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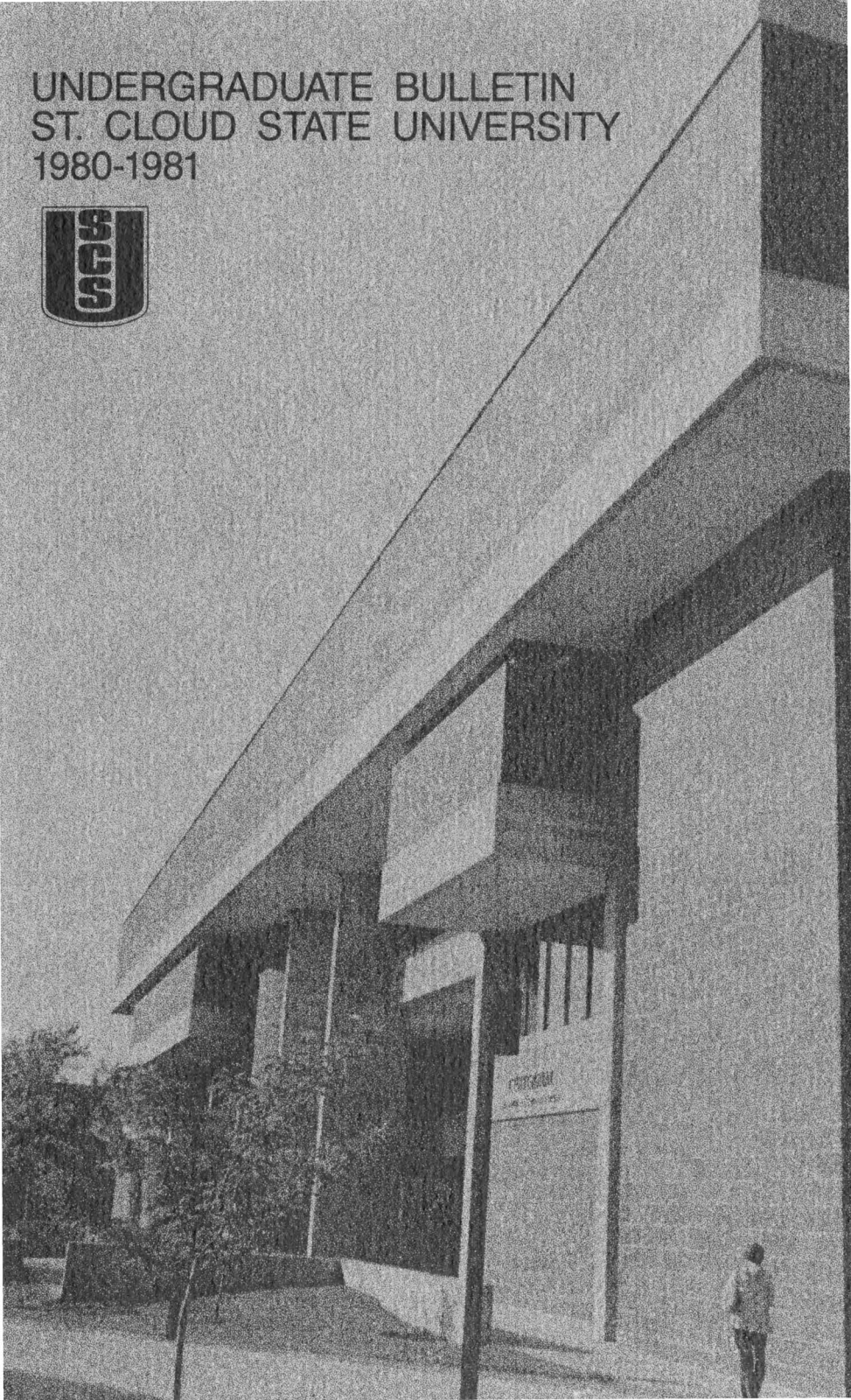
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UNDERGRADUATE BULLETIN
ST. CLOUD STATE UNIVERSITY
1980-1981



ST. CLOUD STATE UNIVERSITY UNDERGRADUATE BULLETIN 1980-1981

ST. CLOUD / MINNESOTA 56301

College of Business

College of Education

College of Fine Arts

College of Industry

College of Liberal Arts and Sciences

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All provisions within this bulletin are subject to change without notice.

ABBREVIATIONS

Cr.	Credit
Undgr.	Undergraduate
Gr.	Graduate
Prereq.	Prerequisite
Lab.	Laboratory
ACCT	Accounting
AMST	American Studies
ANTH	Anthropology
ARAD	Arts Administration
ART	Art
BEOA	Business Education and Office Administration
BIOL	Biological Sciences
CHEM	Chemistry
CJS	Criminal Justice Studies
COMM	Mass Communications
CSCI	Computer Science
DAN	Danish
DTS	Driver and Traffic Safety
EAST	East Asian Studies
ECFS	Early Childhood and Family Studies
ECON	Economics
ED	Education
EDAD	Educational Administration
EDT	Student Teaching
EFL	English as a Foreign Language
ELED	Elementary Education
ENGL	English
ENV	Environmental Studies
ESCI	Earth Sciences
EXST	External Studies
FA	Fine Arts
FREN	French
GEOG	Geography
GER	German
HLTH	Health
HIST	History
HONS	Honors
HURL	Human Relations
IDS	Interdisciplinary Studies
IM	Information Media
IND	Industrial Education
LAST	Latin American Studies
MATH	Mathematics
MEDT	Medical Technology
MGMF	Management and Finance
MKGB	Marketing and General Business
MUSE	Music Education
MUSM	Music—Musicianship
MUSP	Music Performance
ORIE	Orientation
PE	Physical Education
PHIL	Philosophy
PHYS	Physics
POL	Political Science
PSY	Psychology

QMIS	Quantitative Methods and Information Systems
REC	Recreation
RDNG	Reading
RUSS	Russian
SCI	Science
SEED	Secondary Education
SOC	Sociology
SPAN	Spanish
SPC	Speech Communication
SPED	Special Education
SSCI	Social Science
SST	Social Studies
SSPA	Speech Science, Pathology and Audiology
SW	Social Work
TECH	Technology
TH	Theatre
URB	Local and Urban Affairs
WS	Women's Studies

KEY TO SYMBOLS

QUARTER OFFERED

Fall	F
Winter	W
Spring	S
Summer	SUM

Offered upon sufficient
demand

DEMAND

Offered alternate years

ALT

Quarterly course designations are provided to assist in program planning. Courses are scheduled to be offered in the quarter specified; however, circumstances and problems may necessitate change. Consult the current class schedule for further information.

UNIVERSITY INFORMATION TELEPHONE NUMBERS

Area Code 612

University Switchboard	255-0121
Academic Affairs	255-3143
Admissions and Records	255-2111
Atwood Memorial Center	255-2202
Business Office	255-3133
Career Planning/Placement	255-2151
Financial Aids	255-2047
Graduate Studies	255-2113
High School/Community College Relations	255-2243
Housing Office	255-2166
Information Services	255-3151
Learning Resources Services	255-2084

ACADEMIC CALENDAR 1980-1981

1980 SUMMER QUARTER

First Summer Term

Monday June 9	Registration and payment of fees.
Tuesday June 10	Classes begin.
Friday June 13	Deadline for class changes and fee payment. Late fee assessed.
Monday June 23	Deadline for graduation applications.
Friday July 4	Independence Day (Holiday).
Monday July 7	Deadline for dropping courses.
Friday July 11	First Summer Term ends at 4:00 p.m.

