion of current critical thinking in selected areas of contemporary life.

Meetings are scheduled for a full morning every other week from October to June. There are 2 or 3 residential meetings during the year, of a day-and-a-half each. These are held at the Center for Continuation Study, where dormitory space is available.

Tuition is \$36 for each of 2 semesters. Registration, limited to 20 women, is closed for 1960-61.

The Arts of Reading

The examination of texts through classroom discussion and written analysis, with the aim of developing skill in thinking, speaking, writing, and reading. The readings will be of intellectual and literary distinction or of historical importance. In the first semester, they will be in the forms of argument and exposition. Principles of analysis will be taught and used in the discussion. In the second semester, the readings will be short fiction, poetry, and drama. Literary and critical principles will be taught and used in discussion.

Meetings are scheduled for a full morning every other week from October to June. Tuition is \$36 for each of 2 semesters. Registration is limited to 20 women.

BUSINESS ADMINISTRATION

Your attention is called to the Master of Business Administration Program on pages 106 and 107 and to the Business Administration Certificate programs; see page 11.

The School of Business Administration renumbered most of its courses, effective with the fall term, 1958. Listed below, for the convenience of former students, are the old number designations and their new equivalents. In many instances, titles have also changed. Only the new titles are listed.

Old Numbers	New Numbers and Titles (Fall, 1958)
Econ B	Econ B—The Scope, Methods, and Application of Economics (no change)
Econ 1-2	Econ 1-2—Principles of Economics (no change)
Econ 5	BA 5—Elements of Statistics
Econ 24-25-26	BA 24-25-26—Principles of Accounting
Econ 36	BA 36—Office Procedures
Econ 40-41	BA 79A-79B—Administrative Secretarial Studies
Econ 50	BA 53—Insurance Principles
BA 51	BA 58—Business Law: Contracts
BA 52	BA 78—Business Law: Agency, Partnership, and Corporations
BA 53	BA 88—Business Law: Sales and Negotiable Instruments
BA 54-55	BA 55A-55B—Elementary Accounting
BA 56	BA 98—Business Law: Property Rights and Obligations
Econ 57	Econ 67—Money and Banking
BA 58	Econ 68—Elements of Public Finance
BA 65	BA 55D—Analysis of Financial Statements
BA 66	BA 55C—Managerial Costs
BA 71	BA 54—Transportation I: Principles
Econ 73	BA 52—Modern Industrial Relations: Labor Marketing
Econ 74	BA 51—Business Statistics
Econ 75	BA 56—Corporation Finance
BA 76	BA 87—Credits and Collections
BA 77	BA 57—Principles of Marketing
Econ 79	Econ 80—Survey of Economic Ideas
Econ 80	Econ 66—Intermediate Economic Analysis: Income and Employment
Econ 81	Econ 65—Intermediate Economic Analysis: The Firm
Econ 84	Econ 160—Comparative Economic Systems
Econ 85	Econ 69—Government Regulation of Business
BA 86	BA 99—Office Management—Management of Administrative Services
BA 89	BA 50—Production Management
BA 91	BA 89B—Tabulating Equipment Applied to Business
BA 111	BA 197—Purchasing
BA 113	BA 117—Sales Management
BA 118	BA 125—Auditing Principles
BA 129	BA 184A—Highway Transportation
Econ 129	Econ 150A—Current Economic Issues
BA 134A-134B	BA 135A-135B—Income Tax Accounting
BA 135	BA 185B—Public Accounting
BA 136	BA 175C—Controllership Functions and Procedures
BA 146	BA 176—Investments
BA 148	BA 186—The Securities Market
Econ 149	Econ 157—Business Cycles
BA 150A-150B-150C	BA 105A-105B-105C—Intermediate Accounting

Evening and Special Classes

Old Numbers	New Numbers and Titles (Fall, 1958)
BA 152-153	BA 115A-115B—Cost Accounting
BA 154	BA 175D—Budgetary Control
BA 156	BA 76—Finance Management
BA 158	BA 185C—Governmental Accounting
BA 159	BA 185A—Advanced Accounting
Econ 161	BA 152—Principles of Industrial Relations: Labor Marketing
Econ 162	Econ 152—Labor Movements
Econ 163	Econ 162—Union Government and Policies
Econ 164	Econ 172—Public Policy: Labor Relations
Econ 166	BA 142—Settlement of Industrial Relations Disputes
BA 167	BA 72—Modern Industrial Relations: Manpower Management
BA 168	BA 182B—Intermediate Manpower Management
Econ 169	Econ 182—Economic Security
BA 173	BA 97—Market Analysis and Research
BA 174	BA 174—Transportation II: Traffic Management (no change)
Econ 176	Econ 104—International Economics
Econ 178	Econ 120—Economics of Consumption
BA 180D-181D-182D	BA 202—Organization and Staffing
	BA 222—Wage and Salary Administration
	BA 232—Collective Bargaining Policies and Practices
	BA 262-272-282—Graduate Topics in Industrial Relations
BA 180I-181I	BA 194A-194B—Topics in Transportation: Advanced Traffic Management I-II
BA 181A	BA 145B—Internal Auditing
BA 182A	BA 145C—Systems and Procedures
BA 182G	BA 60—Business Policy and Management Control
BA 184	BA 70—History of Management Thought

Accounting

Your attention is called to the Accounting Certificate programs; see page 13.

First Year Accounting Courses

BA 24-25-26 (formerly Econ 24-25-26), Principles of Accounting, is the first-year introductory course. It is designed to meet the needs of three groups of students: (a) those who plan to use accounting information for business management purposes; (b) those who intend to be practicing accountants (and who expect, therefore, to continue with the second-year and advanced accounting courses); (c) those who wish an introduction to the "language of business" as part of a liberal education. It is not designed to train students to be bookkeepers.

Persons with prior background or training may receive credit in one or more of these courses by passing an advanced standing examination. These examinations will be given at the following times in Room 307, Vincent Hall.

- BA 24 Wednesday, September 21, 7:00 p.m.
- Wednesday, September 28, 7:00 p.m.
- Wednesday, December 28, 7:00 p.m.
- Wednesday, February 8, 7:00 p.m.

Course Offerings—Business Administration

- BA 25 Thursday, September 22, 7:00 p.m.
 Thursday, September 29, 7:00 p.m.
 Thursday, February 9, 7:00 p.m.
- BA 26 Friday, September 23, 7:00 p.m.
 Friday, September 30, 7:00 p.m.
 Friday, February 10, 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, 2½-hour classes, 3 credits each quarter, course completed in 1 year. For students who wish to complete the entire course in 1 year of 3 quarters of 11 weeks each. Students who find this schedule too rapid are in a position to change to the semester basis.
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.

BA 24-25-26. Principles of Accounting. (Formerly Econ 24-25-26 or BA 54-55) 3 degree credits each semester, §BA 55A-55B. \$24 each semester.

Methods of recording, reporting, and interpreting business events. Use of accounting as a tool of business management. (No prerequisite for 24; for 25 and 26, previous unit. See page 86 for advanced standing examinations)

<i>Fall Semester</i>			<i>Spring Semester</i>		
24	M	6:20-8:00, Ford 170, Kerns, Clarke, Cummings	24	Th	6:20-8:00, Ford 50, Petterson
24	T	6:00-7:40, StP Ext Center 3F, Creviere, Kellogg	25	M	6:20-8:00, Ford 30, Kerns, Clarke
25	M	8:10-9:50, Ford 30, Cummings	25	T	6:00-7:40, StP Ext Center 3F, Kellogg
26	T	7:50-9:30, StP Ext Center 3F	26	M	8:10-9:50, Ford 30, Cummings
26	Th	6:20-8:00, Ford 30, Petterson			

BA 24-25-26. Principles of Accounting. (Formerly Econ 24-25-26 or BA 54-55) 3 degree credits each quarter, §BA 55A-55B. \$24 each quarter.

Methods of recording, reporting, and interpreting business events. Use of accounting as a tool of business management. (No prerequisite for 24; for 25 and 26, previous unit. See page 86 for advanced standing examinations)

<i>Fall Quarter</i>		<i>Winter Quarter</i>		<i>Spring Quarter</i>	
24	T	5:30-8:00, Ford 30, Urban, Malmon, Edie	25	(Same schedule as fall)	
24	W	5:15-7:45, StP Ext Center 3G, Powell, Spangler	26	(Same schedule as fall)	

BA 24-25-26. Principles of Accounting (Combined). (Formerly Econ 24-25-26 or BA 54-55) 9 degree credits, §BA 55A-55B. \$72.

This course covers 24-25-26 complete in 1 semester. (No prerequisite. Registrations will be accepted for the entire course only)

<i>Spring Semester</i>	
MTh	6:20-8:50, Vincent 306, Edie
MTh	6:00-8:30, StP Ext Center 3F, Creviere

Symbols explained on page 31.

Evening and Special Classes

Second Year Accounting Courses

BA 55C. Managerial Costs. (To be offered 1961-62)

BA 55D. Analysis of Financial Statements. (Formerly BA 65 or BA 150C) 3 degree credits, §105C. \$24.

A course in the use of financial statements by creditors, investors, and executives. The material is approached from the viewpoint of the reader of statements, and is not concerned with accounting technicalities. Reports of commercial, industrial, public utility, and railroad companies are used as basic material for the course. This course should not be taken by accounting majors, who should register for BA 105C. (Prerequisite: new BA 26 or old Econ 26. See page 86 for advanced standing examinations)

Spring Semester

Th 6:20-8:00, Vincent 307

BA 105A-105B-105C. Intermediate Accounting. (Formerly BA 150A-150B-150C) 3 degree credits each semester, §BA 55D or BA 65. \$24 each semester.

Second year accounting for students intending to specialize in accounting or in business finance. 105A: Review of accounting processes, measurement of income, accounting treatment of inventory and plant. 105B: Accounting treatment of cash, receivables, investments, intangible assets and applications of actuarial mathematics. 105C: Accounting treatment of stockholders' equity, interpretation and analysis of financial statements. (Prerequisites: for 105A, new BA 26 or old Econ 26 [see page 86 for advanced standing examinations]; for 105B, new BA 105A or old BA 150A; for 105C, new BA 105B or old BA 150B)

Fall Semester

105A M 6:20-8:00, Vincent 301, Lund
105A T 6:00-7:40, StP Ext Center 2H,
Johnson
105A Th 6:20-8:00, Vincent 301, Lund
105C M 8:10-9:50, Vincent 306, Clarke

Spring Semester

105B M 6:20-8:00, Vincent 301, Lund
105B T 6:00-7:40, StP Ext Center 2H,
Johnson
105B Th 6:20-8:00, Vincent 301, Lund

BA 115A-115B. Cost Accounting. (Formerly BA 152-153) 3 degree credits each semester, §BA 55C or BA 66. \$24 each semester.

115A: Practices, principles and procedures of handling production costs for use in inventory valuation and income determination. An examination of job order, process, and standard cost systems. A brief introduction to standard cost as a tool of cost control. 115B: An analysis of the use of cost information in managerial decision making. (Prerequisites: for 115A, new BA 26 or old Econ 26 [see page 86 for advanced standing examinations]; for 115B, new BA 115A or old BA 152)

Fall Semester

115A M 8:10-9:50, Vincent 301, Meyers
115A T 7:50-9:30, StP Ext Center 3E,
Kellogg

Spring Semester

115B M 8:10-9:50, Vincent 301, Meyers
115B T 7:50-9:30, StP Ext Center 3E,
Kellogg

Special Interest and Advanced Accounting Courses

BA. Elementary Functional Wiring for Punched Card Equipment. 3 certificate credits. \$24.

A course for those interested in procedures for different types of machine operation. Major emphasis on different specialized equipment each semester. (Prerequisite: 2)

Fall Semester

M 6:20-8:00, Ford 50, Lowry

Symbols explained on page 31.

Course Offerings—Business Administration

BA 89B. Tabulating Equipment Applied to Business. (Formerly BA 91) 2 degree credits plus 1 certificate credit. \$24.

Punched card methods and standard procedures as applied to accounting and statistical records. Card and code designs. For those who understand wiring and operation of standard equipment. (Prerequisite: #)

Spring Semester

M 6:20-8:00, Ford 160, Ostlund

BA 125-185B. Auditing Principles and Procedures and Public Accounting. (Formerly BA 118-135) 3 certificate credits each semester. (6 degree credits on completion of both courses consecutively.) \$24 each semester.

An introduction to auditing principles and procedures. (Prerequisite: new BA 105C or #105C or old BA 150C for BA 125; BA 125 for BA 185B)

Fall Semester

125 W 6:20-8:00, Vincent 301, Berryman

Spring Semester

185B W 6:20-8:00, Vincent 301, Berryman

BA 135A-135B. Income Tax Accounting. (Formerly BA 134A-134B) 3 certificate credits each semester. (4 degree credits on completion of both courses consecutively.) \$24 each semester.

Principles involved in determining taxable net income and computation of federal and state income taxes for individuals, partnerships, and corporations. (Prerequisite: new BA 105A or old BA 150A)

Fall Semester

135A M 8:10-9:50, Johnston 114, Rapoport

Spring Semester

135B M 8:10-9:50, Johnston 114, Rapoport

BA 145B. Internal Auditing. (Formerly BA 181A) 3 degree credits. \$24.

Comprehensive course in auditing taught jointly with members of the Twin Cities Chapter of the Institute of Internal Auditors. The principles of internal auditing, organization of the internal auditors' functions, and detailed discussion of the performance of particular activities will be covered. (Prerequisite: 6 degree credits in Upper Division accounting)

Fall Semester

M 6:20-8:00, Vincent 2, Meyers

BA 145C. Systems and Procedures. (Formerly BA 182A) (See Pol 67, page 72) 3 degree credits. \$24 plus \$2 laboratory fee.

This course is a survey course of systems and procedures. It is a joint offering of Business Administration and Public Administration and is sponsored by the Twin Cities Chapter, Systems and Procedures Association. Topics include techniques of management surveys, evaluation of organization structure, charting, forms design and control, integrated data processing, office work measurement and quality control, preparation of reports, use of costs and statistics in systems analysis, evaluation of reporting systems, administration of a systems program. Instructors include University faculty members and members of the Systems and Procedures Association. (Prerequisite: #)

Spring Semester

Th 6:20-8:00, Ford 185, Magraw and others

BA 175D. Budgetary Control. (Formerly BA 154) 3 degree credits. \$24.

Fundamentals of establishing and operating a budget. Budgetary control and relationship to break-even analysis. (Prerequisite: new BA 115B or old BA 153)

Spring Semester

M 6:20-8:00, Vincent 307, Meyers

Symbols explained on page 31.

Evening and Special Classes

BA 185A. Advanced Accounting. (Formerly BA 159) 3 degree credits. \$24.

Consolidated statements, fiduciary and fund accounting, partnership accounting. (Prerequisite: new BA 105C or ¶105C or old BA 150C)

Spring Semester

M 8:05-9:45, Vincent I, Clarke

BA 185C. Governmental Accounting. (Formerly BA 158) (See Pol 58, page 71) 2 degree credits plus 1 certificate credit. \$24.

A course in the principles and procedures of governmental accounting including: fund accounting; budgetary accounting as it relates to preparation and control of appropriation and program budgets, and control of periodic allotments; revenues, expenditures, assets, and liabilities; account classification; organizational and administrative aspects including systems and simplification techniques, financial reporting; principles of governmental cost accounting. (Prerequisite: BA 105C or ¶105C, or old BA 150C)

Fall Semester

Th 6:20-8:00, Ford 185, Magraw

Advertising

Principles of Advertising. See page 63.

Typography for Publications and Advertising. See page 63.

Graphic Processes and Layout Techniques for Publications and Advertising. See page 63.

Advertising Copy Writing. See page 64.

Business English

Comp. Review of Business English. 3 certificate credits. \$24.

For those who have been out of school for a while or who had poor preparation for Business English while in school. Modern, streamlined sentence structure, paragraphing, punctuation, and spelling. Brief introduction to letter form and organization. Emphasis on brevity, accuracy, meaning, and vividness. (No prerequisite. Repeated spring semester)

Fall Semester

T 6:00-7:40, StP Ext Center 3C, Lippert
T 8:10-9:50, Main Engineering 4, Lippert
W 6:20-8:00, Main Engineering 215, Haga

Spring Semester

M 6:20-8:00, Main Engineering 4, Lippert
W 6:20-8:00, Main Engineering 4, Lippert

Comp. Business Correspondence. 3 certificate credits. \$24.

A practical class for people recognizing the value of effective expression in business letters. The principal types of letters will be analyzed and the written assignments will emphasize the development of a letter style capable of producing economical, clear, action-getting letters. (No prerequisite. Repeated spring semester)

Fall Semester

M 6:20-8:00, Main Engineering 4, Lippert
W 6:20-8:00, Main Engineering 4, Lippert

Spring Semester

T 6:00-7:40, StP Ext Center 3C, Lippert
W 6:20-8:00, Main Engineering 215, Haga

Symbols explained on page 31.

Course Offerings—Business Administration

Comp 58. (See description and statement in following course, **Communication in Management**.) 3 degree credits. \$24.

Comp. Communication in Management. 3 certificate credits. \$24.

Note—On approval of petition by instructor and the School of Business Administration, degree credit (not in excess of 3 credits) applicable for a Business degree will be recognized for Communication in Management in lieu of Comp 58, provided class work has included appropriate supplementary assignments. Consult instructor at beginning of class term.

An advanced course for people working at the administrative level. Reviews and analyzes the forms and styles appropriate in the three major classes of management communication: downward (order-giving), upward (administrative reporting), and horizontal (clearance and review). In addition to the class assignments, each student will work out an individual communication project related to his specific job. (No prerequisite. Repeated spring semester)

Fall Semester

W 8:10-9:50, Main Engineering 215, Haga

Spring Semester

W 8:10-9:50, Main Engineering 215, Haga

Business Finance

BA 56. Corporation Finance. (Formerly Econ 75) 3 degree credits. \$24.

