

2-1973

## The Bulletin, Moorhead State College Graduate Catalog, 1972-74 (1973)

Moorhead State College

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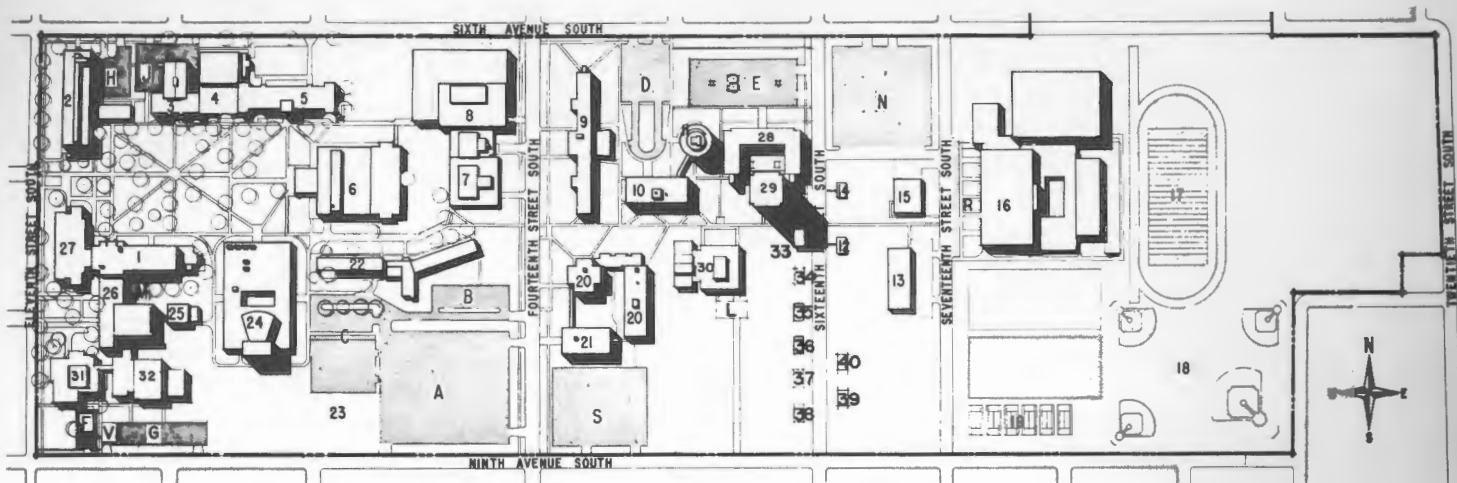
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THE BULLETIN  
MOORHEAD  
STATE  
COLLEGE  
GRADUATE  
CATALOG  
1972-74



**BUILDINGS**

- 1. MacLean Hall
- 2. Hagen Hall
- 3. Weld Hall
- 4. Weld Hall Addition
- 5. Lommen Hall
- 6. Livingston Lord Library
- 7. Kise Commons
- 8. Comstock Mem. Union
- 9. Dahl Hall
- 10. Grantham Hall
- 11. Nelson Hall
- 12. College Services & Cultural Center

- 13. Maintenance Building & Central Receiving
- 14. College Services
- 15. Heating Plant
- 16. Alex Nemzek Complex
- 17. Football Field
- 18. Baseball Field
- 19. Tennis Courts
- 20. Snarr West & East
- 21. Snarr South
- 22. Ballard Hall
- 23. Tennis Courts
- 24. Center for the Arts
- 25. Grier Hall

- 26. Flora Frick Hall
- 27. Bridges Hall
- 28. Holmquist Hall
- 29. Neumaier Hall
- 30. Murray Commons
- 31. Owens Hall
- 32. Biology Hall
- 33. Social Services
- 34. College Services
- 35. Social Services
- 36. Social Services
- 37. College Services
- 38. College Services
- 39. Music Annex
- 40. Music Annex

**PARKING LOTS**

- | PARKING LOTS             | FOR USE BY                          |
|--------------------------|-------------------------------------|
| B & D                    | Residents                           |
| A, E, S, & N             | Residents & Commuters               |
| C, F, G, H, J, L, M, & R | Faculty and Staff with Zone Permits |
| N & V                    | Visitors                            |

**THE BULLETIN**  
**MOORHEAD**  
**STATE**  
**COLLEGE**  
**GRADUATE**  
**CATALOG**  
 1972-74

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 February 1973

## 1972-1973 Academic Calendar

### FALL QUARTER, 1972

Registration and Payment of Fees Tuesday-Wednesday, September 5-6  
Classes Begin Thursday, September 7  
Columbus Day Monday, October 9  
Midterm Friday, October 13  
Last Day to Apply for Oral Examination  
for Degree in Term Friday, October 20  
Last Day to Complete Written Comprehensive  
Examination for Degree in Term Friday, October 27  
Last Day for Oral Examination Friday, November 3  
Final Examinations Wednesday-Friday, November 15-17  
Last Day to Submit Thesis to Library  
and Final Report for Degree in Term Friday, November 17  
Last Day to Apply for Degree to be  
Awarded Next Term Tuesday, November 21  
Fall Quarter Closes Tuesday, November 21

### WINTER QUARTER, 1973

Registration and Payment of Fees Monday, November 27  
Classes Begin Tuesday, November 28  
Holiday Recess Begins Saturday, December 16  
Classes Resume After Holiday Wednesday, January 3  
Midterm Friday, January 19  
Last Day to Apply for Oral Examination  
for Degree in Term Monday, January 29  
Last Day to Complete Written Comprehensive  
Examination for Degree in Term Monday, February 5  
Last Day for Oral Examination Monday, February 12  
President's Day — No Classes Monday, February 19  
Final Examinations Friday-Tuesday, February 23-27  
Last Day to Submit Thesis to Library  
and Final Report for Degree in Term Monday, February 26  
Last Day to Apply for Degree to be  
Awarded Next Term Wednesday, February 28  
Winter Quarter Closes Wednesday, February 28

### SPRING QUARTER, 1973

Registration and Payment of Fees Monday, March 5  
Classes Begin Tuesday, March 6  
Midterm Friday, April 13  
Holiday — No Classes Friday and Monday, April 20-23  
Last Day to Apply for Oral Examination  
for Degree in Term Tuesday, April 24

Last Day to Complete Written Comprehensive  
Examination for Degree in Term Tuesday, May 1  
Last Day for Oral Examination Tuesday, May 8  
Final Examinations Monday-Wednesday, May 21-23  
Last Day to Submit Thesis to Library  
and Final Report for Degree in Term Tuesday, May 22  
Commencement for 1972-1973 Thursday, May 24  
Last Day to Apply for Degree to be  
Awarded Next term Friday, May 25  
Spring Quarter Closes Friday, May 25

### SUMMER SESSION I, 1973

Registration and Payment of Fees Monday, June 11  
Classes Begin Tuesday, June 12  
Last Day to Apply for Oral Examination  
for Degree in Term Thursday, June 14  
Last Day to Complete Written Comprehensive  
Examination for Degree in Term Thursday, June 21  
Last Day for Oral Examination Thursday, June 28  
Holiday — No Classes Wednesday, July 4  
Last Day to Submit Thesis to Library and  
Final Report for Degree in Term Thursday, July 12  
Last Day to Apply for Degree to be  
Awarded Next term Saturday, July 14  
Final Examination Saturday, July 14  
First Summer Session Closes Saturday, July 14

### SUMMER SESSION II, 1973

Registration and Payment of Fees Monday, July 16  
Classes Begin Tuesday, July 17  
Last Day to Apply for Oral Examination  
for Degree in Term Tuesday, July 17  
Last Day to Complete Written Comprehensive  
Examination for Degree in Term Tuesday, July 24  
Last Day for Oral Examination Tuesday, July 31  
Last Day to Submit Thesis to Library and  
Final Report for Degree in Term Tuesday, August 14  
Last Day to Apply for Degree to be  
Awarded Next Term Friday, August 17  
Final Examinations Friday, August 17  
Summer Commencement Friday, August 17  
Second Summer Session Closes Friday, August 17

# 1973-1974 Academic Calendar

## FALL QUARTER, 1973

Registration and Payment of Fees Tuesday-Wednesday, September 4-5  
Classes Begin Thursday, September 6  
Columbus Day — No Classes Monday, October 8  
Midterm Friday, October 12  
Last Day to Apply for Oral Examination  
for Degree in Term Friday, October 19  
Last Day to Complete Written Comprehensive  
Examination for Degree in Term Friday, October 26  
Last Day for Oral Examination Friday, November 2  
Final Examinations Wednesday-Friday, November 14-16  
Last Day to Submit Thesis to Library and  
and Final Report for Degree in Term Friday, November 16  
Last Day to Apply for Degree to be  
Awarded Next Term Tuesday, November 20  
Fall Quarter Closes Tuesday, November 20

## WINTER QUARTER, 1974

Registration and Payment of Fees Monday, November 26  
Classes Begin Tuesday, November 27  
Holiday Recess Begins Thursday, December 20  
Classes Resume After Holiday Monday, January 7  
Midterm Friday, January 18  
Last Day to Apply for Oral Examination  
for Degree in Term Tuesday, January 29  
Last Day to Complete Written Comprehensive  
Examination for Degree in Term Tuesday, February 5  
Last Day for Oral Examination Tuesday, February 12  
President's Day — No Classes Monday, February 18  
Final Examinations Monday-Wednesday, February 25-27  
Last Day to Submit Thesis to Library and  
and Final Report for Degree in term Tuesday, February 26  
Last day to Apply for Degree to be  
Awarded Next Term Thursday, February 28  
Winter Quarter Closes Thursday, February 28

## SPRING QUARTER, 1974

Registration and Payment of Fees Tuesday, March 5  
Classes Begin Wednesday, March 6  
Midterm Thursday, April 11  
Holiday — No Classes Friday and Monday, April 12-15  
Last Day to Apply for Oral Examination  
for Degree in Term Tuesday, April 23

Last Day to Complete Written Comprehensive  
Examination for Degree in Term Tuesday, April 30  
Last Day for Oral Examination Tuesday, May 7  
Final Examinations Monday-Wednesday, May 20-22  
Last Day to Submit Thesis to Library and  
and Final Report for Degree in Term Tuesday, May 21  
Commencement for 1973-1974 Thursday, May 23  
Last Day to Apply for Degree to be  
Awarded Next Term Friday, May 24  
Spring Quarter Closes Friday, May 24

## SUMMER SESSION I, 1974

Registration and Payment of Fees Monday, June 10  
Classes Begin Tuesday, June 11  
Last Day to Apply for Oral Examination  
for Degree in Term Thursday, June 13  
Last Day to Complete Written Comprehensive  
Examination for Degree in Term Thursday, June 20  
Last Day for Oral Examination Thursday, June 27  
Holiday — No Classes Thursday-Friday, July 4-5  
Last Day to Submit Thesis to Library and  
Final Report for Degree in Term Thursday, July 11  
Last Day to Apply for Degree to be  
Awarded Next Term Saturday, July 13  
Final Examinations Saturday, July 13  
First Summer Session Closes Saturday, July 13

## SUMMER SESSION II, 1974

Registration and Payment of Fees Monday, July 15  
Classes Begin Tuesday, July 16  
Last Day to Apply for Oral Examination  
for Degree in Term Wednesday, July 17  
Last Day to Complete Written Comprehensive  
Examination for Degree in Term Wednesday, July 24  
Last Day for Oral Examination Wednesday, July 31  
Last Day to Submit Thesis to Library and  
Final Report for Degree in Term Wednesday, August 14  
Last Day to Apply for Degree to be  
Awarded Next Term Friday, August 16  
Final Examinations Friday, August 16  
Summer Commencement Friday, August 16  
Second Summer Session Closes Friday, August 16

## Graduate Education at Moorhead State College

At a time when higher education is compelled to study not only its purposes but its budgets, no program can escape scrutiny and few of the premises of education can escape challenge. But the bases upon which graduate programs at Moorhead State College were established will be the bases for their re-evaluation. First, the college has felt it necessary to provide programs in those areas where the needs of the community and the State for personnel training at the master's level is great. Second, the College has recognized one of the great facts of academic life, that the knowledge explosion is real, and that more and more education is required for those who are to make contributions to society. Third, the College has recognized the benefits to its undergraduate program of the kind of stimulation provided by graduate students, graduate courses, and graduate research. In all of these, Moorhead State College has testified to its faith in education and to its very strong belief in the importance of excellence.



Roland Dille  
President

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## RESIDENCE AND TRANSFER CREDIT

### FOR THE MASTER'S DEGREE

1. A minimum of 45 quarter hours of credit (48 to 51 in Counseling and Guidance, 48 in School Psychology) is required for the Master's Degree.
2. At least 15 hours shall be earned in the 500 series.
3. The program must include at least 36 hours completed after admission to study for the Master's degree.
4. Upon removal of any deficiencies and admission to full standing, but before completion of more than 15 hours counting toward the minimum requirements for the degree, a program of studies must be approved by the major department or area and by the Graduate Office.
5. A minimum grade point average of "B" is required for continuation in the program and no course may be accepted from another institution if the grade earned is less than "B".
6. Subject to the approval of the departments concerned a maximum of 15 hours may be accepted in transfer from other accredited institutions.
7. Courses taken through the Tri-College University are not subject to the transfer limitation of (6) above.
8. Subject to their inclusion in an official program previously approved by the departments concerned and the Graduate Office, courses constituting up to half of the minimum hours required for the degree may be taken at other Minnesota State Colleges; however, in such instances the number of hours accepted from other institutions will be reduced correspondingly.
9. At least half of the hours constituting the minimum requirements for the degree will be completed through registrations in offerings by the faculty of this College.
10. All requirements for the degree, including courses for transfer credit, must be completed within time limitations stated in the Graduate Bulletin.

## General Information

### MOORHEAD STATE COLLEGE

Moorhead State College has become a cultural and intellectual center of Western Minnesota. Moorhead and adjacent Fargo, North Dakota, have a population of about 100,000, who, through many organizations and projects, support and supplement the programs in education and the arts offered by Moorhead State College and its neighboring institutions, Concordia College and North Dakota State University.

While Moorhead State College is primarily a four-year liberal arts college, it has added, in the past several years, as faculties have developed and research facilities have been made available, a number of graduate programs. These programs, developed and taught by scholars educated at the major universities of this country and Europe, are designed to meet professional demands for greater preparation and to prepare students for more advanced graduate work. In addition, non-graduate post-baccalaureate programs have been developed, most recently the fifth-year program for in-service teachers.

The programs offered at Moorhead State College are accredited by the North Central Association of Colleges and Secondary Schools. The College is also accredited by the National Council for Accreditation of Teacher Education.

Moorhead State College is a member of the American Council of Education, of the North Central Association of Colleges and Secondary Schools, and of the American Association of Colleges for Teachers Education.

### ASSISTANTSHIPS AND SCHOLARSHIPS

Graduate assistantships are available to highly qualified students in departments in which graduate programs are offered. Since nominations are made by departments, applicants should submit requests for assistantships to the appropriate department chairman, or to the Dean of Graduate Studies. Stipends of up to \$2,600 are available for the academic year.

Residence Hall Assistants help supervise on-campus housing units in return for room and board in the dormitories where they assist. Resident Hall Counseling Assistantships, which also provide room and board, are available to students in the Guidance and Counseling Program. Applications for these positions should be made to the Housing Office.

Graduate students in Special Education are eligible for Summer Traineeships, provided by the Minnesota Department of Education. The stipend is \$75.00 per week plus tuition and fees. Application should be made to the Director of Special Education.

A limited number of graduate scholarships are available to highly qualified students. These grants average about \$500.00 per year. Part-time employment services, National Defense Student Loans, and other loan services are available. Information is available from the Financial Aid Office.

Moorhead State College participates in the Work-Study Program which is a part of the Economic Opportunity Act of 1964. Under this program, qualified students are offered part-time employment on the campus or in the community. The college also offers some students an opportunity to work full-time during the summer under this program.

Further information and application forms may be obtained by writing to the Financial Aid Office. The Financial Aid Office also provides information and assistance for veterans covered by the 1966 "G.I." Bill. (P.L. 89-358).

### COLLEGE SERVICES

The Moorhead State College Placement Bureau assists students in locating appropriate positions in education, business, industry, and government service. It offers a convenient and efficient means of providing employers with the credentials of applicants. A registration fee of \$10.00 entitles an individual to recommendation services for one year after graduation. A graduate may reactivate his file at any time by paying the \$10.00 fee. Every graduate is advised to have a permanent confidential file on record in the Placement Bureau. Current students who expect to graduate in either June or August are requested to activate their files by the preceding December. The Placement Bureau holds membership in the Minnesota Institutional Teacher Placement Association, and the Association for School, College, and University Staffing. Accommodations in five residence halls are available to graduate students, who should apply to the Dean of Students at least two months in advance of matriculation. Cost of room and board is approximately \$850 for three quarters for a shared double room. There are a limited number of single rooms. Room and board in a single room is approximately \$950. The Office of Student Personnel Services also provides assistance in arranging housing in the Fargo-Moorhead area. The college food service operates a cafeteria in Kise Commons, where meals are served under the provisions of the room and board contracts. Off-campus students, faculty members, college visitors, and guests are invited to use the dining facilities at a moderate cost. Off-campus students may contract for meals on a quarterly basis.

The College Health Center, located in Dahl Hall, provides the full-time services of a registered nurse for all students, and arranges for the services of a physician when necessary. Medical consultation service is available to students during established office hours. Temporary infirmary care for full-time students is provided without cost, but students who do not live in one of the college residence halls are required to pay board during their stay in the infirmary. Upon a physician's orders, students who are seriously ill are transferred to a local hospital.

A group health and accident insurance program is available to students. The College urges all students to have some form of insurance protection against costs of accident and illness.

The Office of Student Personnel Services provides professional counseling without charge to students with academic, personal, vocational and social problems. Tests of aptitude, interest and personality are administered and interpreted through this office. Students interested in such assistance should contact the Director of Counseling Services.

### SUMMER SCHOOL AND EVENING CLASSES

The academic year at Moorhead State College runs from September to June and is divided into three quarters. In addition, two five-week sessions are offered each summer. By attending both sessions, a student may complete a full quarter of course work. Special institutes and workshops, carrying appropriate credit, are also offered during the summer.



Besides the daytime schedule of classes, Moorhead State College offers evening classes on the campus during the academic year. They are part of the regular campus program, and are open to full-time as well as part-time students. Most of the evening classes meet once a week, with sessions lasting from two or four hours depending on the number of quarter hours of credit offered.

Evening classes are also offered at off-campus centers in communities within a radius of approximately one hundred miles of Moorhead. All of these meet only once a week. Because of the limited opportunity of students in off-campus courses to confer with their instructors and because of the distance of off-campus centers from the college library and other facilities, off-campus courses can be used to satisfy only part of the course requirements of either undergraduate or graduate programs. Course requirements for most post-baccalaureate programs, including graduate study, can be met by courses offered in summer school and on-campus evening classes. Information is available from the Office of Academic Affairs.

**TRI-COLLEGE UNIVERSITY**

Under a broadly cooperative program known as the Tri-College University, graduate students who are enrolled at Moorhead State College may under certain conditions take up to two graduate courses per calendar period at North Dakota State University, at no increase in tuition. Information is available from the registrar, and from appropriate advisers and officers of Moorhead State College.

**TUITION AND FEES**

**Application Fee**

All students applying for admission to Moorhead State College for the first time must submit with their application a check or money order for \$10.00. This Application Fee is non-refundable.

All students enrolled for graduate credit pay the following fees which are subject to change by the Minnesota State College Board:

**Tuition**

Minnesota residents — On campus	per credit hour	\$ 9.50
Non-residents — On campus	per credit hour	19.50
Off-Campus courses	per credit hour	13.50
Off-Campus workshops	per credit hour	19.50

Students who register late are assessed a flat registration fee of \$5.00 for the first day late and \$2.00 additional for each day up to ten days. A fee of \$1.00 is charged for each change of program after classes begin.

**Student Activity, Student Union, and Health Service Fee**

Full-time in the academic year	per quarter	\$30.00
Part-time in the academic year	(6 quarter hours or less)	15.00
Full-time in each summer session		15.00
Part-time in each summer session	(4 hours or less)	7.50

Graduate students enrolling for undergraduate courses pay the current undergraduate course fees. See the general catalogue (Moorhead State College Bulletin).

**Programs Offered**

**Master Of Science**

Biology  
Chemistry

**Master Of Science In Education**

Art  
Biology  
Business Education  
Chemistry  
Counseling and Guidance  
Elementary Education  
Elementary School Administration and Supervision  
English  
Health, Physical Education and Recreation  
Industrial Education  
Mathematics  
Music  
School Psychologist  
Remedial Reading  
Social Studies  
Speech-Pathology and Audiology  
Speech-Theatre

**Fifth Year Program**

Elementary School Teaching  
Secondary School Teaching  
Minnesota certification in special teaching fields;  
Audio Visual, Remedial Reading, School Librarianship,  
Special Education, Speech Pathology and Audiology

*The College reserves the right to change the regulations in this Bulletin with respect to admissions to graduate study, and the granting of a degree.*

## Regulations for Graduate Study

### Admission to Graduate Study

Students are admitted into one of three categories: the Master's Program, Fifth Year Program, or Graduate Special.

#### APPLICATION DEADLINES

Students desiring admission to a *Master's Program* or *Fifth Year Program* must complete the application file by August 15 (for the fall quarter), November 8 (for the winter quarter), February 15 (for the spring quarter), or May 15 (for the summer sessions). Interested persons are encouraged to begin the application process at least two months prior to the beginning of the academic term in which they plan to register for first graduate classes.

A student may be admitted in *Graduate Special* status at any time prior to first registration on completion of the application process (see below). All application materials may be obtained from the Graduate Studies Office.

*A completed Medical History Form is required of all students and must be on file in the College Health Center.*

#### ADMISSION TO MASTER'S PROGRAM

To be considered for admission to a Master's Program at Moorhead State College the prospective graduate student must meet the following requirements:

- a. A baccalaureate degree or its equivalent earned at an accredited college or university.
- b. A cumulative undergraduate grade-point-average of 2.75 based on a 4.0 scale (a cumulative GPA of 3.0 will be required in any post-baccalaureate work completed at the time of application for graduate study at Moorhead State College).
- c. Attainment of a minimum score of 500 on the Verbal Ability portion of the Graduate Record Examination or approval by the Dean of Graduate Studies.
- d. Approval of and recommendation by the department in which the prospective student expects to earn an advanced degree. A department offering advanced degrees may require more exacting standards than those described. Departmental approval required for admission to graduate study will in no case be waived. *Acceptance of an applicant by his major department does not guarantee admission to graduate study.*
- e. An applicant who does not meet the above requirements may be granted probational admission only after successful appeal by his major department to the Graduate Studies Committee.

An applicant admitted on probation to a graduate studies program must earn a minimum grade-point-average of 3.0; at least half of the credits attempted while on probation should be in the major field of study. If, upon completion of the first 9 credit-hours of probational status, the student's graduate grade-

point-average is below the 3.0 minimum, he will automatically be suspended from the graduate studies program. Continued graduate work following suspension will be allowed only upon re-admission to the graduate studies program under the same regulations governing new applicants.

If, after completion of 9 credit-hours while on probation, a student's cumulative graduate GPA exceeds the 3.0 minimum, the student's major department will file written recommendation with the Graduate Dean regarding the student's subsequent graduate status. On the basis of these recommendations, the Graduate Dean will provide written notification to the student and his major department to the effect that the student (a) is granted full graduate standing or (b) is retained on probational status for a maximum of 6 additional credit-hours.

After completion of a maximum of 15 credit hours while on probation, the major department and the Graduate Dean will evaluate the student's progress and will either advance the student to full graduate standing or will notify the student that he is suspended from graduate studies. In no case will a student be allowed to complete more than 15 credit-hours while on probation. Suspension may be appealed to the Graduate Studies Committee by the student in conjunction with his major department. If at any time during his graduate career at Moorhead State College a student's cumulative grade-point-average for graduate work falls below 3.0, the student shall automatically be placed on probation by the Graduate Dean. Continued participation in a graduate study program shall be governed by the regulations applying to probational status.

*Admission to a graduate study program does not guarantee that the applicant will be advanced to candidacy for an advanced degree.*

#### ADMISSION TO FIFTH YEAR PROGRAM

The application, with two (2) official transcripts, must be filed with the Graduate Studies Office. Specific requirements for admission are given in this Bulletin, under the section entitled The Fifth Year Program.

#### ADMISSION AS A GRADUATE SPECIAL STUDENT

A student desiring to take courses for graduate credit but not seeking admission to a Master's or Fifth Year Program must complete an application for admission. Should he desire admission to a program at a later date he must submit a complete application for that program and meet the same admission criteria in effect for other students. Credits earned in Graduate Special Student status which later might be counted in fulfilling minimum requirements for a program may not exceed, by themselves or in combination with workshop or transfer credit, the maximum allowed in transfer credit (9 hours).

#### SENIOR REGISTRATION

A senior enrolled at Moorhead State College who has 12 quarter hours or fewer to complete for graduation may be permitted by the Graduate Dean to enroll in graduate courses. This permission must be obtained in advance of registration.

## Registration and Academic Performance

### REGISTRATION

Graduate students are expected to register during the regular registration period at the beginning of each quarter or summer session. For evening and off-campus courses only, students register at the first class meeting. During the academic year, the normal graduate load per quarter is 12 to 15 quarter hours, depending upon laboratory and research work. The normal load in each summer session is 6 to 8 quarter hours.

### GRADUATE COURSES

Courses whose numbers are followed by "g" are open to graduate students as well as advanced undergraduate students; a higher level of achievement is required of graduate students in these courses. Courses numbered in the 500 series are open only to graduate students.

### GRADING SYSTEM

Grades given in graduate courses include A, B, C, D, F, and S (Satisfactory). In a continuing research course a student may be given a grade of X until the course is completed. W signifies withdrawal from the course. Only those credits which were completed with a grade of A, B, or S (or C in some programs) may be applied towards a master's degree.

The mark of I (Incomplete) is given in cases where a student is unable to complete the last of his course requirements for reasons beyond his control. Arrangements for this must be made with the instructor before the end of the quarter. An Incomplete must be made up by the end of the next quarter in which a student is registered. It is the responsibility of the student to make arrangements for removing an Incomplete.

A student's grade point average is computed from credits earned in courses in which the grades of A, B, C, D and F are given. A grade A earns 4 grade points per credit hour; B, 3 grade points; C, 2 grade points; D, 1 grade point and F, 0 grade points. An Incomplete (I) is counted as an F until it is made up.