Second Summer Term

Monday July 14	Registration and payment of fees.
Tuesday July 15	Classes begin.
Friday July 18	Deadline for class changes, fee payment and deadline for graduation applications. Late fee assessed.
Monday August 11	Deadline for dropping courses.
Thursday August 14	Summer Commencement.
Friday August 15	Second Summer Term ends at 4:00 p.m.

1980 FALL QUARTER

Tuesday September 2	Faculty Workshop and New Student Day. Residence Halls open 8:00 a.m. Registration for new students 1:00-4:00 p.m.
Wednesday September 3	General Registration.
Thursday September 4	Classes begin.
Tuesday September 9	Late fee assessed.
Wednesday September 10	Deadline for class changes.
Wednesday September 17	Last day to pay fees.
Monday, October 6	Deadline for graduation applications.
Thursday October 9	Second half of quarter classes begin.
Monday October 13	Columbus Day. (No classes. Holiday for unclassified employees.)
Friday October 17	MEA Representative Assembly. (No classes.)
Tuesday October 28	Deadline for dropping courses.
Tuesday November 11	Veterans' Day. (Classes in session. Holiday for classified employees.)
Monday November 17-	
Thursday November 20	Final Examinations.
Friday November 21	Fall Commencement.
Monday November 24	Deadline for final grades, 2:00 p.m. (Faculty duty day).
Thursday November 27	Thanksgiving Day (Holiday).
Friday November 28	Holiday; No classes; Offices closed. (Non-duty day for Faculty.)

The University calendar is subject to modification or interruption due to occurrences such as fire, flood, labor disputes, interruption of utility services, acts of God, civil disorder and war. In the event of such occurrences, the University will attempt to accommodate its students. It does not, however, guarantee that courses of instruction, extra curricular activities or other University programs or events will be completed or rescheduled. Refunds will be made to eligible students in accordance with State University Board policy.

1980-1981 WINTER QUARTER

Monday December 1	General Registration.
Tuesday December 2	Classes begin.
Friday December 5	Late fee assessed.
Monday December 8	Deadline for class changes.
Monday December 15	Last day to pay fees.
Friday December 19	Christmas vacation begins 5:00 p.m.
Thursday December 25	Christmas Day (Holiday).
Thursday January 1	New Years Day (Holiday).
Monday January 5	Classes resume.
Friday January 9	Deadline for graduation applications.
Monday January 19	Second half of quarter classes begin.
Tuesday February 3	Deadline for dropping courses.
Monday February 16	Presidents' Birthday (Holiday).
Monday February 23	
Thursday February 26	Final Examinations.
Friday February 27	Winter Commencement.
Monday March 2	Deadline for final grades, 2:00 p.m. (Faculty duty day).

1981 SPRING QUARTER

Monday March 9	General Registration.
Tuesday March 10	Classes begin.
Friday March 13	Late fee assessed.
Monday March 16	Deadline for class changes.
Monday March 23	Last day to pay fees.
Friday March 27	IFO/MEA Delegate Assembly (No classes).
Monday April 6	Deadline for graduation applications.
Wednesday April 15	Second half of quarter classes begin.
Tuesday April 28	Deadline for dropping courses.
Monday May 18	
Thursday May 21	Final Examinations.
Friday May 22	Spring Commencement.
Monday May 25	Memorial Day (Holiday).
Tuesday May 26	Deadline for final grades, 2:00 p.m. (Faculty duty day).

1981 SUMMER QUARTER

First Summer Term

Monday June 8	Registration and payment of fees.
Tuesday June 9	Classes begin.
Friday June 12	Deadline for class changes and fee payment. Late fee assessed.
Monday June 22	Deadline for graduation applications.
Friday July 3	Independence Day Holiday.
Monday July 6	Deadline for dropping courses.
Friday July 10	First Summer Term ends at 4:00 p.m.

Second Summer Term

Monday July 13	Registration and payment of fees.
Tuesday July 14	Classes begin.
Friday July 17	Deadline for class changes and deadline for graduation applications. Last day to pay fees. Late fee assessed.
Monday August 10	Deadline for dropping courses.
Thursday August 13	Summer Commencement.
Friday August 14	Second Summer Term ends at 4:00 p.m.

ST. CLOUD STATE UNIVERSITY



HISTORY

The institution which is now St. Cloud State University first opened its doors as the Third State Normal School in September, 1869. The original building was the Stearns House, a hotel purchased by the State Legislature for \$3,000 and remodeled for use as a school. Classrooms were on the first floor, the "model school" was on the second floor, and a women's dormitory was on the third floor. The faculty consisted of Principal Ira Moore and four assistants. The student body included 42 women and 11 men. In the years since this modest beginning, the school has developed into a university of established reputation with 29 buildings and a faculty in excess of 500 members.

This progression from normal school to university follows closely the pattern of development of similar state institutions of higher education throughout the nation. Until 1898,

St. Cloud Normal School was essentially a secondary school with a few students of college rank. Beginning in 1898, the school began offering a full junior college curriculum. In 1914 the high school portion of the program was dropped. In 1921 the institution was authorized by the State Legislature to adopt the name of St. Cloud State Teachers College. The word "teachers" was deleted in 1957. The name change to St. Cloud State University became effective in 1975.

Granting of the first four-year degree, Bachelor of Education, was authorized in 1925. The name of the degree was changed to Bachelor of Science in 1940. The 1953 Legislature enabled the institution to grant the Master's degree and the 1967 Legislature authorized the Specialist degree.

Although the University has been a teacher preparation institution during most of its history, students are now enrolled in many other

programs available to them. Authorization was obtained in 1946 to grant the Bachelor of Arts degree to students not majoring in education. A two-year associate degree was added in 1948. In recent years the University has added Bachelor of Music, Bachelor of Fine Arts and Bachelor of Elective Studies degrees in addition to special programs, such as Continuing Studies, International Studies, Minority Studies and Women's Studies.

Today the University is a multi-purpose and comprehensive institution offering a broad range of undergraduate and graduate programs of study in the College of Liberal Arts and Sciences, College of Business, College of Education, College of Fine Arts, College of Industry, and the School of Graduate Studies.

PHILOSOPHY

St. Cloud State University is committed to the pursuit of excellence in all aspects of higher education within its mission. The University strives to provide an environment which will challenge students to develop their talents, extend their intellectual abilities and interests, stimulate them to extend their creative abilities, and provide the impetus to a life-long respect and enthusiasm for learning. Students are provided the opportunity to develop the knowledge, skills, and attitudes required for entrance into a variety of careers.

The University assists students to develop an appreciation for both continuity and change and to recognize that knowledge serves to identify and preserve past human achievement as well as to provide the foundation for further progress. Students are encouraged and assisted to develop greater self-understanding; to develop respect and concern for individual worth and human dignity; to become more sensitive to the values held by other persons or groups; and to understand and assume their responsibilities to individuals, to society, and to their environment.

In this setting, it is anticipated that these experiences will prepare persons to continue to learn, to appraise their values and the values of society, and to accept their responsibility to participate in the decisions required of citizens in a rapidly changing world.

GOALS

The University will strive to achieve the following goals. Each of these goals is currently being achieved in varying degrees.

A. The University will provide learning experiences to all persons who can benefit from such experiences in accordance with its

firm commitment to equal educational opportunity.