The corporation in comparison with other types of business units. Organization and capital structure, raising fixed and circulating capital, treatment of corporate earnings, incentives to and forms of combination, trusteeship, and reorganization. (Prerequisite: Econ 1. Repeated spring semester)

Fall Semester

M 6:20-8:00, Vincent 207
M 8:10-9:50, Vincent 207

Spring Semester

Th 8:10-9:50, Vincent 2

BA 76. Finance Management. (Formerly BA 156) 3 degree credits. \$24.

Duties of the financial manager of a modern business. Various sources from which capital may be secured, best use of a company's funds, and special financial problems which arise in the typical business. (Prerequisite: new BA 56 or old Econ 75 and one advanced course in accounting or #)

Spring Semester

M 6:20-8:00, Vincent 207

BA 176. Investments. (Formerly BA 146) 3 degree credits. \$24.

A general or "cross cut" survey of the external and internal factors influencing the prices of securities, and of the principles of an investment policy for the individual investor. Objective analysis from source materials of factors explaining price differentiation. (Prerequisite: new BA 56 or old Econ 75)

Fall Semester

M 8:10-9:50, Vincent 2

BA 186. The Securities Market. (Formerly BA 148) 3 degree credits. \$24.

Consideration of behavior over time or "longitudinal" analysis of prices of individual and groups of securities. The relationship of economic conditions to security values, particularly the effects of cyclical fluctuation. (Prerequisite: new BA 176 or old BA 146 or ##)

Spring Semester

M 8:10-9:50, Vincent 2

Symbols explained on page 31.

Evening and Special Classes

BA. Introduction to Investments. 3 certificate credits. \$24.

A fundamental course for serious investors—lay, business or professional—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 practice of various investor groups. (No prerequisite)

Fall Semester

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

Business Law

BA 58, 78, 88, 98. Business Law. (Formerly BA 51-52-53, 56) 3 degree credits each semester. \$24 each semester.

Comprehensive course in the fundamental principles of law for the business and professional man. 58: Contracts—formation, operation, transfer, discharge. 78: Business associations—nature, creation and terms of the relation, rights, and liabilities of the parties when doing business through agents, partnerships, and corporations. 88: Law of sales of goods under the Uniform Sales Act and law of commercial paper under the Uniform Negotiable Instruments Law. 98: Nature and classification of real estate; deeds and conveyances; landlord and tenant; recording and abstracting; Torrens titles; liens and mortgages; wills, probating of estates, and duties of administrators and executors. (Prerequisite: BA 58 must precede or be taken in conjunction with either 78 or 88 unless # is obtained for a different sequence. Repeated spring semester)

Fall Semester

58 T 7:50-9:30, StP Ext Center 3F,
VanValkenburg
58 W 6:20-8:00, Ford 120, Moss
78 W 8:10-9:50, Ford 120, Moss
88 T 6:20-8:00, Vincent 113, Thomas
88 T 6:00-7:40, StP Ext Center 3F,
VanValkenburg

Spring Semester

58 T 6:00-7:40, StP Ext Center 3F,
VanValkenburg
58 W 8:10-9:50, Ford 120, Moss
78 T 7:50-9:30, StP Ext Center 3F,
VanValkenburg
78 W 6:20-8:00, Ford 120, Moss
88 T 6:20-8:00, Vincent 113, Thomas
98 W 6:20-8:00, Ford 130, Carroll

BA. Business Law of Insurance and Related Subjects I-II. 3 certificate credits each semester. \$24 each semester.

A survey of the Minnesota law is applied to insurance contracts, interests and related subjects, designed for the layman who has no special training or background in this area, and for those in the insurance profession who are not able to or do not wish to take the more extensive C.L.U., I.I.A., or C.P.C.U. programs. Special emphasis is placed upon the problems arising from these subjects for the owners and key employees of small and medium sized businesses, for those who handle such matters for all businesses, for those who wish to advance to such positions, and for those who may in the future organize their own businesses.

Part I: Review of the basic principles of contracts and agency with special application to the insurance contract, insurable interests, subrogation, transfer and termination. Followed by a consideration of the legal meaning, application and effect in Minnesota of the various standard policy clauses contained in life, property, liability, and casualty contracts.

Part II: Covers the Minnesota law of warranties, representations, conditions, concealment and fraud; breach, waiver, estoppel and election; social security; government life, property and mortgage insurance; unemployment compensation and welfare programs; Minnesota regulation of insurance companies, insurance policies, and purchasers and sellers of insurance; Minnesota workmen's compensation; and the application and effect of the U.S. and Minnesota income, estate and inheritance taxes on insurance as they affect estate planning, pension plans, and various other incentive devices.

The two parts may be taken separately or in either order. (No prerequisite)

Fall Semester

I Th 6:20-8:00, Johnston 122, VanValkenburg

Spring Semester

II Th 6:20-8:00, Johnston 122, VanValkenburg

Symbols explained on page 31.

Course Offerings—Business Administration

BA. Common Legal Problems I, II. 3 certificate credits each semester. \$24 plus \$1 materials fee.

The Common Legal Problems courses provide a comprehensive course in everyday legal principles, designed to assist the businessman, layman, and housewife to recognize their legal rights and more intelligently and efficiently manage their personal affairs. Any individual, whether married or single, housewife or businessman, is bound to come up against many legal problems in varied fields during a lifetime. In many cases these problems might never arise or might be considerably minimized if the persons involved could anticipate them and know in advance what are the basic rights and liabilities and what steps should be taken to enforce or guard them, whom to consult, etc. *Part I* 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 trespass on real property and other tortious conduct; the making of contracts; the sale of personal property. *Part II* will consider the rights and responsibilities of husband, wife, parent and child in their relations with each other; criminal acts and criminal trials; the formation and operation of a small business as a sole proprietorship, partnership or corporation; the right to benefits for disability and to retirement pensions under various legislation such as social security, workmen's compensation and old age assistance; the rules of the road governing operation of automobiles; the garnishment of wages; and the filing of mechanic's liens against real property. (No prerequisite. Either course may be taken first. Repeated spring semester)

Fall Semester

I M 6:20-8:00, Ford 150, Thorfinnson
and Peterson
II M 8:10-9:50, Ford 150, Thorfinnson
and Peterson

Spring Semester

I M 6:20-8:00, Ford 150, Thorfinnson
and Peterson
II M 8:10-9:50, Ford 150, Thorfinnson
and Peterson

Economics

Economics B. The Scope, Methods and Applications of Economics. 3 degree credits. \$24.

Designed for the student who has no previous knowledge of the field and who would like to find out in a single semester course what economics is about. The course begins with a brief sketch of the chief problems around which the work of the great economists centered from Adam Smith's day to the present. The major branches of modern economics are then outlined for the student. The application of economics in the field of economic policy is stressed. (No prerequisite)

Fall Semester

Th 6:20-8:00, Vincent I, Smith

Econ 1-2. Principles of Economics. 3 degree credits each semester. \$24 each semester.

A study of the principles underlying economic activity and the way these principles work out through our economic institutions. Topics covered by Econ 1 include demand and supply, competition and monopoly, and the distribution of income. Topics covered in Econ 2 include national income, money and banking, business cycles, and international trade. Econ 1 and 2 are prerequisite for most advanced courses in business administration and economics. (No prerequisite for 1; for 2, 1)

Fall Semester

1 M 6:20-8:00, Johnston 113
1 T 6:00-7:40, StP Ext Center 2A, Helmberger
1 T 6:20-8:00, Vincent I, Borak
1 T 8:10-9:50, Vincent I
1 W 6:20-8:00, Vincent I
1 W 8:10-9:50, Vincent I
2 Th 6:20-8:00, Vincent 113

Spring Semester

1 T 8:10-9:50, Vincent I
1 Th 8:10-9:50, Vincent I
2 M 6:20-8:00, Vincent 113
2 T 6:00-7:40, StP Ext Center 2A, Helmberger
2 T 6:20-8:00, Vincent 207
2 W 6:20-8:00, Vincent 113
2 W 8:10-9:50, Vincent 113

Symbols explained on page 31.

Evening and Special Classes

Econ 20. Consumer Economics. 3 degree credits. \$24.

The application of economic principles to major decisions of consumers. How to use income most effectively. The use of credit. Saving; insurance principles; the decision to purchase houses. Sources of consumer information; product testing agencies; government efforts to protect consumers. (No prerequisite)

Spring Semester

Th 6:20-8:00, Vincent 113, Helmberger

Econ 65. Intermediate Economic Analysis: The Firm. (Formerly Econ 81) 3 degree credits. \$24.

Examination of the behavior of firms under competitive and monopolistic conditions, with particular attention to factors influencing the firm's decisions regarding production, output, and prices. (Prerequisite: 2)

Fall Semester

W 6:20-8:00, Vincent 6, Coen

Econ 66. Intermediate Economic Analysis: Income and Employment. (Formerly Econ 80) 3 degree credits. \$24.

Determinants of national income, employment, and price level, with particular attention to aggregate consumption and investment. (Prerequisite: 2)

Spring Semester

W 6:20-8:00, Vincent 207, Coen

Econ 67. Money and Banking. (Formerly Econ 57) 3 degree credits. \$24.

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

Spring Semester

Th 6:20-8:00, Vincent 207, Smith

Econ 68. Elements of Public Finance. (Formerly BA 58) 3 degree credits. \$24.

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

Spring Semester

T 6:20-8:00, Vincent 1, Borak

Econ 69. Government Regulation of Business. (Formerly Econ 85) 3 degree credits. \$24.

Economic aspects of public policy affecting the market process. Topics studied include relations between market structure and economic efficiency and welfare, economic origins of monopoly and other business limitations on free competition, and purposes and effects of antitrust laws and laws relating to "unfair business practices." (Prerequisite: new Econ 65 or old Econ 81 for business or economic majors, or # for others)

Fall Semester

W 6:20-8:00, Vincent 207, Boddy

Econ 80. Survey of Economic Ideas. (To be offered 1961-62)

Econ 104. International Economics. (To be offered 1961-62)

Symbols explained on page 31.

Course Offerings—Business Administration

Econ 157. Business Cycles. 3 degree credits. \$24.

A study of the ups and downs of business: various explanations of the causes, the statistical data on such fluctuations, the relationship of cycles to economic growth, methods of forecasting, and an examination of proposals for economic stabilization. (Prerequisite: 66, 67 or ##)

Fall Semester

Th 8:10-9:50, Vincent 1, Smith

Econ 160. Comparative Economic Systems. 3 degree credits. \$24.

The contribution of economics to a consideration of the issues between capitalism and communism and other economic systems. The theories on which the various systems are based and the way they work out in practice are analyzed in terms of economic principles and the vital economic functions performed in each system. (Prerequisite: 2 or ##)

Spring Semester

Th 8:10-9:50, Vincent 207, Smith

Industrial Management and Administration

BA 50. Production Management. (Formerly BA 89) 3 degree credits. \$24.

Introduction to the management of the production function. The techniques, the managerial problems, and the decision-making processes in planning and controlling the production activity. Emphasis is on production as a function of the enterprise rather than as a strictly manufacturing activity. Research and development, the role of standards, physical facilities, systems and procedures analysis, work measurement, materials control, quality control, and production planning and control. (Prerequisite: 2. Repeated spring semester)

Fall Semester

M 6:20-8:00, Johnston 122, Peterson
M 8:10-9:50, Johnston 122, Peterson

Spring Semester

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

BA 60. Business Policy and Management Control. (Formerly BA 182G) 3 degree credits. \$24.

Note—This course may be substituted for new BA 70 or old BA 184, History of Management Thought, as one of the managerial options under the old General Business sequence.

An evaluation of the areas of managerial authority and responsibility, organizational relationships, and effective executive action. Presents managerial problems of policy formulation involving decisions based upon a knowledge of all the major functions in the firm. (Prerequisite: to be taken at the end of the core group)

Spring Semester

M 8:10-9:50, Johnston 122, Peterson

Industrial Relations and Labor Economics

Your attention is called to the Industrial Relations Certificate program; see page 10.

BA 52. Modern Industrial Relations: Labor Marketing. (Formerly Econ 73) (*BA 152) 3 degree credits. \$24.

This course deals with: (a) the marketing of manpower resources; (b) the institutional structure of labor markets; (c) economic and social problems arising out of labor marketing processes; (d)

Symbols explained on page 31.

Evening and Special Classes

methods, procedures, and proposals for solving these problems. (Prerequisite: Econ 2. Repeated spring semester)

Fall Semester

M 6:00-7:40, StP Ext Center 3G, Mahoney
W 6:20-8:00, Vincent 2, Heneman

Spring Semester

W 8:10-9:50, Vincent 6, Mahoney

BA 72. Modern Industrial Relations: Manpower Management. (Formerly BA 167) 3 degree credits. \$24.

Evaluation of managerial policies and devices for the control of personnel; determination of labor needs; methods of dealing with workers; selective devices; training and safety programs; compensation; collective bargaining; governmental personnel programs. (Prerequisite: new BA 52 or 152 or old Econ 73 or 161)

Spring Semester

W 6:20-8:00, Vincent 6, Mahoney

°BA 72. Modern Industrial Relations: Manpower Management. (Formerly BA 167) 3 degree credits. \$24.

This is a special section, open only to occupational health nurses and others in allied fields with consent of instructor. For description see BA 72 above. (Prerequisite: 52 or #. Limited to 30 students)

Fall Quarter

Th 6:20-8:50, Vincent 205, Nelson

BA 142. Settlement of Industrial Relations Disputes. (Formerly Econ 166) 3 degree credits. \$24.

The nature of industrial conflict in employment relations pointing up the stresses contributing to conflict and dispute situations; and public and private approaches to the prevention, reduction, and resolution of conflicts. (Prerequisite: 52 or 152)

Spring Semester

Th 6:20-8:00, Vincent 2, Turnbull

Econ 162. Union Government and Policies. (Formerly Econ 163) 3 degree credits. \$24.

Internal administration and government of unions; economic and social issues; hours, wages, and other conditions of employment. (Prerequisite: BA 52 or 152)

Spring Semester

T 6:20-8:00, Vincent 205, Seltzer

Econ 182. Economic Security. (Formerly Econ 169) 3 degree credits. \$24.

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: BA 52 or 152)

Fall Semester

Th 6:20-8:00, Vincent 2, Turnbull

BA 232. Collective Bargaining Policies and Practices. (Formerly 180-181-182D) 3 degree credits. \$24.

Analysis of the functions and procedures of union-management collective bargaining. Designed to develop familiarity with the problems of collective bargaining and techniques for preparation and conduct of negotiations. (Prerequisite: 52 or 152)

Fall Semester

T 6:20-8:00, Vincent 205, Seltzer

Symbols explained on page 31.

Course Offerings—Business Administration

BA 262. Graduate Topics in Industrial Relations. (Formerly 180-181-182D) 3 degree credits. \$24.

Designed to develop familiarity with concepts, practices, and ethics of professional competence and standards in industrial relations. Emphasis upon group and organized research, advisory and service functions. (Prerequisite: 72 or 172)

Fall Semester

W 8:10-9:50, Vincent 2, Heneman

BA. Supervision I: Elements of Supervision. 3 certificate credits. \$24 plus \$1 materials fee.

A general discussion of basic principles of supervision in the office and factory. Survey of principles for the handling of day-to-day problems of supervisors with emphasis upon human relations aspects of such problems. Deals with such problems as selection, induction and training of new employees, employee appraisal, giving orders, handling grievances, discipline, and employee morale. Extensive use of class discussion of practical problems drawn from office and plant situations. (No prerequisite. Repeated spring semester)

Fall Semester

M 7:50-9:30, StP Ext Center 3F

T 6:20-8:00, Ford 70

Spring Semester

M 7:50-9:30, StP Ext Center 2H

T 6:20-8:00, Ford 70

BA. Supervision II: Advanced Techniques of Supervision. 3 certificate credits. \$24.

Emphasizes specialized supervisory techniques based upon principles outlined in Supervision I. Includes discussion of research in supervisory methods and practices and their relative success in application in the office and plant. Methods of supervisory training, morale measurement, job analysis and job evaluation, safety programs, wage and salary administration, principles of organization and communications are among the topics discussed. Extensive use is made of discussion method and case studies. (Prerequisite: Supervision I. Repeated spring semester)

Fall Semester

M 8:10-9:50, Ford 70

Spring Semester

M 6:00-7:40, StP Ext Center 2H

M 8:10-9:50, Ford 70

BA. Supervision III: Techniques of Employee Training. 3 certificate credits. \$24.

Primary emphasis is on the training techniques a line supervisor could make use of in developing his employees. Course content includes discussion of basic principles of training, training on an individual basis, group training, and special problems of orienting the new employee, making use of staff training services, safety training and evaluation of training. Extensive use is made of class discussion, role playing, case studies and demonstrations. (Prerequisite: Supervision II)

Fall Semester

M 6:20-8:00, Ford 160

Insurance

BA 53. Insurance Principles. (Formerly Econ 50) 3 degree credits. \$24.

Risk and its adverse economic effects; methods of handling risks; theory of insurance and insurable risks; insurable personal, property, and liability risks; risk management; personal, property, and liability insurance contracts; types of insurers; production, underwriting, actuarial, finance, and claims functions of insurers; industry and government regulation; social control. (Prerequisite: Econ 2 or 22. Repeated spring semester)

Fall Semester

M 8:10-9:50, Vincent 6, Fleischer

Spring Semester

M 8:10-9:50, Vincent 6, Fleischer

Symbols explained on page 31.

Evening and Special Classes

College of Life Underwriters Curriculum.

In co-operation with the Minneapolis and St. Paul chapters of the American College of Life Underwriters (CLU), this year the Extension Division is offering Parts I, II, III and IV of the CLU educational program (see listing below). Many of the regularly listed courses elsewhere in this bulletin may be of assistance to those who are preparing for examination on other parts of the curriculum. Full information on the American College of Life Underwriters study program may be obtained from the annual announcement of CLU which is available at Extension offices or through the Minneapolis or St. Paul chapters of the Chartered Life Underwriters.