### AUDITING COURSES

An entry of V (visitor or auditor) may be made upon a student's permanent record when he has audited a course. As an auditor a student may attend all class sessions, but need not complete assignments or projects, take part in class discussion, or take examinations. A student who wishes to audit a course must register and pay tuition fees as though he were taking the course for credit. A student may change from regular (credit) to audit status with the written permission of the instructor through the tenth day of classes during the regular quarter, or the fourth day of classes in a summer session. Credit may not be earned in courses taken as a visitor or auditor except by re-enrollment for credit and completion of the course with a satisfactory grade.

## The Master's Degree

### Master Of Science In Education

The programs are designed for persons who are qualified for certification as teachers in the State of Minnesota. A minimum of 45 graduate credits are required of which at least 15 hours are to be earned in the 500 series. If a person is admitted to any Master of Science in Education program without the necessary background for certification on the secondary or elementary level, he must complete such requirements before enrolling for the required nine hours of graduate courses in professional education.

### GENERAL COURSE REQUIREMENTS

*Group I — Professional Education (minimum 9 hours)*

Ed. 500 Introduction to Research (3) Ed. 501 Psychological Foundations (3)  
One additional Professional Education course (3)

*Group II — Major Field of Concentration (minimum 24 hours)*

*Group III — Related Area courses (minimum 9 hours)*

Remaining 3 hours for the required 45 may be taken in any group.

A Candidate for a Master of Science in Education degree may choose to fulfill the research requirement in either of the following ways:

Plan A: The candidate writes a thesis for which he is granted 6 credit hours to be included in the 24 credit hours required in his major field.

Plan B: The candidate writes a non-credit starred paper for each of three courses in which he is enrolled. Two of these papers should be written in connection with courses in his major field and one in a related area. The Professional Education courses required of all candidates for the Master of Science in Education degree may not be chosen for these papers.

Areas of study are given on page 11 of this Bulletin. Specific requirements for particular majors are given in departmental sections.

After the student is admitted to graduate study, and to the department, he will, in consultation with his departmental adviser, develop an extended study plan which will meet the specific standards of the department as well as the general requirements for all master's degrees.

### RESIDENCE AND TRANSFER CREDIT

Not less than 36 credits must be earned in on-campus courses at Moorhead State College. At least 12 credits must be earned in one quarter during the academic year or in two summer sessions of 6 credits each. These summer sessions need not be consecutive.

Moorhead State College may allow the transfer to a Master's degree program of a maximum of 9 quarter hours of graduate work completed at other accredited

institutions or in off-campus credit at this college. Only courses in which a grade of B or better was earned will be accepted for such transfer credit. Summer institute courses can be applied only with the approval of the appropriate department and the Dean of Graduate Studies.

#### TIME LIMITATION

A student may begin his course work up to one year after admission to graduate study. Most departments allow a student seven years to complete his work; however, a few programs require completion within five years. In certain cases the Graduate Studies Committee may approve a student's petition for an extension of time.

#### ADMISSION TO CANDIDACY

In the academic term following completion of 15 quarter hours of graduate work, a student must apply for admission to candidacy in his degree program. Appropriate forms for application are available in the Graduate Studies Office. If the student fails to apply, credit accumulated beyond 15 hours may not be accepted toward a degree.

Admission to candidacy will be determined by the Graduate Studies Committee after evaluating the student's ability to do satisfactory graduate work. All academic deficiencies must have been removed before the student is eligible for candidacy, and he must have at least a "B" average in all graduate courses.

A candidate for a Master's degree must maintain an over-all grade point average of "B" in his graduate studies. The Graduate Studies Committee may refuse further registration to any student who fails to maintain at least a "B" average. A degree candidate shall be placed on probation at the conclusion of his first 30 quarter hours, should his over-all grade point average fall below "B." His probational status will be removed if at the end of 15 additional quarter hours he has achieved a "B" over-all grade point average; otherwise he will lose his graduate status.

#### EXAMINATION COMMITTEE

When the candidate for the Master's degree has selected a thesis topic or courses for starred papers he should petition the Graduate Studies Office for the appointment of his Examination Committee. This committee will consist of at least three faculty members, including his adviser serving as chairman.

#### WRITTEN COMPREHENSIVE EXAMINATION

At least three weeks before a master's degree is to be awarded (two weeks in summer sessions) the candidate must demonstrate his competence in his major field in a written comprehensive examination. The student's Examination Committee is in charge of the examination which must be satisfactorily completed before the oral examination can be held. The candidate also is required to pass a written examination in professional education. The Department of Education should be consulted for the scheduled offering of this examination. A student who fails to pass either examination may appeal through his committee to repeat it during a subsequent quarter. A second failure will result in termination of his candidacy for a degree.

#### THE THESIS

A part of the program of every Master's degree candidate under Plan A is the demonstration of his ability to do individual, independent work of a creative or investigative kind in an area related to his major field through the preparation of a thesis. The thesis will be supported by the work represented in 6 hours of registration in Thesis 599 but not more than 6 hours of 599 may be counted in satisfying the minimum requirements for the Master's degree under Plan A, unless otherwise specified in a particular program.\* Credit hour registration in a given term may vary with the nature of the study, according to department or area, and on the previous agreement between the student and the adviser for expected research effort and adequate supervision. Standards for the preparation of a research thesis may be found in William G. Campbell: *Form and Style in Thesis Writing* or Kate L. Turabian: *Manual for Writers of Term Papers, Theses and Dissertations*. Departments may modify style requirements to suit the specific need in their field. The student must work closely in regular and frequent consultation with his adviser in the selection of a thesis topic, in the execution of the research project and in the writing of his thesis.

The thesis must be typewritten on sixteen or twenty pound rag-content bond paper. Multigraph, multilith, xerox and carbon methods of reproduction of the second and third copies may be accepted. Suitable reproduction processes may be used for charts, graphs, etc. A left hand margin of one and one-half inches, a right hand margin of one inch, and top and bottom margins of about one and one-quarter inches, each, are required. Either pica or elite type may be used.

At least two weeks before the oral examination is held the student must submit to the Graduate Studies Office three typewritten copies of his thesis and an abstract prepared according to instructions from the Graduate Studies office, along with the request for the oral examination.

#### STARRED PAPERS

Students enrolled in a Plan B Master's degree program must submit three starred papers in lieu of the thesis requirement. These starred papers must represent the quality but not the range of the master's thesis. They shall be prepared in conjunction with three graduate courses, approved by the department and identified as such in the catalog, under the direction of the course instructor. The student must receive prior approval of both his adviser and the instructor of the course.

The Plan B starred papers must be submitted in typewritten form in triplicate, along with an abstract and the request for the oral examination, to the Graduate Studies Office at least two weeks before his oral examination.

#### ORAL EXAMINATION

Upon successful completion of the written comprehensive examination and the thesis or equivalent requirement, the candidate must—at least two weeks in advance—petition the Graduate Studies office for an oral examination. The oral examination will be conducted by the Examination Committee and the Graduate Dean principally on the material in the thesis or starred papers, but it may require the candidate to deal with material covered in any of his course work. Failure to pass the oral examination may result in termination of the student's candidacy.

\* Up to 9 hours of Thesis are allowed for the Master of Science degree in Biology; 15 hours are required for the Master of Science degree in Chemistry.

**FINAL REPORT**

After the oral examination has been successfully completed the student must submit three copies of the thesis or starred papers, with all corrections and additions required by his Examining Committee, to the College Library. The thesis or starred papers must be accompanied by a final report form signed by his adviser verifying that the final copy has been approved. The librarian will, upon receipt of the binding fee (approximately \$4.50 per volume), verify the thesis or starred papers deposit by his signature on the final report, and will negotiate an agreement with a local bindery. The student is responsible for submitting the final report form, with required signatures, to the Graduate Studies office not later than two days prior to the date of Commencement.

**MASTER OF SCIENCE DEGREE**

Programs leading to the degree of Master of Science are available with a major in Biology or in Chemistry. These programs are designed for the student having an undergraduate preparation in a discipline essentially the equivalent of a major at this institution but not necessarily desiring a further preparation for public school teaching. They provide for more specialized advanced study with a strong emphasis on original research.

Applications for admission are processed in the same manner as for the Master of Science in Education degree.

The Master of Science requires a minimum of 45 hours including a thesis based on original research. Academic performance, admission to candidacy, the appointment of an Examining Committee, requirements of a Written Comprehensive Examination and Final Oral Examination, and preparation and submission of a thesis are essentially the same as for the Master of Science in Education. A maximum of five years is allowed for the completion of the Master of Science.

Specific requirements for the degree with a major in Biology or in Chemistry are given in the departmental sections of this Bulletin.

**SEQUENCE OF PROCEDURES FOR THE MASTER'S DEGREE**

Procedure	Office	Date
1. Completion of application file as described under "Admission to Graduate Study"	Graduate Studies Office	Initiate at least two months prior to first course work
2. Appointment of Adviser	Graduate Studies Office in consultation with appropriate department	Prior to enrollment
3. Preparation of an extended study plan	Adviser	Prior to enrollment
4. Registration	Adviser	See Calendar
5. Qualifying Examination	Adviser	If required, during first quarter or summer session of enrollment
6. Application for Candidacy for Master's Degree	Adviser and Graduate Studies Office	Prior to completion of more than 15 hours of graduate credit

7. Selection of topic for thesis or starred papers	Adviser	After acceptance as a candidate for the Master's Degree
8. Appointment of Examination Committee	Adviser and Graduate Studies Office	After selection of thesis topic
9. Completion of language requirements, as set by department	Adviser	Before Written Comprehensive Examination
10. Written Comprehensive Examination — Major, Related Fields Professional Education	Examination Committee Education Department	After completion of course work or during term in which it is being completed Apply in term prior to examination
11. Application for Graduation	Adviser and Office of Admissions and Records	The quarter prior to the date the candidate expects to complete all requirements for the degree.
12. Submission of thesis or starred papers and abstract	Graduate Studies Office	After Written Comprehensive Examination and at least two weeks before Oral Examination
13. Oral Examination	Dean of Graduate Studies and Student's Examination Committee	After completion of Written Comprehensive Examination and after submission of the thesis, starred papers and abstract. At least two weeks before Commencement
14. Thesis deposit and Final Report	Library and Graduate Studies Office	At least two days prior to Commencement
15. Commencement		End of Spring Quarter or end of Summer Session. All candidates are required to attend unless excused.

Graduate students are expected to become thoroughly familiar with the contents of the Graduate Bulletin as they apply to these procedures and are responsible for complying with the requirements as stated.



## The Fifth Year Program

The Fifth Year Program at Moorhead State College is a post-baccalaureate program leading to a statement of completion provided by transcript but not involving candidacy for a degree. The program is designed to meet the needs of the individual teacher through one or more of the following purposes:

(1) To strengthen the in-service teacher's preparation in the field in which he is teaching (for secondary teachers usually the academic major, for elementary teachers the area of concentration); (2) to broaden the teacher's background and eliminate deficiencies in his undergraduate preparation; (3) to add depth and understanding to an academic major or area of concentration; (4) to allow a degree of specialization in some professional field; (5) to enable the student to take some graduate work in his academic major or area of concentration.

### REQUIREMENTS FOR ADMISSION

An applicant may be granted admission to the Fifth Year Program in Teacher Education offered by Minnesota State Colleges provided:

- (1) that, if he has earned a bachelor's degree in teacher education from a college or university accredited by the appropriate regional or national accrediting agency, or by a college recognized by the state university of the state in which the college or university is located, and if he possesses a valid teacher's certificate, he will be granted provisional admission to take courses in the Fifth Year Program at Moorhead State College.
- (2) that, if he holds a bachelor's degree from an *unaccredited* institution, he will be provisionally admitted to the Fifth Year Program after (a) he produces evidence that he holds a valid teacher's certificate in the state where he teaches and (b) he completes at least 15 quarter hours of creditable work.
- (3) that, lacking prior teaching experience the student will complete one year's successful teaching experience before completing the requirements of the Program.

**Examinations:** All Fifth Year students will be required to take the Graduate Record Examination. This test will be used to provide additional information concerning students for purposes of advising. This test should be taken prior to enrollment or as early in the Program as possible.

### REGISTRATION AND ACADEMIC PERFORMANCE

Prior to enrolling in any course for graduate credit, a Fifth Year student must secure in advance of registration, the permission of his adviser and the instructor of the course in question.

Students with an undergraduate G.P.A. of under 2.5 will be required to take at least 15 hours on the undergraduate level and attain a minimum G.P.A. of 2.5 in this work before they will be allowed to take graduate courses. In certain instances a student with less than 15 hours of work in his Fifth Year Program with an under-graduate G.P.A. of under 2.5 can appeal for permission to take graduate courses by obtaining the permission of his adviser, the Graduate Studies Office, and the instructor of the course to be taken.

The selective retention factor will be a cumulative grade point average of 2.5. The grade point average will be figured at the end of the first nine to twelve hours of course work and will be carried forward throughout the entire program. At any time a student's cumulative G.P.A. falls below 2.5, he may at the discretion of the Fifth Year Committee be dropped from the Program.

### Student Appeals

If a student falls below the required 2.5 cumulative grade point average, he may be dropped from the Program. If this action is taken by the Director of the Fifth Year Program, the student may appeal the decision to the Appeals Committee.

The Appeals Committee shall consist of the Director of the Program and three members of the Fifth Year Committee. Their votes, together with the written departmental recommendation concerning the status of the student, shall determine the appeal.

### APPLICATION FOR FINAL ADMISSION TO THE PROGRAM

Before he has completed more than 15 hours (including transfer credits) of his program, the Fifth Year student must submit an adviser-approved outline of the courses that he plans to take to complete requirements for the Fifth Year Program. This application must be submitted to the office responsible for administering the Fifth Year Program.

A maximum of 15 quarter hours of work otherwise creditable to the Fifth Year Program may be accepted in transfer from any one or a combination of the following sources: (a) credits earned at a college after the bachelor's degree has been granted by that college but prior to admission to the Fifth Year Program; (b) credits earned by extension, TV, correspondence, and tours; and (c) transfer credits from other accredited colleges or universities.

### General Requirements for Completion Of The Fifth Year Program

- (1) A minimum of 45 quarter hours shall be required for the completion of the Fifth Year Program.
- (2) A minimum of one-third of the work in secondary programs shall be taken in courses open to graduate students only (i.e. in 500 courses).
- (3) A minimum of one-third of the work in elementary programs shall be taken at the graduate level (i.e. in 300 or 400 "g" courses or in 500 courses).
- (4) A minimum cumulative grade point average of 2.5 will be required for completion of the Fifth Year Program.
- (5) Courses in which a grade of "D" is earned will not be credited toward completion of the Fifth Year Program.
- (6) All credits used in completing the Fifth Year Program must have been earned within seven years of the student's enrollment in the Program.
- (7) The normal load for Fifth Year students is 12-16 credit hours per quarter for the regular academic year and 6-8 credit hours for any summer session; the smaller load in each instance being recommended if courses on the graduate level are included.
- (8) The Director of the Program shall certify completion of the Program to the Registrar, who shall note this completion on the student's permanent record. The Director shall mail a certificate of completion to the student on completion of the program as prescribed by the Faculty of Moorhead State College and the State College Board.

(9) This program shall have clear relevance to teaching competence.

(a) Students shall take a minimum of 30 hours in a single discipline and/or cognate disciplines and/or needed subject matter.

(b) Students may take up to a maximum of 15 hours in professional education.

EXCEPTION: Students working for certification in special education or in remedial reading or in a library science.

(10) Modification of basic program requirements must be approved through petition to the Fifth Year Committee.

There are two basic program tracks in the Fifth Year Program:

1. The non-certification track:

This track is open to any certificated elementary or secondary school teacher who wishes to up-grade and up-date his professional qualifications but does not wish to seek an advanced graduate degree. Programs are planned to meet specific needs of the individual teacher in consultation with an assigned faculty adviser. Such programs can be designed for any teacher in any of the departments of the college which presently have undergraduate programs leading to certification. Specific questions by prospective Fifth Year students should be addressed to the Director of the Fifth Year Program, or to the chairmen of the following departments:

Anthropology, Art, Biology, Business, Chemistry, Distributive Education, Economics, Education, English, Foreign Language, Geography, Health, History, Industrial Arts, Library Science, Mass Communications, Mathematics, Music, Physical Education, Physics, Political Science, Psychology, Sociology, Speech, Speech-Theatre, Speech Pathology and Audiology.

2. The special certificate track:

Briefly this track is open to the certified teacher who wishes to qualify for an additional certificate, e.g. a teacher seeking state certification in remedial reading. These certification programs are described specifically on the following pages.

### CERTIFICATION IN SPECIAL FIELDS

Six programs leading to certification in special areas of teaching are offered within the Fifth Year Program at Moorhead State College:

Instructional Communication (Audiovisual Education)	School Librarianship
Media Generalist	Special Education (Teaching of the Mentally Retarded)
Remedial Reading	Special Learning Disabilities

Students who meet the qualifications will be recommended for certification in the State of Minnesota in the appropriate field.

Frequently students combine certification work with a Master of Science in Education degree. In any case, students in these programs must meet the requirements for admission to graduate study.

A student seeking certification in any of these six areas should consult an appropriate adviser before planning his program.

## AUDIOVISUAL COMMUNICATIONS

### Audiovisual Education Director or Coordinator's Certificate

A *Director of Audiovisual Education* is a teacher in charge of the Audiovisual Program in the entire school system. To qualify for a Director's certificate in the State of Minnesota a person must meet the following requirements:

1. Have a valid teaching certificate based on a four-year degree.
2. Have earned credit in each of the following: Educational Administration, Elementary School Curriculum, High School Curriculum, and Supervision and Improvement of Instruction.
3. Have earned at least 10 semester hours in audiovisual education courses.
4. Have at least 2 years of successful teaching experience.

A *Coordinator of Audiovisual Education* is a teacher in charge of the Audiovisual program in any single building of a school system or a school system having only one attendance unit. To qualify for a Coordinator's Certificate in the State of Minnesota a person must meet the following requirements:

1. Have a valid teaching certificate.
2. Have earned credits in at least two of the areas of Education Administration, Elementary School Curriculum, High School Curriculum, and Supervision and Improvement of Instruction.
3. Have at least one course in audiovisual methods and one course in audiovisual administration.

## REMEDIAL READING

### Elementary Remedial Reading Teachers

Certification requirements as an elementary remedial reading teacher include:

1. An elementary school teacher's certificate, based on a bachelor's degree.
2. Two years of successful elementary teaching experience.
3. The following courses:
  - a. Ed. 445(g), Problems in Teaching Reading
  - b. Ed. 545, Diagnosis and Correction of Reading Difficulties
  - c. Ed. 574, Appraisal Techniques
  - d. Language Arts 446(g), Reading Clinic: Correction
  - e. Ed. 546, Reading Clinic: Diagnosis

### Secondary Remedial Reading Teachers

1. An elementary or secondary school teacher's certificate, based on a bachelor's degree.
2. Two years of successful elementary or secondary teaching experience.
3. The following courses:
  - a. Ed. 445(g), Problems in Teaching Reading
  - b. Language Arts 448(g), Teaching Reading in the Secondary School
  - c. Ed. 545, Diagnosis and Correction of Reading Difficulties
  - d. Ed. 574, Appraisal Techniques
  - e. Language Arts 446(g), Reading Clinic: Correction
  - f. Ed. 546, Reading Clinic: Diagnosis

**Secondary Development Reading Teachers**

1. An elementary or secondary (grades 7–9) school teacher's certificate based on a bachelor's degree.
2. Two years of successful elementary or secondary teaching experience.
3. The following courses:
  - a. Ed. 445(g), Problems in Teaching Reading
  - b. Language Arts 448(g), Teaching Reading in the Secondary School
  - c. Ed. 545, Diagnosis and Correction of Reading Difficulties
  - d. Eng. 392, Adolescent Literature

**Reading Consultants and Supervisors**

1. An elementary or secondary school teacher's certificate.
2. A master's degree.
3. Three years of teaching experience including one year as a reading teacher.
4. The following courses:
  - a. Ed. 445(g), Problems in Teaching Reading
  - b. Ed. 448(g), Teaching Reading in the Secondary School
  - c. Ed. 574, Appraisal Techniques
  - d. Ed. 545, Diagnosis and Correction of Reading Difficulties
  - e. Ed. 546, Reading Clinic: Diagnosis
  - f. Ed. 446(g), Reading Clinic: Correction
  - g. SpEd. 420(g), Education of the Handicapped Child
  - h. Ed. 592, Administration and Supervision of Remedial Reading

Not less than three courses to be chosen from the following:

SpEd. 461(g), Education of Children with Special Learning Disabilities  
 Math. 100, Introduction to Modern Mathematics  
 Psych. 217, Psychology of Personality  
 Ed. 411(g), Introduction to Guidance  
 Ed. 416(g), Mental Retardation  
 Ed. 341, Children's Literature  
 Ed. 498(g), Education of the Culturally Different  
 Eng. 392(g), Adolescent Literature

**School Librarianship**

Students who wish to qualify for certification as school librarians in the State of Minnesota must meet the following requirements:

1. Have a valid teaching certificate based on a four-year degree.
2. Complete 24 quarter hours in library science, consisting of the following courses:
  - a. LibS 320 Selection of Library Materials (3)
  - b. LibS 330 Cataloging and Classification (3)
  - c. LibS 340 Basic Reference Materials and Services (3)
  - d. LibS 420 Administration of the School Media Center (4)
  - e. LibS 430 Materials for the Elementary School (4)
  - f. LibS 440 Materials for the Secondary School (4)
  - g. LibS 450 Library Services in Elementary and Secondary Schools (3)

See Undergraduate Catalogue for other available courses and for information regarding Library Science Program.

The library certification program requires no graduate courses. However, students

who undertake this plan on the fifth year program should consult with advisers in the Library Science Department in regard to selection of appropriate elective courses.

**SPECIAL EDUCATION**

Students who wish to qualify for certification to teach special classes for the mentally retarded child may apply for admission to the program through the Coordinator of Special Education. Regular certification requires the completion of a minor of 24 credit hours in Special Education, of which at least 15 must be earned at Moorhead State College:

**Course Requirements**

SpEd 416(g), Mental Retardation (3)  
 SpEd 420(g), Education of the Handicapped (3)  
 SpEd 440(g), Methods in Teaching the Mentally Retarded (3)  
 SpEd 450(g), Student Teaching of Mentally Retarded (5-8)  
 SpEd 435(g), Seminar Mental Retardation (3)

**Elective Courses (7-10 hours)**

Ed. 411(g), Introduction to Guidance (3)  
 Ed. 574, Appraisal Techniques (3)  
 Ed. 598, Special Research Problems in Education (1-3)  
 SPAA 468(g), Speech and Hearing Problems in the Classroom (3)  
 Ed. 445(g), Problems in the Teaching of Reading (3)  
 Ed. 446(g), Reading Clinic (2)  
 Ed. 447(g), Corrective Reading and Phonics Workshop (2)  
 Psych 460(g), Abnormal Psychology (4)  
 SpEd 417(g), Orientation to the Physically Handicapped (3)  
 SpEd 430(g), Industrial Arts for Special Education Teachers (3)  
 SpEd 436(g), Problems in Special Education (1-3)  
 SpEd 437(g), Workshop in Special Education (4)  
 SpEd 460(g), Education of the Emotionally Disturbed Child (3)  
 SpEd 461(g), Education of Children with Specific Learning Disabilities (3)  
 SpEd 462(g), Seminar in Specific Learning Disabilities (3)  
 SpEd 463(g), Educational Measurement of SLD Child in Classroom (3)

Applicants must have graduated from an accredited four-year teacher training institution and must hold a certificate to teach in regular elementary or secondary school classes. Candidates for certification must complete 5–8 quarter credit hours of student teaching. Special Education 416 and 440 are prerequisites for student teaching.

An elementary or secondary teacher with two years of successful teaching experience may be provisionally certificated to teach special education classes by taking Special Education 420, 416, and 440. Six of these credit hours must be taken at Moorhead State College. Provisional certification is valid for two years.

**SPECIAL LEARNING DISABILITIES**

Students who wish to qualify for certification in Special Learning and Behavior Problems (Learning Disabled) should contact the director of the special learning disabilities training program before applying for admission to the fifth year



program. Certification requires a valid teacher's certificate and the completion of 32 credit hours including the following courses or their equivalents:

- SpEd 460(g), Education of the Emotionally Disturbed Child (3)
- SpEd 461(g), Education of Children with Specific Learning Disabilities (3)
- SpEd 463(g), Educational Measurement of the SLD Child (3)
- SpEd 465(g), Reading Difficulties of Children with Special Learning Disabilities (2)
- SpEd 466(g), Clinical Reading Experience with Special Learning Disabled Children (2)
- SpEd 467(g), Theories of Personality (4)
- Psy. 476(g), Theories of Personality (4)
- SPAA 468(g), Speech and Hearing Problems in the Classroom (3)

Applicants will be expected to have taken SpEd 420(g) Education of the Handicapped and an introductory course in reading as prerequisites. Candidates for certification will demonstrate specific competencies in the area. This would ordinarily be accomplished while taking the practicum course.

## Course Offerings

**STARRED COURSES:** Plan B papers may be prepared in conjunction with courses offering graduate credit identified by an asterisk(\*). Such papers must represent the quality but not the range of the master's thesis and the student must receive *prior approval* of both his adviser and the instructor of the course.

### DEPARTMENT OF ART

P. Richard Szeitz, *Chairman*, Dale Amundson, Roy Boe, John Holland, Lyle Laske, Phillip Mousseau, Timothy Ray, Marcel Stratton, John Youngquist.

**Master of Science in Education:** The degree may be earned with a major in Art. Requirements are those cited on pages 15-19 with the following specific conditions:

Admission applications, to be completed at least three months prior to the intended beginning of graduate studies, should include a portfolio of original work. Deficiencies in credits or quality of work will be removed by appropriate completion of undergraduate work.

A qualifying examination, administered by the department, must be passed before a student may be admitted to candidacy. The examination will cover historical works, major masters and theories of major movements in art history, visual arts, and basic theories and problems of contemporary art education.

The candidate working in History or Theory should follow Plan A. The candidate with emphasis in Studio is advised to follow Plan B. One starred paper must be in connection with Art 580 or 581. In lieu of the other two papers the candidate must prepare and hold an exhibit of his art work as partial fulfillment of requirements for the degree. The exhibit and starred paper are to be defended before the Examinatory Committee at an Oral Examination and following successful completion of The Written Examination in Professional Education.

The program can be completed during one academic year and two summer sessions on the following schedule:

Fall quarter: Ed 500 (3), Art History (3), Art Concentration (3), Art Elective (3).

Winter quarter: Ed 501 (3), Art History (3), Art Concentration (3), Art 580 (3).

Spring quarter: Ed elective (3), Art History (3), Art Concentration (3), Art elective (3).

Summer Session: Art Concentration (3), Art elective (6).

### ART COURSES

*Art 400(G) Advanced Drawing (3)*

Investigation with broad and fine drawing media into creative expression. Using macroscopic and microscopic data from landscape, biology, figure, and the mechanical world, emphasis is on personal creativity and experimental approaches. Prerequisite: Art 204 and Art 116 or equivalent. May be repeated for credit.