- B. Through the curriculum and supportive educational experiences, the University will provide students with opportunities to develop an understanding of and appreciation for our rich heritage of human discovery and creativity in the arts, humanities, and sciences.
- C. The University will provide selected baccalaureate and graduate programs which will prepare students for a wide variety of careers, as well as provide programs and educational services for those not preparing for a career or not seeking a degree.
- D. Through academic programs and co-curricular activities, the University will provide students with opportunities to develop and improve their abilities to read and listen with understanding, think creatively, communicate effectively, and solve problems imaginatively.
- E. The University will provide a variety of opportunities for the continuing personal development of students in: (1) understanding and relating to others, (2) assessing their strengths and weaknesses, (3) determining their identity and values, and (4) maintaining their physical and mental well-being.
- F. The University will develop appropriate educational programs designed for persons seeking career change or advancement, reentry into a career field or personal enrichment.
- G. The University will include intercultural and international dimensions in its educational programs to enable students to gain a better understanding of other peoples.
- H. The University will reaffirm its commitment to excellence by: (1) seeking to employ and retain dedicated and professionally outstanding faculty; (2) encouraging faculty to improve and expand their qualifications; (3) maintaining and strengthening standards in teaching and academic achievement.
- I. The University will serve as a community college for the St. Cloud area and will serve as a regional institution by extending its services and programs throughout its service area in response to community needs.

ACCREDITATION AND MEMBERSHIPS

St. Cloud State University is a member of many academic professional associations, including the North Central Association of Colleges

and Schools, American Council on Education, American Association of State Colleges and Universities, American Association of Colleges for Teacher Education and Council of Graduate Schools in the United States. It is accredited by the North Central Association of Colleges and Schools, National Council for Accreditation of Teacher Education, National Association of Schools of Music, baccalaureate degree accreditation by American Assembly of Collegiate Schools of Business and has a chemistry program approved by the American Chemical Society.

AFFIRMATIVE ACTION/ EQUAL OPPORTUNITY

St. Cloud State University is committed to providing equal education and employment opportunities to all persons regardless of race, color, creed, sex, age, religion, marital status, national origin or status with regard to public assistance or physical disability or any other group or class against which discrimination is prohibited by State or Federal law, including Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973 and Section 402 of the Vietnam Era Veterans Readjustment Assistance Act of 1974. Inquiries concerning the application of Affirmative Action, Equal Opportunity or Title IX at St. Cloud State University should be referred to the Affirmative Action Officer, 255-3143. Inquiries about Section 504 of the Rehabilitation Act of 1973 should be referred to the 504 Coordinators, 255-3196 or 255-3111.

STUDENT CONDUCT

University regulations that express expectations of behavior and provide for the protection of the rights of individuals are published yearly in the Student Handbook. Students will be provided copies of the Student Handbook and are responsible for informing themselves of the regulations and obeying them. Students who violate university or system regulations shall, after due process, be subject to university sanctions. The university judicial policy is also published in the Student Handbook.

STUDENT RECORDS AND DIRECTORY INFORMATION

Pursuant to the Family Educational Rights and Privacy Act of 1974, students at St. Cloud State

University are entitled to review records, files, documents and other materials containing information directly related to them which are maintained by the University. In accordance with regulations issued by the Secretary of Health, Education and Welfare, students may request a hearing to challenge the content of education records to insure that the records are not inaccurate, misleading or otherwise in violation of their rights. A student may insert in his or her records a written explanation respecting the contents of such records if suggested corrections or deletions are not made by the University.

Access and review is subject to the following conditions:

1. The University has 45 days to comply with a student's written request to review his or her records;

2. All information declared confidential by the Act or excluded from the definition of "education records" in the Act is not available for inspection;

3. After reviewing records, a student may request the unit maintaining the record to remove or modify information the student believes is misleading, inaccurate or inappropriate. If the request is refused, the student may insert in the records a written explanation respecting the contents objected to or the student may file an appeal with the office in charge of the records. This appeal will be heard by a person or committee appointed by the director of the office involved.

The Act further states that certain information can be construed to be directory information which is available to the public. These are the items the University declares to be directory information available to the public: name, address, telephone listing, date of birth, major field of study, class schedule, class status (freshman, sophomore, etc.), participation in officially recognized activities and sports, weight and heights of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended. A student has the right to inform the University that any or all of the above information should not be released without his or her prior consent. Students who wish to restrict the release of this information must complete a written request to that effect at the Admissions and Records Office. After the required written request has been made, appropriate offices will be notified so that they can begin to comply with the request as soon as possible.

Any information other than the items listed above will not be released by the University without the student's specific written permission except as provided by law.

GENERAL EDUCATION REQUIREMENTS

St. Cloud State University has an historic policy which requires all students to complete a general education program constituting approximately one-third of their four year baccalaureate degree. This policy is in keeping with State University Board guidelines. Board guidelines also require that the Associate in Arts degree general education requirements must be identical to the baccalaureate degree general education program and that an Associate in Science degree general education program must include at least one-third of its requirements (30 credits) in general education.

The student who finishes the general education program should have gained an ability to write and speak effectively, an understanding of quantitative reasoning, a knowledge of the essential elements of scientific discovery and of the impact of technological innovations. In addition, the student will have made an acquaintance with those modes of humanistic thought and expression reflected in the arts, in philosophy, and in religion. Finally, upon completing the general education program the student should have a grasp of the development of one's own culture and the cultures of those men and women who live in societies far removed from that of the student.

The general education program described on these pages follows discussion and decision making within faculty, student, and administrative groups. It is intended to help students attain those goals outlined above, while maintaining as much freedom as possible for development of their own programs. Program guidelines allow each department maintaining an undergraduate program to offer twenty credit hours of approved courses from which students, in consultation with their academic adviser, may select their general education sequence. Such courses must be seen as having a character different from the courses of a student's major or minor program in order to gain general education approval; they are to emphasize broad principles and relationships, with the specific skills taught in the course serving as illustration, evidence, or application of those broad principles. While each department determines which of its courses are appropriate for general education, such courses must gain approval through the university curriculum process. In order to be approved, each course must fulfill two or more of the following objectives:

- 1) the course must provide an opportunity for the student to develop competence in basic academic skills;
- 2) the course must provide the student with a background in several disciplines while demonstrating the inherent interrelatedness of traditional disciplines;
- 3) the course must develop and extend the student's capacity for inquiry and critical judgment;
- 4) the course must promote the student's involvement in the examination of human values.

In addition, courses developed to foster understanding in the context of the university's goals in intercultural education may be granted general education designation over and above the normal twenty-credit departmental limit.

Students are encouraged to seek advice from their academic adviser in developing their general education program or answering questions about the program not addressed in this bulletin. Requests for variation from the program guidelines must be signed by both student and academic adviser before submission to the office of the Assistant Vice President for Academic Affairs.

ASSOCIATE IN SCIENCE DEGREE

All students working toward an A.S. degree must meet the following general education requirements.

- A. Communications (8 credit hours)
English 162
Speech Communication 161
- B. Distribution Requirements (24 credit hours)
 1. Humanities—Select 8 credits from designated general education courses in the following departments or programs: American studies, art, English, foreign language, music, philosophy, theatre.
 2. Natural Science and Mathematics—Select 8 credit hours from designated general education courses in the following departments or programs: biology, chemistry, earth science, mathematics, physics.

10 / General Education

3. Social and Behavioral Sciences—Select 8 credits from designated general education courses in the following departments or programs: East Asian studies, economics, geography, history, industrial education, political science, psychology, social science, sociology, technology.
- C. Students are required to meet with their general education advisers at least once each quarter with additional meetings scheduled as necessary. They must obtain their adviser's signature on their registration forms before they will be permitted to register.

ASSOCIATE IN ARTS AND BACCALAUREATE DEGREES

All students working toward an A.A., B.A., B.Mus., B.F.A., or B.S. degree, and who had completed and passed less than sixteen quarter hours of course work at St. Cloud State University as of September 1, 1980, must fulfill the following general education requirements.