Minneapolis—Arthur M. Morris, Jr., 3033 Excelsior Blvd., WAInut 7-7761
St. Paul—David York, 1005 Pioneer Building, CApital 5-4616

CLU Part I. Fundamentals of Life Insurance and Annuities, A-B. 3 certificate credits each semester. \$24 each semester.

This course is designed as preparation for the annual CLU examination in Part I, Fundamentals of Life Insurance and Annuities. The subject matter will cover such topics as: basic life insurance principles, the life insurance contract, functions of life insurance, mortality tables, premiums, selection of risk, types of insurance companies and associations, fundamentals of life insurance and annuity contracts.

For information concerning the CLU educational program and its requirements see notice above.

Fall Semester

A M 4:00-5:40, 430 Oak Grove, Preston

Spring Semester

B M 4:00-5:40, 430 Oak Grove, Preston

CLU Part II. Business Life Insurance, Accident and Sickness Insurance, Group Insurance, and Pensions, A-B. 3 certificate credits each semester. \$24 each semester.

This course is designed as preparation for the annual CLU examination in Part II, as conducted by the American College of Life Underwriters. The subject matter will cover life insurance for business purposes, problems of old age, unemployment and disability, accident and sickness insurance, group insurance, pensions, and deferred compensation.

For information concerning the CLU educational program and its requirements see notice above.

Fall Semester

A M 4:00-5:40, NW Bank Bldg., Directors Room

Spring Semester

B M 4:00-5:40, NW Bank Bldg., Directors Room

CLU Part III. Law, Trusts, and Taxation, A-B. 3 certificate credits each semester. \$24 each semester.

This course is designed as preparation for the annual CLU examination in Part III, Law, Trusts, and Taxation, as conducted by the American College of Life Underwriters. The subject matter will cover such topics as business law; estates, wills and trusts; and taxation, etc. (Prerequisite: #)

Fall Semester

A M 4:00-5:40, StP Ext Center 3F, Wheeler
A T 6:30-8:10, Prudential Insurance Office,
Moss

Spring Semester

B M 4:00-5:40, StP Ext Center 3F, Wheeler
B T 6:30-8:10, Prudential Insurance Office,
Moss

CLU Part IV. Economics and Business and Family Finance, A-B. 3 certificate credits each semester. \$24 each semester.

This course is designed as preparation for the annual CLU examination in Part IV, Economics and Business and Family Finance, as conducted by the American College of Life Underwriters. Section A will be devoted to the study of basic principles of economics. Section B will cover family finance and business finance. For details as to the content of the course and for information concerning the CLU educational program and its requirements, see notice above. (No prerequisite for A; for B, previous unit)

Fall Semester

A T 4:00-5:40, NW Bank Bldg., Directors Room, Barker

Spring Semester

B T 4:00-5:40, NW Bank Bldg., Directors Room, Barker

Symbols explained on page 31.

Property and Casualty Insurance Curriculum.

The University of Minnesota co-operates with the Insurance Institute of America and the American Institute for Property and Casualty Underwriters, Inc., by offering an educational program that provides the basic courses needed by those who wish to take the examinations of either or both of the institutes. The Insurance Institute of America courses are considered excellent preparation for the more difficult American Institute courses which lead to the Chartered Property and Casualty Underwriters (CPCU) award. Complete details of the program of training under both institutes are printed in the institutes' annual announcements, copies of which may be obtained from the General Extension Division of the University of Minnesota. (Co-ordinator for CPCU program for 1960-61 will be: Bernard C. Bengtson, Capital 4-3737)

IIA Parts A, B, and C. 3 certificate credits each semester. \$24 each semester.

Based on the Part A, Part B, and Part C Topical Outlines of the Insurance Institute of America. Provides a background in property and liability insurance and serves as a preparatory course for the CPCU program. *Part A:* Economic and social influences of insurance; risk and insurance; types of risk and kinds of insurance to meet them; legal principles important to property and liability insurance; historical development of insurance; rate making; types of insurers and their organization; underwriting and reinsurance; analysis of insurance contracts; regulation. *Part B:* An intensive study of fire and marine insurance contracts. *Part C:* An intensive study of casualty insurance contracts. It is highly recommended but not required that Part A be taken before Parts B and C.

Fall Semester

A M 6:20-8:00, Vincent 6, Howard

Spring Semester

B-C M 6:20-8:00, Vincent 6, Howard

CPCU Part I. Insurance Principles and Practices, A-B. 3 certificate credits each semester. \$24 each semester.

An intensive course in the basic principles of property and casualty insurance, designed as preparation for examination I for the Chartered Property Casualty Underwriter (CPCU) award offered by the American Institute for Property and Casualty Underwriters, Inc. The course will be conducted by a panel of instructors selected from practicing insurance men, co-ordinated and supervised by the University School of Business Administration. (Prerequisite: at least 3 years' general experience or the equivalent in formal study and acceptance of special registration application; consult any Extension office)

Fall Semester

A M 6:20-8:00, Ford 180, Bengtson
(co-ordinator)

Spring Semester

B M 6:20-8:00, Ford 180, Bengtson
(co-ordinator)

CPCU Part II. Insurance Principles and Practices, A-B. 3 certificate credits each semester. \$24 each semester.

An intensive course in the basic principles of property and casualty insurance, designed as preparation for examination II for the Chartered Property Casualty Underwriter (CPCU) award offered by the American Institute for Property and Casualty Underwriters, Inc. The course will be conducted by a panel of instructors selected from practicing insurance men, co-ordinated and supervised by the University School of Business Administration. (Prerequisite: CPCU Part I or at least 3 years' general experience or the equivalent in formal study and acceptance of special registration application; consult any Extension office)

Fall Semester

A M 8:10-9:50, Ford 180, Bengtson
(co-ordinator)

Spring Semester

B M 8:10-9:50, Ford 180, Bengtson
(co-ordinator)

CPCU Part IV. Law, A-B. 3 certificate credits each semester. \$24 each semester.

This course is designed as preparation for examination IV for the Chartered Property Casualty Underwriter (CPCU) award. The subject matter covers (a) the general commercial law pertaining to contracts, agency, partnerships, corporations, personal property, real estate and mortgages, negotiable

Evening and Special Classes

instruments, bankruptcy, bailments, common and private carriers, negligence; (b) insurance law, including construction of insurance contracts. (Prerequisite: acceptance of special registration application or completion of one or more parts of the CPCU program)

Fall Semester

A Th 6:20-8:00, Ford 130, Peet

Spring Semester

B Th 6:20-8:00, Ford 130, Peet

Marketing

BA 57. Principles of Marketing. (Formerly BA 77) 3 degree credits. \$24.

Marketing functions and institutions; channels of distribution; retail and wholesale trade; pricing policies and practices; marketing policies and methods for consumers' goods, producers' goods, and raw materials. (Prerequisite: Econ 2. Repeated spring semester)

Fall Semester

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

W 6:20-8:00, Vincent 113, Hancock

Spring Semester

M 6:20-8:00, Vincent 205, Hancock

W 6:20-8:00, Vincent 205

BA 87. Credits and Collections. (Formerly BA 76) 3 degree credits. \$24.

Nature and types of credit and of credit instruments and agencies; qualifications and work of the credit manager; valuation and use of financial statements and credit reports; collection methods and correspondence; bankruptcy and adjustments; credit limits and control. (Prerequisite: new BA 57 or old BA 77)

Fall Semester

Th 6:20-8:00, Vincent 6, Kerns

BA. Principles of Credits and Collections II. 3 certificate credits. \$24.

This course is designed to follow BA 87 with emphasis upon analysis of financial statements as a source of credit information; legal remedies used in collection of delinquent accounts; handling insolvent accounts and bankruptcies; adjustment problems and the use of adjustment bureaus; credit insurance; activities and services of credit associations; measures of credit department efficiency, and other important phases of credit work. (Prerequisite: new BA 87 or old BA 76 or ##)

Spring Semester

Th 6:20-8:00, Vincent 6, Kerns

BA 117. Sales Management. (Formerly BA 113) 3 degree credits. \$24.

Management of selling activities including sales policies and planning, sales promotion, sales organization, and channels of distribution; selection, training, and compensation of salesmen; control of sales performance including sales budgets and cost control. Case materials. (Prerequisite: new BA 57 or old BA 77)

Fall Semester

M 6:20-8:00, Vincent 205, Lewis

National Institute of Credit Curriculum

The University of Minnesota co-operates with the Credit and Financial Management Association of Minneapolis and the St. Paul Chapter of the National Association of Credit Men in a program of training leading toward the awards of Associate and Fellow of the National Institute of Credit (the educational branch of the National Association of Credit Men). Those interested in working for these awards should be registered with the National Institute of Credit at the Association office (502 Thorpe Building, Minneapolis; Telephone FEderal 6-8356) and should receive advice there as to an approved

Symbols explained on page 31.

Course Offerings—Business Administration

program of study. Course registrations for evening classes should be made at any of the Extension Division offices, indicated on the inside cover of the Evening Classes bulletin.

The curriculum of the National Institute of Credit, together with selected Extension Division courses, follows. (The suggested Extension courses should prove valuable to those contemplating work toward a University degree or an Extension certificate as well as for the Institute awards. For further information, consult the Extension Committee on Student Scholastic Standing.)

Institute Curriculum

†† Approved Equivalent Extension Courses

Associate Award

Business Economics
Basic Accounting
Business Correspondence
Credit and Collection Principles
Advanced Credits

Econ 1-2, Principles of Economics
BA 24-25-26, Principles of Accounting
Business Correspondence
BA 87, Credits and Collections
Principles of Credits and Collections II

Fellow Award Program (in addition to preceding courses)

Law of Contracts and Agency
Law of Business Transactions or Negotiable Papers
Public Speaking
Salesmanship or Marketing
Credit Management Problems
Financial Statement Analysis
Psychology (Applied, General, or Business)
Techniques of Supervision
Office Management or Personnel Management
Electives

BA 58-78, Business Law
BA 88, Business Law
Beginning Practical Speech Making
Basic Salesmanship, or
BA 57, Principles of Marketing
No equivalent course
BA 55D, Analysis of Financial Statements
Psy 1A, Application of Psychology to Living, or
Psy 1-2, General Psychology, or
Psy 122-123, Vocational Development and Personnel Psychology
Supervision I
BA 99, Office Management—Management of Administrative Services

Office Management

Your attention is called to the Management of Administrative Services Certificate programs; see page 13.

BA. Scientific Management in the Office, 3 certificate credits, \$24.

The office as a producing unit; organization and control of clerical services; selection of equipment and supplies; flow of work layout and working conditions; office personnel; relation of the office to operating divisions; work simplification; scientific management as applied to the office. (No prerequisite)

Spring Semester

T 6:20-8:00, Vincent 301, Northcott

†† Electives and substitutions or transfers of credits may be approved on petition to the educational committees of the local association chapters. For further information on this program, please consult Mr. Lindholm in the Association office (Thorpe Building).

Other symbols explained on page 31.

Evening and Special Classes

BA 99. Office Management—Management of Administrative Services. (Formerly BA 86) 3 degree credits. \$24.

Survey of problems involving organization, planning, and control of administrative services. Emphasis is upon communications; records management; equipment analysis and control; forms and supplies; flow of work, layout, and environment; office personnel. (Prerequisite: Econ 2 or ##)

Spring Semester

T 6:20-8:00, Vincent 301, Northcott, Donaldson

Real Estate

The University of Minnesota co-operates with the National Association of Real Estate Boards and with the Real Estate Boards of St. Paul and Minneapolis in a program of educational training leading toward competence in the professional aspects of real estate practice. Instructing staff for each course will be made up of a number of practicing realtors in the Twin Cities. Co-ordinator for the Real Estate Boards: Bernard G. Rice, 415 Minnesota Federal Bldg., Minneapolis.

BA. Fundamentals of Real Estate Practice. 3 certificate credits. \$24.

Economic functions of the real estate business; fundamental practices of the real estate office and other realtors; real estate valuations; methods of appraising; brokerage; principles of real estate management; ethics of real estate practice. Basic course; should be taken prior to any other courses in real estate curriculum. (No prerequisite)

Fall Semester

M 6:20-8:00, Physics 133, Rice (co-ordinator)

BA. Real Estate Financing and Insurance. 3 certificate credits. \$24.

A study of financing methods and practice relating to conventional, FHA, VA, and combination loans; secondary financing; special loans on leases, farms, industrial and commercial properties; and primary phases of insurance procedures in the average real estate office. (No prerequisite)

Fall Semester

W 6:20-8:00, Ford 85, Rice (co-ordinator)

BA. Real Estate Sales Brokerage. 3 certificate credits. \$24.

A study of the basic principles and practices involved in the conduct of real estate sales from beginning to end; evaluation, listing, advertising, contracts and leases, financing and taxes, property showing, selling techniques, code of ethics. (No prerequisite)

Spring Semester

W 6:20-8:00, Ford 85, Rice (co-ordinator)

BA. Real Estate Appraisal. 3 certificate credits. \$24.

Detailed consideration of principles and practices involved in appraising various types of real property for various purposes. Factors determining valuations; making and reporting appraisals. Appraisals procedures in various legal actions. (No prerequisite)

Spring Semester

M 6:20-8:00, Ford 155, Rice (co-ordinator)

Real Estate Law (BA 98, Business Law). See page 92.

Building Material Estimating. See page 128.

Symbols explained on page 31.

Salesmanship

BA. Salesmanship I. 3 certificate credits. \$24.

Selling principles that influence people to buy; why people spend money for something. Presentation of the product or service; magic words, descriptive words; types of buyers; resistances that cause failures; the buyer's mind at time of close, closing techniques. (No prerequisite. Repeated spring semester)

Fall Semester

M 6:20-8:00, Ford 185, Stanchfield
Th 6:00-7:40, StP Ext Center 3E, Stanchfield

Spring Semester

M 6:20-8:00, Ford 170, Stanchfield

*BA. Salesmanship II. 3 certificate credits. \$24.

Self-management, organizing and planning territorial work, sales routine and office correspondence, finding prospects and getting the interview, individual sales demonstrations, development of potential in the territory, use of advertising. (Prerequisite: Salesmanship I or #. Class limited to 35 students)

Spring Semester

Th 6:20-8:00, Johnston 115, Stanchfield

Secretarial Procedures

Your attention is called to the Secretarial Certificate program; see page 9.

BA 36. Office Procedures. 3 degree credits. \$24.

Editing and revising correspondence; communications; basic indexing and filing problems; intra-office relationships. (Prerequisite: 34 or ##)

Fall Semester

W 6:20-8:00, Vincent 307, Briggs

BA 79A. Administrative Secretarial Studies. 3 degree credits. \$24.

Office situations and problems in the work of an administrative assistant to an executive. This includes knowledge of office procedures and secretarial dictation and transcription. (Prerequisite: 34 and 39 or ##)

Spring Semester

W 6:20-8:00, Vincent 307, Briggs

BA. Refresher Course in Business Theory for Secretaries. No credit. 4 units; each unit, \$15.

This course is designed as a refresher course for secretaries who have some background in business theory. It serves as a review for candidates for the Certified Professional Secretary examinations, and for others who wish a brief survey of the various fields of business theory with which a secretary should be familiar. It will consist of 24 sessions, divided into 4 units of 6 sessions each. Unit I: Business Law and Human Relations. Unit II: Secretarial Procedures and Business English. Units III and IV will include Economics and Business Administration, and Secretarial Accounting (information will be available at Extension offices after December 1 as to which subjects will be covered by Units III and IV). Students may take any or all of the four units of the course. Course co-ordinator is Miss Naomi Peterson, Federal 2-8158, Ext. 296.

T 6:20-8:50, Ford 120, Peterson and staff

Unit I, September 27-November 1, Business Law and Human Relations, Eastlund

Unit II, November 8-December 13, Secretarial Procedures and Business English, Haberman

Unit III, January 10-February 14, To be announced

Unit IV, February 21-March 28, To be announced

Symbols explained on page 31.

Evening and Special Classes

BA. Short Course for Legal Secretaries. No credit. \$15.

This course is designed as a brief survey of the various fields with which a legal secretary should be familiar. It also serves as a review for candidates for the Professional Legal Secretary examination. Topics covered will include: types of court and litigation procedures, documentary procedures; the pleadings, forms and documents used therein, and basic information about their preparation; legal terminology; human relations; and legal office routine. Course co-ordinator is Miss Naomi Peterson, FEderal 2-8158, Ext. 296.

January 9-February 13

M 6:20-8:50. Ford 85. Eastlund

Statistics

BA 5. Elements of Statistics. (Formerly Econ 5) 3 degree credits. \$24.

Elementary concepts in statistical methods. Sources and collection of data; tabular and graphic presentation; frequency distributions; probability; sampling; introduction to statistical estimation and decision-making. (Prerequisite: Math 7 or 8 or 10 or 15 or ITM 11. Repeated spring semester.)

Fall Semester

M 6:20-8:00, Vincent 306
T 6:20-8:00, Vincent 2
W 6:00-7:40, StP Ext Center 3E

Spring Semester

T 6:20-8:00, Vincent 6
W 6:00-7:40, StP Ext Center 3E

BA 51. Business Statistics. (Formerly Econ 74) 3 degree credits. \$24.

Basic concepts of regression and correlation; statistical estimation and decision-making, with applications to such fields as survey sampling, acceptance sampling, and statistical quality control; introduction to time series analysis and index numbers. (Prerequisite: new BA 5 or old Econ 5.)

Spring Semester

T 8:10-9:50, Vincent 6

Transportation

BA 54. Transportation I: Principles. (Formerly BA 71) 3 degree credits. \$24.

Introduction to the roles, interests, and relationships of users of the service, carriers, and regulatory agencies in the transportation field, emphasizing the national transportation policy approach. Organization of the transportation industry and administration of the transportation function by users of the service in their business activities. Economic aspects of railway, highway, pipeline, water, and air transportation. Current transportation problems and evaluation of national transportation policy. (Prerequisite: Econ 2.)

Fall Semester

M 6:20-8:00, Vincent 1, Nightingale

BA 174. Transportation II: Traffic Management. 3 degree credits. \$24.