*Art 426-427-428(G) Graphic Design IV-V-VI (3 each)*

Exploration of two and three dimensional problems in graphic communications. Special emphasis is placed on visual problem solving, craft facility, and overall aesthetic vitality. Prerequisite: Art 328. Must be taken in sequence.

*Art 430-431-432(G) Modern Art I-II-III (3 each)*

Painting, sculpture and related arts in Europe from the latter part of the eighteenth century to the present day. 430(G): Neo-classicism to the emergence of Impressionism. 431(G): Impressionism to the First World War—"isms" and movements through Expressionism. 432(G): Art in Europe after the Great War. Abstractionist, Fantastic and experimental trends. Prerequisite: Junior standing or consent of instructor.

*Art 434-435-436(G) Art in the United States I-II-III (3 each)*

A survey of architecture, painting and sculpture in America from the colonial period to the present day. 434(G): Colonial beginnings to 1850. 435(G): Mid-nineteenth century to World War I. 436(G): The twentieth century. Prerequisite: Junior standing or consent of instructor.

*Art 444(G) Special Studies in Elementary School Art (2)*

A practical delineation of creative art activities, materials, and guidance applicable to the secondary curriculum. Prerequisite: Art 340 or consent of the instructor.

*Art 445(G) Special Studies in Secondary Art (2)*

A practical delineation of creative art activities, materials, and guidance applicable to the secondary curriculum. Prerequisite: Art 440 or consent of the instructor.

*Art 455-456-457(G) Renaissance and Baroque Art I-II-III (3 each)*

A study of European painting, architecture and sculpture in the period 1300–1700. 455(G): Early Renaissance Art. The emergence of modern ideas and methods studied in the works of the major painters, sculptors and architects of fourteenth and fifteenth century Italy. 456(G): High Renaissance Art. The Renaissance in its later phases with particular emphasis on the works of Leonardo da Vinci, Michelangelo, Raphael and the Venetian masters. Mannerism. 457(G): Baroque Art. The artistic achievements of the seventeenth century in the Romance countries and the Netherlands. Emphasis on Caravaggio, Bernini, and Borromini in Italy, Poussin in France, Velasquez in Spain, Rubens, Rembrandt and Vermeer in the Low Countries. Prerequisite: Junior standing or consent of the instructor.

*Art 465(G) The Art of Norway (3)*

A survey of Norwegian art from the Viking Period to the present day. Key works and monuments presented in their cultural context. Prerequisite: Junior standing or consent of the instructor.

*Art 467(G) Modern Architecture (3)*

Architecture of the late nineteenth and twentieth centuries. The pioneers of modern design; the materials, techniques, and forms of the new architectural conceptions. Prerequisite: Junior standing or consent of the instructor.

*Art 532 Studies in Art History (3)*

Individual directed study in particular problems in the history of art. Selected subject treated on the basis of its iconographical and iconological background. Course may be repeated for 3 additional credits. Prerequisite: Art 335 or consent of the instructor.

*Art 540 Current Practices in Art Education (3)*

Development of a philosophical point of view in relation to art education in contemporary society. Prerequisite: Consent of the instructor.

*Art 542 Studies in Art Education (3)*

Individual directed study in selected phase of Art Education agreed upon by the instructor and student. Course may be repeated for 3 additional hours.

*Art 552 Studies in Painting (3)*

Individual directed studies in particular problems in painting agreed upon by the instructor and student. Painting may involve oil, watercolor, and other media. Prerequisite: Art 423 or consent of the instructor.

*Art 554 Studies in Sculpture (3)*

Individual directed studies in sculpture agreed upon by the instructor and student. Prerequisite: Art 420 or consent of the instructor.

*Art 560 Studies in Ceramics (3)*

Individual directed studies in ceramics agreed upon by the instructor and student. Prerequisite: Art 416 or consent of the instructor.

*Art 574 Studies in Graphics (3)*

Advanced individual studies in printmaking. Specialization in various procedures. Prerequisite: 3 consecutive course sequence in any of the graphic media.

*Art 580 Seminar in Art Education (3)*

The identification of problems in art education at various curriculum levels; examination of related research with possible implications for practice. Prerequisite: Art 340 and Art 440 or consent of instructor.

*Art 581 Graduate Seminar in Art (3)*

Detailed investigation of contemporary and traditional artistic theories and creative practices in the visual arts. Within an art historical context the directed writing of a starred paper related to a thesis project. Recommended for concurrent registration with thesis in Art 599.

*Art 599 Thesis (1–6 hours)*

Registration only after consultation with major adviser.

**DEPARTMENT OF BIOLOGY**

Robert Tolbert, *Chairman*, Monroe Bartel, Thomas Collins, Yvonne Condell, Oscar Johnson, Genevieve King, Benjamin McCashland, Jesse Parsons, Richard Pemble, Mary Shimabukuro, Kenneth Skjegstad, Robert Weibust.

**Master of Science in Education:** The degree may be earned with a major in Biology and according to the general requirements given on pages 15–19.

**Master of Science:** The Master of Science in Biology is a parallel program to the Master of Science in Education with a major in Biology. A prospective candidate for the M.S. in biology should have completed an undergraduate major or minor in biology. Deficiencies in the student's undergraduate background, as ascertained by the graduate faculty in biology, may be removed by completing appropriate courses for which no graduate credit will be allowed.

The student should consult with the graduate faculty in biology prior to or at the time of filing application for admission to graduate study.

**Requirements**

1. A minimum of 45 graduate credits in biology and related areas, as approved by the graduate faculty in biology. This must include at least 15 credits in courses numbered in the 500 series.
2. A properly balanced program approved by the department graduate committee.
3. Participation in seminar.
4. A thesis based upon original research, for which a maximum of 9 graduate credits may be allowed.
5. Successful completion of a written comprehensive examination and a final oral examination.

The maximum time allowed to complete the requirements for the M.S. in biology is 5 years from the date of admission to graduate study.

**BIOLOGY COURSES***Biol 301(G) Vertebrate Embryology (4)*

Embryogenesis, from the formation of the zygote through development of the organ systems of vertebrate animals. With lab. Prerequisite: Biol 113.

*Biol 302(G) Histology (4)*

Microscopic characteristics of animal tissues and description of histogenesis. With lab. Prerequisite: Biol 113.

*Biol 343(G) Microtechnique (4)*

Basic procedures in tissue preparations for histological study and preservation, including photomicrography, micrometry, plastic embedding, etc. With lab. Prerequisite: Biol 113 (Chem 113 desirable) or consent of instructor.

*Biol 350(G) Microbiology (4)*

Morphology, nutrition, genetics, and physiology of bacteria and other microorganisms, as well as introduction to medical applications. With lab. Prerequisite or corequisite: Chem 113.

*Biol 355(G) Wildlife Ecology (4)*

The application of ecological principles to the management of wildlife populations. The dynamic nature of the population is stressed, and important field techniques for measuring population phenomena are discussed and demonstrated. With lab and fieldwork. Prerequisite: Biol 345.

*Biol 356(G) Plant Ecology (4)*

The relation of plants to their physical environment, their influences on each other, and their relationship to other organisms. Laboratory and field investigation will emphasize local species and habitats. Prerequisite: Biol 345; Biol 325 recommended.

*Biol 401(G) Endocrinology (4)*

Influences of hormones on the whole animal, specific tissues, and biochemical phenomena. With lab. Prerequisites: Biol 306 and Chem 113, Chem 239 or 361 recommended.

*Biol 410(G) Parasitology (4)*

Principles and importance of parasitism as exemplified by selected parasitic protozoa, helminths, and arthropods. With lab. Prerequisite: Biol 113.

*Biol 414(G) Protozoology (4)*

Protozoa, including the nonparasitic forms, their taxonomy, reproduction, physiology, growth and significance to man and animal. With lab. Prerequisite: Biol 113.

*Biol 417(G) Ornithology (4)*

The basic features of avian anatomy, physiology, and behavior combined with field and laboratory observations of regional birds. Prerequisite: Biol 113.

*Biol 423(G) Plant Anatomy (4)*

Structure of the seed plants with emphasis on the development of vegetative and reproductive organs of the angiosperms. With lab. Prerequisite: Biol 123.

*Biol 424(G) Plant Physiology I (4)*

A survey of plant physiology with emphasis on water relations, mineral nutrition, translocation, respiration, photosynthesis, and plant growth. With lab. Prerequisite: Biol 123 or Chem 113 or consent of instructor.

*Biol 425(G) Plant Physiology II (4)*

Selected topics in plant physiology. With lab. Prerequisite: Biol 424.

*Biol 433(G) Plant Morphology: The Lower Forms (4)*

The structure, development, life cycles, and relationships of the algae, fungi, and bryophytes. With lab. Prerequisite: Biol 123 or consent of instructor.

*Biol 434(G) Plant Morphology: The Vascular Plants (4)*

The structure, development, evolution, life cycles, and relationships of the vascular plants. With lab. Prerequisite: Biol 123 or consent of instructor.

*Biol 441(G) Principles of Human Genetics (3)*

Lecture-discussion course in genetics as applied to man with emphasis on clinical genetics. Prerequisite: Biol 341 or consent of instructor.

*Biol 445(G) Advanced Ecology (4)*

Selected topics in population and environmental biology. With lab and field work. Prerequisite: Biol 345.

*Biol 449(G) Cytology (4)*

The structure of cells and their components in relation to cell function, reproduction, cytogenetics, and cytochemistry. With lab. Prerequisite: Biol 341 or consent of instructor.

*Biol 450(G) Cell Physiology I (4)*

The relationship between cell structure and function with emphasis on cellular metabolism and its regulation. With lab. Prerequisites: Biol 113 or 123 and Chem 238 or consent of instructor.

*Biol 451(G) Cell Physiology II (4)*

Selected topics in cell physiology. With lab. Prerequisite: Biol 450.

*Biol 455(G) Recent Developments in the Biological Sciences (2)*

A series of lectures and discussions based upon recent research, designed to acquaint students with advances in modern biology. Prerequisite: 30 quarter hours of biology or consent of instructor. May be repeated for a total of 6 credits.

*Biol 470(G) Immunology (4)*

Antigens and antibodies, their properties and function in disease, vaccines, allergies, and diagnostic procedures. With lab. Prerequisites: Biol 350 and Chem 239 or 361, or consent of instructor.

*Biol 481-482-483(G) Biology Seminar I-II-III (1 each)*

Presentation of reports on recent developments in biological science after a critical evaluation of the literature. Oral reports by students and staff.

*Biol 501 Comparative Embryology (4)*

A comparative study of gametes, cleavage and gastrulation, and organo-genesis of representative vertebrates with occasional comparisons to invertebrates. With lab. Prerequisite: Biol 301.

*Biol 502 Comparative Histology (4)*

A survey of tissue and organ microstructure in representatives from varied animal phyla. With lab. Prerequisite: Biol 302.

*Biol 510 Advanced Parasitology (4)*

Parasitic invertebrates; systematics, culture, life cycles, and immunity. With lab. Prerequisite: Biol 410.

*Biol 523 Advanced Plant Anatomy (4)*

The development, growth, and differentiation of vascular plants with the major emphasis on the meristems and their derivatives. With lab. Prerequisite: Biol 423.

*Biol 525 Advanced Plant Taxonomy (4)*

Collection, identification, and classification of selected groups of higher plants. With lab and field work. Prerequisite: Biol 325 or consent of instructor.

*Biol 526 Experimental Plant Physiology (4)*

An advanced laboratory emphasizing the application of physiological and biochemical methods to the study of physiological processes. Prerequisites: Biol 424 and Chem 239 or 361, or consent of instructor.

*Biol 545 Limnology (4)*

An analysis of the dynamics of various physical, chemical, and biotic factors that interrelate in lakes, ponds, and streams. With lab and field work. Prerequisites: 30 quarter hours of college biology and 1 year of college chemistry.

*Biol 548 Advanced Topics in Evolution (3)*

With emphasis on the dynamics of selection and speciation. Prerequisites: Biol 345 and 341 and consent of instructor.

*Biol 580 Graduate Seminar (1)*

Presentation of papers based upon topics developed from graduate courses, laboratory research, and/or literature research. Prerequisite: Candidate status for M.S. in biology degree.

*Biol 584 Curriculum and Methods for Secondary Schools (3)*

For students enrolled in the Master of Science teaching degree program, majoring in biology. Consisting of curriculum development and methods and materials typical to high school biology and those unique to the BSCS curriculum versions.

*Biol 599 Thesis (1-9 hours)*

Registration only after consultation with major adviser.

**DIVISION OF BUSINESS**

Howard Lysne, *Director*, Division of Business and *Chairman*, Department of Business Education.

Department of Accounting: Dorian Olson, *Chairman*, Jay Myster, Donald Wirries.

Department of Business Administration: Howard Lysne, *Acting Chairman*, Evelyn Larson, Chester Norby.

Business Education: Howard Lysne, Evelyn Grovum, Donald Kohns.

**Master of Science in Education:** The degree may be earned, with a major designated as Business Education, according to the general requirements given on pages 15–19. The program may include courses from the several areas within the division.

**ACCOUNTING COURSES**

*Acct 330-331-332(G) Intermediate Accounting I-II-III (3 each)*

330: Nature and content of Balance Sheet, Income Statement, and Retained Earnings Statement. Reviewing of accounting process. Analysis and methods of valuation and statement presentation of the working capital accounts.

331: Analysis and methods of valuation and statement presentation of non-current accounts. 332: Analysis and methods of valuation and statement presentation of corporate capital. Preparation of statements from incomplete records, errors, and their correction, financial statement analysis, and statement of application of funds. Prerequisite: Acct 231. Must be taken in sequence.

*Acct 355(G) Government Accounting (3)*

Basic principles underlying governmental and institutional accounting. Prerequisite: Acct 231.

*Acct 430-431-432(G) Advanced Accounting I-II-III (3 each)*

430: Partnership, joint ventures, installment and consignment sales, branch accounting. 431: Mergers and consolidations of corporations. 432: Receiverships, liquidations, estates and trusts, actuarial science. Prerequisite: Acct 332 or consent of instructor.

*Acct 450-451-452(G) Federal and State Tax I-II-III (3 each)*

Federal and state income tax laws. 450: as applied to individuals. 451: as applied to partnerships and corporations. 452: other special federal and state taxes applied to individuals, partnerships and corporations. Prerequisite: Acct 332 or consent of instructor.

*Acct 460, 461(G) Auditing I-II (3 each)*

460: Orientation to the study of auditing and audit working papers. 461: Audit case study and report writing. Prerequisite: Acct 332. Must be taken in sequence.

*Acct 470(G) Accounting Systems (4)*

Developing, organizing and using accounting data; analyzing and improving accounting systems; and automated data processing systems. Prerequisite: Acct 332 and 352.

*Acct 480(G) CPA Review (4)*

A review of accounting theory, accounting practice, auditing, business law and taxation to assist the C.P.A. candidate in preparing for the Uniform C.P.A. examination. Prerequisite: Acct 460.

*Acct 530 Managerial Accounting (4)*

Accounting reports, interpretation of accounting reports, using accounting information for budgetary planning, using accounting information for control of operation and decision making.

*Acct 599 Thesis (1-6 hours)*

Registration only after consultation with major adviser.

**BUSINESS EDUCATION COURSES**

*BEd 599 Thesis (1-6 hours)*

Registration only after consultation with major adviser.

**DISTRIBUTIVE EDUCATION COURSES**

*DEd 403(G) Teaching Distributive Education Subjects (3)*

This course is concerned with teaching merchandise information and merchandising orientation to retailing, retail arithmetic, salesmanship, store system and cash register, show card writing, advertising display, occupational relations, the technical learnings, specific job learnings-individual instruction, and introductory units, and also with Teacher-Student planning.

*DEd 420(G) Coordination Techniques (3)*

Counseling students about entering the cooperative program, placing student trainees, improving the trainee's learning at his training station.

*DEd 430(G) Cooperative Education Programs (3)*

The history of education for work, work experience and education, objectives of cooperative programs, administrative organization of cooperative programs, cooperative program curricula, equipment and layout, co-curricular activities and public relations.

*DEd 440(G) Organization and Administration of Distributive Education (3)*

Distribution and distributive occupations, meaning of distributive education, administration of distributive education programs under state and federal legislation, planning and organizing local programs, the total program of education for distribution, secondary school distributive education, post secondary distributive education, and adult distributive education.

*DEd 498(G) Problems in Business and Distributive Education (1-4)*

A study of current issues, trends, and problems in Business and Distributive Education. Specific emphasis will be placed on new and innovative curriculum developments, career education guidance, and emerging instructional content. Students may register for this course more than once since content will vary. Prerequisite: consent of instructor.

**FINANCE COURSES***Finc 341(G) Corporate Finance II (4)*

Organization of corporations, and the legal and financial requirements involved. Prerequisite: Accounting 352 or Finance 340.

*Finc 342(G) Decision Making in Corporate Financial Management (3)*

The course deals with both long and short term aspects of finance with emphasis placed upon analysis and decision making. Prerequisite: Finc 341.

*Finc 358(G) Principles of Investments (4)*

The different types of investments, and the policies and practices of the different types of investors.

*Finc 430(G) Problems in Credit and Collection (4)*

This course follows the recommendations of the National Institute of Credit. Prerequisite: Finc 330.

*Finc 457(G) Security Analysis (4)*

A detailed examination of the various classes of securities available for investors, and the development of techniques used to reach conclusions as to the safety and attractiveness of a given security at the current market price. Prerequisite: Finc 358.

*Finc 458(G) Portfolio Management (3)*

The art of combining a portfolio of securities, those investments which appear most likely to meet a proper balance of the various changing and frequently conflicting requirements of the investor. Prerequisite: Finc 457.

*Finc 498(G) Problems in Finance (1 to 4)*

An individual inquiry into some aspect of finance not dealt with in the regular curriculum.

**MANAGEMENT SCIENCE COURSES***MgmS 405(G) Small Business Management (4)*

Analysis of management problems confronting owners in the operation of a small retail, wholesale, or manufacturing enterprise. Prerequisite: MgmS 360.

*MgmS 420(G) Analysis of Formal Organizations (4)*

Models of analysis of formal organizations. Organizational growth and development. The effective organization. The role of the individual in organizations is emphasized. Primary model of analysis is taken from psychoanalytic psychology. The course will be presented through lectures, case studies, readings and discussions. Prerequisite: MgmS 360.

*MgmS 421(G) Executive Decision Making (4)*

The function of the executive and organizational goals. Models of decision making. The economic theory approach, the quantitative approach, and the behavioral approach. Issues of Leadership, Communication and Planning are explored. Special emphasis is given to problems of implementing decision. Prerequisite: MgmS 360 or equivalent.

*MgmS 430(G) Managerial Economics (4)*

Case studies in management problem solving, applying tools of economic analysis and business math. Prerequisites: MgmS 360, Econ 112.

*MgmS 440(G) Personnel Management (4)*

Human Relations in industry; mechanisms and practices of manpower management policy determination; development and use of personnel records and reports. Prerequisite: MgmS 360.

*MgmS 450(G) Production and Industrial Management (4)*

Industrial management is occupied primarily with the problems faced by the industrial manager and techniques he uses in solving them. Prerequisite: MgmS 360.

*MgmS 460(G) Case Studies in Business Management (4)*

Problem solving in business situations. Analytic framework for solving complex problems is presented. Prerequisite: MgmS 360.

*MgmS 490(G) Research Methodology in Management (3)*

Management Science: concepts, methods, and approaches. The research processes; research strategies; experimental vs. correlational studies. Research settings: exploratory, field, laboratory, and simulation settings; measurements and statistical inference. Prerequisite: consent of instructor.

*MgmS 498(G) Problems in Business Administration (1 to 4)*

An inquiry into some aspect of business administration and management which is not dealt with in the regular curriculum. Students may register for this course more than once since content will vary. Prerequisite: consent of instructor.

*MgmS 550 Business and Public Policy (4)*

Social and political implication of business decisions and the impact of society and government on the business firm.

*MgmS 594 Seminar in Business Management (4)*

A capstone course in business management requiring the student to demonstrate analytical approaches to business problems.

*MgmS 599 Thesis (1-6 hours)*

Registration only after consultation with major adviser.

**MARKETING COURSES***Mktg 410(G) Marketing Logistics (4)*

An examination of policies and strategy in the physical distribution of raw materials, parts, and finished products. Prerequisite: Mktg 310.

*Mktg 420(G) Marketing Channels and Institutions (4)*

Study of wholesaling and retailing and their interrelationships. Prerequisite: Mktg 310.



*Mktg 421(G) Retail Management (3)*

Principles and concepts underlying the managerial functions of the retailer with particular emphasis on the decision-making process. Prerequisites: Mktg 310, 420(G).

*Mktg 430(G) Sales Management (3)*

The role of the sales manager in modern marketing with emphasis on the line and staff responsibilities. Organization and control of the field sales force with emphasis on selection, supervision, compensation, and motivational responsibilities. Prerequisites: Mktg 310, 323.

*Mktg 441(G) Social Issues in Marketing (3)*

An analytical study of the role of marketing within the American economic system and society. Prerequisite: Mktg 310 or consent of the instructor.

**DEPARTMENT OF CHEMISTRY**

Nicholas Kowanko, *Chairman*, Dewey Brummond, Dennis Krzyzaniak, Dennis Mathiason, B. Spencer Meeks, Janet Paulson, James Shaw, Judith Strong, William Treumann.

**Master of Science in Education:** The degree may be earned with a major in Chemistry. A diagnostic examination is required prior to completion of the first term of enrollment. The general requirements for Plan A (page 15) apply except that 15 hours of course work must be completed in a major area in chemistry. The program must be completed within five years.

**Master of Science:** Applicants must have completed an undergraduate major in Chemistry. A diagnostic examination is required prior to completion of the first term of enrollment. The program must be completed within five years of first admission.

Within the minimum 45 hours required for the degree must be at least 15 hours in courses in the 500 series. The program must provide a balanced study within chemistry as well as at least 15 hours in an area of major concentration (analytical chemistry, biochemistry, inorganic, organic or physical chemistry). Participation in a graduate seminar is required. A thesis must be presented representing original research contributing to the knowledge of chemistry; a maximum of 15 hours in Chemistry 598 may be granted, for research leading toward the thesis.

A Thesis Committee, consisting of four Graduate Faculty members from the Department of Chemistry and a Graduate Faculty member at large, shall be appointed early following first enrollment. That Committee is responsible for planning the program, recommendation to Candidacy, and the conduct of the Written Comprehensive and Final Examination.

**CHEMISTRY COURSES***Chem 361-362(G) Introduction to Biochemistry I-II (4 each)*

A brief survey of the chemistry of carbohydrates, lipids, proteins, nucleic acids, vitamins, enzymes, coenzymes, and intermediary metabolism. Not open for graduate credit to chemistry majors. Prerequisites: Biol 111 and Chem 238 or 232.

*Chem 405(G) Chemical Literature (1)*

Introduction to chemical literature in journals, handbooks, abstracts, monographs, and patents; instruction in the use of these sources. Prerequisite: Senior standing or consent of instructor.

*Chem 424(G) Analysis of Chemical Pollutants (3)*

The detection, surveillance, and analysis of biocides and other chemical species in air, water, and soil. Prerequisites: Chem 113 and Chem 232 or 238.

*Chem 427(G) Topics in Analytical Chemistry (1-3)*

Selected topics in analytical chemistry such as chromatographic, electrochemical, kinetic, optical radiochemical, and thermal methods of analysis and the associated instrumentation. Prerequisites: Chem 222 and consent of instructor. May be repeated when topic is changed.

*Chem 431(G) Organic Qualitative Analysis (3)*

The laboratory identification of organic compounds and separation of mixtures, with emphasis on the relationship of structure to physical and chemical properties. (1 lecture, 2 labs weekly) Prerequisite: Chem 233.

*Chem 432(G) Advanced Organic Chemistry (3)*

Consideration of organic reactions and mechanisms. Prerequisite: Chem 233 or 239.

*Chem 436(G) High Polymers (3)*

Polymerization reaction mechanisms and techniques; and the structure and properties of natural and synthetic high polymers. Prerequisite: Chem 233 or 239 or consent of instructor.

*Chem 437(G) Topics in Organic Chemistry (1-3)*

Special topics in organic chemistry. Advanced courses dealing with subjects not ordinarily covered in depth by regularly scheduled courses, such as natural products, organic photochemistry, stereochemistry, chemistry of special families of organic compounds, etc. Prerequisite: Chem 233 or 239 or consent of instructor.

*Chem 438(G) Chemical Pollutants (4)*

A study of the nature, distribution, and chemical breakdown of pollutants in the environment. Agricultural chemicals and pesticides, household chemicals and wastes, industrial wastes, combustion products, food additives, etc., will be considered. Prerequisite: Chem 233 or 239 or consent of instructor.

*Chem 447(G) Topics in Physical Chemistry (1-3)*

Selected topics in physical chemistry such as mathematical methods, kinetics, statistical thermodynamics, quantum chemistry. Prerequisite: Chem 343 or consent of instructor. May be repeated when topic is changed.

*Chem 450(G) Inorganic Preparations (1-3)*

Preparation of selected inorganic compounds to illustrate laboratory techniques and theoretical principles. Prerequisites: Chem 342 and consent of instructor.

*Chem 457(G) Topics in Inorganic Chemistry (1-3)*

Selected topics in inorganic chemistry such as: coordination chemistry, bonding, group theory applications to structural chemistry, acid-base and non-aqueous solvent theory, organometallic chemistry, and chemistry of biochemical model systems. Prerequisite: Consent of instructor. May be repeated when topic is changed.

*Chem 461-462-463(G) General Biochemistry I-II-III (3 each)*

A survey of the chemistry of carbohydrates, lipids, proteins, nucleic acids, vitamins, enzymes, coenzymes and intermediary metabolism. Prerequisite: Chem 233 or Chem 239. Concurrent registration in Chem 464-465-466 is strongly recommended.

*Chem 464-465-466(G) General Biochemistry Laboratory I-II-III (1 each)*

Some representative experiments in the isolation, quantitation, and metabolism of naturally occurring substances. Prerequisite: Chem 461-462-463 or concurrent registration.

*Chem 467(G) Topics in Biochemistry (1-3)*

Selected topics in biochemistry dealing with metabolism or natural products. Prerequisite: Chem 463 or consent of instructor. May be repeated when topic is changed.

*Chem 480(G) Seminar (1)*

Prerequisite: Junior or senior standing or consent of instructor. May be repeated for a maximum of three credits.

*Chem 511 Chemical Bonding and Molecular Structure (3)*

Nature of covalent and ionic bonds. Theories of chemical bonding. Valence bond theory, crystal field theory, molecular orbital theory. Prerequisites: Chem 343, Chem 452, and consent of instructor.