- I. General Requirements (14 credit hours)
 - A. Writing skills (8 credit hours)—All students are required to demonstrate or achieve competency in writing in their first three quarters at the University through either one of the following:
 1. Complete English 162 and English 163.
 2. Demonstrate competency through an examination program provided by the English department. Provision will be made for all students to attempt to earn advanced placement into English 163. Those who are successful will be given an opportunity through further testing to earn exemption from English 163.
 - B. Speech Communications Skills (4 credit hours)—All students are required to demonstrate or achieve competency in speech skills in their first three quarters in the University through either one of the following:
 1. Complete Speech Communication 161.
 2. Competency can be certified by the speech communication faculty evaluation of any 36-week or longer speech course(s) completed in the 10th, 11th, or 12th grades of high school. If, upon faculty evaluation, a student's high school background does not provide for competency in all components of speech communication skill, then, with the consent of the student, the speech communication department may recommend courses to fulfill the competency requirement.
 3. Competency can be achieved through out-of-class experience prior to college. This achievement will be verified through a competency examination administered by the speech communication department.
 - C. No credit will be given for advanced placement or exemption in writing or speech communication skills. Students demonstrating competency will have that part of the requirement waived and will have those credit hours added to their General Education electives.
 - D. Physical Education (2 credit hours)—All students are required to take two credit hours, selecting from designated physical education activity courses.
- II. Distribution Requirements (48 credit hours)*—The aim of this part of the requirements is to provide the student with some non-vocation oriented experiences in each of the broad areas of knowledge. Each student should achieve a satisfactory level of competence in each area. This part of the requirement may be met through courses which have been designated for General Education offered by the departments listed below. Courses which are prerequisite to courses in the student's major or minor programs, or in the department of the student's major or minor programs, may not be used to meet this part of the requirement.

Area A. Philosophy/Humanities/Fine Arts (16 credit hours)

1. Philosophy (4 credit hours)—All students are required to take four credit hours, selecting from General Education courses designated by the philosophy department.
2. Humanities/Fine Arts (12 credit hours)
 - a. Humanities (at least four credit hours)
 - American Studies
 - English
 - Foreign Language
 - b. Fine Arts (at least four credit hours)
 - Art
 - Music
 - Theatre

Area B. Natural Sciences and Mathematics (16 credit hours) (Select from at least three departments)

Biological Sciences
Chemistry
Earth Science
Mathematics and Computer Science
Physics and Astronomy

Area C. Social and Behavioral Sciences (16 credit hours)

1. Social Science (4 credit hours)—All students are required to take Social Science 104.

2. Social and Behavioral Science (12 credit hours) (Select from three of these five groups)

Group 1. Sociology and Anthropology

Area Studies
Political Science
Economics
Social Science

Group 2. Industrial Education

Technology

Group 3. Geography

Group 4. History

Group 5. Psychology

III. General Education Electives (8 credit hours)*—Any courses which have been designated for General Education may be used to meet this part of the requirement. Courses which are required for the student's major or minor program, and courses prerequisite to such courses, may not be used to satisfy this requirement. Courses within the department of the student's major or minor program which are not required or prerequisite to courses within the student's major or minor program, may be used to satisfy this requirement so long as they have been designated General Education courses. Professional education courses required for state licensure may not be used by students seeking licensure as teachers. Business majors must choose their General Education electives outside the College of Business.

IV. Limited exceptions to the General Education program requirements may be approved whenever it can be determined that the program objectives would be better achieved through an alternate selection of courses. Exceptions from the distribution requirement may be granted for students in the area in which their major or minor is located through the substitution of other designated General Education courses. For example, a student with a major in biology may use other General Education courses from that area or may petition for the substitution of courses from philosophy/fine arts/humanities or social and behavioral sciences for the 16 credits required in Area B. Petition forms are available from faculty advisers and from the Office of Academic Affairs.

V. A listing of approved General Education courses will be published as a supplement to this bulletin and also will be published in the *On-Campus Class Schedules* and the *Student Handbook*.

*No more than eight credit hours may be taken in any one academic unit for the combined purpose of satisfying Part II, Distribution of Requirements, and Part III, General Education Electives.

PROGRAMS OF STUDY

St. Cloud State University offers programs leading to the following degrees: (1) Bachelor of Arts, (2) Bachelor of Elective Studies, (3) Bachelor of Fine Arts, (4) Bachelor of Music, (5) Bachelor of Science, (6) Master of Arts, (7) Master of Business Administration, (8) Master of Science, (9) Specialist, (10) Associate in Arts, (11) Associate in Elective Studies, (12) Associate in Science, and (13) Pre-Professional programs which cover one- and two-year curricula leading to further study in professional fields at other colleges and universities. External Studies, Honors, and International programs are available to undergraduate students.

UNDERGRADUATE PROGRAMS

Although a student will normally finish a baccalaureate degree in four years, a few programs offered by the University require the completion of more than 192 quarter credits. Entering freshmen are encouraged to seek academic advice early regarding specific requirements in order to plan their program most efficiently.

ASSOCIATE IN ARTS

The Associate in Arts (A.A.) degree is awarded to those students who satisfactorily complete 96 credits including the general education requirements. This program is administered by the Director of Admissions and Records.

ASSOCIATE IN ELECTIVE STUDIES

The Associate in Elective Studies (A.E.S.) degree provides students an opportunity to design their own two-year programs of study. The degree is awarded on the completion of 96 quarter credits of self-selected courses with a 2.00 (C) average. No more than 48 credits in one discipline may be applied toward the degree.

ASSOCIATE IN SCIENCE

The Associate in Science (A.S.) degree is awarded to those students who satisfactorily complete 96 credits including the general education requirements. Associate in Science programs are offered by the departments of Industrial Education, Technology, and Business Education and Office Administration. Program requirements are given under departmental headings in this bulletin.

BACHELOR OF ARTS

The Bachelor of Arts (B.A.) degree programs are designed for those students who wish to pursue their studies in the liberal arts tradition. The degree is awarded upon the satisfactory completion of a minimum of 192 credits, which must include the general education requirements and the requirements of a field of concentration. The field of concentration requirements may be met by one of the following:

- A. 60 credit interdisciplinary major
- B. 48 credit major plus 12 credits in a foreign language
- C. 60 credit major/minor combination (36 or 48 credit major plus a 24 or 36 credit minor)

Courses intended specifically to meet teacher licensure requirements may not be counted toward the degree unless approved by the dean of college in which the student has selected her/his field of concentration.

BACHELOR OF ELECTIVE STUDIES

The Bachelor of Elective Studies (B.E.S.) degree is for those students who wish to develop their own programs of study. Requirements for the degree are:

- 1. Completion of a minimum of 192 credits with a 2.00 (C) average.
- 2. At least 48 credits in upper division (300-400) courses.

3. No more than 96 credits can be counted in any one discipline.
 4. No major or minor program is required; however, students may complete majors and minors in those departments which indicate B.E.S. programs are available. See individual departmental listings.
 5. Meet the residence requirement of St. Cloud State University as outlined in this Bulletin.
- Students who meet the admission requirements for St. Cloud State University may apply upon admittance. Students who are currently enrolled must have a 2.00 (C) average to be admitted to the program. Requests for admission are received by the program director, Whitney House 201.

BACHELOR OF FINE ARTS

The Bachelor of Fine Arts (B.F.A.) degree is designed for those students whose primary interest is in obtaining depth, structure, and professionalism in a particular area of the visual arts. 106 credits in art are required. Additional details of the program are listed in the Department of Art offerings.

BACHELOR OF MUSIC

The Bachelor of Music (B.M.) degree is for those students whose primary interest is musical performance. 124 credits in music are required. The student's major instrument or voice is studied each quarter and recitals are required at the end of the junior year and at the end of the senior year. Additional details of the program are listed in the Department of Music offerings.