Principles of transport control and their application within the industrial (noncarrier) firm; carrier traffic management. Principles governing construction, interpretation, and application of rail, motor, water, express, pipeline, freight forwarder, and air freight classifications and tariffs. Problems involving determination of charges on typical movements within and between major freight rate territories. (Prerequisite: new BA 54 or old BA 71.)

Spring Semester

M 6:20-8:00, Vincent 1, Nightingale

BA 184A. Highway Transportation. (Formerly BA 129) 3 degree credits. \$24.

Economic aspects of the American highway transportation system and motor transportation; national policy; services, pricing, operations, and management of the motor carrier industry; federal and state regulatory policies and problems, including ICC motor carrier cost studies; intercity and

Symbols explained on page 31.

Course Offerings—Business Administration

urban passenger operations and problems, including the transit problem of the cities. (Prerequisite: new BA 54 or old BA 71)

Spring Semester

W 6:20-8:00, Vincent 2, Harper

BA 194A-194B. Topics in Transportation: Advanced Traffic Management I-II. (Formerly BA 180I-181I) 3 degree credits each semester. \$24 each semester.

Advanced study of transportation rates and transport control practices and applications within the individual firm. Analysis of important current ICC cases and decisions affecting users of the service and carriers. (Prerequisite: BA 174)

Fall Semester

Spring Semester

194A M 8:10-9:50, Vincent 211, Nightingale

194B M 8:10-9:50, Vincent 211, Nightingale

BA. Interstate Commerce Practice and Procedure I-II. 3 certificate credits each semester. \$24 each semester.

Advanced study of state and federal regulatory laws and U. S. Supreme Court cases governing rail and highway transportation. Attention to practice and procedure before rate and classification committees, state commissions, and the Interstate Commerce Commission. Preparation of informal, formal, and investigation and suspension cases before regulatory commissions. (Prerequisite: new BA 194A or old BA 180I or ##)

Fall Semester

Spring Semester

I W 6:20-8:00, Vincent 211, Nightingale

II W 6:20-8:00, Vincent 211, Nightingale

Symbols explained on page 31.

MASTER OF BUSINESS ADMINISTRATION PROGRAM

Beginning the fall quarter 1960, the master of business administration degree will be offered during evening hours by the Graduate School, in conjunction with the General Extension Division.

Program and Purpose

This program is specifically designed for and limited to persons concurrently pursuing active careers in business, industry and government. Its purpose is to broaden the individual's knowledge and understanding of leadership and administrative responsibilities.

The program consists of two parts, I and II. The candidate who holds a nonbusiness degree must begin with and complete Part I before starting Part II. The candidate who holds a Bachelor's degree in business administration from the University of Minnesota or the equivalent degree from another institution will normally be allowed to begin with Part II.

No transfer of graduate credit for the Master's degree from another institution is permitted by the Graduate School. Courses satisfactorily completed at another institution may be used, however, to meet some or all of the course requirements in Part I of the program.

Admission Requirements

Participation in either Part I or II of this program is open to anyone who has a Bachelor's degree from a recognized college or university and who has been admitted to the Graduate School of the University of Minnesota in accordance with its standards and policies. No one else will be permitted to participate in this program. Applications for admission will be considered individually by the Graduate Admissions Committee of the graduate faculty in the Department of Business Administration, which will recommend action by the Graduate School. Not only the individual's record in undergraduate studies, but also other evidence of administrative ability and academic promise will be taken into account.

Candidates already admitted to the Graduate School for study in the field of business administration need not apply again provided: (1) their admission is still valid, or (2) they have already completed some work in the Graduate School. However, each candidate must make an appointment with the director of the Master of Business Administration Evening Program for program planning and registration purposes.

Application forms for admission to the Graduate School may be secured by writing for such forms to Co-ordinator for Curriculum Development, Department of Evening and Special Classes, General Extension Division, University of Minnesota, Minneapolis 14, Minnesota.

Registration

In order that registration may be expedited it is recommended that formal application for admission on Graduate School forms be made as soon as possible, or at least 4 weeks previous to the opening term in which studies are to be commenced.

Master of Business Administration Program

The Graduate School will notify the individual applicant of his acceptance or rejection. If accepted, the applicant must make an appointment with the director of the Master of Business Administration Evening Program, School of Business Administration, to prepare his program and complete registration materials. **NO REGISTRATION FOR THIS PROGRAM WILL BE ACCEPTED IN GENERAL EXTENSION DIVISION OFFICES.** Appointments may be scheduled beginning September 6, 1960 by calling FEderal 2-8158, Extension 6957.

All candidates must register at the beginning of each term during which courses are to be taken.

Official registration dates: Fall quarter 1960, September 12 through 21; winter quarter 1961, December 27 through 30; spring quarter 1961, March 20 through 24.

Degree Requirements

Program requirements for Parts I and II are listed in the Master of Business Administration Evening Program brochure which may be secured at any General Extension Division office.

Tuition

A tuition fee of \$50 per course per quarter must be paid at the time of registration with the director of the Master of Business Administration Evening Program. Checks in the appropriate amount should be made payable to the University of Minnesota.

Staff

All courses in both Part I and Part II will be taught by graduate faculty members from the Department of Business Administration.

Counseling

The director of the Master of Business Administration Evening Program, who is a member of the graduate faculty of the Department of Business Administration, will serve as program counselor and planner. He must approve the program and register each student each quarter. No registrations for this program will be accepted in General Extension Division offices. The director will maintain a regular schedule of office hours, convenient to evening students, during the registration periods and at other times throughout the academic year. Appointments may be scheduled beginning September 6, 1960 by calling FEderal 2-8158, Extension 6957.

Awarding the Degree

Upon satisfactory completion of the course work in Part II, the candidate will take the final comprehensive examination administered by the graduate faculty in business administration; this may include a written or oral examination or both. When the examination has been satisfactorily completed, the candidate will be recommended to the Graduate School for conferring of the master of business administration degree. The degree is conferred at a regular University Commencement exercise at the conclusion of the quarter in which the degree is completed.

Evening and Special Classes

Part I

For candidates who hold a nonbusiness degree.

BA 151. Elements of Statistics. 3 degree credits, §5 or Soc 45. \$50.

Sources, collection, and presentation of statistical data; frequency distributions, probability, sampling; introduction to statistical estimation and decision-making; introduction to time series analysis. (Prerequisite: graduate; Math 10 or equivalent)

Fall Quarter

T 6:20-8:50, Vincent 210

BA 155A-155B. Introduction to Managerial Accounting. 3 degree credits each quarter, §BA 24-25-26 or BA 55A-55B. \$50 each quarter.

Elementary course for graduate students only. The use of accounting as a tool of business management. (Prerequisite: graduate)

Fall Quarter

155A Th 6:20-8:50,
Vincent 210

Winter Quarter

155B Th 6:20-8:50,
Vincent 210

Econ 165. Economic Analysis: The Firm. 3 degree credits, §Econ 65. \$50.

Analysis of individual decision-making by firms under conditions of monopoly, competition, and monopolistic competition. (Prerequisite: graduate)

Winter Quarter

T 6:20-8:50, Vincent 210

BA 152. Principles of Industrial Relations: Labor Marketing. 3 degree credits, §BA 52. \$50.

An introduction to current employment relationships, emphasizing an economic approach and analysis. Fundamentals of the 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: graduate)

Spring Quarter

Th 6:20-8:50, Vincent 210

BA 157. Marketing Management. 3 degree credits, §BA 57. \$50.

The nature of marketing decisions. Demand and cost analysis. The structure of distribution. Decision making with respect to products, selection of channels, pricing, sales promotion, and location. (Prerequisite: graduate)

Spring Quarter

T 6:20-8:50, Vincent 210

Part II

For candidates who hold a Bachelor's degree in business administration from the University of Minnesota or the equivalent degree from another institution.

BA 251. Business Research Methods and Techniques. 3 degree credits. \$50.

Introduction to sources of business information. Examination of research methods and techniques and their application to individual problems. Place of business research in business management. (Prerequisite: 151 or equivalent)

Fall Quarter

M 6:20-8:50, Vincent 210

Symbols explained on page 31.

Course Offerings—Master of Business Administration Program

BA 256. Government and Business Enterprise I. 3 degree credits. \$50.

Examines the varied interrelations of governmental and business activities in American society. Recent trends and future prospects regarding the scope of such relationships. Focuses on government as: (a) a rule-maker for business—in peace and war-time contexts; (b) a direct participant in the economic process—e.g., procurement practices, employment policies, and operation of publicly owned enterprises; and, (c) an indirect participant in business activities—e.g., programs regarding small business, urban redevelopment and housing, "distressed" areas, research, plant construction, resource conservation and development. (Prerequisite: advanced graduate)

Fall Quarter

W 6:20-8:50, Vincent 210

BA 257. Government and Business Enterprise II. 3 degree credits. \$50.

Focuses on the relationship between governmental policy and the maintenance of competitive markets. Examines the purpose, substance, and problems of antitrust law and administration. Considers the desirability, feasibility, and effectiveness of antitrust policy. Inquires into the meaning and significance of such concepts as "effective competition," "workable competition," and "countervailing power." Gives attention to such issues as: (a) the relation between business size and efficiency; and (b) the compatibility of antitrust and the range of other governmental policies. (Prerequisite: 256)

Winter Quarter

M 6:20-8:50, Vincent 210

BA 258-259. Quantitative Approaches to Administrative Problems I and II. 3 degree credits each quarter. \$50 each quarter.

The uses of accounting, statistics, mathematics, economic analysis, and operations research in the solution of business problems at administrative levels. (Prerequisite: 5 or 151; 26 or 55B or 155B; Econ 65 or 165 or equivalent)

Winter Quarter

258 W 6:20-8:50,
Vincent 210

Spring Quarter

259 W 6:20-8:50,
Vincent 210

BA 250. Executive Leadership. 3 degree credits. \$50.

Development of leadership abilities in the areas of superior-subordinate relationships, conference leadership, communications both oral and written. Case studies, role playing, conference groups, and discussions are utilized in presenting individual and group situations for the student to resolve. (Prerequisite: advanced graduate)

Spring Quarter

M 6:20-8:50, Vincent 210

Symbols explained on page 31.

EDUCATION

Prospective Teachers: Persons interested in undergraduate programs preparing them to teach in elementary or secondary schools should make an appointment through the General Extension Division with an adviser in the College of Education. Most professional education courses must be taken in day school, when schools are in session for observation. However, all programs in the College of Education emphasize the preparation of the teacher in general education and in the teaching subjects. Many evening offerings listed in the Arts and Sciences section of this bulletin may be taken by prospective teachers for later use toward degree programs in the College of Education.

Teachers-in-Service: Many courses in academic fields are available for teachers through evening class registration. Attention is called particularly to offerings listed under Arts and Sciences in this bulletin. Professional education courses available through evening classes are limited because of an extensive offering in the late afternoon and Saturday morning hours as part of the day school program of the College of Education.

Renewal of Teaching Certificates: Former teachers wishing to renew certificates should check with the State Department of Education concerning their individual requirements. Those who need an additional 8 quarter credits may select courses in education pertinent to their teaching level (elementary or secondary) or courses in the major teaching field. Secondary teachers are especially urged to emphasize current work in the teaching subject itself.

Art Education

ArEd 17. Pictorial Expression for Elementary Education. 3 degree credits. \$24 plus \$2 materials fee.

Survey of art in life and education. Materials, techniques, and ideas important to children's art expression, relationship to adult expression, and significance in educational growth. (No prerequisite)

Fall Quarter

W 6:20-8:50, TSF 259, Gayne

ArEd 18. Design Activities for Elementary Education. 3 degree credits. \$24 plus \$2 materials fee.

Relationships between art and nature. Problems in invention, arrangement and decoration, color, lettering, posters, and bulletin board displays. (No prerequisite)

Winter Quarter

W 6:20-8:50, TSF 259, Gayne

ArEd 19. Functional Arts and Crafts in Elementary Education. 3 degree credits. \$24 plus \$2 materials fee.

Influence of art on modern life. Typical opportunities for integrated experiences. Clothing, architecture and interior design, community planning, commercial and industrial design, puppetry, dramatics, intercultural relations, holiday projects, etc. (No prerequisite)

Spring Quarter

W 6:20-8:50, TSF 259, Gayne

Symbols explained on page 31.

Course Offerings—Education

ArEd 81. Puppetry in Education. 3 degree credits. \$24 plus \$2 materials fee.

Use of simple puppetry as a teaching technique, and problems of motivation and correlation with school subjects. Construction, manipulation, and stage techniques related to typical school situations. (No prerequisite)

Spring Semester

Th 6:20-8:00, TSF 259, Cherry

Child Development and Welfare

CD 80. Child Psychology. 3 degree credits. \$24.

Science of child development and its applications. (Prerequisite: Psy 2. Repeated spring semester)

Fall Semester

M 6:20-8:00, Folwell 101, Kass

Spring Semester

M 6:20-8:00, Folwell 101, Kass

CD 81. Adolescent Psychology. 3 degree credits. \$24.

Social, physical, mental, emotional and personality development during adolescence. (Prerequisite: Psy 2)

Fall Semester

T 6:20-8:00, Folwell 101, Holbrook

CD 140. Behavior Problems. 3 degree credits. \$24.

Types, origins, development and treatment. (Prerequisite: 12 credits in psychology, educational psychology, or sociology)

Spring Semester

M 8:10-9:50, Folwell 101, Reed

CD 143. Problems in Mental Deficiency. 3 degree credits. \$24.

Diagnosis, care, training; social and vocational problems. (Prerequisite: 12 credits in psychology, or equivalent)

Fall Semester

M 8:10-9:50, Folwell 101, Reed

Curriculum and Instruction

EdCI 103. Teaching of Science in the Elementary School. 3 degree credits. \$24.

Emphasis on resources and materials and their application to the elementary grades. (Prerequisite: Ed 71B or teaching experience)

Fall Semester

M 6:20-8:00, Johnston 106, Boeck

Educational Psychology

EPsy 60. Introduction to Measurement and Statistics. 3 degree credits. \$24.

A study of measures of central tendency, variability and correlation as well as principles of test construction. (Prerequisite: 6 credits in psychology)

Fall Semester

Th 6:20-8:00, Johnston 106, Hoyt

Symbols explained on page 31.

Evening and Special Classes

EPsy 110. Measurement in the Classroom. 3 degree credits. \$24.

Principles and methods for construction, evaluation, and improvement of educational measurement in classroom instruction. (No prerequisite)

Spring Semester

Th 6:20-8:00, Johnston 106, Hoyt

EPsy 159. Personality Development and Mental Hygiene. 3 degree credits. \$24.

This course purports to give the teacher a fresh way of looking at his task and at his relations with students by drawing upon modern concepts of mental health. The thesis is developed that emotional and intellectual growth in the classroom can best be fostered when the teacher understands and comes to grips with the motives and values which characterize his students. Topics treated include a description of the person in good mental health, an analysis of adjustment processes and of common sources of conflict and anxiety, psychological descriptions of the major grade-range groups in our schools and the mental health implication for dealing with them in the classroom; typical distinctions in the psychological makeup of successful and unsuccessful teachers; examination of sources of frustration in teaching and of behavior conducive to sound mental health in teaching. (Prerequisite: junior class level or teaching experience or #. Repeated spring semester)

Fall Semester

M 6:20-8:00, Johnston 205, Borow

Spring Semester

M 6:00-7:40, StP Ext Center 3C, Borow

EPsy 193. Principles of Psychology of Human Learning. 3 degree credits. \$24.

Application to school situations; motivation; rate of learning and forgetting; teaching of skills, meanings, attitudes; reasoning and problem solving; transfer of learning. (Prerequisite: teaching experience or #. Repeated spring semester)

Fall Semester

M 6:00-7:40, StP Ext Center 3E, Kellogg

Spring Semester

M 6:20-8:00, Johnston 106, Kellogg

Nursing Education

***NuEd 62. Introduction to Personnel Work in Nursing. 3 degree credits. \$24.**

Principles, techniques, and application of personnel point of view to nursing; psychological principles; individual differences; counseling techniques appropriate for staff and faculty. (Open to registered nurses. Class limited to 35 students)

Spring Quarter

M 6:30-9:00, Owre 113, Holm

***NuEd 73. Principles of Education in Nursing. 3 degree credits. \$24.**

Identification of principles of learning and teaching; application of principles in a variety of nursing situations; sources and selection of materials and organization for instruction; evaluation of learning. (Open to registered nurses. Class limited to 35 students)

Fall Quarter

T 6:00-8:30, Owre 113, Weise

Nursing and Nursing Administration. See page 67.

Symbols explained on page 31.

ENGINEERING AND TECHNICAL SCIENCES

Your attention is called to the Engineering Science and Engineering Technician Certificate programs; see page 15.

Aeronautics

Basic Ground School for Student Pilots and Private Pilots

This 6-week course is intended primarily for student pilots and prospective pilots who are preparing for the Federal Aviation Agency's written examination for certification as a *Private Pilot*, and consists of 42 hours of concentrated instruction on air navigation, meteorology, analysis of flight maneuvers, aircraft and engine operation, civil air regulations, radio aids, aircraft instruments and other subjects pertaining to the safe, efficient and economical operation of aircraft. The course is open to all pilots and prospective pilots, regardless of their educational background.

Although the course aims directly at fully preparing for the *Private Pilot* examination, it also prepares for possible subsequent enrollment in the *Advanced Ground School* course or the *Instrument-Rating Ground School* course.

The class meets twice a week, on Tuesdays and Thursdays, from 7 p.m. to 10:30 p.m., for 6 weeks, in Room 209 of the Aeronautical Engineering building on the main campus of the University.

Four certificate credits are awarded for satisfactory completion of the course. The fee is \$32, and registration must be completed not later than the beginning of the third class meeting, either in the classroom or at any University Extension Division office. The instructor is Sam R. Hamilton.