*Chem 531-532 Organic Reaction Mechanisms and Stereochemistry I-II (3 each)*

Consideration of mechanisms of ionic and free radical reactions. Stereochemistry including stereospecific reactions, conformational analysis. Prerequisites: Chem 343 and consent of instructor.

*Chem 537 Topics in Organic Chemistry (3)*

Selected topics in organic chemistry such as heterocyclics, steroids, alkaloids, photochemistry, etc. Prerequisite: Consent of instructor. May be repeated when topic is changed.

*Chem 541-542 Chemical Thermodynamics I-II (3 each)*

Fundamental laws of thermodynamics and their application to chemical problems. Prerequisites: Chem 343 and consent of instructor.

*Chem 546 Chemical Kinetics (3)*

Consideration of theories of rates and mechanisms of chemical reactions. Prerequisites: Chem 343 and consent of instructor.

*Chem 547 Topics in Physical Chemistry (3)*

Selected topics in physical chemistry such as electrochemistry, colloids, phase rule, catalysis, spectroscopy, x-ray crystallography. Prerequisites: Chem 343 and consent of instructor. May be repeated when topic is changed.

*Chem 557 Topics in Inorganic Chemistry (3)*

Selected topics in inorganic chemistry such as coordination chemistry, acid-base theories, non-aqueous solvents, nuclear chemistry, stereo-chemistry. Prerequisite: Consent of instructor. May be repeated when topic is changed.

*Chem 561 Intermediary Metabolism (3)*

The major pathways of intermediary metabolism and factors which influence them. Prerequisite: Chem 463.

*Chem 562 Enzymes (3)*

Isolation, purification, and study of the kinetics of enzyme action: a study of the mechanisms of enzyme action and enzyme biosynthesis and control. Prerequisite: Chem 561.

*Chem 567 Topics in Biochemistry (1-3)*

Selected topics in biochemistry,, such as metabolic processes in plants and animals, natural products, etc. May be repeated when topic is changed. Prerequisite: Consent of instructor.

*Chem 598 Research (1-5)*

Original investigation in any area of chemistry. Registration only after consultation with the research adviser.

*Chem 599 Thesis (1-15 hours)*

Registration only after consultation with major adviser.

**DEPARTMENT OF ECONOMICS**

Eugene Philipps, *Chairman*, Allen Frankel, Daniel Knighton, Thomas Munzenrieder, John Trainor, Clarence Zuvekas.

**Master of Science in Education:** The degree may be earned with a major in Social Sciences, the program including courses in the social sciences area (Economics, History, Political Science, Sociology) with a concentration of coursework and thesis research in Economics. The general requirements for the degree are given on pages 15-19.

**ECONOMICS COURSES***Econ 301 (G) Contemporary Economic Problems (4)*

Application of economic analysis to the interpretation of contemporary economic problems. Prerequisite: Consent of instructor.

*Econ 410 (G) Advanced Micro-Economic Theory (4)*

A rigorous analysis of the theories of price, resource allocation, income



distribution, general equilibrium and welfare economics. Prerequisites: Econ. 250 and consent of instructor.

*Econ 411-412 (G) (Same as History 411-412) Economic History of the United States I-II (4 each)*

Analysis of economic forces and their effects upon American life. 411: From the colonial period to the eve of the industrial age. 412: The age of industry. Prerequisite: one year of college U.S. history or consent of the instructor. Must be taken in sequence.

*Econ 415 (G) Industrial Organization and Public Policy (4)*

Relations among market structure, market conduct, and economic performance. Purposes and effectiveness of antitrust laws and other legislation regulating business practices. Prerequisite: Econ. 315.

*Econ 416 (G) Labor Economics (4)*

Wage and employment theory, labor unions and other institutions associated with collective bargaining, and social legislation. Prerequisite: Econ. 112.

*Econ 420 (G) Comparative Economic Systems (4)*

The comparison of alternative solutions to fundamental economic problems as manifested in capitalism, socialism, communism, and fascism, and the modifications of these ideologies practiced in existing systems. Prerequisite: Econ. 112.

*Econ 421 (G) The Economy of The Soviet Union (4)*

The evolution and development of the Soviet economic system are studied. Alternative solutions to economic problems of socialism as reflected in the policies of other Eastern European Communist nations are also examined. Prerequisites: Econ. 112 and consent of instructor.

*Econ 422 (G) Economic Development of Latin America (4)*

An examination of problems of economic development in Latin America (population growth, industrialization, agrarian reform, international trade and finance, etc.) viewed against the background of economic, social, and political institutions peculiar to the region. Prerequisite: Econ. 112 or consent of the instructor.

*Econ 425 (G) International Trade Theory and Policy (4)*

An analysis of the theories of international and interregional trade, factor movements and commercial policies. Prerequisite: Econ. 250.

*Econ 426 (G) International Finance (4)*

An analysis of the forces determining balance of payments equilibrium, central banking policies, exchange rates, international investment, and the international monetary system. Prerequisite: Econ. 225 or 320.

*Econ 430 (G) Economic Development (4)*

An examination of the various theories explaining inequalities in levels and rates of economic development among nations and a policy-oriented survey of major development problems confronting today's less developed countries.

Stress is on the interrelationships among economic, political, social, cultural, and psychological factors. Prerequisite: Econ. 112 or consent of the instructor.

*Econ 440 (G) History of Economic Thought (4)*

A historical investigation of the development of economic ideas as found in the doctrines of individuals and different schools of thought. Prerequisites: Econ. 112 and consent of instructor.

*Econ 450 (G) Individual Study in Economics (1-4)*

An individual inquiry into an aspect of the economic problem not dealt with in the regular curriculum. Prerequisite: Econ. 112. Credit to be arranged. May be repeated for credit.

*Econ 460 (G) Advanced Macro-Economic Theory (4)*

The contemporary theories of money, capital, and interest are studied and their implications for economic stability and employment are examined. Prerequisites: Econ. 225, 320 and consent of instructor.

*Econ 470 (G) Econometrics (4)*

The application of mathematical and statistical procedures to the problems of definition and measurement in economic relationships. Prerequisites: Econ. 370 and consent of instructor.

*Econ 499 (G) Economics Seminar (3-4)*

An intensive investigation of some particular aspect of economics. The specific subject matter will depend upon the current research interests of the instructor. Prerequisite: Consent of instructor. May be repeated for credit.

*Econ 599 Thesis (1-6 hours)*

Registration only after consultation with major adviser.

#### DEPARTMENT OF EDUCATION

Gerhard Haukebo, *Chairman*, Thomas Amb, Beth Anderson, Betty Bergford, Leonard Bergquist, Werner Brand, Arlo Brown, Vincent DiPasquale, Monica DuCharme, Allen Erickson, Howard Freeberg, John Jenkins, Jane Johnston, Larry Jones, Bella Kranz, Ronald Litherland, Jack Neufeld, Orlow Nokken, Lee Nordrum, Marjorie Sanders, Thomas Sawyer, George Smith, Joseph Thorman, Martin Tonn, John Wasson.

**Master of Science in Education:** The degree, general requirements for which are given on pages 15-19, may be earned through several programs. Specific requirements for these major programs follow.

#### GUIDANCE AND COUNSELING

The Guidance and Counseling Program is an interdepartmental program involving the departments of Education and Psychology and the college counseling staff. The Dean of Education, Chairman of the Education Department, Chairman of the Psychology Department, Director of Counseling Services and Coordinator of Counselor Education form the Guidance and Counseling Admissions and Program Committee.

The new student should immediately contact the Coordinator of Counselor Education for a personal interview, assistance in initial course planning and information regarding any new requirements of the program. In exceptional cases, the teaching experience requirement may be waived by committee action.

After full admission to graduate study, a student wishing to apply for admission and candidacy in the program must:

1. Have successfully completed 15 hours of pertinent coursework described below with a grade of "B" or better.
2. Arrange with the Coordinator of Counselor Education to take any inventories or tests prescribed by the Admissions and Program Committee.
3. Provide the Admissions and Program Committee with at least three written recommendations concerning professional and personal qualifications.
4. Request the Coordinator of Counselor Education for a personal interview with the Admissions and Program Committee when all other qualifications have been met.

#### Course Requirements

*Group I—Professional Education (9 credits required)*

Ed. 500 (3), 501 (3), 502 (3) required.

*Group II—Guidance and Counseling Major (27 credits required)*

Ed. 411g (3), 525 (3), 526 (3), 574 (3), 579 (3) and 591 (6) required. Electives from Ed. 412g (3), 512 (3), 550 (3), 560 (3), Sp Ed 420g (3), 421g (3), 460g (3), 463g (3), 464g (3), Psych 503 (3), 504 (3), 581 (2-6), Sp Ed 450g (3), Sp Ed 461g (3), 463g (3), 464g (3), Ed. 461g (3).

*Group III—Related Area of Psychology (12 credits required)*

Psych 460g (4), 465g (4) 476g (4) required.

Students who do not have the equivalent of one year's undergraduate credit in general psychology will be required to take Psych 103-104-105, Introduction to Psychology, without graduate credit. Credit in these courses does not count toward the 48 graduate credits required to complete this program. Ed 411g must be satisfactorily completed as a prerequisite to all other Group II courses.

If a thesis is done instead of three starred papers, the 6 thesis credits will contribute toward a total minimum of 51 credits. Starred papers may be done in any Group II or Group III course in the program except Ed 591 provided the student's adviser and instructor consent, and provided all requirements for starred papers of the Graduate Studies Committee are met.

#### ELEMENTARY EDUCATION

Candidates for a Master of Science in Education degree in Elementary Education must have completed a satisfactory undergraduate program in elementary education.

#### Course Requirements

*Group I—Professional Education (minimum 9 hours)*

Ed 500 (3), 501 (3) required. Electives from Ed 495g (3), 502 (3), 504 (3), Phil 405g (4).

*Group II—Elementary School Teaching Major (minimum 24 hours)*

Ed 540 (3), 541 (3), 542 (3) required. Electives from AV Ed 356g (3), 445g (3), Ed 331g (3), 390g (3), 411g (3), 445g (3), 446g (3), 447g (3), 456g (3), 461g (3), 470g (3), 471g (3), 472g (3), 473g (3), 493g (3), 495g (3), 497g (3), 498g (3), 499g (3), 512 (3), 546 (2), 574 (3), 592 (3), 599 (6), Math 341g (3), Science 390g (3).

*Group III—(minimum 9 hours)*

All students are required to complete a minimum of nine quarter hours in fields other than professional education and the major area. Examples of related areas could include special education, library science, guidance and counseling or psychology.

#### ELEMENTARY SCHOOL ADMINISTRATION AND SUPERVISION

Candidates in this program must have completed a satisfactory undergraduate major in Elementary Education and have three years experience in elementary schools.

#### Course Requirements

*Group I—Professional Education (minimum 9 hours)*

Ed 500 (3), 501 (3) required. Electives from Ed 495g (3), 502 (3), 504 (3), Phil 405g (4).

*Group II—Elementary School Administration and Supervision Major (minimum 24 hours)*

Ed 520 (3), 521 (3), 522 (3), 542 (3) required. Electives from AV Ed 493g (3), Ed 411g (3), 456g (3), 471g (3), 493g (3), 495g (3), 540 (3), 541 (3), 550 (3), 574 (3), 590 (3), 598 (3), 599 (6).

*Group III—Related Areas (minimum 9 hours)*

All students are required to complete a minimum of nine graduate credits in fields other than professional education and the major area.

#### REMEDIAL READING

Candidates for the Master of Science in Education degree must have completed a satisfactory undergraduate teacher education program. Particular courses may be selected to augment preparation at the elementary or secondary level.

#### Course Requirements

*Group I—Professional Education (9 credits minimum)*

Ed 500 (3), 501 (3) required.

*Group II—Remedial Reading Major (24 credits minimum)*

Ed 411g (3), 446g\* (2), 512 (3), 526 (3), 545\* (3), 546\* (2), 574\* (3), 592\* (3), 599 (6 for Plan A), and Ed 445g\* (3) for elementary emphasis, or Ed 448g\* and English 392g\* (3) for secondary emphasis required.

\* Courses starred may be used for Plan B papers.

*Group III—Related Fields (9 credits minimum)*

At least two courses to be taken from Sp Ed 420g (3), 461g (3), Psych 460g (3), 476g (3), Soc 415g (3), 418g (3); Sp Ed 463g (3) and/or Engl 392g (3) for elementary emphasis; Sp Ed 464g (3) and/or Engl 400g (3) for secondary emphasis.

#### AUDIOVISUAL EDUCATION COURSES

*AvEd 347(G) The Visual in Education (3)*

An examination of what constitutes good visuals plus an in-depth study of how to create good educational visuals. Major emphasis is placed on still pictures, slides, and motion pictures. Prerequisite: AvEd 356.

*AvEd 356(G) Audiovisual Materials and Methods (3)*

Characteristics, advantages, and limitations of audiovisual materials, projected and non-projected. Practice in equipment operation.

*AvEd 445(G) Preparation of Audiovisual Materials (3)*

Basic techniques for the preparation of visual instructional materials. Laboratory and lecture experience. Prerequisite: AvEd 356 or consent of instructor.

*AvEd 455(G) Radio and Television in Education (3)*

The study of radio and television media including history, educational influences, appropriate utilization techniques for education, and an introduction to production techniques. Prerequisites: AvEd 347, 356, 455, or consent of instructor.

*AvEd 465(G) Technology of Instructional Systems (3)*

The analysis, design, and implementation of such systems as CCTV, audio production and duplication, public address, student response, information retrieval, computers, ITFS, and ETV. Prerequisite: Consent of instructor.

*AvEd 493(G) Administering Audiovisual Programs (3)*

Lectures, discussions, and resource people used to provide experience in audiovisual administration in selection and purchase of equipment, budgeting teacher training, Av center operation, and evaluation of Av Programs.

**EDUCATION COURSES***Ed 331(G) Special Methods in Social Studies in the Elementary School (3)*

Adapted to the special needs and experiences of those enrolled. On request.

*Ed 390(G) Special Methods in Language Arts in the Elementary School (3)*

Areas determined by special needs and experience of those enrolled. On request.

*Ed 405(G) Philosophy of Education (4)*

Same as Philosophy 405(G).

*Ed 411(G) Introduction to Guidance (3)*

Basic concepts and principles of guidance and counseling are introduced and related to the particular services of guidance.

*Ed 412(G) Group Counseling (3)*

A study of group dynamics in theory and practice. Prerequisites: Ed 411, Psy 476.

*Ed 425(G) Workshop in Educational Development (1)*

This series of seminars by nationally recognized educators is explicitly designed to provide teachers, administrators, students, and the general public with first hand exposure to those ideas currently receiving widespread attention throughout the educational community.

*Ed 445(G) Problems in the Teaching of Reading (3)*

Critical analysis of trends in reading programs; plans for adjusting the reading program to individual differences; diagnostic and corrective work in reading; evaluation of pupils' progress. Prerequisite: Ed 342 and teaching experience.

*Ed 446(G) Reading Clinic (2)*

Supervised practice in teaching remedial reading, including diagnosis and correction. Prerequisite: Ed 342 and teaching experience.

*Ed 447(G) Corrective Reading and Phonics Workshop (2)*

This workshop is designed for all reading teachers who wish to bring themselves up to date on theories and practices in teaching reading. Emphasis is upon the teaching of phonics, new materials, learning disabilities, and the rural disadvantaged.

*Ed 448(G) Reading in the Secondary School (3)*

Reading skills necessary to succeed in all content areas in secondary school, including vocabulary, comprehension, flexibility and study skills.

*Ed 449(G) Seminar on Techniques and Materials in Teaching Reading (3)*

Examination and discussion of the most effective ways of teaching reading today and becoming familiar with the multi-level materials used in classrooms and reading centers. Prerequisite: Ed 445.

*Ed 456(G) Seminar in Supervision of Student Teaching (3)*

Methods and procedures for effective supervision of student teachers. Prerequisites: Teaching experience and consent of instructor.

*Ed 461(G) Phonics & Structural Analysis in Reading (3)*

Specific instructions in various ways of teaching phonics at all grade levels with particular emphasis on the best methods to use with disabled readers. There will be demonstrations, video tapes, and exhibits of materials.

*Ed 470(G) Development of Young Children (3)*

The study of growth and development of young children with emphasis on children to age nine.

*Ed 471(G) Early Childhood Education (4)*

Guidance in the understanding of the learning progress of children in the home and school. The major emphasis will center on the nursery school and kindergarten programs. Prerequisite: Ed 470(G), or concurrent registration.

*Ed 472(G) Curriculum and Instruction for Early Childhood Education (3)*

Guidance of the learning process and curriculum materials used with children through the age of nine. Particular emphasis will be given to both preschool and early school learning in the various curricula. Prerequisites: Ed 470, 471, or concurrent registration.

*Ed 473(G) Practicum in Early Childhood Education (3)*

Supervised practicum experience in working with young children (pre-kindergarten). Study, analysis, and evaluation of classroom procedures and development of young children. Prerequisites: Ed 470, 471, 472, or concurrent registration.

*Ed 476(G) Early Childhood Education Workshop (3)*

Workshop for experienced nursery school and kindergarten teachers to undertake by group and individual work to improve teaching skills, understanding of child growth and development, and appropriate curriculum patterns for young children.

*Ed 480(G) Learning Theory Workshop (1-3)*

A special workshop designed to review recent learning theory research and to develop new instructional programs incorporating findings. Offered by extension, the workshop will be limited to teachers employed in a requesting school district.

*Ed 481(G) Curriculum Development Workshop (1-3)*

A special workshop designed to review recent programs in curriculum development and to plan new curriculum programs incorporating findings. Offered only by extension, the workshop will be limited to teachers employed in a requesting school district.

*Ed 490(G) Foundation of Education (3)*

The concluding course in the required sequence of education courses; historical, philosophical, social and professional foundations of American education. Prerequisites: Ed 210 or 211, 212 or 213, 306 or 307, and student teaching recommended. Each quarter.

*Ed 493(G) Education for International Understanding (3)*

Objectives, techniques, and materials suitable for use in education designed to develop and extend intercultural empathy. Educational ideas and practices from other countries will be studied. Among the themes stressed will be "enriching teaching about other cultures" and "teaching about the aims and problems of world co-operation." Students will be expected to develop ideas, methods, and materials for use in their schools. Prerequisites: Teacher certification, or senior status in professional education.

*Ed 495(G) Comparative Education (3)*

A study of foreign education systems to promote international understanding and cooperation by relating problems to the professional interests of the students and to introduce them to other systems and the work of the UN agencies in the field of education.

*Ed 496(G) Study Tour in Comparative and International Education (6)*

Field study of education in several countries. Participants will attend lectures; confer with educators; visit schools, universities, ministries of education, educational research centers, UNESCO; and will attend international conferences on education.

*Ed 497(G) Readings in Education (3)*

Readings and supervised independent study covering topics or areas in education not covered in depth in other courses. On request. May be repeated to a maximum of six credits.

*Ed 498(G) Education for the Culturally Different (3)*

Study of the social and economic background and life-style of culturally different students in elementary and high school and what appropriate teaching strategies should be used to alter their learning disabilities in a classroom.

*Ed 499(G) Inservice Education Workshop (1-3)*

A course designed to serve a specific inservice education program. Enrollment limited to teachers from a school system which has requested the workshop.

*Ed 501 Psychological Foundations of Education (3)*

Schools and systems of psychology; principles of underlying learning and instruction.

*Ed 502 Statistics in Research (3)*

Basic statistical theory, techniques, and application in educational research.

*Ed 503 Introduction to Research (3)*

Methodology of design of research studies; preparation of effective technical reports.

*Ed 504 The School and Society (3)*

History and development of social structures in America; relationship between social structures and the school.

*Ed 505-510 Junior College-Community College Institute I-VI (2 each)*

For administrators, teachers, and graduate students already employed in junior college positions, or preparing for employment in junior or community colleges. Summer only.

*Ed 512 Study of the Individual (3)*

Case study methods, practical application, laboratory experience.

*Ed 520 Principles of Administration (3)*

The theory and principles of administration as a social process.

*Ed 521 Administration of the Elementary School (3)*

Administrative responsibilities, procedures, and problems.

*Ed 522 Supervision in the Elementary School (3)*

For elementary school principals. Principles and practices in democratic educational leadership. Prerequisite: Consent of instructor.

*Ed 525 Occupational and Educational Information (3)*

Selection and utilization of informational materials and experiences in an effective school-wide program of vocational guidance.

*Ed 526 Principles and Techniques of Counseling (3)*

An examination of counseling theories currently in practice with the purpose to have each student formulate his own personal theory of counseling. Opportunities to try out this theory and receive feedback as to its effectiveness will be provided through the extensive use of simulated counseling with classmates. Specific techniques of counseling will be examined.

*Ed 540 Studies Affecting Elementary Education (3)*

Survey of published research.

*Ed 541 Seminar in Elementary School Teaching Problems (3)*

Individual problems; problems common to the group. Admission upon approval of instructor.

*Ed 542 Elementary School Curriculum (3)*

History, development, evaluation, and revision of the curriculum.

*Ed 545 Diagnosis and Correction of Reading Difficulties (3)*

Advanced study of reading difficulties.

*Ed 546 Reading Clinic: Diagnosis (2)*

Individual case studies. Prerequisites: Ed 545 and consent of instructor.

*Ed 550 School Law (3)*

Legal relationships of the schools to state and federal government are examined. The following major topics are included: school and church; school district organization and control; authority, procedure, and liability of school officers; laws related to school finance; legal relationships of the school to teacher and pupil.

*Ed 560 Secondary School Curriculum (3)*

History, development, evaluation and revision of the secondary school curriculum.

*Ed 574 Appraisal Techniques (3)*

A study of various types of standardized tests and testing programs along with other techniques and tools for appraising individuals.

*Ed 579 Organization and Administration of Guidance Service (3)*

An examination of various problems and principles of organization and administration of a school guidance program. Through extensive use of role playing, the student will outline in detail a complete guidance program and deal with typical problems in its administration.

*Ed 590 Seminar in Administration and Supervision in the Elementary School (3)**Ed 591 Practicum in Counseling and Guidance (3 credits each of 2 quarters or 6 credits in 1 quarter)*

A practical and real experience in counseling and guidance activities for the graduate student majoring in this field. The program is individualized for each student. Prerequisite: Sufficient background in counseling and guidance coursework, consent of instructor.

*Ed 592 Administration and Supervision of Remedial Reading (3)*

The administration and supervision of remedial reading programs in elementary and secondary schools and in colleges. Course conducted as a seminar. Prerequisites: Six credits of remedial reading courses.

*Ed 598 Special Research Problems in Education (1-3)*

For advanced graduate students on independent problems. May be repeated to a maximum of 6 credits. Prerequisite: consent of instructor and adviser.

*Ed 599 Thesis (1-6 hours)*

Registration only after consultation with major adviser.

**SPECIAL EDUCATION COURSES***SpEd 416(G) Mental Retardation (3)*

Incidence and description of mental retardation. Methods of diagnosis and educational organization. Prerequisites: Ed 212 or 213, 305 or Psy 201, or permission of instructor.

*SpEd 417(G) Orientation to the Physically Handicapped (3)*

Finding and determining psychological and medical needs of children with physical handicaps.

*SpEd 420(G) Education of the Handicapped Child (3)*

An introductory course in the recognition, incidence, and needs of children with physical, mental, or psychological handicaps. Prerequisites: Ed 212 or 213, 305 or Psych 201, or permission of instructor.

*SpEd 421(G) The Gifted Child (3)*

Definition, identification, and current school program for the mentally superior or specially talented child.

*SpEd 422(G) Curriculum and Methods for the Gifted (3)*

The relationship of the curriculum to the special learning talents of the gifted. The ways in which to construct a curriculum suitable for the education of gifted students. Appropriate methods for teaching gifted elementary and secondary students. Prerequisite: SpEd 421.

*SpEd 430(G) Industrial Arts for Special Education Teachers (3)*

Projects and experiences in industrial arts and crafts designed for teachers of the mentally retarded.

*SpEd 431(G) Teaching Occupational Education to the Mentally Retarded (3)*

Designed to help teachers of the mentally retarded to prepare their pupils for a gainful occupation. Prerequisite: SpEd 416.

*SpEd 435(G) Seminar in Mental Retardation (3)*

Special problems of brain injured; behavior problems; occupational education; review of research in mental retardation; laboratory work. Prerequisite: Consent of instructor.

*SpEd 436(G) Problems in Special Education (1-3)*

Directed reading and/or research in special education. Prerequisites: SpEd 416, 420 or consent of instructor.

*SpEd 437(G) Workshop in Special Education (4)*

Organization and curriculum of programs in the area of mental retardation. Includes parental counseling and occupational programs. Problems of children with cerebral dysfunction. Prerequisite: SpEd 416.

*SpEd 440(G) Methods in Teaching the Mentally Retarded (3)*

Methods of teaching the mentally retarded child. Curriculum and materials. Prerequisite: SpEd 416, 420, 435, or consent of instructor.

*SpEd 441(G) Language Development for the Mentally Retarded (3)*

An examination of how language develops in infants and young children with specific attention to the mentally retarded. Prerequisite: SPAA 468, SpEd 416, 420, or consent of instructor.

*SpEd 442(G) Creative Activities for Exceptional Children (3)*

The importance of creative activities in the lives of exceptional children. Therapy, hobbies, practical experiences in the areas of art, crafts, music, drama, and their interrelationships. Prerequisite: SpEd 416, 420, 436.



*SpEd 460(G) Education of the Emotionally Disturbed Child (3)*  
Causes of, and classroom procedures with, the emotionally disturbed child.  
Prerequisite: Psy 460, or consent of the instructor.

*SpEd 461(G) Education of Children with Specific Learning Disabilities (3)*  
Recognition of and classroom procedures with children who have specific learning disabilities. Prerequisites: SpEd 420 or permission of instructor.

*SpEd 462(G) Seminar in Specific Learning Disabilities (3)*  
Exploration of selected aspects of problems linked with the identification and amelioration of specific learning disabilities at a higher level of sophistication.  
Prerequisite: Proof of previous credits in orientation courses and permission of S.L.D. teacher.

*SpEd 463(G) Educational Measurement of SLD Child in Classroom (3)*  
Familiarizing the teacher with the types of response to standardized tests which suggest a learning disability. Understanding basic factors or principles in designing classroom tests for children with learning disabilities. Prerequisites: SpEd 461, 462.

*SpEd 464(G) Education of the Learning Disabled High School Student (3)*  
Recognition of learning disabilities in high school students; programming for the adolescent with a learning disorder. Prerequisites: SpEd 461, 462.

*SpEd 465(G) Reading Difficulties of Children with Special Learning Disabilities (2)*  
Diagnosis of reading difficulties tests, formal and informal; identification of specific deficits at elementary and high school level; remediation techniques.  
Prerequisites: SpEd 345, 461, 462.