BACHELOR OF SCIENCE

The Bachelor of Science (B.S.) degree is awarded to those students who successfully complete a professional four-year program of a minimum of 192 credits including general education requirements and the requirements of a field of concentration. Students seeking a teaching certificate must also complete the professional education requirements. Students in the College of Business must complete the business core. Requirements for specific programs can be found under departmental headings in the bulletin.

PRE-PROFESSIONAL PROGRAMS

These suggested pre-professional curricula have been reviewed by the appropriate professional schools at the University of Minnesota. Students may enroll in any of these programs with the assurance that they will meet the course distribution recommendations of the University. These curricula are not inflexible, but may be adjusted to meet individual needs and the requirements of other professional schools. Students are responsible for knowing the admission requirements of the particular professional school they plan to attend. Advisers should be consulted for needed assistance.

PRE-AGRICULTURE

Adviser Thomas Clapp/220 Mathematics and Science Center/255-2288

Schools of agriculture have many and varied curricula. The following list should be followed until the student has selected a particular program within the field of agriculture: ENGL 162, 163; SPC 161; BIOL 201, 202; CHEM 215, 216; MATH 131; PHYS 211, 212; two general education courses selected from GEOG, HIST, POL, PSY, SOC, SSCL; two general education courses selected from ART, ENGL, MUSM, MUSP, TH.

PRE-DENTISTRY

Adviser David Mork/226 Mathematics and Science Center/255-3035

The following is a minimal list required by the University of Minnesota: BIOL 201, 203, 303, 332; CHEM 215, 216, 217, 251, 252; ENGL 124, 162, 163; MATH 130 or 131, 134; PHYS 211, 212, 213; PSY 121, 262; SPC 161; ART 110, 260.

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PRE-ENGINEERING

Adviser Bruce Ellis/310 Mathematics and Science Center/255-2011 (A-L) and Wendell Pou/312 Mathematics and Science Center/255-3145 (M-Z)

CHEM 215, 216; CSCI 271, 371; ENGL 162, 163; MATH 241, 242, 243, 244, 334; PHYS 234, 235, 236. Choose 16 credits from: PHYS 251, 252, 332, 334, 335; MATH 345. Select 8 credits from designated general education courses in the following departments: AMST, ART, ENGL, FREN, GERM, MUSM, MUSP, SPAN, TH. Select 12 credits from designated general education courses in the following departments: ANTH, ECON, ESCI, ENV, GEOG, HIST, PHIL, POL, SOC, SPC. An additional 8 credits may be taken in any area except CHEM, CSCI, ESCI, MATH or PHYS. MATH 241 and PHYS 234 should be taken during the first quarter.

It is strongly recommended that the pre-engineering student meet periodically with the adviser.

PRE-FISHERIES MANAGEMENT

Adviser Steven Williams/272 Mathematics and Science Center/255-4255

Three years of coursework in pre-fisheries may be completed at St. Cloud State University. For entire program see adviser. The first quarter courses should include: BIOL 201; CHEM 215; MATH 131 or 231 and any one of the following: ECON 259; ENGL 162; ESCI 284; SPC 161; POL 211. Do not make substitutions.

PRE-FORESTRY

Adviser Thomas Clapp/220 Mathematics and Science Center/255-2288

BIOL 201, 202, 301; CHEM 215, 216; CSCI 269, 271; ENGL 162, 163; SPC 161; ESCI 284; ECON 273, 274; MATH 131, 134 (or grade of C or better in high school trigonometry), 140 or 241, 329; PHYS 211; TECH 114 (or mechanical drawing in high school). Select 10 credits from: ANTH, GEOG, HIST, POL, PSY, SOC, SSCI. Select 10 credits from: ART, ENGL, MUSM, MUSP, TH. (The University of Minnesota forestry program requires a summer session between the sophomore and junior years which requires the completion of all the above except the electives.)

PRE-HOME ECONOMICS

Adviser David Kramer/223 Mathematics and Science Center/255-3009

Students may take some work at St. Cloud State University which will count toward various programs in home economics at the University of Minnesota. Recommended coursework will vary with program selected. See adviser for specific requirements.

PRE-HORTICULTURE

Adviser Thomas Clapp/220 Mathematics and Science Center/255-2288

St. Cloud State University does not offer a horticulture program as such. Students who select from the following courses should have few problems in transferring during or at the end of their second year to a school with a major in horticulture: ENGL 162, 163; SPC 161; MATH 131; CHEM 215, 216, 251 or 291, 252 or 292; PHYS 211, 212, 213; ESCI 284; ECON 259 or 273; BIOL 201, 202, 350, 436. Students should also consider selecting two general education courses from GEOG, HIST, POL, PSY, SOC, SSCI and two general education courses from ART, ENGL, MUSM, MUSP, or TH.

Since horticulture curricula vary, students should, during their first year at St. Cloud State University, contact the school to which they wish to transfer in order to plan their second year's program.

PRE-LAW

Advisers Stephen Frank/319 Brown Hall/255-4131, Robert Becker/200 Administrative Services Building/255-2122

Pre-law is not a major for purposes of graduation. Law schools do not require students to take a prescribed list of courses or complete a particular major as a condition of admission. To obtain further information on pre-legal studies contact the adviser.

PRE-MEDICAL RECORD ADMINISTRATION

Adviser David Mork/226 Mathematics and Science Center/255-3035 or 255-2038

BIOL 201, 303, 307; CHEM 215; ENGL 124, 162, 163; MATH 131; CSCI 161; PE activity (2 Cr.); PSY 121, 262; SOC 260; SPC 161. Total Cr.: 51.

PRE-MEDICINE

Adviser Standley Lewis/225 Mathematics and Science Center/255-4269

Pre-medicine is not a major as such, but the courses listed below, along with a bachelor's degree, fulfill the requirements for admission to any of the three Minnesota medical schools. These requirements should suffice for many out-of-state medical schools also. A pre-medical student does not need to major in a science; he or she should choose a major which would be desired if admission to medical school is not attained.

BIOL 201, 203, 303, 332; CHEM 215 & 216 or 213, 217, 251, 252, 325; ENGL 124, 162, 163; SPC 161; MATH 131, 134, 231; PHYS 211, 212, 213; a minimum of one year each of college-level English composition and behavioral science/ social science and/or humanities (e.g. PSY, ANTH, HIST, SOC, ECON, PHIL, or a modern language). Biochemistry and/or physical chemistry are highly recommended in preparation for coursework in the basic medical sciences. Total number of credits needed for admission to medical school varies. (See adviser or medical school catalog.)

PRE-MORTUARY SCIENCE

Adviser Don Peterson/277 Mathematics and Science Center/255-3211

ACCT 291, 292; ANTH 250; BIOL 201, 203; CHEM 215, 216; ENGL 162, 163; HLTH 215; PSY 121, 222; SOC 260; SPC 161; Electives 32-38 Cr.

PRE-NURSING

Adviser Dave Mork/226 Mathematics and Science Center/255-3035.

The pre-nursing program varies depending upon where the student plans to transfer for completion of the degree. Most nursing schools will accept one year of pre-nursing. In the first quarter the student should take BIOL 201, ENGL 162, PSY 121, and CHEM 201 or 215. In the second quarter, the student should take CHEM 202, ENGL 163, PSY 262 and SOC 260. For further details, contact the pre-nursing adviser.

PRE-OCCUPATIONAL THERAPY

Adviser David Mork/226 Mathematics and Science Center/255-3035

ART 270, 275, 303; BIOL 201, 307, 464, 465 (PE 248 & 349 may be substituted for BIOL 464 & 465); CHEM 201 (CHEM 215 may be substituted for CHEM 201); ENGL 162, 163; IND 130; PSY 121, 262, 441, 475; SPC 161; HLTH 215. Two general education courses selected from: ANTH, SOC. Recommended SPC 220, IND 161. Additional electives to bring total to 90 Cr.