Starting dates for the course are posted on airport bulletin boards from time to time throughout the entire year (12 months), or can be determined by consulting any University Extension Division office or by calling Mr. Hamilton at Midway 8-2559.

Advanced Ground School for Commercial Pilots and Flight Instructors

This 6-week course is designed primarily for pilots who are preparing for the Federal Aviation Agency's written examination for certification as a *Commercial Pilot* or *Flight Instructor*, and consists of 42 hours of concentrated instruction aimed directly at preparing for the *Commercial Pilot* examination and the *Flight Instructor* examination. The course is open only to students who have completed the *Basic Ground School* course.

The class meets twice a week on Tuesdays and Thursdays, from 7 p.m. to 10:30 p.m., for 6 weeks, in Room 209 of the Aeronautical Engineering building on the main campus of the University.

Four certificate credits are awarded for satisfactory completion of the course. The fee is \$50, and registration must be completed not later than the beginning of the third class meeting, either in the classroom or at any University Extension Division office. The instructor is Sam R. Hamilton.

Starting dates for this course are posted on airport bulletin boards from time to time, or can be determined by consulting any University Extension Division office or by calling Mr. Hamilton at Midway 8-2559.

Instrument-Rating Ground School

This 6-week course is offered to pilots who are preparing for the Federal Aviation Agency's written examination for an *Instrument Rating*, and who have completed the *Basic Ground School* course. The course consists of 42 hours of intensive instruction aimed directly and exclusively at preparing for the *Instrument Rating*. The instructor is Sam R. Hamilton.

The course is offered whenever there appears to be sufficient demand. Information regarding the starting date for the next such course, the tuition fee, the schedule of class meetings, and so forth, can be obtained from airport bulletin boards, or by consulting any University Extension Division office or by calling Mr. Hamilton at Midway 8-2559.

Evening and Special Classes

Chemistry

A \$10 chemistry deposit card is required for each of the courses in chemistry. Information concerning the procurement of this card will be given at the first meeting of each class. An equipment fee of \$3 and charges for laboratory material and breakage will be punched out of the deposit card. The balance will be returned to the student at the end of the semester.

Analytical Chemistry

AnCh 57. Quantitative Analysis. 4 degree credits. \$32 plus \$5 laboratory fee.

Introductory course covering the general principles and methods of gravimetric and volumetric analysis. Typical problems are assigned and attention is given to proper laboratory practice. Primarily for premedical students. (Prerequisite: InCh 11 or 26)

Spring Semester

Lect T 6:20-8:00, Chemistry 325, Herr
Lab Th 6:20-10:20, Chemistry 310, Herr

AnCh 100-101. Quantitative Analysis. (Formerly 101-102) 2 degree credits for 100, \$16. 3 degree credits for 101, \$24.

Introductory lecture courses covering the general principles and theoretical foundations of quantitative analysis. 100: gravimetric analysis. (Prerequisite: InCh 11 or 26) 101: volumetric analysis. (Prerequisite: 100 or 51)

Fall Semester

100 T 8:10-9:50, Chemistry 325, Herr

Spring Semester

101 T 8:10-9:50, Chemistry 325, Herr

AnCh 102A. Quantitative Analysis Laboratory. 3 degree credits. \$24 plus \$5 laboratory fee.

Introductory course covering the methods of quantitative analysis. (Prerequisite: 101 or 52 or ¶101. Repeated spring semester)

Fall Semester

Th 6:20-10:20, Chemistry 310, Herr

Spring Semester

Th 6:20-10:20, Chemistry 310, Herr

Inorganic Chemistry

InCh 4-5.† General Inorganic Chemistry. 5 degree credits each semester. \$40 plus \$5 laboratory fee each semester.

An introduction to chemistry from the standpoint of atomic structure; periodic properties of the elements and compounds derivable from structural considerations; a study of the laws governing the behavior of matter, theories of solutions, acids, bases, and equilibrium. (Prerequisite: Elementary Algebra)

Fall Semester

4 Lab T 6:20-9:20, Chemistry 325, †† Herr
Lect Th 6:20-8:00, Chemistry 325, Herr

Spring Semester

5 Lab T 6:20-9:20, Chemistry 325, †† Herr
Lect Th 6:20-8:00, Chemistry 325, Herr

InCh 11. Semimicro Qualitative Analysis. 4 degree credits. \$32 plus \$5 laboratory fee.

Laboratory work in systematic qualitative analysis of cations with lectures on solutions, ionization, chemical and physical equilibria, oxidation and reduction, etc. (Prerequisite: 5 or 25)

Fall Semester

Lect T 6:20-8:00, Chemistry 325, Herr
Lab Th 6:20-9:20, Chemistry 310, Herr

†† First class meeting only in room 325 Chemistry.

Other symbols explained on page 31.

Civil Engineering

Your attention is called to the Senior Civil Engineering Technician program; see page 18.

CE 18. Surveying. 3 degree credits. \$24.

Theory and practice in length, angle, and elevation measurements; transit and level adjustments and use. Astronomic observations for azimuth. Field problems in traverses and level circuits. Adjustments of traverses, triangulation and level circuits. (Prerequisite: ITM 12. For those without instrument experience some extra class periods held Saturday mornings)

Fall Quarter

W 6:20-9:40, Main Engineering 217, Fant

CE 19. Surveying. 3 degree credits. \$24.

Simple, compound, and spiral horizontal curves; vertical curves; elements of route surveying, grades, curvature, rise and fall, mass diagram and earthwork volume calculations. (Prerequisite: 18)

Winter Quarter

W 6:20-9:40, Main Engineering 217, Fant

CE 20. Surveying. 3 degree credits. \$24.

Property and design surveys including land surveys, topographic surveys, design computations and methods, and construction surveys. Field problems in stadia mapping. (Prerequisite: 18)

Spring Quarter

W 6:20-9:40, Main Engineering 217, Fant

CE 31. Elementary Structural Analysis. 3 degree credits. \$24.

Algebraic and graphical analysis of structural framework, influence lines. Equivalent loads. (Prerequisite: EG 14 and MM 27)

Fall Quarter

M 6:20-9:20, Main Engineering 217, Wetzel

CE 32. Elementary Structural Design. 3 degree credits. \$24.

Design principles and methods of selecting members and connection. (Prerequisite: 31 and MM 40)

Winter Quarter

M 6:20-9:20, Main Engineering 217, Wetzel

CE 33. Elementary Structural Design. 3 degree credits. \$24.

Design of timber and steel members and connections. (Prerequisite: 32)

Spring Quarter

M 6:20-9:20, Main Engineering 217, Wetzel

Hydr 103. Fluid Mechanics. 5 degree credits. \$40.

Physical fluid properties, fluid statics, energy principle for compressible and incompressible fluids, pressure-momentum principles, elementary principles of turbines and pumps, dimensional analysis, introduction to advanced principles of flow phenomena. (Prerequisite: MM 27)

Fall Semester

TTh 6:20-7:45, Experimental Engineering 193,
Olson

Symbols explained on page 31.

Evening and Special Classes

CE 130. Statically Indeterminate Structures. 3 degree credits. \$24.

Method of moment area. Williot diagram. Slope-deflection method. (Prerequisite: 33 or equivalent)

Fall Quarter

M 6:20-9:00, Experimental Engineering 22,
Barker

CE 131. Structural Analysis. 2 degree credits. \$24.

Moment distribution method. (Prerequisite: 130)

Winter Quarter

M 6:20-9:00, Experimental Engineering 22, Barker

CE 132. Structural Design. 2 degree credits. \$24.

Continuous structures of steel and concrete. (Prerequisite: 131)

Spring Quarter

M 6:20-9:00, Experimental Engineering 22,
Barker

CE 141. Reinforced Concrete. 3 degree credits. \$24.

Principles of reinforced concrete. Design of beams, slabs, columns, and footings. Analysis of continuous beams and rigid frames. (Prerequisite: 33)

Fall Quarter

W 6:20-9:20, Experimental Engineering 22, Self

CE 142. Reinforced Concrete Design. 3 degree credits. \$24.

Continuation of 141. Ultimate strength design. Application of principles of design of complete building frames, footings, and retaining walls. (Prerequisite: 130, 141)

Winter Quarter

W 6:20-9:20, Experimental Engineering 22, Self

CE 144. Prestressed Reinforced Concrete. 3 degree credits. \$24.

Principles of design and analysis for pretensioned and post-tensioned construction. Methods of prestressing and fabrication. Design of buildings and bridges using prestressed reinforced concrete. (Prerequisite: 142)

Spring Quarter

W 6:20-9:20, Experimental Engineering 22, Self

CE 160. Applied Hydraulics. 3 degree credits. \$24.

Pipeflow, compound pipe systems, network analysis. Centrifugal pumps, analysis, and problems. Characteristic curves, pump constants, selection, and economic factors. Open channel flow design, hydraulic elements, varied flow computations, losses, irrigations, and drainage problems. (Prerequisite: Hydr 103)

Spring Semester

Th 6:20-9:20, TSCE 220, Olson

Electrical Engineering

For the first time in several years the Department of Electrical Engineering, Institute of Technology, is offering the third year, Upper Division classes EE 51, 52, and

Symbols explained on page 31.

Course Offerings—Engineering and Technical Sciences

52A, and EE 53, 54, and 54A. The classes in each of these sequences must be taken concurrently. The sequence EE 55, 56, and 56A will be continued the fall semester, 1961.

These classes will be conducted at the same level as the regular day time classes. Satisfactory completion will permit credit towards the B.E.E. degree, in accordance with the regulations of the Institute of Technology.

Your attention is called to the Senior Electrical Engineering Technician program; see page 19.

EE 51-53. Electrical Engineering. 5 degree credits each semester. \$40 each semester.

Analysis of lumped and distributed direct-current and alternating-current circuits in the steady state with an introduction to the transient state. Single-phase and polyphase circuits with sinusoidal and nonsinusoidal excitation. (Prerequisite: mathematics through differential equations [ITM 26A or 80 or equivalent] and Phys 50 or equivalent or ¶ for 51; 51 for 53. Each sequence 51, 52, 52A, and 53, 54, and 54A must be taken concurrently. A data sheet must be completed prior to registration if possible. All registrations subject to #)

Fall Semester

51 T 6:00-9:00, Electrical Engineering 237

Spring Semester

53 T 6:00-9:00, Electrical Engineering 237

EE 52-54. Electrical Engineering Laboratory. 1 degree credit each semester. \$8 plus \$5 laboratory fee each semester.

Experimental study of electric circuits. (Prerequisite: ¶51 for 52, ¶53 for 54)

Fall Semester

52 Th 6:00-9:00, Electrical Engineering 216

Spring Semester

54 Th 6:00-9:00, Electrical Engineering 216

EE 52A-54A. Electrical Engineering Problem Solving Laboratory. 1 degree credit each semester. \$8 plus \$5 laboratory fee each semester.

Supervised problem sessions. (Prerequisite: ¶52 for 52A, ¶54 for 54A)

Fall Semester

52A Th 6:00-9:00, Electrical Engineering 216

Spring Semester

54A Th 6:00-9:00, Electrical Engineering 216

EE. Elements of Electric Circuits. 4 certificate credits. \$32.

Fundamentals of direct and alternating current circuits. Network theorems. Network analysis—single phase and polyphase. Frequency response of networks; power and energy concepts. Nonsinusoidal waveforms, nonlinear circuit elements. Electric and magnetic fields. Magnetic circuits. Lecture and laboratory. (Prerequisite: ITM 13A. Repeated spring quarter)

Fall Quarter

T 6:00-9:30, Electrical Engineering 137,
Cartwright

Spring Quarter

T 6:00-9:30, Electrical Engineering 137,
Cartwright

EE. Elements of Electric Devices and Control Systems. 4 certificate credits. \$32.

Magnetic amplifiers—theory and applications, transformers. Speed-torque and volt-ampere characteristics of rotational electrical devices. Study of electrical control systems—feedback, criteria for stability. Introduction to such topics as Nyquist and Bode diagrams, Boolean algebra, binary numbering systems. Lectures and laboratory work (Prerequisite: Elements of Electric Circuits, or ##)

Winter Quarter

T 6:00-9:30, Electrical Engineering, Cartwright

Symbols explained on page 31.

Evening and Special Classes

EE. Elements of Electronics I. 4 certificate credits. \$32.

Electronic emission, conduction through vacuum and gases. Characteristics of vacuum and gas tubes. Photo-sensitive devices, electronic control circuits. Amplifier circuits, feedback; oscillators. Applications of vacuum and gas tube devices. (Prerequisite: Elements of Electric Circuits)

Fall Quarter

Th 6:00-9:30, Electrical Engineering 137

EE. Elements of Electronics II. 4 certificate credits. \$32.

Semiconductor devices and their circuit application; conduction in semiconductors, transistor characteristics and equivalent circuits; transistor amplifiers, oscillators, and multivibrators. Lectures, problems, and laboratory demonstration. Knowledge of circuit analysis using complex numbers is required. (Prerequisite: Elements of Electronics I or ##)

Spring Quarter

Th 6:00-9:30, Electrical Engineering 137

EE. Elements of Electronic Measurements. 4 certificate credits. \$32.

A study of electronic instruments, their characteristics and their application to problems in measurement and instrumentation. Lecture and laboratory. (Prerequisite: Elements of Electronics I or ##)

Winter Quarter

Th 6:00-9:30, Electrical Engineering 137

EE. Refresher Course for Electrical Engineers. Special Class. \$40.

This course is designed for practicing engineers and will consist of lectures and problem sessions. (Prerequisite: BEE or equivalent degree)

Winter Quarter

W 6:00-9:30, Electrical Engineering 237,
Electrical Engineering Staff

Engineering English

°Engl 85(IT). Advanced Technical Communication. 3 degree credits. \$24.

Technical writing, including reports and manuals, combined with the public speaking required of engineers, technical men, and those in the business and sales end of the technical industries. Stress in writing is on concise, definite, connected styles; use of numbers, abbreviations, and illustrations; organization of material; and proper levels of writing for different levels of readers. Stress in speaking is on preparation and organization; getting and holding interest; and on use of visual methods and materials. (Prerequisite: Engl 3B or Comm 3. Limited to 25 students. Repeated spring semester)

Fall Semester

M 8:10-9:50, Main Engineering 4, Lippert

Spring Semester

T 8:10-9:50, Main Engineering 4, Lippert

°Engl 86(IT). Advanced Technical Communication. 3 degree credits. \$24.

Technical and business letter writing combined with conference and interview technique for engineers, technical men, and those in the business and sales end of the technical industries. Letters include inquiry, reply, conference setup, adjustment, letter report, recommendation, and supervisory types (also job application, public relations, sales, and employee relations as the class may elect). Consideration of the technical magazine article. Speech work includes both planning and setting up, participating in, and following up conferences, and technical and supervisory interviews. (Prerequisite: 85[IT]. Limited to 25 students)

Spring Semester

M 8:10-9:50, Main Engineering 4, Lippert

Symbols explained on page 31.

Course Offerings—Engineering and Technical Sciences

Engl. Basic Technical Writing I-II. 3 certificate credits each semester. \$24 each semester.

Review of basic English and introduction to technical writing. Designed for people in the technical industries. Includes sentence design, spelling, and punctuation. Covers basic techniques of definition, description, process, procedure, and analysis writing. Organization and correlation into text of tables, diagrams, illustrations. Emphasis on accuracy, brevity, simplicity, and layout. Prepares students to write simple reports, specifications, procedures, material for manuals, supervisory materials, and basic letters of a technical nature. (No prerequisite)

Fall Semester

Spring Semester

I W 8:10-9:50, Main Engineering 4, Lippert

II W 8:10-9:50, Main Engineering 4, Lippert

Engineering Graphics

(Formerly Engineering Drawing)

EG 14, 15, and 16 are the basic drawing courses required in the first year of the Institute of Technology.

They replace former Engineering Drawing courses 1, 2, and 3, and 4, 5, and 6. The new courses have been redesigned from the viewpoint of the engineer with more emphasis on the mathematic-orthographic relationship. A thorough coverage of the fundamentals is augmented in this sequence by more material on graphic computation.

EG 14. Engineering Graphics. 3 degree credits. \$24.

Engineering representation, analysis, and synthesis. Including systems of projection, co-ordinate systems. Solution of space problems, and vector application with mathematical correlation. Engineering geometry, shape description and sketching. (Prerequisite: ITM 8 or equivalent or ¶8. Repeated spring semester)

Fall Semester

Spring Semester

M 7:00-9:00, StP Ext Center 3C, Springer

T 6:00-8:00, Main Engineering 201, Bullen

W 6:00-8:00, Aero Engineering 215, Palmer

M 7:00-9:00, StP Ext Center 3C, Springer

EG 15. Engineering Graphics. 3 degree credits. \$24.

Engineering representation, analysis and synthesis. Continuation of graphic solutions of space problems. Size description, common devices, applications of theory and standard practices. Axonometric oblique and perspective projection. Freehand sketching and shading. (Prerequisite: 14, and ITM 11 or ¶11. Repeated spring semester)

Fall Semester

Spring Semester

T 6:00-8:00, Main Engineering 201, Bullen

W 6:00-8:00, Aero Engineering 215, Palmer

EG 16. Engineering Graphics. 3 degree credits. \$24.

Graphical computations of engineering problems, involving graphic algebra, calculus and statics. Functional scales, nomography, representation and analysis of empirical data. Engineering charts and algebraic checks on solutions of graphical space problems. (Prerequisite: 15 and ITM 12, or ¶12. Repeated spring semester)

Fall Semester

Spring Semester

T 6:00-8:00, Aero Engineering 215, Engineering Graphics Staff

T 6:00-8:00, Aero Engineering 215, Engineering Graphics Staff

EG 21. Applied Graphics. 3 certificate credits. \$24.

This course is designed particularly for the Mechanical Engineering Technician. Further applications of graphical theory and representation and drafting techniques. Interchangeable assembly

Symbols explained on page 31.