*SpEd 466(G) Clinical Reading Experience with Special Learning Disabled Children (2)*  
Diagnosis and remediation of reading problems of neurological origin. Prerequisites: SpEd 461, 462, 465.

*SpEd 467-468(G) Practicum: Diagnosis and Treatment of Learning Disorders I-II (6 each)*  
Supervised experiences working with learning disabled children, their teachers and parents.

*SpEd 470(G) Guidance of the Handicapped (3)*  
Methods and techniques of guiding handicapped children and youth to personal, social, and occupational adequacy. Prerequisite: SpEd 416, 420, 436, and consent of instructor.

*SpEd 471(G) Behavioral and Environmental Management (3)*  
The analysis and programming of behavior and environmental variables as they related to handicapped children in the classroom. Prerequisite: Sp Ed 460, 461, and consent of instructor.

*SpEd 472(G) Psycho-Educational Diagnosis and Programming (3)*  
Practical applications of psychological principles of handicapped children to classroom situations will be emphasized. Prerequisite: Psy 101 or Psy 105, junior standing and consent of instructor.

*SpEd 473(G) Behavior Problems in Children (3)*  
Descriptive etiology of behavior deviancy and the methods and techniques used to alleviate problems resulting from deviancy. Prerequisite: SpEd 460, 461.

#### DEPARTMENT OF ENGLISH

John McCune, *Acting Chairman*, Rufus Belamy, Robert Brown, Marjorie Corner, Fred Fetrow, V. Dennis Flood, Clarence Glasrud, Sheila Gullickson, Allan Hanna, Bernard Herrington, Gary Litt, Joseph Miller, Robert Pender, Mary Anne Pryor, John Sherman, Donald Short, William Woolwine.

**Master of Science in Education:** The degree may be earned with a major in English with the following specific conditions:

Prospective candidates should have an undergraduate major in English with a grade-point average of at least 3.0. Very rarely, students who do not have an undergraduate major in English but who show exceptional promise may be admitted. All candidates for admission to graduate studies in English must submit two letters of recommendation that speak to academic qualifications.

#### Course Requirements

Professional Education Courses	9 credits
English 300(g)-, 400(g)-, or 500-series	21
English 500 Literary Scholarship	3
English 502-516, 540, 598: two courses	6
English 599 Thesis or Symposium	6
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Total	45 credits

Upon formal petition to the Graduate Faculty in English, a candidate for the master's degree may sometimes be permitted to take as many as 9 credits in a related area instead of 9 credits in English; but he may not omit any of the required credits of English in the 500-series.

If his undergraduate transcript does not show individual courses in Chaucer, Shakespeare, and Milton, and in linguistics or the history of the English language, the student must make up the deficiency by taking the appropriate course(s) in his graduate program.

The work of each student intending to take the master's degree shall be subject to automatic review by a committee of three members of the Graduate Faculty in English at the time he has completed three graduate-level courses at the College. This review will include a report from each of three professors acquainted with the student's work and explicit recommendations from these professors concerning his retention in the program. The committee will then decide, on the basis of the review, whether the student is to be allowed to continue his graduate studies in the Department. Moreover, any student working toward the degree shall be subject to a departmental evaluation of his work upon the request of any member of the Graduate Faculty in English.

After the student has been formally admitted to candidacy by the Graduate Studies Committee and has completed 30 credits in English but before he begins to write the thesis of symposium, he must pass an examination of one of three kinds: (a) on major writers, (b) on major works, or (c) on a comprehensive knowledge of English and American literature. The student is also required to take the comprehensive examination given by the Department of Education.

A candidate for the master's degree may satisfy the research requirement by either Plan A: a thesis of moderate length (usually under 100 pages) on a subject approved by his adviser; or Plan B: a symposium, likewise on a subject approved by his adviser. The word "symposium" is used here in the unconventional and special sense of "a collection of papers, of a critical or scholarly nature, written by one person." The symposium in English requires three substantial papers, two of them falling in the same field, which are equal in their quality to an acceptable thesis and have been undertaken with the same degree of independence that one brings to the writing of a thesis.

The first task of the candidate is to get the thesis or symposium into respectable first-draft shape under the general direction of his adviser. At this point the candidate must submit the draft to his Examination Committee and then make whatever revisions are required by its members.

#### ENGLISH COURSES

*Engl 301-302-303(G) Early English Literature I-II-III (4 each)*

301: The Anglo-Saxon period and the beginnings of Middle English literature: the Venerable Bede, King Alfred, *Beowulf*, and other Anglo-Saxon documents in modern English translation, with a glance at selected passages in the original; the *Ancrene Riwe* and *Piers Plowman*; medieval romance generally and Arthurian romance: *Sir Gawain and the Green Knight* and Malory's *LeMorted' Arthur*; specimens of lyric and alliterative verse in Middle English. 302: Chaucer I: *Troilus and Criseyde* and the other more important poems apart from *The Canterbury Tales*. 303: Chaucer II: *The Canterbury Tales*. The first two quarters are offered occasionally, the third quarter regularly.

*Engl 311-312-313(G) English Literature of the 16th Century I-II-III (4 each)*

311: More and Elyot; the drama through Kyd; Skelton, Wyatt, and Surrey; the Elizabethan translators. 312: Prose narrative through Deloney; the University Wits; later Elizabethan poetry: Sidney and the sonneteers, Marlowe and Ovidian romance, and the pastoral. 313: Spenser.

*Engl 321-322-323 (G) English Literature of the 17th Century I-II-III (4 each)*

321: Prose, drama, and poetry of Jonson and his contemporaries, principally the King James translators of the Bible, Bacon, Donne, and Herbert. 322: Later Caroline writers: Herrick, Marvell, Crashaw, Vaughan, and Sir Thomas Browne; Cowley and Hobbes, 323: Milton.

*Engl 331-332-333 (G) English Literature of the Restoration and 18th Century I-II-III (4 each)*

311: Restoration comedy and heroic tragedy; Dryden and his lesser contemporaries; Bunyan. 332: Early 18th-century literature, especially Pope, Swift, Addison and Steele, and Defoe. 333: Boswell and Dr. Johnson; mid-century and later poets: Collins, Gray, and Cowper; Fielding and the rise of the novel; Goldsmith and Sheridan.

*Engl 341-342-343 (G) English Literature of the Romantic Movement I-II-III (4 each)*

341: Crabbe, Burns, and Blake; Jane Austen; the Gothic novel; Scott. 342: Southey, Landor, Wordsworth and Coleridge, Hazlitt, De Quincey, and Lamb. 343: Byron, Shelley, and Keats.

*Engl 351-352-353 (G) English Literature of the Victorian Period I-II-III (4 each)*

351: Cobbett and the literature of social reform; Carlyle and Macaulay; Tennyson and Browning; the Brontes and Dickens. 352: Newman, Mill, and Huxley; Arnold Clough and Fitzgerald; Thackeray, George Eliot, and Trollope. 353: Ruskin and Pater; the Pre-Raphaelites, Swinburne, and Morris; Meredith and Hardy.

*Engl 361-362-363 (G) English and American Literature of the 20th Century I-II-III (4 each)*

361: From the Nineties to World War I; the Aesthetic Movement, the Rhymers, Wilde, and Gissing; Shaw; the naturalistic novel; Robinson and Frost; Edwardian and Georgian poetry; James, Conrad, Forster, and Joyce. 362: The literature of World War I and the 1920s: the Imagists; Lawrence and Woolf; Eliot and the modernist poets; Huxley, Fitzgerald, and Hemingway; the later Yeats. 363: From the Thirties to mid-century; the Auden group, Waugh and Orwell, Faulkner and Steinbeck, Dylan Thomas and poets of the Forties, Mailer and Cozzens, and Greene.

*Engl 376-377-378 (G) Development of the Drama I-II-III (4 each)*

Representative readings in dramatic literature from the Greek theatre to the present day. 376: From Aeschylus to Shakespeare. 377: From Shakespeare to Ibsen. 378: From Ibsen to the present. Same as Speech 322-324-326 (G).

*Engl 381 (G) World Literature I: Greece (4)*

Greek literature: the study, in translation, of the beginnings and models of Western literature — especially of Homer and the Greek tragedians — with some consideration of other modes in writers such as Pindar, Aristophanes, Thucydides, and Plato.

*Engl 382 (G) World Literature II: Rome (4)*

Roman literature: the study, in translation, of major Roman authors of the later Republic and the Empire: Cicero, Caesar, Livy, and Tacitus; Seneca; Catullus, Vergil, Horace, Ovid, Martial, and Juvenal; with some consideration of lesser writers from Plautus and Terence to Marcus Aurelius.

*Engl 383(G) World Literature III: The Hebraic-Christian Tradition (4)*

Study of selected portions of the Old and New Testaments, with emphasis upon the various types of literature; survey of the influence of the King James Bible upon English and American thought.

*Engl 384 (G) World Literature IV: The Middle Ages and the Renaissance (4)*

Major authors and literary modes of Europe from the twelfth century to the sixteenth, represented by selected works in translation; for example, those of Gottfried (*Tristan*), Dante, Petrarch, Villon, Rabelais, Montaigne, and Cervantes.

*Engl 385(G) World Literature V: Rationalism and Romanticism (4)*

Voltaire's *Candide*, Pope's *Essay on Man*, Rousseau's *Confessions* and *Emile*, Goethe's *Faust* Part I, Byron's *Manfred*, Pushkin's *Eugene Onegin*, Emerson's *Nature*, and Thoreau's *Walden*.

*Engl 386(G) World Literature VI: The Modern Age (4)*

The literature of continental Europe from Baudelaire and Dostoevsky through Kafka and more recent writers.

*Engl 391(G) Teaching English in the Secondary School (4)*

An examination of current practices in teaching high school English; observation of high school English classes; discussion of curriculum and materials in language and literature; analysis of typical approaches, and preparation of materials for use in student teaching. To be taken immediately before student teaching in English. Fall and Spring.

*Engl 392(G) Adolescent Literature (3)*

The teaching of literature in junior and senior high schools; literature written for adolescents; organization of school literature programs; teaching the various genres; the relation of literature to other aspects of the English program.

*Engl 393(G) Language and Composition in the Secondary School (3)*

Special study of the teaching of the English language and composition in junior and senior high schools; comparison of traditional and recent descriptions of the language; implications of recent language study for the teaching of English; organization of English language study in high schools; the role of language study in the teaching of writing; organization of school composition programs.

*Engl 397-398-399(G) History of the English Language I-II-III (4 each)*

A historical and linguistic approach to the phonological and morphological development of the English language. 397: The language from Primitive Germanic to 1100, with occasional readings in Old English. 398: The language from 1100 to the Modern period, with occasional readings in Middle English. 399: The development and present status of American English.

*Engl 400(G) Introduction to Descriptive Linguistics (4)*

A broad survey of the field of descriptive linguistics.

*Engl 401(G) Transformational Grammar (4)*

An introduction to the theory of generative grammar and its applications, with emphasis on a pedagogical approach to the teaching of grammar and literature.

*Engl 402(G) Practical Criticism (4)*

Analysis, evaluation, and interpretation of literary works of several kinds and practice in the writing of critical essays. Recommended for juniors, seniors and graduate students majoring in English.

*Engl 404(G) Advanced Shakespeare I (4)*

Critical approaches to Shakespeare; structure and style in the plays and the nondramatic poetry; Shakespeare's development in various genres (e.g. comedy, tragedy, dramatic chronicle). Prerequisite: Engl 374 or 375 or consent of the instructor.

*Engl 405(G) Advanced Shakespeare II (4)*

The study of significant themes in the plays (e.g. the idea of the state, the character of rulers, sexual morality, love, friendship, justice). Prerequisite: Engl 374 or 375 or consent of the instructor.

*Engl 406(G) Dryden and Pope (4)*

A study of neo-classical critical theory and dramatic and poetic practice as seen in the work of the two major Augustan poets.

*Engl 408(G) The 18th Century Novel (4)*

The development of the English novel from Defoe to Sterne, with some consideration of earlier prose narrative.

*Engl 410(G) Arnold and his Milieu (4)*

An examination of the great controversies—literary, social, religious, and intellectual—of the Victorian Age, particularly as seen in the writings of Arnold, Huxley, Newman, Carlyle, Mill, Ruskin, and others.

*Engl 412(G) The 19th Century Novel (4)*

The work of major English novelists from Jane Austen to Thomas Hardy.

*Engl 414(G) Modern Symbolist Poets (4)*

The modernist movement in poetry from its origins in the French *Symboliste* writers and the Imagist group to the major work of Yeats and Eliot.

*Engl 416(G) Individual Authors (4)*

Intensive study of one or two writers, or a small group of writers, whose work is important in itself or has had a significant influence on the development of English or American literature. The course may be elected more than once when the authors considered are different.

*Engl 418(G) Tudor Drama (4)*

Early Elizabethan drama, from Sackville and Norton to Marlowe.

*Engl 420(G) Jacobean and Caroline Drama (4)*

The plays of Shakespeare's contemporaries, from Chapman and Dekker to Ford and Shirley.

*Engl 424(G) Restoration and 18th Century Drama (4)*

The chief dramatists from Wycherley to Sheridan, with emphasis on the comedy of manners and heroic tragedy.

*Engl 430(G) Significant Books in American Culture (4)*

The history of ideas in the study of books articulating major traditions in American culture.



*Engl 432(G) Hawthorne, Melville, and Poe (4)*

Extensive reading in major American authors: Hawthorne's *Twice-Told Tales*, *Mosses from an Old Manse*, and *The House of Seven Gables*; Melville's *tales and Typee*, *Mardi*, and *Billy Budd*; Poe's poetry, tales, and criticism.

*Engl 434(G) Emerson, Thoreau, and Whitman (4)*

Extensive reading in major American authors: Emerson's essays and poetry; Thoreau's poetry and *A Week on the Concord and Merrimack Rivers*; Whitman's *Leaves of Grass*, *Democratic Vistas*, and *Specimen Days*.

*Engl 436(G) Twain, Howells, and James (4)*

Extensive reading in major American authors: Twain's *Connecticut Yankee* and *The Mysterious Stranger*; Howells' *Criticism and Fiction* and *The Rise of Silas Lapham*; James's critical prefaces, *Daisy Miller*, and *The Portrait of a Lady*.

*Engl 438(G) Special Topics in English (4)*

Intensive study of some particular issue or literary genre; or consideration of significant intellectual approaches or pedagogical procedures related to the study of language or literature. The course may be elected more than once when the topics considered are different.

*Engl 440(G) The Southern Literary Renaissance (4)*

Faulkner's Yoknapatawpha cycle: experiment, tradition, and the myth of the South; the Fugitive poets and critics, especially Ransom, Tate, and Warren; such younger writers as Carson McCullers, Eudora Welty, and Shirley Ann Grau.

*Engl 442(G) Contemporary Fiction (4)*

The novel and short story since World War II: from Cozzens and Warren to such younger writers as Kingsley Amis and Iris Murdoch. The course may be elected twice when the reading lists are substantially different.

*Engl 444(G) Contemporary Poetry (4)*

Poetry since World War II: from the later Auden to such recent poets as Philip Larkin and James Wright. The course may be elected twice when the reading lists are substantially different.

*Engl 446(G) Contemporary Drama (4)*

A consideration of individual British and continental playwrights. The course may be elected twice when the reading lists are substantially different. Same as Speech 438(G).

*Engl 448(G) The Short Story (4)*

Representative readings, chiefly in the work of English, American, and European writers, with some attention to critical theory. Recommended for all juniors, seniors, and graduate students having some background in literature.

*Engl 471-472-473(G) Literary Criticism I-II-III (4)*

A study of the major critical essays in English from Sir Philip Sidney to the present, with consideration of the pertinent philosophical and cultural background and intensive reading of literary works that reflect or illustrate

basic ideas and various critical theories. 471: Plato, Aristotle, and the Renaissance tradition of criticism; 472: neo-classical criticism; 473: Romantic and modern criticism. Recommended only for qualified students. English majors, with their advisor's approval, may substitute this sequence for a period sequence in literature.

*Engl 481(G) Comparative Literature I: The Older Literature of Scandinavia (4)*

Selections from the prose Edda and the poetic Edda, selected tales and ballads, with special attention to the question: art vs. oral tradition. In English translation. Open also to juniors.

*Engl 482(G) Comparative Literature II: Ibsen and Strindberg (4)*

Major and representative plays of Ibsen and Strindberg, including Ibsen's *Peer Gynt*, *Brand*, *Ghosts*, *The Wild Duck*, *The Pillars of Society*, *The Enemy of the People*, *The Lady from the Sea*, *When We Dead Awaken*, *Hedda Gabler*, *The Master Builder*, *A Doll's House*, *John Gabriel Bjorkman*, and *Rosmersholm*; and Strindberg's *Miss Julie*, *The Father*, *A Dream Play*, *Easter*, *The Stranger*, and *The Ghost Sonata*.

*Engl 483(G) Comparative Literature III: The Modern Scandinavian Novel (4)*

Masterpieces by the major Scandinavian novelists of the 20th century, the Dane Martin Andersen Nexø, the Icelander Halldor Laxness, the Norwegians Knut Hamsun and Sigrid Undset, the Swedes Selma Lagerlof and Par Lagerkvist, and others. In English translation. Open also to juniors.

*Engl 490(G) History of Books and Printing (3)*

The making of books from earliest times to the present; the invention and spread of printing; type design; bookbinding; and methods and styles of illustration. Same as Library Science 490(G) and History 348(G).

*Engl 500 Literary Scholarship (3)*

Problems and techniques of literary scholarship.

*Engl 502 Studies in Shakespeare (3)*

A survey of the classical, medieval, and contemporary sources of Shakespeare; study of the bibliographical and critical problems of the plays. Prerequisite: Consent of the instructor.

*Engl 504 Studies in 16th-Century Literature (3)**Engl 506 Studies in 17th-Century Literature (3)**Engl 508 Studies in 18th-Century Literature (3)**Engl 510 Studies in 19th-Century Literature (3)**Engl 512 Studies in 20th-Century Literature (3)**Engl 514 Studies in American Literature (3)*

*Engl 516 Studies in Modern Literary Theory (3)*

The major modes in contemporary criticism: formal analysis, historical and biographical interests, and various psychological, ideological, cultural, and mythic approaches as related to the practice of contemporary schools and movements.

*Engl 540 Problems in Secondary School English (3)*

Individual and class problems.

*Engl 598 Directed Readings in English (3)**Engl 599 Thesis (1-6 hours)*

Registration only after consultation with major adviser.

**DEPARTMENT OF FOREIGN LANGUAGES AND LITERATURES**

G. Theodore Schaum, *Chairman*, HiSook Hwang, Johanna Neuer, Armand Perez.

*ForL 440(G) Advanced Seminar in Literature, Culture, and Language (3)*

Discussion of, and practice in, the presentation of selected topics, reading aids, and materials pertaining to the reading of literature, culture, and language. This course supplements ForL 340. Intended primarily for future teachers. Prerequisite: ForL 340, completion of third year course sequence, or consent of the instructor. This course is identical with German 440(G).

**FRENCH COURSES***Fren 480(G) Comparative Topics in French Literature and Culture (3)*

In-depth study of a selected topic in French. The topic may be inter-century or interdisciplinary in nature (i.e.: literature and the fine arts; literature and politics, literature, the fine arts, and science; etc.). May be repeated for credit. Prerequisites: Fren 411, 412, 413, or consent of the instructor.

*Fren 481(G) Studies in Medieval French Literature (3)*

In-depth study of a selected topic in medieval French literature. May be repeated for credit. Prerequisites: Fren 411, 412, 413 or consent of instructor.

*Fren 482(G) Studies in the French Renaissance (3)*

In-depth study of a selected topic in French literature of the Renaissance. May be repeated for credit. Prerequisites: Fren 411, 412, 413 or consent of the instructor.

*Fren 483(G) Studies in 17th Century French Literature (3)*

In-depth study of a selected topic in French Literature of the 17th century. May be repeated for credit. Prerequisites: Fren 411, 412, 413 or consent of the instructor.

*Fren 484(G) Studies in 18th Century French Literature (3)*

In-depth study of a selected topic in French literature of the 18th century. May be repeated for credit. Prerequisites: Fren 411, 412, 413 or consent of the instructor.

*Fren 485(G) Studies in 19th Century French Literature (3)*

In-depth study of a selected topic in French literature of the 19th century. May be repeated for credit. Prerequisites: Fren 411, 412, 413 or consent of the instructor.

*Fren 486(G) Studies in 20th Century French Literature (3)*

In-depth study of a selected topic in French literature of the 20th century. May be repeated for credit. Prerequisites: Fren 411, 412, 413 or consent of the instructor.

*Fren 487(G) Studies in the French Language (3)*

In-depth study of a selected topic in French linguistics: history of the language, historical grammar, dialectology, or any other subject fitting under the heading of "language." May be repeated for credit. Prerequisites: Fren 411, 412, 413.

**GERMAN COURSES***Ger 411-412-413(G) Survey of German Literature I-II-III (4 each)*

Lectures, readings in literary history, and discussions of selected major works representative of each period. 411: From the Middle Ages to 1750; 412: From 1750 to 1850; 413: From 1850 to the present. Prerequisites: Ger 311-312-313.

*Ger 432-433(G) German Culture and Civilization I-II (3 each)*

Lectures and discussions of German culture and civilization: art, architecture, education, history, music, philosophy, religion, science. Conducted in German. 432: From the Middle Ages to 1850; 433: From 1850 to the present. Prerequisites: Ger 371-372-373.

*Ger 440(G) Advanced Seminar in German Literature, Culture, and Language (3)*

Discussion of, and practice in, the presentation of selected topics, teaching aids, and materials pertaining to the teaching of German literature, culture, and language. This course supplements Foreign Language 340. Intended primarily for future teachers. Prerequisites: ForL 340, completion of third year course sequence, or consent of the instructor. This course is identical with ForL 440(G).

*Ger 450(G) Introduction to the History of the German Language (3)*

A survey of the chronological development of the German language. Prerequisite: Ger 311-312-313 or consent of instructor.

*Ger 451(G) 19th Century German Drama (3)*

Readings in representative German dramatic literature of the 19th century. Prerequisites: Ger 311-312-313 or consent of instructor.

*Ger 452(G) 20th Century German Drama (3)*

Readings in representative German dramatic literature of the 20th century. Prerequisites: Ger 311-312-313 or consent of instructor.

*Ger 453(G) German Novel of the 19th Century (3)*

Novels of representative authors of the 19th century. Prerequisites: Ger 311-312-313 or consent of instructor.

*Ger 454(G) German Novel of the 20th Century (3)*

Novels of representative authors of the 20th century. Prerequisite: Ger 311-312-313 or consent of instructor.

*Ger 455(G) German Poetry (3)*

Readings and discussion of the more important German poets from Klopstock to Rilke. Prerequisite: German 311-312-313 or consent of instructor.

*Ger 456(G) The German "Novelle" (3)*

Readings in representative German novelle of the 19th and 20th centuries. Prerequisite: German 311-312-313 or consent of instructor.

*Ger 457(G) Faust I (3)*

Critical analysis and interpretation of Goethe's *Faust I*. Prerequisite: German 311-312-313 or consent of instructor.

*Ger 458(G) Goethe (3)*

Goethe's life and works. Prerequisite: German 311-312-313 or consent of instructor.

*Ger 459(G) Friedrich Von Schiller (3)*

Schiller's life and works. Prerequisite: German 311-312-313 or consent of instructor.

**SPANISH COURSES***Span 371(G) Phonetics (3)*

A scientific description of the sounds of standard Spanish, their physical characteristics and the physiology of their articulation. Prerequisite: two years of college Spanish or the equivalent.

*Span 411(G) Medieval Literature of Spain (3)*

Study of the literature of the period, particularly *El Cantar De Mio Cid*, *Libro de buen amor*, Jorge Manrique, and the prose writing of Juan Manuel, and the *Celestina*. Prerequisite: Spanish 301-302-303 or consent of the instructor.

*Span 412(G) Golden Age Drama (3)*

A study of selected plays of Lope de Vega, Tirso de Molina, Juan Ruiz de Alarcon, and Calderon. Prerequisite: Spanish 301-302-303 or consent of the instructor.

*Span 413(G) Golden Age Poetry and Prose (3)*

A study of the picaresque novel, *La Celestina*, philosophical and satirical literature of the period, and lyric poetry. Prerequisite: Spanish 301-302-303 or consent of the instructor.

*Span 425(G) Spanish Conversation and Composition III (3)*

An advanced course in language. Prerequisite: Spanish 325 or consent of the instructor.

*Span 431(G) Nineteenth Century Novel of Spain (3)*

The regional and realistic fiction of the second half of the nineteenth century, particularly Galdos, Alas, and Pardo Bazan. Conducted in Spanish. Prerequisite: Spanish 301-302 or consent of the instructor.

*Span 432(G) Twentieth Century Novel of Spain (3)*

Emphasis on the fiction of the Generation of '93 (Unamuno, Valle-Inclan and Baroja) and on novels published since the end of the Spanish Civil War. Conducted in Spanish. Prerequisite: Spanish 301-302 or consent of the instructor.

*Span 433(G) Twentieth Century Poetry and Drama of Spain (3)*

Emphasis on the lyric poetry of the Generations of '98 and '27, and on post-Civil War drama. Conducted in Spanish. Prerequisite: Spanish 301-302 or consent of the instructor.

*Span 434-435(G) Spanish American Prose Fiction I-II (3 each)*

Reading and analysis of outstanding and representative works, supplemented by study of the historical and cultural background. 434: Emphasis on the regional and realistic novels. 435: Emphasis on the more cosmopolitan contemporary trends in fiction. Conducted in Spanish. Prerequisite: Three years of college Spanish or consent of the instructor.

*Span 436(G) Latin-American Poetry, 1890 To Present (3)*

The poetry of Latin-America: modernism, post modernism, and contemporary trends. Prerequisite: Spanish 331-332 or consent of the instructor. Conducted in Spanish.

*Span 437(G) Cervantes (3)*

Principal aspects of the works of Cervantes: *Don Quixote*, *Novelas Ejemplares*, *Entremeses*. Prerequisite: Three years of college Spanish or consent of the instructor.

**DEPARTMENT OF GEOGRAPHY AND GEOLOGY**

Eleanor Ritchie, *Chairman*, W. Douglas Harrison, Roger Richman.

**GEOGRAPHY AND GEOLOGY COURSES***Geog 410(G) Regional Geography Seminar (4)*

Intensive geographic study of a selected country or area. May be repeated as country or area are changed. See schedule of courses for region to be considered in a given quarter. Prerequisites: Geog 110 or 111, or consent of instructor.

*Geog 411(G) Geographic Factors in Cultural Development (3)*

The role of geography in the development of cultures. Prerequisites: Geog 110, 111 and one regional geography course, or consent of instructor.