Acceptance into the professional program is competitive with the grade point average as the major factor; students must also have experience in the area. Applications should be submitted in January of the sophomore year. For further details please contact the adviser.

PRE-OPTOMETRY

Adviser Charles Eckroth/308 Mathematics and Science Center/255-3252

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Two years of college is the minimum required for admission to optometry school. However, the trend is for most entering students to have a 4-year bachelors degree. It is suggested that the student plan for a B.E.S. degree in biology, chemistry or some other suitable field. To include the following courses.

BIOL 201, 202, 203; CHEM 213, 215 or 216; 217, 291, 292, 293, 325; ECON 273, 274; ENGL 162, 163; MATH 131, 231, 232; PHYS 211, 212, 213; PSY 121; SOC 260; SPC 161. Electives to bring program total to 90 Cr. Electives should include 12-15 Cr. from arts and humanities.

Students should make application to take the Optometry College Admission Test (OCAT) during the year they apply to an optometry school.

PRE-PHARMACY

Advisers John Carpenter/373 Mathematics and Science Center/255-3031

William Nickles/372 Mathematics and Science Center/255-3198

The courses listed below comprise a recommended two-year program. Students desiring to transfer after one year should consult with the advisers.

BIOL 201, 202, 203; CHEM 215, 216 or 213; 217, 291, 292, 293, 325; ECON 273; 274; ENGL 162, 163; MATH 131, 231, 232; PHYS 211, 212, 213; PSY 121; SOC 260; SPC 161. Electives to bring program total to 90 Cr. Electives should include 12-15 Cr. from arts and humanities.

Students with proficiency in mathematics or English may elect higher level courses in those areas or general electives.

PRE-PHYSICAL THERAPY

Adviser David Mork/ 226 Mathematics and Science Center/ 255-2038 or 255-3035

BIOL 201, 203, 464, 465 (PE 248 & 349 may be substituted for BIOL 464 & 465); CHEM 215, 216, 217 or 213; ENGL 162, 163; PHYS 211, 212, 213; PSY 121, 475. HLTH 215, BIOL 307, PE 449 strongly recommended. Electives from the following to bring program total to 90 Cr.: ART, ENGL, MATH, MUSM, MUSP, PHIL, SPC, TH.

Acceptance into the professional program is competitive with the grade point average as the major factor; students must also have experience in the area. Applications should be submitted in January of the sophomore year. For further details please contact the adviser.

PRE-VETERINARY MEDICINE

Adviser John Peck/209 Brown Hall/255-4137

BIOL 201, 203, 303, 332, 344; MATH 130, 131, 134 (depends on high school background); CHEM 215, 216, 217, 251 or 291, 252 or 292, 325, 353; PHYS 211, 212, 213; ECON 259 or 273 or 274; SPC 161; ENGL 162, 163; 8 credits from ANTH, GEOG, HIST, POL, PSY, SOC, SSCL; 8 credits from ART, MUSM, MUSP, literature courses in AMST and/or ENGL. Additional courses to bring total up to 90 credits.

PRE-WILDLIFE MANAGEMENT

Adviser Alfred Grewe/234 Brown Hall

Three years of coursework in pre-wildlife may be completed at St. Cloud State University. For the entire program see the adviser. The first quarter courses should include: BIOL 201; CHEM 215; and any two of the following: ENGL 162; ECON 259; ESCI 284; POL 211; MATH 131 or 231. Do not make substitutions!

GRADUATE PROGRAMS

General Purposes. Courses at the graduate level assume, a high level of maturity and greater breadth and depth of intellectual interests. Independence in reading and investigation is expected of students who enroll for graduate study.

Emphasis is placed on directed reading, techniques of primary investigation, independent and constructive thinking. High standards of performance in the ability to organize and evaluate evidence and defend conclusions are required.

The purposes of graduate study are:

- a. To develop to the optimum degree the ability of professional people to augment their professional and cultural understandings and skills.
- b. To develop appreciation, attitudes, and understandings characteristic of educated persons.
- c. To gain some preparation and experience in educational research to the end that sensitivity to change and an attitude of intelligent inquiry may be fostered.

Admission to Graduate Study. Students who hold baccalaureate degrees from accredited institutions and who present evidence of high level preparation at the undergraduate level will be considered for graduate study.

Application for admission should be made to the School of Graduate Studies. To be considered for admission to a Master's degree program an applicant must have been granted a baccalaureate degree from an accredited college or university and have achieved a "2.6" grade point average over the last two years of undergraduate education (6 full quarters or equivalent) or have achieved an acceptable score on the required entrance examination.

It is recommended that such application be made as far in advance of registration as possible. A student who holds the baccalaureate degree from another college should request the registrar of that college to forward two official copies of the undergraduate transcript to the School of Graduate Studies at the time that application is made. All applicants should arrange to complete the entrance tests prior to registering for graduate credit.

Course Numbering System. Courses numbered from 500-699 may be used to satisfy the requirements of graduate degrees. Many courses carry double numbers, such as 450-550. These courses are open to advanced undergraduate and to graduate students. To receive graduate credit, the student must register for the 500 number. Courses open only to graduate students are numbered 600-699.

SPECIALIST DEGREE

THE SPECIALIST DEGREE may be pursued by students who have completed a master's degree or in some cases its equivalent and who are eligible for admission. Programs are offered in information media in the Center for Library and Audiovisual Education and elementary, secondary, or general school administration and special education administration in the Center for Educational Administration and Leadership.

SIXTH YEAR PROGRAM

A sixth year program of study in elementary, secondary, or general school administration is available to those students who have completed a master's degree or in some cases the equivalent, and who are eligible for admission. This program fulfills the licensure requirements for educational administration.

MASTER'S DEGREES

THE MASTER OF ARTS degree may be pursued by students who have completed either undergraduate liberal arts programs or teacher education degrees. Programs are presently offered in art, biology, English, history, and mathematics.

THE MASTER OF BUSINESS ADMINISTRATION is designed for students who desire a broad, integrated program to prepare them for leadership in business, industry, or government service.

THE MASTER OF SCIENCE. Programs in teacher education are available in elementary school teaching and in the following secondary teaching fields: art, biology, business education, English, geography, history, industrial education, mathematics, music, physical education,

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physical science, and social science. In addition, there are programs available in the following special fields: curriculum and instruction; early childhood and family studies; educational administration; community education, elementary school administration, school business management, and secondary school administration; reading consultant; speech and hearing therapy; special education; consultants-directors-supervisors of information media (library and audiovisual education); rehabilitation counseling; school counseling; and community counseling. Completion of these programs culminates in the Master of Science degree.

FIFTH YEAR PROGRAM IN TEACHER EDUCATION

The Fifth Year program is intended to provide systematic study beyond the baccalaureate degree for teachers who do not plan to qualify for a master's degree. Work included in the Fifth Year program is selected to strengthen the student primarily in the area taught. A person who has less than an undergraduate minor may not choose that field for his Fifth Year major. The student's Fifth Year program will be planned to provide an integrated five-year program of preparation for teaching.

Additional information is contained in the *Graduate Bulletin*, available from the Dean, School of Graduate Studies.

ACADEMIC INFORMATION

ADMISSION AND REGISTRATION

ADMISSION OF HIGH SCHOOL STUDENTS. To encourage early planning for college, St. Cloud State University will grant provisional admission to eligible seniors in accredited high schools. The application materials, containing all the available information on the student to date, should be submitted by the student and high school during the student's senior year.