Evening and Special Classes

drawings, surface quality specifications, standard conventions, and practices involved in engineering design. Engineering applications involving surface intersections and development and bending allowance theories. (Prerequisite: 16 or equivalent)

Fall Semester

W 6:00-8:00, Main Engineering 201, Engineering Graphics Staff

General Engineering

°GE 70. The Slide Rule. 1 degree credit. \$12.

Theory and computation practice necessary for those who wish to use the slide rule in ordinary computations. Drills on fundamental processes. (No prerequisite. Class limited to 25 students. Repeated spring semester)

Fall Semester

T 6:00-7:00, Main Engineering 4, Ziemke
T 7:00-8:00, Main Engineering 4, Ziemke

Spring Semester

T 6:00-7:00, Main Engineering 4, Ziemke
T 7:00-8:00, Main Engineering 4, Ziemke

Industrial Engineering

For the first time in several years, the Department of Industrial Engineering, Institute of Technology, is offering the third year, Upper Division classes IE 50 and 173.

These classes will be conducted at the same level as the regular day time classes. Satisfactory completion will permit credit toward the industrial engineering options for the B.E.E. and B.M.E. degrees, in accordance with the regulations of the Institute of Technology.

Your attention is called to the Senior Industrial Engineering Technician programs; see page 20.

IE 50. Elements of Industrial Engineering and Management. 3 degree credits. \$24.

A survey of industrial plant operation, production management, and industrial engineering functions. (Prerequisite: ITM 90 and #)

Fall Semester

M 6:20-9:20, Mechanical Engineering 106, McElrath

IE 173. Engineering Economic Analysis. 3 degree credits. \$24.

Analysis of capital expenditures and annual operating costs as the basis for management policies and decisions. (Prerequisite: 50)

Spring Semester

M 6:20-9:20, Mechanical Engineering 106, Anderson

IE. Methods Engineering. (Formerly Work Simplification) 3 certificate credits. \$24.

Fundamental principles of methods engineering are formulated to eliminate waste motion and unnecessary effort in all fields of work. Lectures are combined with actual practice in the application of the flow process chart, flow diagram, in the analysis of a job for improvement. The course is designed for personnel who wish to learn the skills of work simplification for direct application to the solution

Symbols explained on page 31.

Course Offerings—Engineering and Technical Sciences

of work problems in their own areas. (Prerequisite: ITM 11 or ##. Required for advanced work in industrial engineering. Repeated spring semester)

Fall Semester

W 6:20-8:00, Mechanical Engineering 102

Spring Semester

W 6:20-8:00, Mechanical Engineering 102

IE. Work Measurement. 3 certificate credits. \$24 plus \$1 laboratory fee.

Principles and techniques of time study to provide factual data for wage incentives, cost accounting and estimating, production scheduling, and management control. Lectures and practice in job standardization, use of stop watch, performance rating, rest and delay allowances, development of standard data and maintenance of current standards. (Prerequisite: Methods Engineering)

Spring Semester

W 6:20-8:00, Mechanical Engineering 180

IE. Inventory and Production Control. 5 certificate credits. \$40.

Development of systems for increasing plant efficiency through effective co-ordination of inventories, manpower, and equipment with sales. Lectures and discussions on sales forecasting, master scheduling, inventory control, work routing, scheduling of operations, dispatching, analysis of equipment requirements. (Prerequisite: ITM 11 or ##)

Fall Semester

M 6:20-9:20, Mechanical Engineering 208

IE. Introduction to Operations Analysis. 5 certificate credits. \$40.

Formulation, interpretation, and solution of both the general linear programming problem and the transportation model of linear programming. Applications of linear programming, in particular, to product mix, distribution, and production scheduling problems. The assignment problem. Sequencing models. The traveling salesman problem. (Prerequisite: ITM 11 or ##)

Spring Semester

M 6:20-9:20, Mechanical Engineering 208

IE. Statistical Quality Control. 5 certificate credits. \$40.

Determination of quality requirements and their relation to manufacturing costs. Establishing of quality control standards; inspection procedures and organization. Use of statistical sampling techniques and control charts for more effective inspection and reduction of costs. For those engaged in quality control, and others such as production supervisors, plant managers, and design engineers who are concerned with quality problems. (Prerequisite: ITM 11 or ##)

Fall Semester

M 6:20-9:20, Mechanical Engineering 110

IE. Advanced Statistical Quality Control. 5 certificate credits. \$40.

Variables acceptance sampling, industrial tests of significance, fundamentals of analysis of variance and design of experiments, linear regression, introduction to sequential analysis of data, some nonparametric statistical methods. (Prerequisite: Statistical Quality Control, or ITM 90 or BA 51 or ##)

Spring Semester

M 6:20-9:20, Mechanical Engineering 110

IE. Manufacturing Cost Analysis. 3 certificate credits. \$24.

A survey of sources and uses of cost data to make industrial engineering decisions and to reduce manufacturing costs. Covers basic accounting principles and procedures, accumulation and allocation of costs, and budgeting. (Prerequisite: ITM 11 or ##)

Fall Semester

Th 6:20-8:00, Mechanical Engineering 110

Symbols explained on page 31.

Evening and Special Classes

IE. Layout Engineering and Materials Handling Systems. 5 certificate credits. \$40.

Analysis and synthesis of layouts and materials handling systems with emphasis on individual item analyses. Data requirements and sources. The study and application of principles and analytic techniques for optimal integration of production facilities. Analyses of space utilization and the flow and control of materials. (Prerequisite: Methods Engineering or #2)

Fall Semester

W 6:20-9:20, Mechanical Engineering 110

Mathematics

Placement Examination in High School Algebra

All students who wish to register for ITM 11, College Algebra and Trigonometry I, must fill out an Application for Admission at time of registration. Only those students who have satisfactorily completed ITM 9, Higher Algebra, or its equivalent in high school or an institution of higher learning (not a trade school) and receive a satisfactory score in the Placement Examination in High School Algebra will be permitted to register. Under some conditions, a student is exempt from the Placement Examination. These conditions are stated in the Application for Admission.

If you have completed ITM 9, Higher Algebra, or its equivalent, register for ITM 11, College Algebra and Trigonometry I, and fill out the Application for Admission. If you are not exempt, take the Placement Examination on one of the dates listed below. You will be advised on or before the first meeting of the class in ITM 11, College Algebra and Trigonometry I, if you must transfer to ITM 9, Higher Algebra. (ITM 9 carries a 5-credit equivalent for purposes of determining a Korean Veteran monthly educational allowance or tuition refund by the Veterans Administration.)

No student will be permitted to stay in ITM 11, College Algebra and Trigonometry I, unless he has completed the necessary prerequisites and has passed or been excused from the Placement Examination in High School Algebra. After the first week of classes *no registrations* will be accepted and *no transfers* permitted *except* in instances in which the student is not qualified to continue. The Placement Examination will be given on the following dates:

Fall Semester

7:00 p.m., Friday, September 16, Nicholson 211

7:00 p.m., Wednesday, September 21, Nicholson 211

7:00 p.m., Wednesday, September 21, StP Ext Center 2E

Spring Semester

7:00 p.m., Monday, February 6, Nicholson 211

7:00 p.m., Wednesday, February 8, Nicholson 211

7:00 p.m., Wednesday, February 8, StP Ext Center 2E

ITM 5. Basic Mathematics. 5 certificate credits. \$40.

A practical course for anyone needing an elementary background in basic mathematics such as shop men in industry or machine work. It is also valuable as a refresher in elementary mathematics. It includes a study of the arithmetic of whole numbers, fractions and decimals; an introduction to algebra and linear equations; other topics selected from elementary algebra, geometry and trigonometry. (Prerequisite: arithmetic. Repeated spring semester)

Fall Semester

MTh 6:20-7:45, Main Engineering 227

Spring Semester

MTh 6:20-7:45, Main Engineering 227

ITM 6. Elementary Algebra. Entrance credit. \$48.

Elements of algebra to quadratic equations, equivalent to 1 year of ninth grade algebra. (Prerequisite: arithmetic. Entrance requirement for College of Agriculture, Forestry, and Home Economics;

Symbols explained on page 31.

Course Offerings—Engineering and Technical Sciences

College of Veterinary Medicine; College of Science, Literature, and the Arts; and Institute of Technology. Repeated spring semester)

Fall Semester

MW 6:20-8:00, Main Engineering 203
TTh 6:20-8:00, Main Engineering 203

Spring Semester

MW 6:20-8:00, Main Engineering 203
TTh 6:20-8:00, Main Engineering 203

ITM 7. Plane Geometry. Entrance credit. \$48.

Elements of plane geometry, equivalent to 1 year of high school plane geometry. (Prerequisite: arithmetic. Entrance requirement for College of Agriculture, Forestry, and Home Economics; College of Veterinary Medicine; College of Science, Literature, and the Arts; and Institute of Technology. Repeated spring semester)

Fall Semester

MW 6:20-8:00, Main Engineering 206

Spring Semester

MW 6:20-8:00, Main Engineering 206

ITM 8. Solid Geometry. Entrance credit. \$24.

Standard theorems and exercises; practice in special proofs and original exercises. (Prerequisite: plane geometry. Entrance requirement for Institute of Technology. Repeated spring semester)

Fall Semester

M 6:00-7:40, StP Ext Center 2E
Th 6:20-8:00, Main Engineering 206

Spring Semester

Th 6:20-8:00, Main Engineering 206

ITM 9. Higher Algebra. Entrance credit. \$40.

Fundamental operations, linear equations, factoring, fractions, simultaneous linear equations, exponents, radicals, graphical methods, quadratic equations, ratio, variation, binomial theorem, and other topics. (Prerequisite: elementary algebra. Entrance requirement for Institute of Technology. Repeated spring semester)

Fall Semester

MW 6:20-7:45, Main Engineering 205
TTh 6:20-7:45, Main Engineering 205
TTh 6:00-7:25, StP Ext Center 2E

Spring Semester

MW 6:20-7:45, Main Engineering 205
TTh 6:20-7:45, Main Engineering 205
TTh 6:00-7:25, StP Ext Center 2E

ITM 11. College Algebra and Trigonometry I. 5 degree credits. \$40.

Review of elementary algebra, factoring, fractions, functions, and graphs, linear equations and determinants, exponents, and radicals, quadratic equations, inequalities, systems of quadratic equations, proportion and variation, mathematical induction, binomial theorem, trigonometric functions, right triangles, oblique triangles, radian measure, slide rule. (Prerequisite: 9, or equivalent, and satisfactory score on placement examination in high school algebra; explained on page 122. Repeated spring semester)

Fall Semester

MW 6:20-7:45, Main Engineering 106
TTh 6:20-7:45, Main Engineering 229
TTh 6:00-7:25, StP Ext Center 2F

Spring Semester

MW 6:20-7:45, Main Engineering 104
TTh 6:20-7:45, Main Engineering 104
TTh 6:00-7:25, StP Ext Center 2H

ITM 12. College Algebra and Trigonometry II. 5 degree credits. \$40.

Progressions, logarithms, trigonometric formulas and identities, trigonometric curves, inverse trigonometric functions, trigonometric equations, complex numbers. Theory of equations, permutations, combinations, probability, partial fractions, hyperbolic functions. (Prerequisite: 11. Repeated spring semester)

Fall Semester

MW 6:20-7:45, Main Engineering 104
TTh 6:20-7:45, Main Engineering 104
MW 6:00-7:25, StP Ext Center 2E

Spring Semester

MW 6:20-7:45, Main Engineering 106
TTh 6:20-7:45, Main Engineering 229
TTh 6:00-7:25, StP Ext Center 2F

Symbols explained on page 31.

Evening and Special Classes

ITM 13A. Calculus I: Analytic Geometry and Calculus. 5 degree credits. \$40.

Fundamentals of analytic geometry, equation of straight line, graphs and equations. Functions, limits, derivative, applications to velocity, acceleration, geometry. Antiderivatives, rectilinear motion, area. Rules of differentiation, conic sections, maxima and minima, rates, calculus of trigonometric functions. (Prerequisite: 12. Repeated spring semester)

Fall Semester

T 6:20-9:20, Main Engineering 227
W 6:00-9:00, StP Ext Center 2F

Spring Semester

M 6:20-9:20, Main Engineering 215
W 6:00-9:00, StP Ext Center 2F

ITM 24A. Calculus II: Analytic Geometry and Calculus. 5 degree credits. \$40.

Differentials, parametric equations. Definite integral, mean-value theorem, areas, volumes, work, energy, moments of inertia. Further topics in analytic geometry. Calculus of exponential, logarithmic and hyperbolic functions. Techniques of integration. (Prerequisite: 13A. Repeated spring semester)

Fall Semester

T 6:20-9:20, Main Engineering 215

Spring Semester

T 6:20-9:20, Main Engineering 227
W 6:00-9:00, StP Ext Center 2E

ITM 25A. Calculus III: Analytic Geometry and Calculus. 5 degree credits. \$40.

Further applications of integration, polar-coordinates, vectorial treatment of motion in a curve, methods of approximation. Solid analytic geometry with vectors, partial differentiation, multiple integration. (Prerequisite: 24A. Repeated spring semester)

Fall Semester

T 6:20-9:20, Main Engineering 106

Spring Semester

T 6:20-9:20, Main Engineering 215

ITM 26A. Calculus IV. Differential Equations and Calculus. 5 degree credits. \$40.

Further study of limits, L'Hospital's rule. Sequences, series, Taylor's formula. Convergence, absolute and conditional, improper integrals, power series, expansion of functions. Differential equations; equations of first order; standard methods of solutions; linear equations with constant coefficients, applications; simultaneous equations, integration by series, numerical methods. (Prerequisite: 25A. Repeated spring semester)

Fall Semester

M 6:20-9:20, Main Engineering 215

Spring Semester

T 6:20-9:20, Main Engineering 106

ITM 80. Elementary Differential Equations. (Replaced by 26A)

ITM 90. Elementary Engineering Statistics. 3 degree credits. \$24.

Probability, permutations, and combinations. Frequency distributions. Introduction to sampling significance tests, regression charts. (Prerequisite: 24A)

Fall Semester

W 6:20-8:00, Main Engineering 229

ITM 132. Introduction to Statistics and Probability. 3 degree credits. \$24.

Probability models, univariate and multivariate distributions, independence, basic limit theorems. (Prerequisite: 25 or 25A)

Fall Quarter

T 6:20-9:00, Main Engineering 206

Symbols explained on page 31.

Course Offerings—Engineering and Technical Sciences

ITM 133B-134B. Probability with Technological Applications. 3 degree credits each quarter. \$24 each quarter.

Spectral analysis of stationary processes, linear and nonlinear transformations, production and smoothing, recurrent events, random walk and diffusion, Markoff chains, Poisson processes. (Prerequisite: 132, 153 or 132, 148, 149 or #)

<i>Winter Quarter</i>		<i>Spring Quarter</i>	
133B	T 6:20-9:00, Main Engineering 206	134B	T 6:20-9:00, Main Engineering 206

ITM 147. Vector Analysis. 3 degree credits, §ITM 152, 154. \$24.

Scalar and vector products, derivatives, geometry of space curves, del operator, line and surface integrals, divergence and Stokes' theorem, transformation of co-ordinates, dyadics, applications. (Prerequisite: 25 or 25A)

Fall Quarter

Th 6:20-9:00, Main Engineering 106

ITM 148. Differential Equations. 3 degree credits, §ITM 150A. \$24.

Linear differential and difference equations with constant coefficients, isoclines, phase, plane, reduction in order, numerical solutions, series solutions, Bessel functions, Legendre polynomials, introduction to boundary value problems. (Prerequisite: 80 or 26A)

Winter Quarter

Th 6:20-9:00, Main Engineering 106

ITM 149. Determinants and Matrices. 3 degree credits, §ITM 142. \$24.

Determinants, matrices, linear equations, vector spaces, quadratic and bilinear forms, characteristic roots, applications to systems of ordinary differential equations. (Prerequisite: 25 or 25A)

Spring Quarter

Th 6:20-9:00, Main Engineering 106

ITM 165A. Introduction to Programming Modern Digital Calculators. 3 degree credits, §ITM 165. \$24 each semester.

Organization of a modern digital calculator. Binary number system. Instruction code, elementary coding, flow charts, techniques for avoiding errors, code checking, scaling, subroutines, assembly techniques, interpretive programs. (Prerequisite: 25 or 25A. Repeated spring semester)

Fall Semester

W 6:20-8:00, Main Engineering 227

Spring Semester

W 6:20-8:00, Main Engineering 227

ITM 184. Elementary Numerical Analysis in Engineering. (Not offered 1960-61)

ITM 185-186. Numerical Analysis in Engineering. (Not offered 1960-61)

Mechanical Engineering

Your attention is called to the Senior Mechanical Engineering Technician program; see page 21.

Symbols explained on page 31.

Evening and Special Classes

ME. Energy Utilization and Transfer. 5 certificate credits. \$40.

A study of the properties of gases and vapors. The fundamental laws correlating energy with heat and work. Heat transfer in engineering equipment. Construction, operation and performance analysis of systems such as steam engines, steam turbines, gas engines, air compressors, refrigerators, heat pumps and auxiliary equipment. (Prerequisite: ITM 25A and Phys 13)

Fall Semester

Th 6:20-9:20, Mechanical Engineering 214, Rees

ME. Instrumentation and Automatic Control. (Not offered 1960-61)

ME. Kinematics of Machinery I-II. 3 certificate credits each semester. \$24 each semester.

Part I: Theory and methods of motion analysis of basic mechanisms. Motion cycle characteristics of common elementary and compound mechanical linkages with respect to displacement, velocity, acceleration, and forces.

Part II: Theory of gearing and the design of gearing trains and cams. Advanced study of mechanical linkages covering the design of speed reducers, feeder devices, curve function generators and basic mechanical computing elements. (Prerequisite: ITM 11 or ## for I; for II, I)

Fall Semester

I W 6:20-8:00, Mechanical Engineering 302

Spring Semester

II W 6:20-8:00, Mechanical Engineering 302

ME. Machine Design I-II. 5 certificate credits each semester. \$40 each semester.