*Geog 420(G) Historical Geography of the United States (3)*

Selected periods in American history studied in relation to the geographical setting. Prerequisites: Geog 110, 111, and 310, or consent of instructor.

**Geog 444(G) Seminar in Geographic Thought (2)**

A critical examination of geographic thought from ancient times to the present, with emphasis on (a) the Classical School of Kant, Humboldt, and Ritter, (b) the Environmentalist School of Ratzel, Semple, and Huntington, (c) Possibilism and Probablism, (d) the physical geographers, (e) the Regional School, (f) the idiographic vs. nomothetic approach: quantitative revolution, and (g) neo-Classical approach. Prerequisite: Consent of instructor.

**Geog 480(G) Seminar in Conservation (3)**

Intensive investigation of selected conservation topics and supervised student research. Some field work is involved. Prerequisites: Geog 110, 111 and 225 or consent of instructor.

**Geog 490(G) Special Problems in Geography (1-4)**

An individual conference course for advanced students involving selected readings in geography and special writing projects utilizing the geographic approach. Prerequisite: Consent of the department chairman.

**Geog 495(G) Field Techniques in Geography (4)**

Detailed and reconnaissance field work including classification of natural and cultural features, interview procedures, preparation of geographical reports and maps based on field work. Prerequisites: Geog 230 and one regional geography course.

**DEPARTMENT OF HEALTH, PHYSICAL EDUCATION AND RECREATION**

Donald Anderson, *Chairman*, Kenneth Bladow, Roy Domek, Loel Frederickson, Dewaine Hoberg, Laurence MacLeod, Mary Montgomery, T. Edison Smith, William Thomas.

**Master of Science in Education:** The degree may be earned with a major in Health, Physical Education and Recreation, according to the general requirements given on pages 15-19.

**HEALTH COURSES****Hlth 412(G) Marriage and Family Life Education (4)**

Discussion and study of the problems of courtship, sexuality marriage, and family relationships with special emphasis on the role of health as it affects children, parents, home, and society.

**Hlth 465(G) Organization and Administration of School Health Education (3)**

Program in grades 1-12 with emphasis on the policies, procedures, and responsibilities of the school staff and administration.

**Hlth 474(G) Workshop in Health Education (2)**

A course designed to meet the needs of teachers who are directly or indirectly responsible for health in the schools. Emphasis on practical solution of problems. Summer.

**Hlth 476(G) Seminar in Health Problems (2-6)**

Issues of major concern in the field of health. Topics of special interest. this course may be repeated to a maximum of 6 hours. Prerequisite: Consent of instructor.

**Hlth 489-490 Driver Education I-II (4 each)**

489: Critical analysis of traffic accidents, attitude factors, essential knowledge of automobile operations, traffic laws and regulations. Includes laboratory experience for developing driving skills. Prerequisites: Valid Driver's license, two years of driving experience, senior standing, and Health 327. 490: This course is devoted to methods of teaching and the administration of high school driver and traffic safety. Prerequisite: Hlth 489 and satisfactory driving record as revealed by State Highway Department records.

**Hlth 540 Problems in Health Education (3)**

Study of individual problems and problems common to groups.

**Hlth 565 Coordination of School Health Education (3)**

Coordination of the school health education program in grades 1-12. Emphasis on health guidance coordination, administration, and evaluation. Prerequisite: Health 465 or equivalent.

**PHYSICAL EDUCATION COURSES****PE 380(G) Supervision of Physical Education in the Elementary School (4)**

Supervisory and teaching experience in the elementary school physical education program. Prerequisite: PE 240.

**PE 421(G) Physiology of Exercise (3)**

A study of the function of the systems of man most notably affected by exercise, the lack of exercise, and various work aids. Common physiological problems in the teaching of physical education and coaching of athletics will be considered. Class meets four hours per week. Prerequisite: PE 321 or similar course in human physiology.

**PE 452(G) Adapted Physical Education (3)**

A course designed to promote a knowledge and understanding of the problems, responsibilities, and procedures of physical education for the exceptional individual. The preventive, corrective and remedial aspects of physical education are included in the content of the course. Prerequisite: Physical Education major or minor with senior standing or consent of the instructor.

**PE 475(G) Administration of Athletics (3)**

Study of problems, policies, and procedures in the administration of the high school athletic program. Prerequisite: PE 110 and senior standing.

**PE 495(G) Administration of Physical Education (3)**

Policies, procedures, and problems in administration of physical education. Prerequisite: PE 110 and senior standing.

**PE 505 History and Philosophy of Physical Education (3)**

*PE 540 Problems in Physical Education* (3)  
Study of individual problems and problems common to groups.

*PE 560 Studies in Athletic Training* (3)  
Directed reading and discussions; special emphasis on research in athletics.  
Prerequisite: Playing and/or coaching experience in athletics.

*PE 574 Tests and Measurements in Physical Education* (3)  
Standardized tests; test construction and administration.

*PE 599 Thesis* (1-6 hours)  
Registration only after consultation with major adviser.

#### RECREATION COURSES

*Rec 465(G) Organization and Administration of Recreation* (3)  
Policies, procedures, and problems in establishing and operating a municipal recreation program.

*Rec 540 Problems in Recreation* (3)  
Individual projects; problems common to the group.

#### DEPARTMENT OF HISTORY

Robert Davies, *Chairman*, Dieter Berninger, William Eagar, Lee Grugel, Christopher Hong, Murray Kranz, Lysle Meyer, Victor Peters, I. Kenneth Smemo, Walter Stotzzer, Nelson Whyatt.

**Master of Science in Education:** The degree may be earned with a major in Social Science, the program including courses in the social sciences area (Economics, History, Political Science, Sociology) with a concentration of coursework and thesis research in History. The general requirements for the degree are given on pages 15–19.

#### HISTORY COURSES

*Hist 307(G) Studies in Asian History* (3-4)  
Selected topics in Asian history.

*Hist 308(G) Studies in African History* (3-4)  
Selected topics in African history.

*Hist 309(G) Studies in Latin American History* (3-4)  
Selected topics in Latin American history.

*Hist 310(G) Studies in European History* (3-4)  
Selected topics in European history.

*Hist 311(G) Studies in North American History* (3-4)  
Selected topics in North American history.

*Hist 312-313-314(G) Ancient History I-II-III* (3 each)  
*Hist 312:* Ancient Near East. The political, social, and cultural history of the Ancient Near East, from the dawn of civilization through the formation of the great empires. *Hist 313:* Ancient Greece. The social, political, economic, and cultural development of the ancient Greeks. *Hist 314:* Ancient Rome. The political, social, economic, and cultural history of Roman Republic and Empire.

*Hist 315(G) Medieval Europe* (3)  
A study of European history from the decline of the Roman Empire to the Renaissance.

*Hist 316(G) The Renaissance* (3)  
The political, religious, cultural, economic, and social evolution of Europe from the 14th to the 16th century.

*Hist 317(G) The Reformation* (3)  
Sixteenth century Europe during the Protestant and Catholic Reformation period. The development of the modern state system; political, social, and economic environment.

*Hist 318-319-320(G) History of Germany I-II-III* (3 each)  
*Hist 318:* Survey of the political, social, and economic development of Germany from earliest times to 1815. *Hist 319:* The evolution of Germany from 1815 through the First World War; an introduction to German contributions in the arts, science, and philosophy. *Hist 320:* Political, social, and economic developments from 1918 to the present.

*Hist 331-332-333(G) Russian History I-II-III* (3 each)  
*Hist 331:* A study of the development of Russia from earliest times to the 18th century. *Hist 332:* A study of the development of Russia from the 19th century to the March Revolution, 1917; an introduction to Russian achievements in literature, art, music, architecture, and science. *Hist 333:* A study of the Soviet Union: its history, government, domestic and foreign policies, from 1917 to present.

*Hist 336-337(G) East European History I-II* (4 each)  
*Hist 336:* Earliest times until the Congress of Vienna. Formation of states, acceptance of Christianity, rise and disintegration of empires, the Turkish occupation. Emphasis on the influence of the Byzantine and Ottoman empires on Eastern Europe. *Hist 337:* From the Congress of Vienna to the end of World War II. The new middle class, romanticism, nationalism, liberalism, Turkish withdrawal, and the birth of new states; the effect of two world wars.

*Hist 338-339(G) Intellectual History of Western Civilization I-II* (4 each)  
*Hist 338:* Reflections on fundamental social, political, and religious concerns from the Renaissance to the 18th century Enlightenment. *Hist 339:* Intellectual



response to the special problems of modern society in the 19th and 20th centuries. Prerequisite: History 102-103 or consent of instructor.

*Hist 357-358(G) United States Foreign Relations I-II (3 each)*

*Hist 357:* Diplomacy in the era of the American revolution, continental expansion, the Civil War, and the Gilded Age. *Hist 358:* American expansion into the Caribbean and to the Far East, World Wars I and II, a focus upon the various forces that affected American foreign relations in the twentieth century.

*Hist 359(G) National Histories (4)*

Short histories of various nations. A single nation each time.

*Hist 364-365(G) Economic History of the United States I-II (4 each)*

Analysis of economic forces and their effects upon American life. *Hist 364:* The 18th and 19th centuries. *Hist 365:* The 20th century.

*Hist 366-367(G) Constitutional History of the United States I-II (4 each)*

*Hist 366:* The origins and development of the American Constitution from colonial times to the beginning of the industrial age. *Hist 367:* The American constitutional system in its historic setting from early industrial times to the present.

*Hist 368-369(G) Social and Intellectual History of the United States I-II (4 each)*

The social and intellectual evolution of the American nation. *Hist 368:* From the beginnings to mid-19th century. *Hist 369:* From Darwin to the present.

*Hist 370(G) The American West (4)*

The frontier movement as a factor responsible for North American character and institutions.

*Hist 371-372(G) Colonial America I-II (3-4 each)*

*Hist 371:* The transfer of European civilization to North America; the history and culture of the colonies in the 17th century. *Hist 372:* The evolution and growth of colonial society in the 18th century.

*Hist 381-382(G) History of Canada I-II (3 each)*

*Hist 381:* Pre-Confederation Canada: the period of exploration and French settlement through the conquest, the period of British rule, achievement of responsible government, and the developing feeling of Canadian nationality. *Hist 382:* Post-Confederation Canada: the consolidation and expansion of Canada from Confederation to the present, with emphasis on Canada's internal growth and multinational character.

*Hist 390(G) Comparative History (4)*

Searching for meaning in history through comparative analysis of the grand phenomena.

*Hist 401(G) Seminar in Asian History (3-4)*

Problems in Asian history for advanced students. Topics for analysis chosen to fit the capabilities of the class.

*Hist 402(G) Seminar in African History (3-4)*

Problems in African history for advanced students. Topics for analysis chosen to fit the capabilities of the class.

*Hist 403(G) Seminar in Latin American History (3-4)*

Problems in Latin American history for advanced students. Topics for analysis chosen to fit the capabilities of the class.

*Hist 404(G) Seminar in European History (3-4)*

Problems in European history for advanced students. Topics for analysis chosen to fit the capabilities of the class.

*Hist 405(G) Seminar in North American History (3-4)*

Problems in North American History for advanced students. Topics for analysis chosen to fit the capabilities of the class.

*Hist 501 Development of the Discipline of History (2)*

An examination of how the idea of history has grown from the time of the Hebrew chroniclers to the present day.

*Hist 560 Tutorial in History: Graduate (1-3)*

Directed readings and discussion on particular problems in history agreed upon by the instructor and pupil. Prerequisite: Bachelor's degree in history and consent of both instructor and department chairman.

*Hist 599 Thesis (1-6 hours)*

Registration only after consultation with major adviser.

## DEPARTMENT OF INDUSTRIAL EDUCATION

Marlowe Wegner, *Chairman*, Albert Mudgett, Milo Sulentic, Otto Ursin, Leland White.

**Master of Science in Education:** The degree may be earned with a major in Industrial Education. The general requirements for the degree are given on pages 15-19.

## INDUSTRIAL EDUCATION COURSES

*IE 420(G) Wood Technology (3)*

Advanced study in woods: wood products, mechanical properties and factors affecting mechanical properties of wood, working stresses of lumber, destructive agencies of wood and preservative measures, effects of natural elements on wood. Experimentation, including effects of heat and water on wood adhesives.

*IE 441(G) Tests and Evaluation in Industrial Education (3)*

Study and application of principles of evaluation of shop and drawing subjects for the purpose of improving the instructional program. For industrial education graduates or with consent of the instructor.

*IE 444(G) Industrial Design (3)*

Drawing room practices and their relationship and use in designing or redesigning projects and in planning preparatory to the actual construction of products. Prerequisite: Basic drawing and senior or graduate standing.

*IE 450(G) Graphic Arts Technology (4)*

Advanced study in the Graphic Arts, Historical backgrounds, the organization of the industry, production methods and techniques, new research and experimentation, and the future of the field. Prerequisite: 4 hours of printing or consent of instructor.

*IE 460(G) The General Shop (4)*

Special problems in organizing and teaching industrial education in the general shop. Current practices in equipment, selection of educational areas, objectives, layout of shop, organization of subject matter, and personnel organization.

*IE 480(G) Special Problems in Industrial Education (1-6)*

Individual study of some phase of Industrial Education not offered in depth in the regular curriculum but of special interest to the student. Prerequisite: senior status, consent of the instructor and Department Chairman. May be repeated for total of 6 credit hours.

*IE 491(G) Materials Inspection and Testing (4)*

A study of methods, materials, and techniques of inspection and testing of industrial materials and products.

*IE 493(G) School Shop Equipment Repair and Maintenance (1)*

Care and maintenance of major machines in wood and metal areas; lectures, slides, cutaway models, drawings. Disassembly and reassembly of machines. Maintenance adjustments and repairs. Summer only.

*IE 494(G) Trends and Developments in Industrial Education (3)*

A course to develop knowledge and appreciation of the changing concepts and achievements.

*IE 496(G) Literature of Industrial Education (3)*

Survey of periodicals, various types of books, bulletins, and special material from the field of Industrial Education. Some emphasis on developing skills in locating materials through bibliographies, library services, etc.

*IE 497(G) Curriculum Planning in Industrial Education (3)*

Courses of study and broad general curriculums. Techniques for scientific analysis of industry, the community, and the nation as a basis for courses of study and the curriculum for one-shop schools, multi-shop schools, and community programs.

*IE 498(G) Administration, Organization, and Supervision of the Industrial Program (3)*

Objectives, programs, practices, laws, rulings, standards, and certification. Open to superintendents, principals, supervisors, and teachers.

*IE 505 History of Industrial Education (3)*

A historical and technical approach to the development of the field of industrial education. Primitive forms of industrial education are identified and their impact on modern education is discussed.

*IE 510 Current Issues of Industry (3)*

Current issues of industry and the impact or effect these issues have on industrial education.

*IE 599 Thesis (1-6 hours)*

Registration only after consultation with major adviser.

**DEPARTMENT OF LIBRARY SCIENCE**

Evelyn Swenson, *Chairman.*

**LIBRARY SCIENCE COURSES***LibS 470(G) Problems in School Librarianship (2-4)*

Individual projects on subjects of special interest or concern to the student. Prerequisite: Consent of instructor.

*LibS 480(G) History of Children's Literature (3)*

Survey of history and development of juvenile literature as a specific literary genre, with special attention to notable British and American authors, illustrators, publishers, and critics.

*LibS 490(G) History of Books and Printing (3)*

The making of books from earliest times to the present: the invention and spread of printing, type design, bookbinding, and methods and styles of illustration.

**DEPARTMENT OF MASS COMMUNICATIONS**

Roger Hamilton, *Chairman,* Howard Binford, Lyle Huseby, Paul Sullivan.

**MASS COMMUNICATION COURSES***MC 440(G) Communications Law and Civil Rights (3)*

Consideration of the legal philosophy bearing upon the communications media. The development of freedom of expression and the privileges and restraints affecting media as a result of libel, contempt of court, invasion of privacy, copyright, state and federal statutes and self-regulatory codes.

**MC 580** *Problems in Mass Communications* (1-4)

Individual problems in areas of specific interest to the student. A student is required to submit a detailed outline of the problem he will examine to his adviser for approval by the department. Credits earned apply toward graduation but not toward the major.

**DEPARTMENT OF MATHEMATICS**

Derald Rothmann, *Chairman*, Marvel Froemming, Milton Legg, Bill Ritchie, Kenneth Schmidt, Marion Smith, Warren Thomsen, James Wallen, Everett Warren, Fike Zahroon.

**Master of Science in Education:** The degree may be earned with a major in mathematics. General requirements for the degree are given on pages 15-19.

Candidates are expected to provide evidence of proficiency in undergraduate mathematics. A candidate is expected to include in his course selection (either within his program or prior) all required 400-level courses in the existing undergraduate major plus at least 16 hours of mathematics courses which are not required by the undergraduate major. A second course in at least two of the following areas is required: algebra, geometry, analysis, mathematical statistics, applied mathematics. Written comprehensive examinations will be administered in general mathematics and two mathematical areas according to the program planned by the candidate and his adviser and approved by the department.

**MATHEMATICS COURSES****Math 341(G)** *Special Methods in Mathematics in the Elementary School* (3)

Adapted to the needs and experience of those enrolled. Prerequisite: Elementary school teaching experience.

**Math 400(G)** *History of Mathematics* (3)

Topical and chronological survey of the main branches of mathematics. Prerequisite: Math 233 or consent of instructor.

**Math 415(G)** *Foundations of Geometry* (4)

Euclidean geometry. Comparison of the postulates of Euclid and Hilbert. Transformations, cross-ratio, geometry of circles, constructions. Prerequisite: Math 391.

**Math 416(G)** *Modern Geometry* (4)

Introduction to non-Euclidean geometries and projective geometry. Prerequisite: Math 415.

**Math 423(G)** *Foundations of Algebra* (3)

Development of the real number field from the Peano postulates. Prerequisite: Math 391.

**Math 424-425(G)** *Abstract Algebra I, II* (4 each)

An introduction to abstract mathematical systems such as groups, rings,

and fields. Topics include Lagrange's theorem, factor groups, and quotient rings. Sequential. Prerequisite: Math 327 and Math 391.

**Math 427(G)** *Linear Algebra* (4)

An introduction to the theory of finite-dimensional vector spaces. Topics include linear transformations, characteristic polynomials, and inner product spaces. Prerequisite: Math 424.

**Math 445(G)** *Computers in Secondary Mathematics* (3)

Methods of using computers in the teaching of secondary mathematics courses and computer assisted instruction. This course does not apply to the B.A. major. Prerequisite: Completion of a calculus sequence.

**Math 450(G)** *Numerical Analysis I* (4)

Topics will include numerical solutions to equations, finite differences, interpolation formulas, and numerical calculus. Prerequisites: Math 331 and ComS 250 or consent of instructor.

**Math 451(G)** *Numerical Analysis II* (3)

Introduction to the theory of numerical analysis as related to the solution of systems of equations. Prerequisites: Math 450 and Math 327.

**Math 461-462-463(G)** *Introduction to Real Analysis I-II-III* (4 each)

An introduction to the theory of functions of a real variable including sets and functions, sequences and series of real numbers, limits and metric spaces, continuous functions on metric spaces, connectedness, completeness, compactness, Riemann integral, elementary functions, and sequences and series of functions. Prerequisite: Math 392.

**Math 465(G)** *Applied Analysis* (4)

Topics include an introduction to Laplace transforms with applications, a study of vector and matrix analysis, line and surface integrals, Green's theorem, and Stokes' theorem. Prerequisite: Math 331.

**Math 466(G)** *Fourier Series and Boundary Value Problems* (4)

An introduction to Fourier series and boundary value problems. Applications include finding solutions to partial differential equations. Prerequisite: Math 331.

**Math 467(G)** *Complex Analysis* (4)

An introduction to complex numbers and variables. Other topics include a study of analytic functions, the Cauchy integral formula, infinite series, and conformal mappings. Prerequisite: Math 392.

**Math 474(G)** *Probability* (4)

A study of the theory and applications of various probability density functions. Prerequisite: Math 375.

**Math 475-476(G)** *Mathematical Statistics I-II* (4 each)

Mathematical derivations and applications of statistical techniques and theories. Prerequisites: Math 375 and Math 392.



**Math 480(G) General Topology (4)**

An introduction to topology including metric spaces, topological spaces, continuity, countability, compactness, connectedness, and separation axioms. Prerequisites: Math 461.

**Math 495(G) Theory of Numbers (4)**

Fundamental theorems and problems in number theory. Prerequisite: Math 391.

**Math 540 Problems of Secondary School Mathematics (3)**

Trends in methods and curriculum in secondary school mathematics. Prerequisite: Consent of instructor.

**Math 590 Special Problems in Mathematics (1-6)**

See Math 490.

**Math 599 Thesis (1-6 hours)**

Registration only after consultation with major adviser.

**DEPARTMENT OF MUSIC**

Donald Key, *Chairman*, Martin Beckerman, William Bunch, Earnest Harris, Mildred Holstad, Albert Noice, Arthur Nix, Robert Pattengale, Andrew Smith.

**Master of Science in Education:** The degree may be earned with a major in music according to the general requirements given on pages 15–19.

The degree is designed for vocal and instrumental public school teachers. An initial qualifying examination is taken during the period of the first enrollment. Any determined deficiencies must be made up at the undergraduate level.

Either Plan A or Plan B may be followed. The program should include, in addition to 9 hours of professional education, 27 hours of music and 9 hours outside the area of professional education and music.

**MUSIC COURSES****Mus 316(G) Composition (3)**

Prerequisite: Consent of the instructor. May be repeated for credit. On request.

**Mus 343(G) Instrumental Conducting II (2)**

Advanced conducting for instrumental students. Prerequisite: Mus 342.

**Mus 347(G) Choral Conducting II (2)**

Advanced choral conducting. Prerequisite: Mus 346.

**Mus 369-370-372(G) History of Music I-II-III (4 each)**

369: Medieval, Renaissance, Baroque periods. Prerequisite: Music 271 or 281.

370: Classic and Romantic periods. Prerequisite: Music 369. 372: Impressions and 20th century music. Prerequisite: Mus 370.

**Mus 373(G) American Music (3)**

History of music in the United States to include analysis of stylistic features, in the context of historic, cultural, and artistic developments. Prerequisite: Music 372. On request.

**Mus 378(G) Collegium Musicum (1)**

The Collegium Musicum is a workshop for the music history and musicology courses. The Collegium is concerned primarily with the performance of music from the later Middle Ages and Renaissance. May be repeated for credit.

**Mus 382(G) Solo and Ensemble Literature for Brass (1)**

A course in the repertoire for brass instruments. On request.

**Mus 383(G) Solo and Ensemble Literature for Woodwinds (1)**

A course in the repertoire for woodwind instruments. On request.

**Mus 399-404(G) Small Ensemble (1 each)**

Preparation and performance of both instrumental and vocal chamber music. On request. May be repeated for credit. Areas as follows:

399(G) Percussion	401(G) String	403(G) Woodwinds
400(G) Vocal	402(G) Brass	404(G) Piano

**Mus 406(G) Opera (2)**

Opera performance through small workshop ensembles as well as full scale productions. May be repeated for credit.

**Mus 409(G) Psychology of Music (3)****Mus 410(G) Orchestration (3)**

The basic principles of orchestral writing.

**Mus 411(G) Band Arranging (3)**

Arranging for small ensembles and full band.

**Mus 413(G) 16th Century Polyphony (3)**

16th century polyphonic techniques.

**Mus 414(G) Techniques of Musical Interpretation (3)**

Structural analysis is applied to basic interpretative techniques. Prerequisite: Consent of instructor. May be repeated for credit.

**Mus 430(G) Electronic Music I (3)**

The equipment and techniques of electronic music. Permission of the instructor required.

**Mus 431(G) Electronic Music II (3)**

Advanced techniques of electronic music, from the standpoint of analysis of compositional techniques in the medium. Emphasis on original student composition. Prerequisite: Electronic Music I and permission of the instructor. May be repeated for credit.

*Mus 441(G) Piano Pedagogy I (2)*

Fundamentals of piano instruction on the elementary, secondary, and adult levels. Prerequisite: Private piano and consent of staff.

*Mus 442(G) Piano Pedagogy II (2)*

Methods of piano instruction (consent of the instructor).

*Mus 443(G) Pedagogy of Theory (3)*

Aims, methods, and materials in teaching music theory. Prerequisite: Completion of basic undergraduate theory requirements and consent of the instructor.

*Mus 444(G) String Methods and Materials (2)*

A study of literature pertaining to problems of string playing. Prerequisite: 2 credits of Music 367 in a secondary string instrument. (The second credit may be taken concurrently.)

*Mus 445(G) Stage Band Methods and Materials (2)*

A course for the prospective teacher of stage bands in the public schools. Survey of jazz history and an analysis of technical problems unique to the area of stage band: literature, organization, instrumentation, notation, and improvisation. Prerequisite: Mus 341.

*Mus 446-447(G) Voice Pedagogy I-II (1 each)*

446: Fundamental voice teaching techniques; 447: Instruction in repertoire interpretation and supervised teaching instruction.

*Mus 450-468(G) Private Instruction, Level IV (2 each)*

Private lessons. One lesson a week. May be repeated for credit. Areas as follows:

450(G) Piano	460(G) Voice	466(G) Woodwinds
455(G) Organ	465(G) Brass	467(G) Strings
		468(G) Percussion

*Mus 502 Research in Music and Music Education (3)*

Research techniques and materials in music education and musicology. Prerequisite: Ed 500, Introduction to Research.

*Mus 504 Workshops in Secondary School Music (2)*

A series of one-week workshops held at the International Music Camp (International Peace Gardens) for vocal and instrumental music educators teaching in secondary schools.

*Mus 505 Graduate Recital (1-2)*

By arrangement. May be repeated for credit.

*Mus 510 Directed Study in Music Theory (3)*

Varied projects in the field of music theory. Course may be repeated for credit.

*Mus 520 Advanced Ear Training (3)**Mus 530 16th Century Polyphony (3)**Mus 540 Problems in Teaching and Supervising Music (3)*

Advanced course in curriculum planning and materials. On request.

*Mus 541 Advanced Studies in Teaching Elementary School General Music (3)*

Advanced study of music methods and materials for teaching general music in the elementary schools.

*Mus 542 Advanced Studies in Teaching Vocal Music in Secondary Schools (3)*

Advanced studies of music methods and materials for teaching music in the junior and senior high schools.

*Mus 545 Voice-Choral Techniques Institute (3)*

An institute designed to provide practical solutions to the problems of the adolescent voice.

*Mus 550-568 Private Instruction—Level V (1-2 each)*

Private lessons. One lesson a week. May be repeated for credit. Areas as follows:

550 Piano	560 Voice	566 Woodwinds
555 Organ	565 Brass	567 Strings
		568 Percussion

*Mus 570 Introduction to Musicology (3)*

An introduction to musical research, bibliography, acoustics, philosophy of music, psychology of music, aesthetics, theory, and pedagogy.