Graduates of accredited high schools must submit through their high school the Minnesota College Admission form, an official transcript of high school credits, the American College Test (ACT), the Preliminary Scholastic Aptitude Test (PSAT) or Scholastic Aptitude Test (SAT) scores and the \$10 application fee (check or money order, not refundable).

Students who are in the upper two-thirds of their high school graduating class or who have a composite score of 15 on the American College Test (ACT) examination, a combined score of 66 on the Preliminary Scholastic Aptitude Test (PSAT) or a combined score of 660 on the Scholastic Aptitude Test (SAT) shall be eligible for admission to St. Cloud State University.

Students planning to major in a bachelors level (four-year) program offered by the College of Business (Accounting, Business Education, Office Administration, Management, Finance, Insurance and Real Estate, Marketing, General Business, or Quantitative Methods and Information Systems) must rank in the upper half of their high school graduating class, or have a composite score of 19 or higher on the ACT, or have a combined score of 82 or higher on the PSAT, or have a combined score of 820 on the SAT, or have participated in an admission interview.

ADMISSION OF TRANSFER STUDENTS. Persons who have taken courses at other colleges and who are seeking admission to St. Cloud State University must submit an Application for Admission with Advanced Standing (obtained from the Office of Admissions and Records), a \$10 non-refundable fee (check or money order), and official transcripts from all institutions previously attended. Applicants with a "C" average in previous college work are eligible for admission; other applicants will be considered on an individual basis.

All credits averaging "C" or higher earned at regionally accredited college-level institutions are eligible to be considered for transfer. The University reserves the right to deny credits in transfer which are (1) not consistent with the mission and charter of the granting institution, or (2) not approved for transfer based on the evaluation of this University. Credit will be considered for transfer only from the institution actually granting the credit. Transfer credit will not be granted for remedial work. Course work taken at two-year institutions which is offered at the junior or senior level at St. Cloud State University will be accepted but may not be used to meet requirements of a major or minor program of study in the College of Business at St. Cloud State University.

A transfer student planning to major in a bachelor's level (four-year) program offered by the College of Business (Accounting, Business Education, Office Administration, Management, Finance, Insurance and Real Estate, Marketing, General Business, or Quantitative Methods and Information Systems) must have a cumulative honor point ratio of not less than 2.50 ("C" +) to be eligible to enroll in business core courses. Students who do not meet this requirement will be eligible to enroll in business core courses after completing a minimum of 48 credits at St. Cloud State University with a cumulative honor point ratio of 2.50 or higher.

A transfer student who earned an A.A. degree from an approved college will have met the general education requirements at St. Cloud State University provided the A.A. degree program includes at least 60 credits of transferable general education courses. Courses that are counted toward the 60 credit general education requirement will not be counted in a student's major or minor. Classes placed in the student's major or minor will not count toward the 60 credit general education requirement. However, students preparing to teach should note that completion of the required communications sequence (writing and speech communication skills) is a prerequisite for Admission to Teacher Education.

A transfer student who has not earned an associate degree must meet all requirements of the general education program.

Courses completed at a Minnesota area vocational technical institute will not automatically transfer to St. Cloud State University. Students may, however, request to be examined for competency in areas taught at St. Cloud State University. If the department conducting the testing judges the student's knowledge to be equal to that expected in courses at St. Cloud State University, an appropriate number of credits will be allowed.

A student who is denied admission may request that the application, together with his/her written appeal for reconsideration, be forwarded to the Admissions and Retention committee.

A student who is admitted with less than a "C" average will be on academic probation for the first quarter and will be required to make up the honor point deficiency before graduation.

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Students entering St. Cloud State University who have completed a hospital diploma program in nursing and who are registered nurses are granted 48 credits toward graduation.

ADMISSION OF INTERNATIONAL STUDENTS. Undergraduate students who are not permanent residents or citizens of the United States may be considered for admission after submitting the following: (1) A completed Undergraduate Application for Admission (Non-Citizen) form available from the Office of Admissions and Records. (2) A \$10 application fee. (3) An English translation of all educational transcripts. (4) The Test of English as a Foreign Language (500 minimum) or other proof of English proficiency. (5) A completed Confidential Financial Information Form or other proof of financial support.

ADMISSION OF SPECIAL STUDENTS. Undergraduate students who do not plan to work on a degree at St. Cloud State University or graduate students who have not been admitted to a graduate program, may enroll as special students. Undergraduate students must meet the admissions requirements of degree-seeking students. Graduate students should contact the Graduate Studies Office or consult the Graduate Bulletin for specific regulations. Undergraduate special students are strongly urged to apply as degree candidates if they have taken or plan to take more than 20 undergraduate credits. Students may apply for special student status at registration.

DEADLINES FOR APPLICATIONS. Applications for admission should be submitted at least three weeks prior to beginning of quarter of enrollment. Earlier applications are encouraged.

REGISTRATION. The registration period for each quarter is indicated in the University Calendar. Students should consult the class schedule which is available from the Office of Admissions and Records for specific registration instructions.

LATE REGISTRATION. Students may, with permission, register within a period no longer than ten class days after a regular quarter begins or four class days after a summer term begins. For a regular quarter the late registration fee is \$5 after the third class day and \$2 for each succeeding class day. For a summer term the late registration fee is \$5 after the third class day. Students may register for off-campus courses no later than the second class meeting. Late registration fees do not apply to off-campus courses.

EVENING AND EXTENSION REGISTRATION. Evening and Extension registration instructions are found in the class schedules available in the Office of Admissions and Records.

CLASS RANKING. For admission to sophomore standing a student must have completed a minimum of 48 or more quarter hours.

To achieve junior standing a student must have completed 96 or more quarter hours.

To achieve senior standing a student must have completed 144 or more quarter hours.

COURSE NUMBERING SYSTEM. Courses numbered 001 to 099 may not be used to meet graduation requirements.

Courses numbered 100 to 199 are generally considered for freshmen.

Courses numbered 200 to 299 are generally considered for freshmen and sophomores.

Courses numbered 300 to 399 are generally considered for sophomores and juniors.

Courses numbered 400 to 499 are generally considered for juniors and seniors. Some of these courses also carry numbers in the 500 series, which indicates they are open to graduate students.

Courses numbered 500 to 599 are double-numbered courses (with courses in the 400-499 series) and are open to graduate students.

Courses numbered 600 to 699 are exclusively for graduate students.

SCHOLARSHIP STANDARDS

GRADING SYSTEM. The academic achievement of students is recorded by the following system: A, excellent; B, very good; C, average; D, passing; and E, failing. The mark of X is given to students whose work at the end of a term is still in progress. Such grades will be restricted to those classes in which it has been planned by the instructor that it may reasonably take more than one term to complete all assignments, e.g., field work and internship assignments, contract-based courses, and classes which must be taken in a series before any grade is earned. An X grade must be completed within one year; if not removed within this time limit the "X" (In progress) is changed to "E" (Failure) or "U" (Unsatisfactory). S means satisfactory performance; U means unsatisfactory. W means withdrawn. V means the student audited the course without

being evaluated. A student who registers to audit a course and then fails to meet the attendance requirement established by the instructor may be given a mark of U. A grade of "N" is recorded when the instructor has failed to submit a grade for the student.

After the final drop date (as indicated in the University Calendar), any withdrawal will be recorded as an "E." If extenuating circumstances warrant other considerations, an appeal may be made through the Office of Admissions and Records. Students who register for a course but do not attend the class and do not withdraw officially will be given a mark of "E."

When a student who is otherwise doing satisfactory work in a course is unable, for reasons beyond his/her control, to complete all course requirements during the term, that student will be given an "I" for Incomplete. Such incompletes must be removed by the student within one quarter, except that an incomplete given in spring quarter must be removed by the end of the following fall quarter. If it is not removed within the time limit the "I" (Incomplete) is changed to "E" (Failure) or "U" (Unsatisfactory). A grade of "N" is changed to an "E" (Failure) after one quarter.