Fundamental principles of design of machine elements: lubrication, theory, and application; friction drives, screws, gears, belts, connectors, flywheels, machine frames, shrink fits, stress concentration, vibration analysis, and application of velocity and acceleration analysis to machine design problems. The course will consist of a series of lectures and problems to be solved in class. Laboratory experiments will be used whenever possible. Special movies will be used. (Prerequisite: ITM 11 or ## for I; for II, I)

Fall Semester

I T 6:20-9:20, Mechanical Engineering 308

Spring Semester

II T 6:20-9:20, Mechanical Engineering 308

ME. Refrigeration and Air Conditioning I-II. 5 certificate credits each semester. \$40 each semester.

A course for those engaged in the design, construction maintenance, and sale of refrigeration and air conditioning equipment and systems. Fundamental terms and definitions; air conditioning and refrigeration loads; psychrometry, use of psychrometric chart; air conditioning processes including cooling, dehumidification, heating, and humidification; duct design, centrifugal fans, refrigeration cycles including mechanical compression and absorption; refrigeration equipment including compressors, condensers, evaporators, expansion valves and control; properties of refrigerants; design problems involving estimating requirements and selecting equipment for various air conditioning and refrigeration applications. (Prerequisite: ITM 11 or ## for I; for II, I)

Fall Semester

I Th 6:20-9:20, Mechanical Engineering 208

Spring Semester

II Th 6:20-9:20, Mechanical Engineering 208

ME. Tool Design. 5 certificate credits. \$40 plus \$1 laboratory fee.

Lecture and laboratory course which covers tooling methods, selection of best machine for the manufacturing operations, design of jigs and fixtures, tool making procedures, and tool inspection methods. Analysis of piece part blueprints will be made to determine best sequences of manufacturing operation and estimating machining time to manufacture the part. (Prerequisite: ITM 11 or ##)

Spring Semester

T 6:20-9:20, Mechanical Engineering 325,
Crowder

Symbols explained on page 31.

Course Offerings—Engineering and Technical Sciences

ME. Refresher Course for Mechanical Engineers. Special Class. \$40.

This course is designed for practicing engineers, and will consist of lectures and problems sessions. (Prerequisite: BME or equivalent degree)

Winter Quarter

W 6:20-9:20, Mechanical Engineering 106,
Mechanical Engineering Staff

Mechanics and Materials

MM 27. Rigid-Body Mechanics I. 3 degree credits. \$24.

Vector algebra. Application of the equations of equilibrium to the analysis of simple engineering structures and machines. Nature and influence of friction. Elementary theory of statically determinate framed structures. (Prerequisite: ITM 25A; this course may be substituted for 92)

Fall Semester

Th 6:20-8:00, Main Engineering 215

MM 28. Rigid-Body Mechanics II. 3 degree credits. \$24.

Application of the principles of particle motion. Kinematics. Impulse-momentum and work-energy principles. Potential and potential energy, motion in a central force field. Introduction to forced and free mechanical vibrations. (Prerequisite: 27 and ITM 26A or ITM 80)

Spring Semester

Th 6:20-8:00, Main Engineering 215

MM 40. Deformable-Body Mechanics I. 3 degree credits. \$24.

Stress and strain. Applications to tension and torsion members, beams, columns, and joints. Design considerations. Statically indeterminate members. (Prerequisite: 27; this course may be substituted for 93)

Fall Semester

T 6:20-8:00, Experimental Engineering 22

MM 41. Deformable-Body Mechanics II. 3 degree credits. \$24.

Stress and strain, and deformation analysis of beams, columns, rings, and cylindrical pressure vessels. (Prerequisite: 40)

Spring Semester

T 6:20-8:00, Experimental Engineering 22

MM 142. Experimental Mechanics. 2 degree credits. \$24 plus \$6 laboratory fee.

Assumptions made in theoretical mechanics, limitations of theory, and role of experimental mechanics. Mechanical, electrical, optical, and other gauges for measurement of static and dynamic strain. Photoelasticity, brittle coating and other methods for determining localized strain. Verification of equations of solid mechanics. Tests of axial, torsional, and transverse loaded members. (Prerequisite: 40 or 85 or 128)

Fall Semester

T 6:00-8:00, Experimental Engineering 25,
Blatherwick

Metallurgy

See Specialized Technology Courses, page 128.

Symbols explained on page 31.

Evening and Special Classes

Physics

Phys 11-12-13. General Physics for Engineers. 5 degree credits each semester. \$40 each semester.

11: Mechanics; lecture, discussion or laboratory, and quiz each week. 12: Heat, electricity, and magnetism; lecture and laboratory each week. 13: Wave motion, sound and light; lecture and laboratory each week. (Prerequisite: for 11, ITM 11 or ¶ITM 11; for 12, ITM 12 and Phys 11; for 13, ITM 13 or 13A and Phys 12. Courses must be taken in order)

Fall Semester

11 MW 6:30-8:30, Physics 150, Harris
13 MW 6:30-8:30, Physics 170, Kobe

Spring Semester

12 MW 6:30-8:30, Physics 150, Harris

Phys 14-14A. Intermediate General Physics and Physics Laboratory. 5 degree credits. \$40 plus \$10 laboratory fee. (14 and 14A must be taken concurrently)

Mechanics and electricity, selected topics. Lecture and quiz each week. (Prerequisite: 13, and ITM 24 or 24A or ¶ITM 24A)

Spring Semester

MW 6:30-8:30, Physics 166

Phys 50-50A. Intermediate General Physics and Physics Laboratory. 5 degree credits. \$40 plus \$10 laboratory fee. (50 and 50A must be taken concurrently)

Selected topics in modern physics. (Prerequisite: 6 or 9 or 14, and ITM 25 or 25A or ¶25A)

Fall Semester

MW 6:30-8:30, Physics 166, Benson

Specialized Technology Courses

STC. Architectural Drafting I-II-III-IV. No credit. \$36 each unit.

A basic course for those needing training for work in architecture. In general the main objectives for each unit will be: I: Drafting techniques. II: Construction details, house plans. III: Pictorial presentation, perspective. IV: Calculations for beams. Fall semester will include steel construction, all types of steel stresses including trusses. Spring semester will include concrete beams, columns, floor slabs, 1- and 2-way construction. (No prerequisite: Students may register for any unit in any semester with #)

Fall Semester

T 7:00-9:30, Main Engineering 217, Johnson

Spring Semester

T 7:00-9:30, Main Engineering 217, Johnson

STC. Building Material Estimating. No credit. \$24.

Training in reading detailed blueprints and estimating quantities of materials or cubic yardage in excavations; measurements, picking off blueprints, estimating and figuring total amounts of concrete, brick, timber, and all kinds of steel buildings. This course is intended for the beginner who has no training or experience in reading blueprints or in estimating. Ability to use a slide rule is helpful but not necessary. (No prerequisite)

Fall Semester

T 8:10-9:45, Main Engineering 101, Ziemke

STC. Designing for Production. No credit. \$24.

Study of the major engineering materials and principal manufacturing processes together with their influence on the product design and manufacturing processes. Consideration of material and

Symbols explained on page 31.

Course Offerings—Engineering and Technical Sciences

process selection and their relation to the ease of processing, service life, maintenance, and first cost of the product. (No prerequisite)

Spring Semester

T 6:20-8:00, Mechanical Engineering 208, Holthy

*STC. Machine Tool Operation. No credit. \$40 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. All laboratory work on the above machines consists of the manufacture of machined parts to commercial standards necessary to manufacture a 14-inch all-g geared head lathe with quick change gear box. (No prerequisite. Class limited to 20 students)

Fall Semester

M 6:20-9:20, Mechanical Engineering 102

STC. Methods-Time Measurement (M. T. M.). No credit. \$40.

Methods-Time Measurement is a procedure for analyzing manual work in terms of elemental motions for which standard times have been established. M. T. M. 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 M. T. M. to factory and office operations. (Prerequisite: Training or experience in time study and work simplification.)

Fall Semester

T 6:00-9:00, Mechanical Engineering 106,
Storeygard

STC. Physical Metallurgy I-II. No credit. \$24 each semester.

I: 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 other nonferrous alloys. This is a lecture course. No laboratory work involved. (No prerequisite for I; for II, I)

Fall Semester

I M 6:20-8:00, Mines 116, Jerabek

Spring Semester

II M 6:20-8:00, Mines 116, Jerabek

STC. Plastics Technology. No credit. \$32 plus \$3 materials fee.

A laboratory and lecture course dealing with the materials, equipment, and methods used in the fabrication of plastic products. (No prerequisite)

Fall Semester

Th 6:20-9:00, Mechanical Engineering 106,
Holtby

STC. Press Working of Metals. (Not offered 1960-61)

STC. Residential Heating and Air Conditioning I-II. No credit. \$40 each semester.

A course designed to present the fundamentals of heating and air conditioning to those interested in designing, installing, selling, or recommending the modern type appliances and systems for residential installations. The subject matter deals with terminology; heat transfer and heat transmission coefficients; sources of heat loss from a structure; vapor transmission problems; design of gravity and mechanical warm air heating systems; design of gravity and forced hot water heating systems; design of wet

Symbols explained on page 31.

Evening and Special Classes

and dry panel heating systems; fuels and combustion equipment selections and controls; residential cooling loads and design of residential air conditioning systems. (No prerequisite for I; for II, I)

Fall Semester

I W 6:20-9:20, Mechanical Engineering 214,
Borry

Spring Semester

II W 6:20-9:20, Mechanical Engineering 214,
Borry

Symbols explained on page 31.

RECREATION

Note that the recreational activities are offered in five groups: for girls only, for boys only, for boys and girls, for women only, and for men only. Recreation classes carry no credit and require no prerequisite. A health examination is required for admission to all recreation classes except golf.

Registration for all children's swimming classes must be made by mail. If you have not received an Application Form, please telephone—*do not write*—the campus office, FEderal 8-8791. The envelope containing your application must be postmarked AT or AFTER 1 p.m., Thursday afternoon, September 8, for fall classes and Thursday, January 26, for spring classes.

Activities Open to Girls

A health examination is required of all girls taking recreation classes. Each child must bring a letter from her own physician stating approval of the activity in which she is registered.

*Swimming for Small Girls. Special Class. \$15 plus \$2 special fee.

A course in swimming for girls between the ages of 6 and 12 years. Each girl must bring a permit for swimming from her own doctor; no one will be allowed in the pool without permit. First meeting will be for the purpose of classifying swimmers into the following groups: beginners; advanced beginners (those who swim with ease in shallow water); intermediate swimmers (those who swim with ease in deep water). Swimmers may bring their own suits. Caps are required for all swimmers. (Each section limited to 20 girls)

	<i>Fall Semester</i>		<i>Spring Semester</i>
Beginners		Beginners	
S	8:45-9:30, Norris Gym 51, Lampe	S	8:45-9:30, Norris Gym 51, Lampe
S	11:00-11:45, Norris Gym 51, Lampe	S	11:00-11:45, Norris Gym 51, Lampe
Advanced Beginners		Advanced Beginners	
S	9:30-10:15, Norris Gym 51, Lampe	S	9:30-10:15, Norris Gym 51, Lampe
Intermediates		Intermediates	
S	10:15-11:00, Norris Gym 51, Lampe	S	10:15-11:00, Norris Gym 51, Lampe

Activities Open to Boys

Swimming for Boys. Special Class. \$15 plus \$2 special fee.

A course in swimming for boys between the ages of 6 and 12 years who are at least 48 inches tall. Each boy must bring a permit for swimming from his own doctor and furnish his own towel. Swimming suits are not worn. Each boy should be registered for an appropriate section according to his estimated ability. Sections are classified as follows: Nonswimmers; Beginners—those who can

Symbols explained on page 31.

Evening and Special Classes

swim, but not 10 yards; Advanced Beginners—those who can swim 10 yards, but not in deep water; Intermediate—those who can swim 25 yards in deep water; Advanced Intermediates—those who can swim 25 yards of 2 or more strokes; Advanced. The first meeting will be used for the purpose of reclassifying swimmers where necessary.

Spring Semester

Nonswimmers

S 9:00-9:45, Cooke Hall, Heusner and Chopp

Beginners

S 9:45-10:30, Cooke Hall, Chopp

S 10:30-11:15, Cooke Hall, Chopp

Advanced Beginners

S 11:15-12:00, Cooke Hall, Chopp

Intermediates

S 9:45-10:30, Cooke Hall, Heusner

Advanced Intermediates

S 10:30-11:15, Cooke Hall, Heusner

Advanced

S 11:15-12:00, Cooke Hall, Heusner

Activities Open to Boys and Girls

***Swimming for Boys and Girls. Special Class. \$15 plus \$2 special fee.**

A course in swimming for children, beginners and advanced beginners. Children must be at least 7 years of age and at least 46 inches tall. Each child should bring a permit from his family doctor and furnish his own suit and towel. Woolen suits are not permitted. (Each section limited to 20 students)

Spring Semester

Beginners

S 9:00-9:40, StP Gymnasium, Nowotny

S 9:40-10:20, StP Gymnasium, Nowotny

Advanced Beginners

S 10:20-11:00, StP Gymnasium, Nowotny

S 11:00-11:40, StP Gymnasium, Nowotny

Activities Open to Women

A health examination is required for all recreation classes except golf. A physician will be available at Norris Gymnasium for Women at the first class meeting only. The cost of the health examination is 75 cents. Anyone not taking the health examination must bring a letter from her own physician stating approval of the activity in which she is registered. Information about lockers will be given at the first class meeting. In swimming classes, a sterilized suit and towel are provided for each swimmer.

***Golf (Beginning)—for Women. Special Class. \$15 plus \$2 special fee.**

For those who have no previous experience. Class and individual instruction in the fundamentals of golf. Motion pictures and slides showing proper form of strokes. Discussion of rules, golf etiquette, and terminology. As much instruction as possible to be given in the spring at University Golf Course.

Symbols explained on page 31.

Course Offerings—Recreation

weather permitting. Students furnish own clubs for outdoor play, and two golf balls. (Each section limited to 20 students)

Spring Semester

T 5:30-6:15, Norris Gym 60, Cochrane
T 6:15-7:00, Norris Gym 60, Cochrane
W 5:30-6:15, Norris Gym 60, Lampe
W 6:15-7:00, Norris Gym 60, Lampe
Th 5:30-6:15, Norris Gym 60, Lampe
Th 6:15-7:00, Norris Gym 60, Lampe

*Golf (Intermediate)—for Women. Special Class. \$15 plus \$2 special fee.

A review of the fundamentals (as listed for Beginning Golf) with the work of the class planned to meet individual needs. Students furnish own clubs for outdoor play, and two golf balls. (Prerequisite: some knowledge of and experience in golf. Each section limited to 20 students)

Spring Semester

T 7:00-7:45, Norris Gym 60, Cochrane
W 7:00-7:45, Norris Gym 60, Lampe
Th 7:00-7:45, Norris Gym 60, Lampe

*Swimming (Beginning)—for Women. Special Class. \$15 plus \$2 special fee.

For those who have had no previous experience in swimming. A health examination will be given at the first class meeting. (Each section limited to 25 students. Repeated spring semester)

Fall Semester

T 6:00-6:45, Norris Gym 51, Stoner

Spring Semester

T 5:30-6:15, Norris Gym 51, Hannah
T 6:15-7:00, Norris Gym 51, Stoner

*Swimming (Advanced Beginning)—for Women. Special Class. \$15 plus \$2 special fee.

For those able to float and swim slightly but who are not yet at home in deep water. A health examination will be given at the first class meeting. (Each section limited to 25 students. Repeated spring semester)

Fall Semester

T 6:00-6:45, Norris Gym 58, Hannah

Spring Semester

T 6:15-7:00, Norris Gym 58, Hannah
W 6:15-7:00, Norris Gym 58, Stoner

*Swimming (Intermediate)—for Women. Special Class. \$15 plus \$2 special fee.

For those who are able to swim in deep water but wish to perfect their swimming strokes. Instruction in diving is included. (Each section limited to 25 students. Repeated spring semester)

Fall Semester

T 6:50-7:35, Norris Gym 51, Stoner

Spring Semester

T 5:30-6:15, Norris Gym 58, Stoner
W 7:00-7:45, Norris Gym 58, Stoner

*Swimming (Advanced, Synchronized and Diving)—for Women. Special Class. \$15 plus \$2 special fee.

For those who wish to learn advanced swimming strokes, synchronized swimming, and spring-board diving. (Each section limited to 25 students. Repeated spring semester)

Fall Semester

T 6:50-7:35, Norris Gym 58, Hannah

Spring Semester

T 7:00-7:45, Norris Gym 58, Hannah

Tennis (Beginning)—for Women. Special Class. \$15 plus \$2 special fee.

Group and individual instruction. First 11 weeks of instruction given indoors; last 6 weeks at the University tennis courts. Individual practice for the improvement of strokes. Students furnish

Symbols explained on page 31.

Evening and Special Classes

own tennis rackets and balls. Tennis permits are necessary if University courts are used. (Consult instructor)

Spring Semester

W 6:15-7:00, Norris Gym 151, Lamb
W 7:00-7:45, Norris Gym 151, Lamb

Activities Open to Men

***Golf—for Men. Special Class. \$15 plus \$2 special fee.**

The fundamentals of golf. The first 8 or 10 meetings will be held in the golf gymnasium. The last 6 meetings will be held, weather permitting, at the University Golf Course. The outdoor schedule is adjusted to light. Students will furnish their own clubs and a minimum of five golf balls. (Each section is limited to 20 men)

Spring Semester

M 6:00-7:00, South Tower, Stadium, McDonnell
M 7:00-8:00, South Tower, Stadium, McDonnell
M 8:00-9:00, South Tower, Stadium, McDonnell
T 6:00-7:00, South Tower, Stadium, McDonnell
T 7:00-8:00, South Tower, Stadium, McDonnell
T 8:00-9:00, South Tower, Stadium, McDonnell

Swimming—for Men. Special Class. \$15 plus \$2 special fee.

Class and individual instruction for beginners in all swimming strokes, in diving, and in fundamentals of lifesaving. Woolen bathing suits are not permitted. Each person must bring a permit for swimming from his own physician. Other sections arranged on demand.