*Mus 571 Music in the Middle Ages (3)*

(Mus 571 through 576 are seminar courses.)

*Mus 572 Music in the Renaissance (3)**Mus 573 Music in the Baroque (3)**Mus 574 Music in the Classic Era (3)**Mus 575 Music in the Romantic Era (3)**Mus 576 Music in the 20th Century (3)**Mus 599 Thesis (1-6 hours)*

Registration only after consultation with major advisor.

**DEPARTMENT OF PHILOSOPHY**

Charles Magel, *Chairman*, Arnold Johanson.

**PHILOSOPHY COURSES**

*Phil 340(G) Advanced Ethics (4)*

Epistemological analysis of fundamental moral concepts, judgments, and arguments; consideration of major meta-ethical theories. Prerequisite: One course in philosophy or consent of the instructor.

*Phil 380(G) Plato (4)*

A study of several major dialogues of Plato. Prerequisite: One course in philosophy or consent of the instructor.

*Phil 381(G) Aristotle (4)*

A study of several major works of Aristotle. Prerequisite: One course in philosophy or consent of the instructor.

*Phil 385(G) Continental Rationalism (4)*

Analysis of philosophical thought of Descartes, Spinoza, and Leibniz. Prerequisite: One course in philosophy or consent of the instructor.

*Phil 390(G) British Empiricism (4)*

Analysis of philosophical thought of Locke, Berkeley, and Hume. Prerequisite: One course in philosophy or consent of the instructor.

*Phil 405(G) Philosophy of Education (4)*

Historical and critical study of theories of education. Prerequisite: One course in philosophy or consent of instructor.

*Phil 410(G) Nineteenth Century Philosophy (4)*

Analysis of thought of major nineteenth century philosophers, typically selected from the following: Hegel, Marx, Schopenhauer, Kierkegaard, Nietzsche, J. S. Mill. Prerequisite: One course in philosophy or consent of instructor.

*Phil 411(G) Philosophy of Science (4)*

Philosophical analysis of the fundamental concepts, laws and theories of the natural and social sciences. Prerequisite: One course in philosophy or consent of the instructor.

*Phil 420(G) Contemporary Analytic Philosophy (4)*

Study of some major themes and figures in contemporary analytic philosophy. Prerequisite: One course in philosophy or consent of the instructor.

*Phil 430(G) Kant (4)*

A study of one or more major works of Kant. Prerequisite: One course in philosophy or consent of the instructor.

*Phil 440(G) Selected Philosophical Problem (1-4)*

Intensive study of a selected philosophical problem. Specific topic for each term offered will be announced in class schedule. Students may register for this course more than once since content will vary. Prerequisite: One course in philosophy or consent of the instructor.

*Phil 450(G) Seminar on Major Philosopher (4)*

Intensive study of the work of an important classical or contemporary philosopher. The specific philosopher for each term offered will be announced in class schedule. Students may register for this course more than once since content will vary. Prerequisite: One course in philosophy or consent of instructor.

*Phil 490(G) Independent Study (2-4)*

Intensive independent study of a philosophical problem, major philosopher, or philosophical movement, under the direction and supervision of one or more members of the Department. May be repeated to a maximum of 9 credits. A maximum of 4 credits may be used to fulfill the requirements of the major in philosophy. Students who desire to undertake independent study will submit a written proposal indicating the problem or philosopher(s) they wish to study, and their tentative procedure for carrying out the study. The members of the Department will examine the proposal to determine the feasibility of the plan and, if the proposal is approved by the Department, the amount of credit to be given for it. Prerequisite: Approval of independent study proposal by the Department of Philosophy.

**DEPARTMENT OF PHYSICS**

Walter Wesley, *Chairman*, Emil Kochis, Roger Sipson, Walter Vollmers, James Wray, Hsin-Yang Yeh.

**PHYSICS COURSES**

*Phys 330-331-332(G) Intermediate Mechanics I-II-III (3 each)*

An advanced unified approach to physical problems. Includes: Newton's Laws; algebra and calculus of vectors; particle dynamics in one, two, and three dimensions; systems of particles; gravitation; moving reference frames; Lagrange's equations; dynamics of rigid bodies; Hamilton's equations; variational principles; Hamilton-Jacobi theory; small oscillations; mechanics of continua; special theory of relativity. Prerequisites: Math 331 or permission of instructor.

*Phys 345(G) Aerospace Education Workshop (4)*

A functional approach to the learning of scientific principles relating to aerospace science. Included are basic principles of mechanics, meteorology, and astronomy. Numerous guest lecture-demonstrations and opportunities to construct teaching aids. Field trips. An air tour is provided when possible. No prerequisite, but restricted to elementary and secondary teachers and teaching candidates except by permission of the instructor. First summer session only. (Formerly Science 345).

*Phys 370-371-372(G) Electromagnetic Theory and Physical Optics I-II-III (3 each)*

An advanced study of electromagnetism, electromagnetic waves, and light. Includes: Boundary value problems for Poisson's and Laplace's equations, electrostatics of microscopic media, magnetostatics, Maxwell's equations, plane electromagnetic waves, Huygen's principle, interference, polarization, Fresnel's equations, radiation and diffraction, multipole fields, scattering and dispersion, Lienard-Wiechert potentials, self forces, radiation of moving charges, relativistic particle dynamics, covariant formulation of electrodynamics. Prerequisites: Phys 113, Phys 220, or permission of instructor.

*Phys 430(G) Introduction to Wave Mechanics (3)*

Basic tools of atomic and nuclear physics. Quantum mechanics, wave-particle duality, the Uncertainty Principle, Schroedinger equation, free-particle solutions of the Schroedinger equation, the harmonic oscillator, the one-electron atom. Prerequisites: Physics 332 and 371 or permission of instructor.

*Phys 431(G) Atomic and Molecular Physics (3)*

Applications of wave mechanics to atoms and molecules, spin-orbit interaction, quantization of angular momentum, fine and hyperfine structure in hydrogen, Pauli principle and the periodic table, atomic spectroscopy, molecular binding, molecular spectra, quantum statistics. Prerequisite: Physics 430 or permission of instructor.

*Phys 432(G) Nuclear & Solid State Physics (3)*

Solid State Physics: Crystalline structure of solids, lattice dynamics, thermal properties of crystals, free-electron theory of metals, X-rays and X-ray diffraction. Nuclear Physics: Basic properties of nuclei, radioactivity nuclear models, nuclear reactions, elementary particles. Prerequisite: Physics 431 or permission of instructor.

*Phys 470-471(G) Quantum Mechanics I-II (3 each)*

Interference experiments and the wave-particle duality, probability amplitudes, general formalism in terms of linear vector spaces, symmetries, Schrodinger equation and applications, operators and transition elements, perturbation theory, quantum electrodynamics, quantum statistical mechanics. Prerequisites: Math 331 and 430 and/or permission of instructor.

*Phys 490(G) Physics Seminar (1 each)*

Examination of some of the current literature in the field. Analysis and presentation of some aspects of this literature by students. Prerequisite: Permission of Department Chairman.

*Phys 499(G) Special Problems in Physics (1 to 4)*

Considers special intermediate and advanced problems in physics. Area and credit to be specified in transcript. Prerequisite: Permission of Department Chairman.

**DEPARTMENT OF POLITICAL SCIENCE**

David Flint, *Chairman*, John Calvert, A. Khoshkish, Byron Schmid.

**Master of Science in Education:** The degree may be earned with a major in Social Sciences, the program including courses in the social sciences area (Economics, History, Political Science, Sociology) with a concentration of coursework and thesis research in Political Science. The general requirements for the degree are given on pages 15–19.

**POLITICAL SCIENCE COURSES***Pol 311(G) American Political Thought (4)*

A survey of American political thought from New England Puritanism to modern pragmatism and conservatism.

*Pol 312(G) Communist and Marxist Foundations of Government (3)*

Historical evolution of Communism in Eastern and Western cultures as a theory and practice of government. Marxism and the nineteenth century development of Communism, its dialectic of historical materialism and the future stateless society; will the state wither away?

*Pol 341(G) Policy and Administration (3)*

The policy processes of the national government, focusing particular attention on the interplay between the political forces and administrative agencies. Detailed exploration of how the Executive and the Congress direct and control administration, with illustrations from major foreign and domestic policies.

*Pol 342(G) Public Personnel Problems (3)*

Development and maintenance of an efficient, effective, and representative public service. Special attention will be given to the role of the policy branches in setting personnel policies and to the activities of central personnel agencies in setting up and enforcing personnel standards.

*Pol 351(G) Comparative Government of Eastern European States (3)*

Analysis of Socialist and Communist practices of government in the Soviet Union and other Eastern European countries. The particular historical background and political evolution of Communist parties in each country and the modalities of exercise of power in each context.

*Pol 352(G) Political Problems in Developing Countries (3)*

Analysis of the social and economic conditions affecting political institutions and their forms in the developing countries. The third world in the political and economic context of international relations.

*Pol 355(G) Politics of Scandinavia*

A discussion of the current political structures and problems of the Scandinavia countries.

*Pol 360(G) American Foreign Policy (4)*

The particularities of the U.S. foreign policy in the light of its historical evolution; geographical position; economic, military, and political interests. Theory and practice within the federal system of government and the American democracy.

*Pol 361(G) Topics in International Law (3 each, may be repeated)*

The legacy of international law; the doctrine of sovereignty; sources of international law; rights and obligations of states; freedom of the high seas; disputes, conflicts and the laws of war. New approaches in the light of the new international patterns. International law through the cases. The development of international jurisdiction; negotiation, arbitration, and judicial settlement. The court system and its development.

*Pol 362(G) Topics in International Organizations (3 each, may be repeated)*

The historical development of international organizations; the ideal and functional approaches. The nineteenth century European experiences; from the League of Nations to the United Nations; the charter, its meaning, and its interpretation. The Specialized Agencies of the United Nations; different regional organizations, their economic, political, cultural, or military purposes and the degree of their integration.

*Pol 410(G) Topics in Western Political Thought (4 each, may be repeated)*

Political thought from ancient times to the Reformation. Political thought from the seventeenth century to the present.

*Pol 411(G) Eastern Political Thought (3)*

An introduction to the traditional concepts of government in Asia. The major schools of political thought in China, India, and Persia through the ages and later developments in Japan and the Middle East up to the advent of modern states.

*Pol 420(G) Seminar in American Politics (3)*

Research and advanced analysis of selected topics. Supervised personal studies by students interested in the American political system. May be repeated as content is changed.

*Pol 430(G) Topics in Constitutional Law (3 each, may be repeated)*

Interpretation of the Constitution of the United States by federal courts with particular emphasis on the federal governmental system. Interpretation of the Constitution of the United States by federal courts with emphasis on civil rights.

*Pol 431(G) Social Work and the Law (3)*

An examination of legal procedures and services with which social workers are concerned. Discussion focused on our court system, probation and parole system, evidence and court procedures, marriage annulment, divorce, support and paternity, guardianship and paternity, adoption, foster home placement, child abuse, and other related legal problems. Same as SSer 431(G).

*Pol 440(G) Organization Theory and Problems (3)*

Theories of how organizations are managed, particularly public bureaucracies. Current thought on reorganizations, drawing on the literature of behavioral sciences and from the more traditional school of thought. The impact of bureaucratic structures on individuals is emphasized.

*Pol 450(G) Topics in Comparative Government of Asia (3 each, may be repeated)*

Analysis of political systems of Asian countries with traditional patterns and modern governmental institutions of Western inspiration, including India, Japan, and Southeast Asia. An examination of the Marxist theory and practice of government as applied in the Asian context, with particular emphasis on China. The role and leadership of Communist parties in changing the social and political pattern of Asian institutions.

*Pol 451(G) Comparative Government of the Middle East (3)*

Common social patterns and different political orientations in the area in the light of economic and political pressures from outside and the evolution of values within; the role of Islam and Arab nationalism. Particularities of different political systems in the Region.

*Pol 452(G) Government and Politics in Africa (4)*

Problems of Independence as experienced by the French-speaking and English-speaking African states. Common backgrounds; traditional tribal structures. Different governmental approaches; new patterns adaptable to new situations. The African personality.

*Pol 460(G) International Politics (4)*

A systematic survey of contemporary theories of international conflict. The roles played by the individual, the state, and the international environment as "actors" in global politics. Motivation of actors; international ethics; bargaining, strategy, and the balance of power: nationalism and ideology; and transformation of the current world system.

*Pol 461(G) Independent Study in Political Science (1-6)*

Selected readings in political science done under the close supervision of members of the department. A research paper may be required; special projects may be arranged. Prerequisites: Pol 110 and 120 or consent of instructor.

*Pol 490(G) Senior Seminar in Political Science (2-4)*

An examination of an issue, problem, or concept at a senior level in a seminar setting. May be repeated as the topic varies. Prerequisites: Pol 110 and 120 or consent of instructor.

*Pol 590 Graduate Seminar in Political Science (2-4)*

An examination of an issue, problem, or concept at a graduate level in a seminar setting. May be repeated as the topic varies. Prerequisites: Pol 110 and 210 or consent of instructor.

*Pol 599 Thesis (1-6 hours)*

Registration only after consultation with major adviser.

#### DEPARTMENT OF PSYCHOLOGY

James Condell, *Chairman*, Bradley Bremer, Bruce Bromley, Rudolph Chang-Yit, David Cole, Richard Reed.

**Master of Science in Education:** The degree may be earned with a School Psychologist major. Requirements are those cited on pages 15–19 with the following specific conditions:

In addition to the general requirements for admission, the applicant must submit an undergraduate grade point average of at least 3.0 (B), his preparation to include at least 12 quarter hours of general or introductory psychology. Three letters of recommendation are required and arrangements must be made to take personal-measure and interest-inventory tests administered by the department. Students are admitted only on a full-time basis.

Admission to Candidacy is determined by a departmental committee. The curriculum is designed to meet requirements for School Psychologist I certification in the State of Minnesota. Certification in a teaching field is not required for School Psychologist I certification, or for enrollment in the 9 hours of professional education courses although completion of a course in educational psychology is required prior to such enrollment.

The program must be completed under Plan A, the thesis being either research or theory-oriented.

### SPECIFIC COURSE REQUIREMENTS

Group I-Professional Education (9 hours minimum) Ed. 500, 501, 502 required.

Group II-School Psychology Major (33 hours minimum) Psych. 460g, 465g, 476g, 501, 502, 503, 504, 505, 506, 507, 599 required.

Group III-Electives (6 hours minimum) Selected from education, guidance and counseling, psychology, remedial reading, social work, sociology, special education, speech pathology.

### PSYCHOLOGY COURSES

#### *Psy 401(G) Advanced Developmental Psychology I (4)*

An introduction to the concept of development and developmental research, emphasizing the major theoretical approaches in the field. Prerequisite: Consent of the instructor.

#### *Psy 402(G) Advanced Developmental Psychology II (4)*

Intensive study of research and research problems in areas of child development which are important historically or are of major current interest. Prerequisite: Consent of the instructor.

#### *Psy 403(G) Advanced Developmental Psychology III (4)*

Experience in critical evaluation of research, design of original research and preparation of psychological manuscripts for publication. Prerequisite: Psy 401 or 402.

#### *Psy 442(G) Learning (4)*

Laboratory course applying theory and methodology in experimentation. Principal topics: Learning theory and motivation. Laboratory included. Prerequisite: Psy 340.

#### *Psy 444(G) Motivation and Emotion (4)*

Motivation, emotion and perception. Lectures and laboratory study of these processes with emphasis on experimental procedures. Laboratory included. Prerequisite: Psy 340.

#### *Psy 445(G) Physiological Psychology (4)*

The study of the basic neurochemical, neurophysiological, and neuroanatomical characteristics of the nervous system which function in the control of behavior. The physiological processes underlying perception, motivation, and learning will be those of primary interest. Experiments in the laboratory will be an integral part of the course work. Prerequisite: Psy 340.

#### *Psy 446(G) Perception (4)*

The way in which the individual interprets his physical environment and reacts to it. A study of the sensory determinants of behavior. Laboratory included. Prerequisite: Psy 340.

#### *Psy 447(G) Comparative Psychology (4)*

The study of animal behavior from an ontogenetic and phylogenetic point of view; intra- and interspecific comparisons of innate behavioral patterns, sensory and learning processes, and social behavior. Laboratory included. Prerequisites: Psy 340, consent of the instructor.

#### *Psy 448(G) Cognition (4)*

An investigation of theoretical approaches and experimental evidence related to human cognitive processes. Topics include conceptualization, problem solving, and originality. Laboratory included. Prerequisite: Psy 340.

#### *Psy 460(G) Abnormal Psychology (4)*

Behavior pathology; theories of development of functional disorders; theories of remediation. Prerequisite: Consent of the instructor.

#### *Psy 465(G) Clinical Psychology (4)*

Survey of approaches to diagnosis of maladjustment and its remediation. Introduction to techniques of psychotherapy. Prerequisite: Consent of the instructor.

#### *Psy 470(G) History and Systems of Psychology (4)*

Contemporary theories and their historical development. Prerequisite: Psy 340, 442, 444 or consent of the instructor.

#### *Psy 476(G) Theories of Personality (4)*

Theoretical approaches to the study of personality; trait theories, field theory, psychoanalysis, social theories. Prerequisite: Consent of the instructor.

#### *Psy 481(G) Seminar in Psychology (4)*

Topics of special interest. For majors, and advanced students in other areas. This may be repeated. Prerequisite: Consent of instructor required for non-majors.

#### *Psy 491(G) Problems in Psychology (4)*

Individual projects on subjects of special interest. This may be repeated. Prerequisite: Consent of the instructor.

#### *Psy 495(G) Field Work in Psychology (2-4)*

Supervised field work, experience in social service agencies, or research settings. Prerequisite: Consent of instructor. Students must have obtained prior approval from the instructor for all projects they wish to take for credit.

#### *Psy 501 Introduction to School Psychological Services (3)*

The content of contemporary psychology with emphasis on the contribution of related areas of psychology to the school setting. Prerequisite: Consent of the instructor.



*Psy 502 Theory and Principles of Measurement (3)*  
Theoretical developments in psychological testing and their implications for application. Prerequisite: Twelve credits in psychology.

*Psy 503 Individual Psychological Testing (3)*  
The related literature and the administration of Wechsler and Binet type scales. Prerequisite: Consent of instructor.

*Psy 504 Advanced Individual Psychological Testing (3)*  
Interpretation of Wechsler and Binet type scales. Administration of selected individual tests and their use in the diagnosis of learning problems in school age children. Prerequisite: Psy 503.

*Psy 505-506-507 Practicum in School Psychology I-II-III (1 each)*  
An overview of the function of the schools and the place of the school psychological services in the schools. Six clock hours per week under the supervision of a certified school psychologist. Prerequisite: Graduate student enrolled in school psychology training program. Participation in seminar required.

*Psy 581 Readings in Psychology (2-4)*  
Directed readings on selected topics. May be repeated to a maximum of 4 credits. Prerequisite: General psychology or consent of the instructor.

*Psy 599 Thesis (1-6 hours)*  
Registration only after consultation with major adviser.

#### SCIENCE COURSES

*Science 390(G) Special Methods in Science in the Elementary School (3)*  
Adapted to the special needs and experience of those enrolled.

#### DEPARTMENT OF SOCIAL SERVICES

Margaret Reed, *Chairman*.

#### SOCIAL SERVICE COURSES

*SSer 425(G) Topical Seminar in Social Work (1-9)*  
Detailed examination of selected topics of concern to Social Welfare-Social Work students. The relationship of the profession of Social Work to the alleviation of social problems.

*SSer 431(G) Social Legislation (3)*  
A course offered in coordination with the Minnesota State Department of Public Welfare. An examination of legal procedures and services with which social workers are concerned. Discussion is focused on court systems, probation and parole, court procedures, marriage, annulment, divorce, support and paternity, foster home placement, adoption, child abuse, and other related problems. Prerequisites: SSer 300, 302 and consent of the Instructor.

*SSer 498(G) Social Services Workshop (1-3)*  
Workshop shall be offered in the Department of Social Services to meet specific needs of students and agency personnel in the community.

#### DEPARTMENT OF SOCIOLOGY-ANTHROPOLOGY

Nancy Parlin, *Chairman*, Laurence Falk, Charles Fortney, Swaran Sandhu.  
**Master of Science in Education:** The degree may be earned with a major in Social Sciences, the program including courses in the social sciences area (Economics, History, Political Science, Sociology) with a concentration of coursework and thesis research in Sociology. The general requirements for the degree are given on pages 15–19.

#### ANTHROPOLOGY COURSES

*Anth 445(G) Seminar in Anthropology (4)*  
Selected topics in Anthropology. Prerequisite: Upper division status and consent of the instructor. May be repeated for credit.

*Anth 461(G) Readings in Anthropology (4-8)*  
Selected readings in anthropology under the close supervision of the members of the department. May be repeated to a maximum of 8 hours. Prerequisite: Upper division status and permission of the instructor.

#### SOCIOLOGY COURSES

*Soc 415(G) Social Organization (3)*  
Analysis of social groups and complex organizations. Characteristics of bureaucracy. Integration and disintegration of social organizations. Prerequisites: 18 credits in sociology or consent of instructor.

*Soc 417(G) Social Change (3)*  
An analysis of the patterns and typical characteristics of social change. The sources of social change and resistance to social change are related to selected areas (such as automation, bureaucracy, and socio-political systems) of change within society. Prerequisites: 18 credits in sociology or consent of instructor.

*Soc 418(G) Sociology of Education (3)*  
Social processes and patterns of interaction in education institutions, relation of the school to other groups and institutions, methods and data of sociology applied to the school situation. Prerequisites: Soc 110 and 9 credits in sociology or 9 credits in education or consent of instructor.

*Soc 424(G) Comparative Social Organization (3)*  
An examination of the social organization of several world regions; the demographic and ecological characteristics, stratification system, organization and forms of association in several world regions, with special attention to the national community. Prerequisites: 18 credits in sociology, economics, political science or consent of the instructor.

*Soc 425(G) Seminar in Sociology (3)*  
Selected topics in sociology. Prerequisite: Upper division status and consent of the instructor. May be repeated for credit.

*Soc 459(G) Topics in Conflict and Cooperation (3)*

Studies in the processes of conflict and cooperation. Variable topics such as international, racial, class, and ethnic conflict. Prerequisite: Upper division status and consent of instructor. May be repeated for credit.

*Soc 461(G) Readings in Sociology (1-6)*

Selected readings in sociology under the close supervision of the members of the department. May be repeated to a maximum of 6 credits. Prerequisites: Senior status and consent of the instructor.

*Soc 500-501 Sociological Theory I-II (3 each)*

Advanced current sociological theory. Prerequisite: Graduate standing and permission of the instructor.

*Soc 510 Individual Research (3-6)*

Maximum 3 credits per quarter. May be repeated once for credit. Research on selected topics in sociology under the close supervision of the members of the department. Prerequisite: Graduate standing and consent of the instructor.

*Soc 512 Topical Seminar in Sociology (3-6)*

Maximum 3 credits per quarter. May be repeated for credit once. Detailed exploration of selected topics in sociology. Prerequisite: Graduate standing and permission of instructor.

*Soc 513 Topical Seminar in Sociology (3-6)*

Maximum 3 credits per quarter. May be repeated once for credit. Detailed exploration of selected topics in sociology. Prerequisite: Graduate standing and permission of the instructor.

*Soc 560 Studies in Sociology (3)*

Direct readings and discussion in the field agreed upon by the instructor and the student. Prerequisite: Major in Sociology or consent of the instructor.

*Soc 599 Thesis (1-6 hours)*

Registration only after consultation with major adviser.

**DEPARTMENT OF SPEECH**

Delmar Hansen, *Chairman*, John Addicott, Robert Badal, Virgil Black, Larry Foreman, Mary Harkins, Marie Henning, Theodore Larson, Davis Scott, Hazel Scott, Arne Teigland.

**Master of Science in Education:** Programs are available in two areas of concentration. The general requirements (pages 15–19) apply in each program, specific conditions being cited as they exist.

**THEATRE MAJOR**

This program is available to qualified students who seek careers in the educational or professional theatre. Applicants should present an undergraduate major or minor in theatre, although exceptions may be made for promising applicants whose undergraduate preparation is in cognate fields such as English, art, or music. Those applicants who lack a well-balanced background in theatre may expect that additional coursework to correct deficiencies will be required by their major adviser.

In addition to nine hours of professional education courses, the student is advised to concentrate in either two or three of the following areas: dramatic literature and theatre history; technical theatre, acting and directing; or educational theatre. If three areas are selected, twelve hours of credit for each should be chosen; if only two areas, the student may choose from twelve to twenty-four for each (to total thirty-six hours). For those students without solid undergraduate preparation in dramatic literature and theatre history, the Department recommends inclusion of this area, since the comprehensive examination demands a thorough understanding of the history, literature, and theory of the dramatic art.

**SPEECH PATHOLOGY AND AUDIOLOGY MAJOR**

An undergraduate major in speech pathology and audiology is recommended but not mandatory. The prospective candidate who has limited or no background in this area of study, or who does not qualify for speech pathology certification in the State of Minnesota will be expected to remove deficiencies by taking basic undergraduate courses for which no graduate credit will be allowed.

Most candidates for the master's degree will also want to qualify for certification from the American Speech and Hearing Association and should keep these standards in mind when planning their graduate studies. This certification requires a total of 90 quarter hours of credit (undergraduate and graduate) constituting a well-integrated program that includes 27 hours in courses fundamental to an understanding of the normal process of speech, hearing, and language, and 63 hours in professional and related courses; 45 of these 63 hours must be in courses which may be taken for graduate credit. (A total of 275 clock hours of supervised direct clinical experience must be accumulated). The candidate should allow sufficient time and plan his program carefully, with the advice and consultation of his adviser if he wishes to meet not only the requirements for the degree, but also the requirements for certification.

In addition to the required professional education courses, candidates must complete a minimum of 30 credits in the major, including 6 credits in 466g, 12 credits in 550, 561, 562, 563, and 12 credits in elective courses in the major. Candidates may select courses in such related areas of study as psychology, linguistics, counseling and guidance, audiology, speech, and special education.

**SPEECH COURSES (PATHOLOGY AND AUDIOLOGY)***SPAA 451(G) Experimental Phonetics (4)*

The principles of speech analysis; methods and instrumentation in current use for measuring basic physical variables of speech; a critical review of research on speech analysis and synthesis. Prerequisite: SPAA 251 and 252.

*SPAA 452(G) Speech Anatomy and Physiology (4)*

The anatomy and physiology of the mechanisms involved in speech production and reception; a critical review of representative research. Prerequisite: SPAA 251 and 252.

*SPAA 453(G) Language Disorders of Children (4)*

The nature, etiologies, and treatment of language disorders of children. Prerequisite: SPAA 253.

*SPAA 467(G) Diagnostic and Appraisal Procedures (4)*

The evaluation and use of diagnostic tools; participation in evaluations and preparation of clinical reports. Prerequisite: 20 quarter hours of credit in speech pathology and audiology courses and consent of the instructor.

*SPAA 468(G) Speech and Hearing Problems in the Classroom (3)*

The major disorders of speech and hearing encountered in schools; the teacher's role in detecting and helping the speech or hearing handicapped student; the theory and practice of speech improvement activities in the classroom. (Not open to majors in speech pathology and audiology.)

*SPAA 472(G) Advanced Audiometry (3)*

The measurement of hearing with special emphasis on bone condition, masking, and speech audiometry. Prerequisites: SPAA 371 and 372.

*SPAA 479(G) Readings in Speech Pathology and Audiology (3)*

Selected readings in speech pathology, audiology, or speech science under the direction and supervision of members of the department; may be repeated twice for credit. Prerequisite: Senior or graduate status and consent of the director of speech pathology and audiology.

*SPAA 550 Research in Speech Pathology and Audiology (3)*

A study of bibliographical resources and the methods and techniques of research and professional writings in speech pathology and audiology; a critical review of selected classical and current experimental studies in the field. Prerequisite: Consent of the instructor.

*SPAA 551 Organic Voice Disorders (3)*

The nature, etiologies, and treatment of organic voice disorders, including speech for the laryngectomized. Prerequisite: SPAA 361 and consent of the instructor.

*SPAA 552 Structural Speech Disorders (3)*

The nature and etiology of cleft lip and palate and other structural anomalies; the principles and procedures of speech habilitation. Prerequisite: SPAA 361 and consent of the instructor.

*SPAA 553 Neurological Speech Disorders (3)*

The nature and etiology of cerebral palsy and other neurological problems; the principles and procedures of speech and language rehabilitation. Prerequisite: SPAA 361 and consent of the instructor.

*SPAA 561 Seminar in Articulation (3)*

A critical review of research related to the nature, etiology, and treatment of articulatory disorders. Prerequisite: SPAA 361 and consent of the instructor.

*SPAA 562 Seminar in Stuttering (3)*

A critical review of research related to the nature, etiology, and treatment of stuttering. Prerequisite: SPAA 362 and consent of the instructor.

*SPAA 563 Seminar in Aphasia (3)*

The nature, etiology and treatment of aphasia and other symbolic disorders; a critical review of related research. Prerequisite: Consent of the instructor.

*SPAA 566 Clinical Practicum (1-3)*

Supervised clinical experience with children and adults who present speech, hearing, or language problems; requires from 4 to 8 hours of clinical activity per week in addition to staffings, conferences, planning, and reporting; may be repeated by undergraduate majors for a total of 9 quarter hours of credit. Prerequisite: 20 quarter hours of credit in speech pathology and audiology courses and consent of the instructor.

*SPAA 571 Seminar in Audiology (3)*

A critical review of research related to the nature, etiology, and treatment of hearing disorders. Prerequisite: SPAA 371 and consent of the instructor.

*SPAA 579 Topical Seminar in Speech Pathology and Audiology (3)*

The examination of the literature on a selected topic of current interest; may be repeated twice for credit. Prerequisite: Consent of the director of speech pathology and audiology.

*SPAA 599 Thesis (1-6 hours)*

Registration only after consultation with major adviser.

**SPEECH COURSES (RHETORIC AND PUBLIC ADDRESS)***Spch 340(G) The Teaching of Speech (4)*

Methods of teaching high school speech. Prerequisite: Speech 100, 312, or consent of the instructor.

*Spch 343(G) The High School Forensics Program (3)*

The study of the extra-curricular high school speech program; its rationale and its problems.

*Spch 345(G) Speech in the Elementary Classroom (3)*

A study of the basic concepts of oral communication and their application in the elementary classroom; a survey of speaking and listening activities which can be utilized in the classroom; a survey and evaluation of objectives, procedures, and materials which will promote effective oral communication.

*Spch 410(G) Classical Rhetoric (4)*

An examination of the Greek and Roman rhetoricians with an emphasis on Aristotle, Plato, Quintillian, and Cicero. Prerequisite: Spch 202 or 309, or consent of the instructor.

*Spch 412(G) History and Criticism of American Public Address (4)*

A course in the history of American public address from the Eighteenth Century to the present. A critical study of the speeches and speaking careers of outstanding American statesmen, lawyers, and clergymen, considering especially the sources of their effectiveness. Prerequisite: Speech 202, 309, or consent of the instructor.

*Spch 414(G) History and Criticism of British Public Address (4)*

A course in the history of British public speaking from the Eighteenth Century to the present. A critical study of the speeches and speaking careers of outstanding British statesmen and lawyers, considering especially the sources of their effectiveness. Prerequisite: Speech 202, 309, or consent of the instructor.

*Spch 416(G) Special Projects in Rhetoric and Public Address (4)*

Opportunity for the advanced public address student to do individual investigative work in a particular phase of public address. Prerequisite: consent of the instructor and senior standing.

*Spch 540 Problems in Speech Education (3)*

An examination of the problems involved in the development of speech programs.

**SPEECH COURSES (THEATRE)***Spch 322(G) Development of the Drama I (4)*

Representative readings in dramatic literature from Aeschylus to Shakespeare.

*Spch 324(G) Development of the Drama II (4)*

Representative readings in dramatic literature from Shakespeare to Ibsen.

*Spch 326(G) Development of the Drama III (4)*

Representative readings in dramatic literature from Ibsen to the present.

*Spch 328(G) The American Theatre I (4)*

The development of theatre arts in America from colonial times to 1890, with representative readings in the drama of this period.

*Spch 329(G) The American Theatre II (4)*

Major developments in the theatre arts in America since 1890, with representative readings in the drama of this period.

*Spch 330(G) Dramatic Production I (3-6)*

Study and practice in the play production techniques of acting, directing, and technical theatre through the production processes of preparing one play weekly for summer theatre audiences. Prerequisite: Consent of the instructor.

*Spch 331(G) Dramatic Production II (3-6)*

Study and practice in the play production techniques of acting, directing, and technical theatre through the production processes of preparing one play weekly for summer theatre audiences. Prerequisite: Consent of the instructor.

*Spch 332(G) Advanced Acting I: Stage Movement (4)*

The study and practice of movement and pantomime as it pertains to the actor's use of his body on the stage.

*Spch 333(G) Advanced Acting II: Characterization (4)*

The study and practice of improvisation, role analysis, and vocal training for the actor.

*Spch 334(G) Principles of Scene Design (4)*

The fundamentals of pictorial representation, including composition and color rendering in the planning and execution of scenic design. Prerequisite: Speech 225 or consent of the instructor.

*Spch 336(G) Advanced Scene Design (4)*

Detailed investigation of current practices in scenic design with experience in scenic rendering. Prerequisite: Spch 334 or consent of the instructor.

*Spch 337(G) Stage Lighting (4)*

The study of the use and capabilities of light in dramatic productions, with an examination of lighting instruments and control devices and experience in lighting design. Prerequisite: Spch 224

*Spch 338(G) Stage Costume Design (4)*

A history of the development of clothing from the Egyptians to the twentieth century. Practical experience in costume design and water color rendering techniques.

*Spch 339(G) Stage Costume Construction (4)*

Practice in the research, design, and building techniques of stage costumes for use in theatre productions. Prerequisite: Spch 338.

*Spch 341(G) Children's Dramatics (4)*

The principles and practices in the conduct of informal drama with children; a study of improvised play making and the analysis of scripts and play production methods for the young audiences.

*Spch 342(G) The High School Dramatics Program (3)*

Methods of organizing and administering the dramatics program in the secondary school, with special emphasis on the selection of plays.

*Spch 344(G) Principles of Play Direction (4)*

Theory and practice in selecting and blocking plays; selection of casts and rehearsal procedures; laboratory method.

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### *Spch 429(G) Advanced Play Direction (4)*

Advanced study of techniques of visual dramatization through the use of movement, pantomime, tempo, and the analysis of character. Prerequisite: Spch 344 or consent of the instructor.

### *Spch 430(G) Styles of Directing (4)*

Principles and problems in direction of major historical and theatrical styles.

### *Spch 431(G) Styles of Acting (4)*

Principles and problems in the acting of major historical and theatrical styles.

### *Spch 434(G) Special Projects in Dramatic Arts (4)*

Opportunity for the advanced theatre student to do individual creative or investigative work in a particular phase of dramatic arts. May be taken twice if content is substantially different. Prerequisite: Consent of the instructor and senior standing.

### *Spch 436(G) Experimental Theatrical Design (4)*

Advanced investigation in scene design and projects in scene, costume, property, and lighting design for standard and experimental plays. Prerequisite: Spch 336 or consent of the instructor.

### *Spch 437(G) Styles of Stage Design (3)*

The study of styles of selected designers from the Renaissance through the present.

### *Spch 438(G) Contemporary Drama (4)*

A consideration of individual British and continental playwrights. The course may be elected twice when the reading lists are substantially different.

### *Spch 520 Seminar in Educational Theatre (3)*

An examination of the problems involved in the development of educational theatre programs. Prerequisite: Consent of instructor.

### *Spch 522 Dramatic Theory and Criticism (3)*

Principles of dramatic criticism from Aristotle to the present day. Critical standards and methods, and theory application in the evaluation of drama in performance. Prerequisite: Consent of the instructor.

### *Spch 599 Thesis (1-6 hours)*

Registration only after consultation with major adviser.

## Administration

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Leonard Bergquist, *Instructor of Education*. B.S., M.A., Moorhead State College.

Virgil L. Black, *Assistant Professor of Speech Pathology and Audiology*. A.B., Jamestown College; M.S., North Dakota State University.

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John P. Calvert, *Assistant Professor of Political Science*. B.S., University of North Dakota; M.A., Ph.D., Tulane University.

Michael E. Carl, *Assistant Professor of Education*. B.Ed., Gonzaga University; M.S., Portland State University; Ph.D., University of Oregon.

Rudolph H. Chang-Yit, *Associate Professor of Psychology*. B.A., M.S., University of Oklahoma; Ph.D., University of South Dakota.

David D. Cole, *Associate Professor of Psychology*. B.S., Purdue University; A.M., Ph.D., West Virginia University.

Thomas W. Collins, *Professor of Biology*. B.S., Southern Illinois University; Ph.D., University of Minnesota.

James F. Condell, *Chairman and Professor: Department of Psychology*. A.B., Kentucky State College; M.A., Teachers College, Columbia University; Ed.D., University of Nebraska.

Yvonne Condell, *Associate Professor of Biology*. B.S., Florida A & M; M.A., Ph.D., University of Connecticut.

Marjorie Corner, *Assistant Professor of English*. B.A., Hamline University; M.A., Ph.D., Washington State University.

Leslie W. Crawford, *Director of Elementary Education and Associate Professor of Education*. B.S., M.S., Eastern Montana College; Ed.D., University of California, Berkeley.

Robert B. Davies, *Chairman and Associate Professor: Department of History*. B.A., College of Wooster; M.A., Rutgers University; Ph.D., University of Wisconsin.

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Laurence Falk, *Associate Professor of Sociology and Anthropology*. B.A., Indiana Central College; B.D., United Theology Seminary; M.A., Ph.D., University of Nebraska.

Fred Fetrow, *Assistant Professor of English*. B.A. in Ed., Wayne State College; M.A., Ph.D., University of Nebraska.

Wilbert B. Fischer, *Assistant Professor of Accounting*. B.S. in Ed., State University of North Dakota at Ellendale; M.S., Ph.D., University of North Dakota.

David P. Flint, *Chairman and Associate Professor: Department of Political Science*. B.S., University of North Dakota; M.A., Ph.D., Washington State University.

Verle D. Flood, *Professor of English*. B.A., M.A., Ph.D., State University of Iowa.

Loel D. Frederickson, *Assistant Professor of Health, Physical Education and Recreation*. B.S., M.Ed., University of Minnesota.

Howard G. Freeberg, *Director of Secondary Education and Associate Professor of Education*. B.S., University of North Dakota at Ellendale; M.Ed., Ed.D., University of North Dakota.

Clarence A. Glasrud, *Professor of English*. B.S., Moorhead State College; A.M., Ph.D., Harvard University.



Evelyn L. Grovom, *Associate Professor of Business Education*. B.A., Mayville State Teachers College; M.A., University of Minnesota; Ed. D., University of North Dakota.

Lee E. Grugel, *Associate Professor of History*. B.A., M.A., Ohio State University; Ph.D., University of Chicago.

Allan J. Hanna, *Associate Professor of English and Latin*. A.B., A.M., University of Michigan.

Delmar J. Hansen, *Chairman and Professor: Department of Speech*. B.S., University of Omaha; M.S., Florida State University; Ph.D., State University of Iowa.

Robert A. Hanson, *Vice President for Academic Affairs and Professor of Education*. B.S., M.S., Ph.D., University of Minnesota.

Earnest N. Harris, *Professor of Music*. B.A., Concordia College; M.A., Hamline University.

Gerhard K. Haukebo, *Chairman and Professor: Department of Education*. B.S., M.A., Ph.D., University of Minnesota.

Phyllis A. Harber, *Assistant Professor of Biology*. B.A., Omaha University; M.S., Wyoming University; Ph.D., Iowa State University.

Bernard S. Heringman, *Associate Professor of English*. A.B., Johns Hopkins University; A.M., Ph.D., Columbia University.

Norman D. Hessert, *Associate Professor of Music*. B.M.E., M.M., Ph.D., Indiana University.

Dwaine Hoberg, *Assistant Professor of Health, Physical Education and Recreation*. B.S., M.A., University of Minnesota.

John B. Holland, *Assistant Professor of Art*. B.F.A., Texas Christian University; M.A., Harvard University; Ph.D., University of Minnesota.

John M. Jenkins, *Associate Dean of Administrative Affairs and Professor of Education*. B.S., North Dakota State University; M.A., State University of Iowa; Ed.D., University of North Dakota.

Arnold E. Johanson, *Associate Professor of Philosophy*. B.A., University of Minnesota; M.A., Ph.D., Yale University.

Oscar W. Johnson, *Professor of Biology*. B.S., Michigan State University; M.S., Ph.D., Washington State University.

Jane Johnston, *Professor of Education*. B.S., M.A., Ph.D., University of Minnesota.

Larry W. Jones, *Assistant Professor of Education*. B.S., M.S., North Dakota State University; Ed.D., University of Oregon.

Donald R. Key, *Chairman and Professor: Department of Music*. B.A., Millsaps College; M.M., New England Conservatory of Music; Ph.D., Boston University.

Anoushiravan Khoshkish, *Professor of Political Science*. M.A., University of Geneva; Ph.D., Graduate Institute of International Studies at Geneva.

Genevieve N. King, *Professor of Biology*. B.A., M.S., West Virginia University; Ph.D., State University of Iowa.

Daniel R. Knighton, *Assistant Professor of Economics*. B.A., Franklin and Marshall College; Ph.D., University of North Carolina.

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Bella J. Kranz, *Assistant Professor of Education*. B.A., City College of New York; M.A., Long Beach State College.

Dennis L. Krzyzaniak, *Associate Professor of Chemistry*. B.S., M.S., North Dakota State University.

Evelyn R. Larson, *Associate Professor of Business Administration*. B.S., North Dakota State University; M.S., University of North Dakota; Ph.D., University of Minnesota.

Lyle Laske, *Associate Professor of Art*. B.S., Wisconsin State University, Platteville; M.S., M.F.A., University of Wisconsin, Madison.

Milton W. Legg, *Assistant Professor of Mathematics*. B.S., M.A., University of Minnesota; Ph.D., New Mexico University.

Ronald L. Litherland, *Associate Professor of Education*. B.S., Iowa State University; M.A., Ph.D., State University of Iowa.

Gary L. Litt, *Assistant Professor of English and Humanities*. B.A., Jamestown College; M.A., University of Denver; Ph.D., University of Washington.

Howard P. Lysne, *Director, Division of Business and Professor of Business Education*. B.S., Minot State College; M.Ed., Montana State University; Ed.D., University of North Dakota.

Laurence R. MacLeod, *Assistant Professor of Health, Physical Education and Recreation*. B.S., Mayville State Teachers College; A.M., Colorado State College.

Robert N. MacLeod, *Vice President for Student Personnel Services and Professor of Education*. B.S., M.A., Ph.D., University of Minnesota.

Charles R. Magel, *Chairman and Professor: Department of Philosophy*. B.S.C., Northwestern University; Ph.D., University of Minnesota.

H. John Maria, *Associate Professor of Chemistry*. B.S., University of Missouri; Ph.D., Pennsylvania State University.

Dennis R. Mathiason, *Associate Professor of Chemistry*. B.S., Mankato State College; Ph.D., University of South Dakota.

Benjamin W. McCashland, *Dean of Graduate Studies and Professor of Biology*. B.Sc., M.Sc., Ph.D., University of Nebraska.

Thomas M. McGrath, *Associate Professor of English*. B.A., University of North Dakota; M.A., Louisiana State University.

B. Spencer Meeks, *Professor of Chemistry*. B.S., University of South Carolina; Ph.D., Cornell University.

Lysle E. Meyer, *Professor of History*. B.A., Western Reserve University; M.A., Ph.D., Ohio State University.

Joseph W. Miller, *Professor of English*. B.S., in Ed., B.A., Southeast Missouri State College; M.A., Teachers College, Columbia University; Ph.D., University of Minnesota.

Mary V. Montgomery, *Associate Professor of Health, Physical Education and Recreation*. B.S., Slippery Rock; M.A., George Peabody College, Director of Health and Safety, Indiana University.

Phillip J. Mousseau, *Associate Professor of Art*. A.A., University of Minnesota; B.F.A., Minneapolis School of Art; M.F.A., Indiana University.

Albert G. Mudgett, *Associate Professor of Industrial Education*. B.S., M.A., Ph.D., University of Minnesota.

Deane D. Nelson, *Director of Counseling Services and Associate Professor of Education*. B.S., Gustavus Adolphus College; M.A., College of St. Thomas; Ed.D., State University of South Dakota.

Jack A. Neufeld, *Assistant Professor of Education*. B.A., Goshen College; M.A., Ph.D., University of North Dakota.

Albert H. Noice, *Associate Professor of Music*. B.M.Ed., M.M.Ed., McPhail College of Music; Ed.D., Colorado State College.

Orlow P. Nokken, *Assistant Professor of Health, Physical Education and Recreation*. B.S., Moorhead State College; A.M., Colorado State College; Ed.D., University of Northern Colorado.

Dorian J. Olson, *Chairman and Associate Professor: Department of Accounting*. B.A., Concordia College; M.A., University of North Dakota; CPA.

Nancy Parlin, *Chairman and Associate Professor: Department of Sociology and Anthropology*. B.S., College of St. Catherine, M.A., St. Louis University; Ph.D., University of Minnesota.

Jesse Parsons, *Professor of Biology*. B.E., Illinois State University; M.S., University of Wisconsin; Ph.D., Purdue University.

Robert R. Pattengale, *Assistant Professor of Music*. B.M., Western Michigan University; M.M., University of Michigan.

Janet Paulsen, *Associate Professor of Chemistry*. B.S., Moorhead State College; M.S., Ph.D., Virginia Polytechnic Institute.

Richard H. Pemble, *Associate Professor of Biology*. B.A., Simpson College; M.A., University of Montana; Ph.D., University of California, Davis.

Robert L. Pender, *Associate Professor of English*. B.S., M.A., Memphis State University; Ph.D., University of Indiana.

Victor J. Peters, *Professor of History*. B.A., M.A., University of Manitoba; Ph.D., University of Gottingen.

Eugene Philipps, *Chairman and Professor: Department of Economics*. B.S., M.A., Ph.D., University of Illinois.

Mary A. Pryor, *Professor of English*. B.A., Grinnell College; M.N., Yale University; M.A., Ph.D., University of Nebraska.

Margaret F. Reed, *Chairman and Professor: Department of Social Services*, A.B., A.M., Ph.D., University of Chicago.

Richard Y. Reed, *Professor of Psychology*. B.S., Drury College; M.A., Washington University; Ph.D., University of Chicago.

Glenn Ringstad, *Chairman and Associate Professor: Department of Humanities*. B.S., Moorhead State College; M.A., San Francisco State College.

Bill V. T. Ritchie, *Professor of Mathematics*. B.S., M.S., Ph.D., Purdue University.

Eleanor B. Ritchie, *Chairman and Associate Professor: Department of Geography and Geology*. B.A., Wayne State University; M.A., Ph.D., Northwestern University.

Glendon D. Robbins, *Dean of the Faculty of Professional Studies and Professor of Education*. B.S., M.A., Ph.D., University of Minnesota.

Derald D. Rothmann, *Chairman and Associate Professor: Department of Mathematics*. B.S., University of North Dakota; M.A., University of Kansas; Ph.D., University of Missouri.

Swaran S. Sandhu, *Interim Chairman of Minority Group Studies and Professor of Sociology and Anthropology*. B.A., B.T., M.A., Punjab University; M.A., Ph.D., Wayne State University.

G. Theodore Schaum, *Chairman and Associate Professor: Department of Foreign Languages*. B.A., Princeton University; A.M., Ph.D., Indiana University.

Davis A. Scott, *Professor and Director: Speech Pathology and Audiology*. A.B., Grinnell College; A.M., Ph.D., Indiana University.

James E. Shaw, *Associate Professor of Chemistry*. B.S., Valparaiso University; Ph.D., University of Illinois.

Mary A. Shimabukuro, *Associate Professor of Biology*. B.S., University of Wisconsin; M.S., Ph.D., University of Minnesota.

Donald A. Short, *Associate Professor of English*. B.S., M.S., Moorhead State College; M.A., Ph.D., University of Pittsburgh.

Georganne Shove, *Assistant Professor of Psychology*. B.A., M.A., Ph.D., University of Minnesota.

Charles E. P. Simmons, *Dean of the Faculty of Social and Behavioral Science and Professor of History*. B.A., Seattle University; M.A., Drake University; Ph.D., Washington State University.

Kenneth R. Skjegstad, *Professor of Biology*. B.S., Moorhead State College; Ph.D., University of California.

I. Kenneth Smemo, *Professor of History*. B.S., Wisconsin State University; M.A., Ph.D., University of Minnesota.

Andrew W. Smith, *Associate Professor of Music*. B.S., Indiana State College; M.M., Ph.D., University of Michigan.

George E. Smith, *Assistant Professor of Education*. B.A., M.Ed., University of British Columbia.

Marion V. Smith, *Associate Professor of Mathematics*. B.A., Macalester College; M.A., University of Minnesota.

T. Edison Smith, *Director of Athletics and Professor: Health, Physical Education and Recreation*. B.S., Moorhead State College; M.Ed., University of Minnesota; Ed.D., University of North Dakota.

James R. Stevens, *Associate Professor of Humanities*. B.A., McGill University; M.A., Ph.D., University of Wisconsin.

Walter Stotzer, *Professor of History*. Universitaetsabschulsspruefung (Staatsexamen). Dr. Phil., Schiller University, Jena, Germany.

Marcel C. Stratton, *Associate Professor of Art*. B.F.A., University of Nebraska. M.A., University of Chicago.

Judith A. Strong, *Assistant Professor of Chemistry*. B.S., State University of New York, Albany; M.A., Ph.D., Brandeis University.

Milo N. Sulentic, *Associate Professor of Industrial Education*. B.A., M.A., State College of Iowa.

P. Richard Szeitz, *Chairman and Professor: Department of Art*. B.F.A., Layton School of Art; M.S., M.F.A., University of Wisconsin.

Arne D. Teigland, *Assistant Professor of Speech Pathology and Audiology*. B.A., Moorhead State College; M.A., University of Washington.

William L. Thomas, *Professor of Health, Physical Education and Recreation*. B.S., Valley City State Teachers College; M.A., Ed.D., Colorado State College.

Warren J. Thomsen, *Professor of Mathematics*. B.A., Iowa State Teachers College; M.S., Ph.D., State University of Iowa.

Joseph H. Thorman, *Associate Professor of Education*. B.A., Jamestown College; M.A., Ph.D., University of Minnesota.

Robert J. Tolbert, *Chairman and Professor: Department of Biology*. B.S., B.A., Moorhead State College; Ph.D., Rutgers University.

Martin H. Tonn, *Associate Professor of Special Education*. B.A., M.A., Ph.D., State University of Iowa.

John F. Trainor, *Associate Professor of Economics*. B.A., College of St. Thomas; M.A., University of Minnesota; Ph.D., Washington State University.

William B. Treumann, *Dean of Faculty of Mathematics and Science and Professor of Chemistry*. B.S., University of North Dakota; M.S., Ph.D., University of Illinois.

Otto E. Ursin, *Professor of Industrial Education*. B.S., Bemidji State College; M.A., University of Minnesota; Ed.D., Bradley University.

James T. Wallen, *Assistant Professor of Mathematics*. B.A., Wartburg College; M.A., University of Nebraska.

Everett Warren, *Assistant Professor of Mathematics*. A.B., Western Kentucky State College; M.A., State College of Iowa.

John Wasson, *Director of Adjunctive Educational Services and Assistant Professor of Education*. B.S., M.A., Ph.D., University of Minnesota.

Marlowe E. Wegner, *Chairman and Professor: Department of Industrial Education*. B.S., Moorhead State College; M.A., University of Minnesota; Ed.D., University of North Dakota.

Robert S. Weibust, *Assistant Professor of Biology*. A.B., Colby College; M.S., Ph.D., University of Maine.

Walter G. Wesley, *Chairman and Associate Professor: Department of Physics and Astronomy*. B.A., Texas Christian University; Ph.D., University of North Carolina.

Leland W. White, *Professor of Industrial Education*. B.S., Ellendale State Teachers College; M.E., Colorado State University; D.Ed., Texas A & M University.

Thomas D. Williams, *Assistant Director, Counseling Center and Associate Professor of Psychology*. B.A., M.A., University of Wisconsin; Ph.D., Washington State University.

Helen K. Wilson, *Associate Professor of Psychology*. A.B., San Diego State College; M.A., Ph.D., University of Minnesota.

William T. Woolwine, *Assistant Professor of English*. B.A., University of Richmond; M.A., University of Arizona.

James G. Wray, *Assistant Professor of Physics*. A.B., Cornell University; Ph.D., Syracuse University.

Hsin-Yang Yeh, *Professor of Physics*. B.S., National Taiwan University; M.S., Kynshu University; Ph.D., University of North Carolina.

John Youngquist, *Associate Professor of Art*. B.A., University of Minnesota; M.F.A., State University of Iowa.

Fike Zahroon, *Assistant Professor of Mathematics*. B.S., Baghdad University; M.S., Ph.D., Ohio State University.

Clarence J. Zuvekas, *Associate Professor of Economics*. B.A., Johns Hopkins University; Ph.D., Washington University.

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