Spring Semester

W 8:05-8:50, Cooke Hall, Giles

Symbols explained on page 31.

Classes Listed by Quarters

Classes are listed here by quarters for convenience in planning your program. Please do not register using this list alone. Look up the class on the page referred to in the list.

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Faculty

Telephone numbers of faculty members may be obtained from the campus office of the General Extension Division, FEderal 8-8791, during office hours, or from the Univer-sity of Minnesota operator, FEderal 2-8158, after office hours.

Owing to uncertainties of some departments as to future staff and unavoidable last minute additions and changes, this list is necessarily incomplete.

H. Lee Adey, M.A., Instructor in Speech
William H. Agee, B.A., Instructor in Humanities
Reginald Allen, Ph.D., Assistant Professor of Philosophy
George Amberg, Ph.D., Professor of Humanities
Robert J. Ames, Ph.D., Associate Professor of Humanities
Douglas H. Anderson, M.S.I.E., Instructor in Mechanical Engineering
Harold F. Arneman, Ph.D., Associate Professor of Soils
Charles H. Backstrom, Ph.D., Assistant Professor of Political Science
Arthur H. Ballet, Ph.D., Associate Professor of Speech
Steve S. Barich, M.A., Assistant Professor of Mechanical Engineering
David N. Barker, M.A., Lecturer in Insurance
Richard M. Barker, M.S.C.E., Instructor in Civil Engineering
W. Donald Beatty, Ph.D., Associate Professor of History
Bernard C. Bengtson, B.A., Lecturer in Insurance
Jay Benson, M.S., Instructor in Physics
Norbert Benzel, B.A., Instructor in German
David K. Berninghausen, M.A., Director of Library School
R. Glen Berryman, Ph.D., Assistant Professor of Accounting
Mary Ann Bieter, M.A., Instructor in Romance Languages
Allan A. Blatherwick, Ph.D., Associate Professor of Aeronautical Engineering
Morgan Blum, M.A., Assistant Professor of Humanities
Francis M. Boddy, Ph.D., Professor of Economics
Clarence H. Boeck, Ph.D., Professor of Education
Wesley Booman, Ph.D., Lecturer in Psychology
Arthur M. Borak, Ph.D., Associate Professor of Economics
Henry Borow, Ph.D., Professor of Education
John Borry, M.S.M.E., Lecturer in Mechanical Engineering
Emmert M. Brackney, Ph.D., Professor of Romance Languages
Charles M. Braden, Ph.D., Assistant Professor of Mathematics
Walter J. Breckenridge, Ph.D., Director, Museum of Natural History
Audrey S. Briggs, B.S., Lecturer in Secretarial Studies
David Brown, B.A., Instructor in Humanities
James I. Brown, Ph.D., Professor of Rhetoric
Paul H. Bullen, B.S.C.E., Assistant Professor of Mechanical Engineering
William Burch, M.A., Instructor in Sociology
Sylvan Burgstahler, M.S., Instructor in Mathematics
James F. Burks, Ph.D., Assistant Professor of Romance Languages
Pericles Caranicas, M.S.C.E., Lecturer in Classics
Richard H. Carlson, B.A., Instructor in Psychology
John R. Carroll, LL.B., Lecturer in Business Law
Paul A. Cartwright, M.S., Associate Professor of Electrical Engineering
Harold W. Chase, Ph.D., Associate Professor of Political Science
James Cherry, M.Ed., Instructor in Art Education
Michael Chopp, B.S., Instructor in Physical Education
John Clarke, B.B.A., C.P.A., Lecturer in Accounting
June Cochrane, B.S., Instructor in Physical Education
Edward Coen, Ph.D., Assistant Professor of Economics
Beulah Compton, M.A., Assistant Professor of Social Work
Edward M. Copeland, Jr., B.A., Assistant Professor of Slavic and Oriental Languages
J. Orville Creviere, Lecturer in Accounting
Bert Crowder, M.S.M.E., Assistant Professor of Mechanical Engineering
William J. Culmer, Ph.D., Assistant Professor of Agricultural Engineering
William Cummings, B.B.A., Lecturer in Accounting
James A. Cuneo, Ph.D., Associate Professor of Romance Languages
Thomas D'Andrea, B.A., Instructor in Psychology
Rene Dawis, Ph.D., Research Associate in Industrial Relations
Cyrille DeCosse, Lecturer in Art

Harold C. Deutsch, Ph.D., Professor of History
 William Dietrichsen, Lecturer in Art
 William A. Dolid, B.A., Teaching Assistant in Mathematics
 Ernestine C. Donaldson, M.A., Associate Professor of Office Management
 John Donohue, B.A., Lecturer in Sociology
 Allen Downs, M.A., Associate Professor of Art
 Rodney D. Driver, B.S., Instructor in Mathematics
 Warren Eastlund, LL.B., Lecturer in Business Law
 Eugene Edie, M.A., C.P.A., Instructor in Accounting
 Lorenz Eitner, Ph.D., Professor of Art
 Saul Engelbourg, Ph.D., Assistant Professor, Interdepartmental Studies
 John D. Erickson, M.A., Instructor in Romance Languages
 Eugene H. Falk, Ph.D., Professor of Romance Languages
 Jesse E. Fant, M.S.C.E., Assistant Professor of Civil Engineering
 J. Earl Faulkner, M.S., Instructor in Mathematics
 Paul Fetler, Ph.D., Professor of Music
 Immanuel C. Fischer, M.S., Associate Professor of Engineering
 Robert F. Fleischer, M.A., Lecturer in Insurance
 William Fletcher, Ph.D., Associate Professor of Speech
 Gerald Fontaine, Lecturer in Art
 John Forster, M.A., Associate Professor of Sociology
 Roy G. Francis, Ph.D., Professor of Sociology
 Albert M. Fulton, Ph.M., Professor of Speech
 Clifton A. Gayne, Jr., Ph.D., Professor of Art Education
 M. Robert Giles, M.A., Associate Professor of Physical Education
 Philip B. Gough, B.A., Instructor in Psychology
 Margaret F. Grainger, M.A., Assistant Professor, School of Nursing
 Nathaniel Grossman, B.S., Teaching Assistant in Mathematics
 Harvey L. Gunderson, M.S., Assistant Scientist, Museum of Natural History
 Alrik Gustafson, Ph.D., Professor and Chairman, Scandinavian Department
 Helen Haberman, B.S., Lecturer in Secretarial Procedures
 Clifford I. Haga, B.A., Assistant Professor of English
 Arne Halonen, M.A., Lecturer in Scandinavian
 Sam R. Hamilton, B.E.E., M.A., Aeronautical Ground Instructor
 Robert S. Hancock, Ph.D., Associate Professor of Marketing
 Betty L. Hannah, B.S., Instructor in Physical Education
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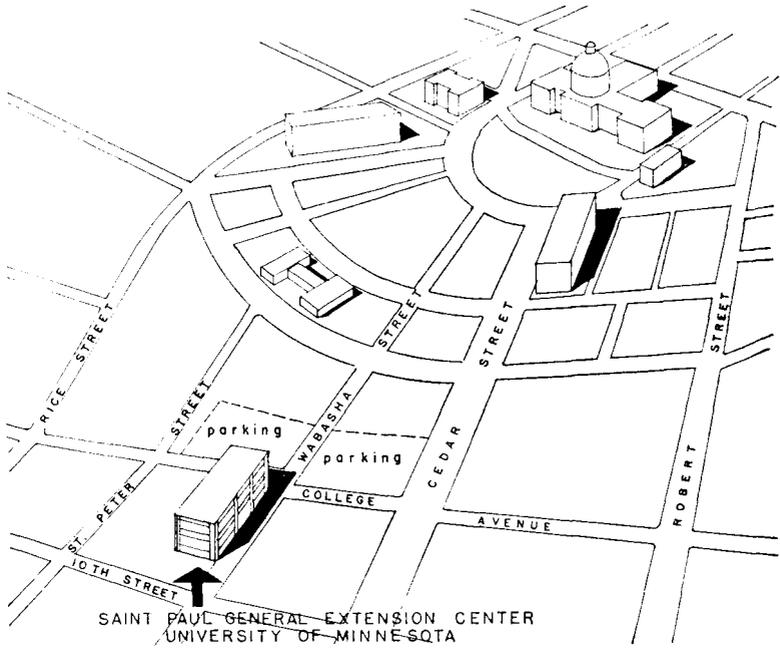
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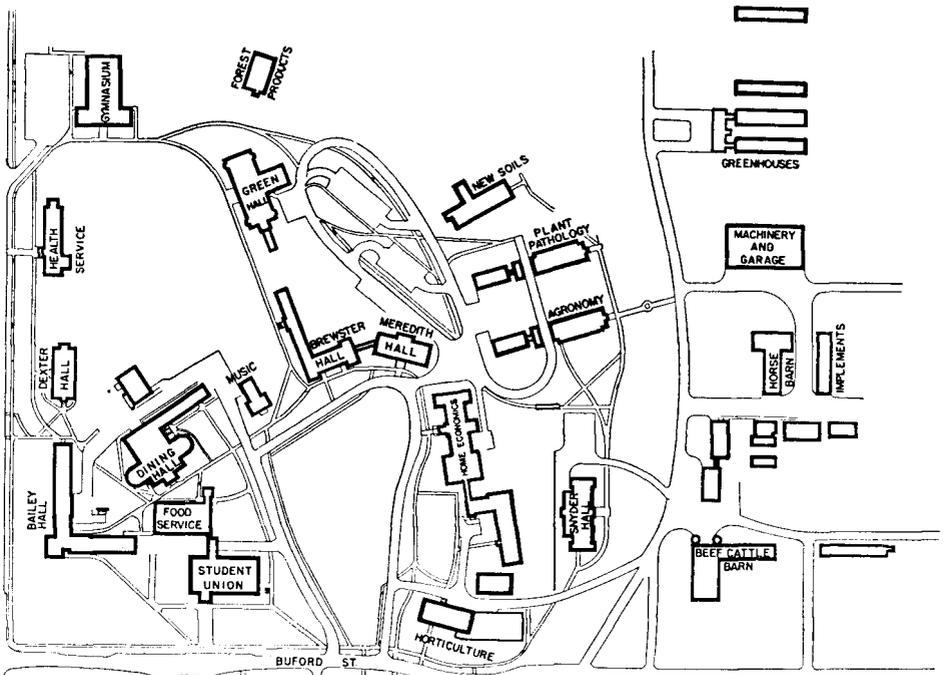
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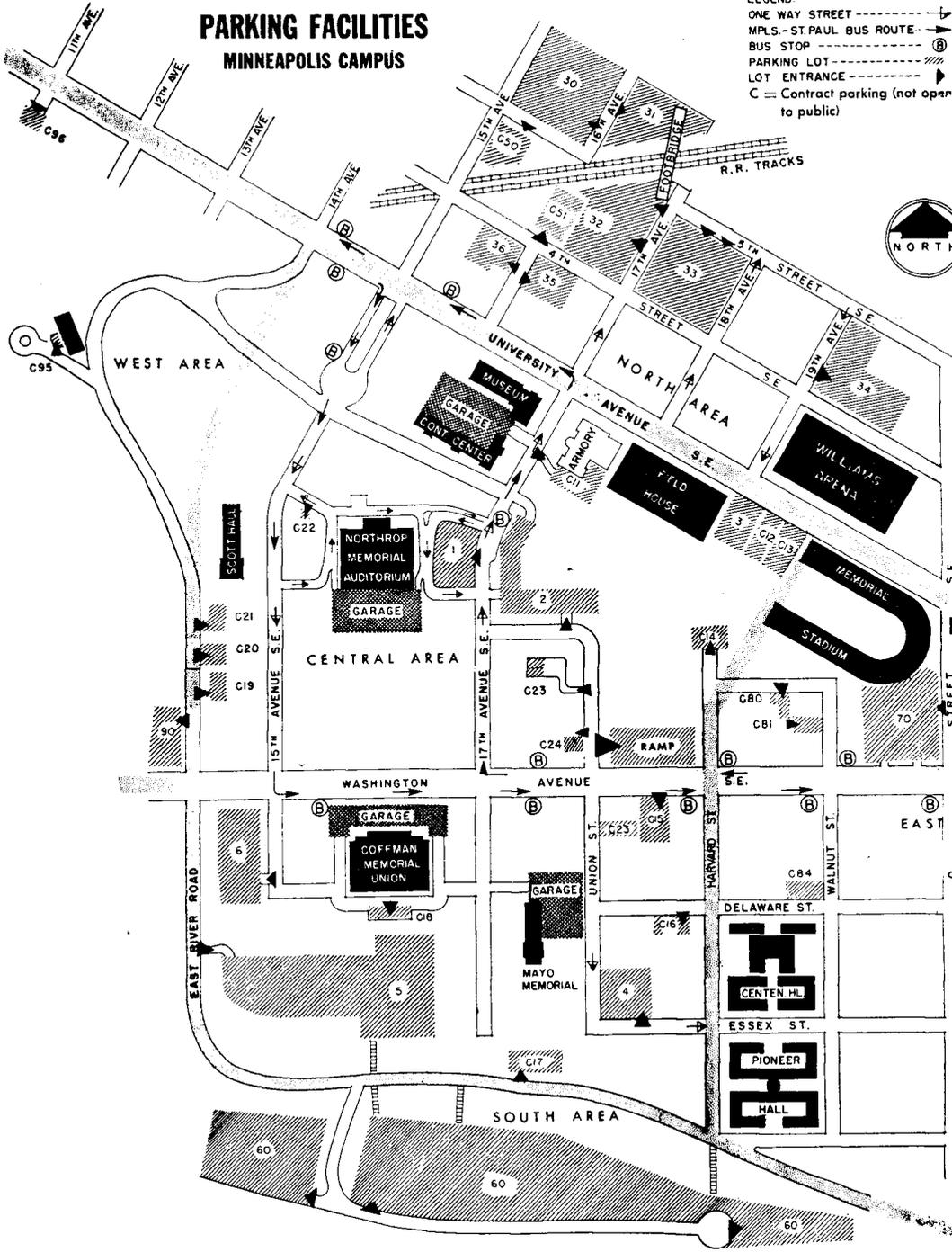
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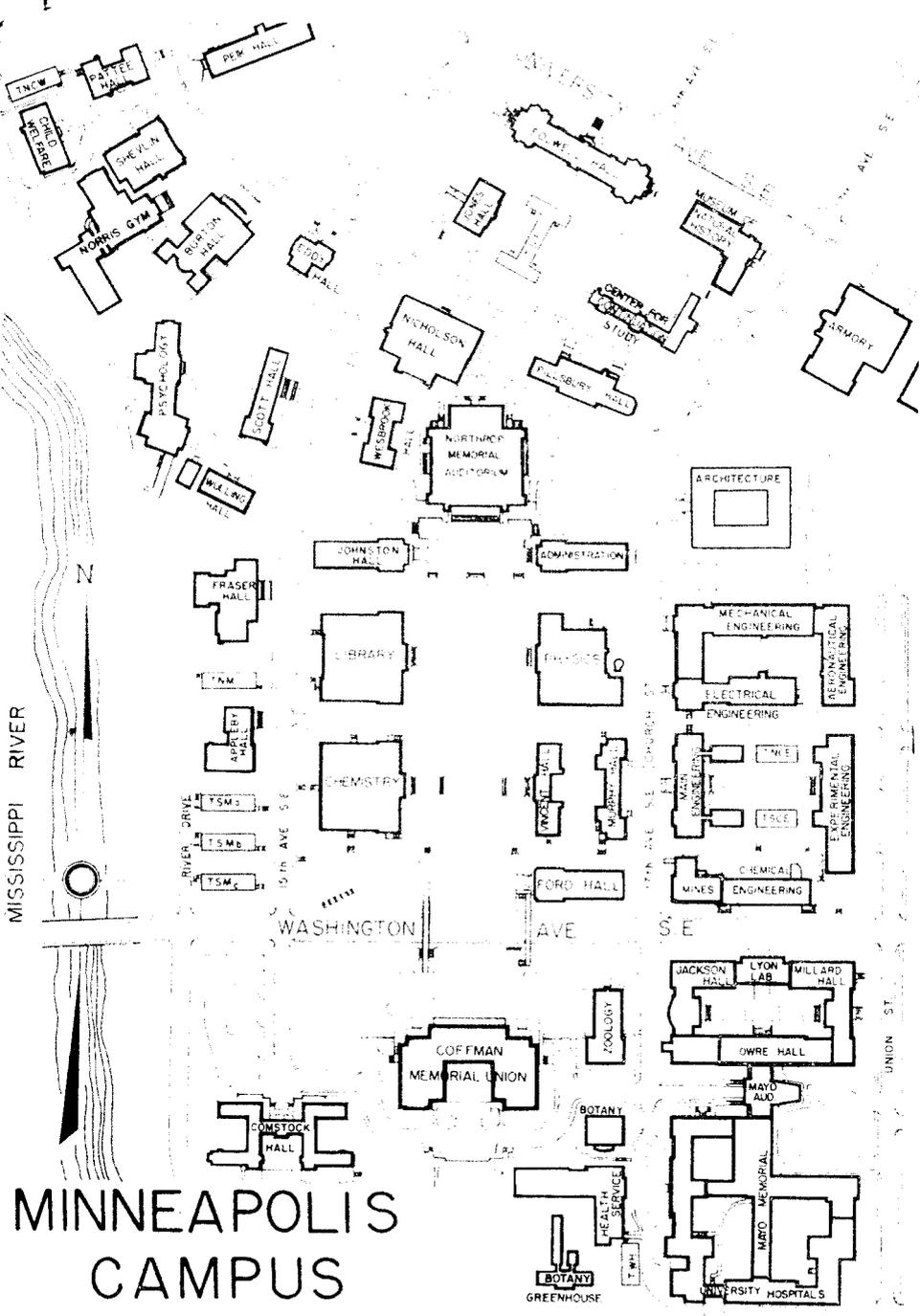


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