GRADING APPEALS POLICIES. See *Student Handbook*.

HONOR POINTS. The following system of honor points is used in all courses and curricula; a mark of A, 4 points per quarter hour of credit; B, 3 points; C, 2 points; D, 1 point; E, no honor points per quarter hour.

COMPUTING HONOR POINT RATIO. A student's honor point ratio is a numerical ratio of the total credits attempted and the total honor points received. The following are examples of the method of computing honor point ratios:

A. A student who completed 16 quarter hours credit with 16 hours of C has earned 32 points.

The honor point ratio is $32 \div 16 = 2.0$.

B. A student who completes 16 quarter hours of credit with 8 hours of C and 8 hours of D has earned 24 honor points. The honor point ratio is $24 \div 16 = 1.5$.

Courses in which the mark of "S" or "U" is given are not included in the computation of honor point ratio.

Only courses taken at St. Cloud State University are used in computing honor point ratio. When a course is repeated, only the highest mark is used in the calculation of the honor point ratio.

Marks of "I" (Incomplete), "X" (In progress), "V" (Auditor), "W" (Withdrawn), "N" (No grade submitted) do not represent credit earned and are not included in the computation of honor point ratio. When a mark of "E" is earned, the credit hours attempted are included in the computation of honor point ratio.

CERTIFICATE OF SCHOLASTIC ACHIEVEMENT. The Vice President for Academic Affairs recognizes outstanding scholastic achievement by awarding certificates each quarter to students who earn a scholarship average of 3.75 or better. A student must complete at least nine credits of ABCDE-graded courses to be eligible for the award.

ACADEMIC TRIAL QUARTER REQUIREMENTS. Whenever students' cumulative honor point ratios fall below the minimum level, they will automatically be placed "on trial" the following quarter of enrollment.

Quarters in attendance	Minimum HPR
After 1 quarter	
2	1.40
3	1.70
4	1.90
5 or more	2.00

Students "on trial" must earn at least a "C" average during the trial quarter. A mark of incomplete does not meet this requirement; any incompletes must be removed before the student is allowed to enroll for another quarter. If students fail to obtain a "C" average during the trial quarter they will be dismissed for the period of one calendar year. If there are extenuating circumstances a student may appeal this dismissal to the Admissions and Retention Committee through the Office of Admissions and Records.

NORMAL ACADEMIC PROGRESS REQUIREMENTS. All students must maintain normal academic progress. Normal progress is defined as satisfactory completion* of at least half of all credits for which tuition has been paid during a given quarter.

Students who fail to meet this requirement for two consecutive quarters will be placed on academic probation in the third term. The student must complete at least half of the credits for which tuition has been paid in the third term or be dismissed for a period of one calendar year. If there are extenuating circumstances a student may appeal this dismissal to the Admissions and Retention Committee through the Office of Admissions and Records.

Students who have been accepted into the External Studies program may be given special consideration upon the recommendation of the Director of External Studies.

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DISMISSAL. The University reserves the right to dismiss a student whose personal qualities, general health, scholastic achievement, conduct, or other standards are such that continued enrollment would not be in the best interests of the University and the student.

ACADEMIC POLICIES

PREREQUISITES. A student who fails in the first course of a sequence cannot take the following courses in that sequence until the failure has been made up. Prerequisites for a course, as stated in this bulletin, must be met before the course is taken unless permission to omit the prerequisite is obtained from the department chairperson concerned.

STUDENT LOAD. An undergraduate student enrolled for 12 credits or more (6 credits in a summer term) is considered a full-time student. The recommended normal load is 16 credits (8 credits in a summer term). The maximum allowable load without special permission is 20 credits (10 credits in a summer term). Students who wish to enroll for more than the established maximum must secure permission from their college dean. Students who have not been admitted to a major program of study must secure permission from the Assistant Vice President for Academic Affairs. A student's load includes the total of all courses carried, including correspondence, extension, and any other college courses taken concurrently with those at St. Cloud State University.

CLASS ATTENDANCE. The University regards class attendance as the personal responsibility of each student. Upon enrollment in a course the student becomes accountable for all the requirements of the course. It is the practice for the student to give the instructor, in advance, if possible, the reason for the absence. Members of the faculty are asked to report to the Student Life and Development Office the name of any student whose repeated absence is impairing his/her work.

AUDITING OF CLASSES. A student who wishes to attend the class sessions of a course but who does not wish to receive credit for it must register as an auditor. The same registration procedure is followed and the same fees charged as for credit courses. Auditors must attend class but the taking of quizzes and examinations is optional. Auditors who fail to meet the attendance requirements may receive a mark of U (Unsatisfactory) rather than a mark of V (Auditor). Courses audited cannot be counted toward graduation requirements. Courses audited are counted as part of the student load. The audit option must be designated at the time of registration for the course.

REPEATING COURSES FOR IMPROVEMENT OF GRADE. Students may repeat courses at their own discretion in an effort to improve grades. In such cases, no additional credit will be allowed. The highest grade earned will be the student's official grade for the course.

REPEATING COURSES FOR ADDITIONAL CREDIT. Students may enroll in some courses more than once. Courses in this category are specified in the course description section in this bulletin. The maximum number of credits allowable is stated in the course description. For each enrollment the student receives credit hours and a grade.

CHANGE OF CLASS. A student is not permitted to change classes or to add classes to his/her class schedule after the fifth day of a quarter during the school year or after the fourth day of classes during a summer term. A failing mark will be given for courses dropped after the deadline shown in the University Academic Calendar, except as noted in the "Marking System" section. All class changes require the completion of a drop and add form, which is secured in the Office of Admissions and Records.

CANCELLATION OF CLASSES. Classes or sections of classes which do not have sufficient enrollment may be cancelled at any time.

FORGERIES. The University considers forged signatures on official documents to be a very grave matter. A student who forges a signature on an official University document will have nullified the document and may face disciplinary action as determined by the University Judicial Committee.

*Satisfactory completion shall be defined as a grade of D or higher on an A-E scale or S on a S/U scale.

RESIDENCE REQUIREMENT. Residence credit is earned on the campus of St. Cloud State University. To be eligible for graduation under a four-year curriculum a student must have been in residence at least three quarters and must have earned at least 45 quarter hours of credit in residence out of the last 96 credits. To be eligible for graduation under a two-year curriculum, a student must have been in residence at least two quarters and must have earned at last 32 quarter hours of credit in residence. Eight credits must be earned in residence during the quarter immediately preceding graduation. The Director of Admissions and Records is authorized to permit a student who lacks credits for graduation, and who has a good scholastic record, to complete his/her degree requirements in a manner to be prescribed by the Vice-President for Academic Affairs.

Transfer students are required to take at least 12 quarter hours in their major field and 8 quarter hours in their minor fields in residence unless waived by the department. A student transferring from a community college must complete a minimum of 96 quarter hours of credit at a four-year institution in addition to credits earned at the community college.

WITHDRAWAL. Contact Office of Admissions and Records for instructions on procedure.

Withdrawal from a part of a student's class schedule after the tenth class day requires the signature of the instructor of the course(s) to be dropped. See the University's Academic Calendar in this bulletin or quarterly class schedule for deadline for withdrawing from a course(s).

Withdrawal from an entire class schedule (withdrawal from the University) requires the completion of a withdrawal form. Failure to process this form will result in failing grades.

The policy on refund of tuition and fees may be found in the financial information section of this bulletin and/or the quarterly class schedule.

CORRESPONDENCE, EXTENSION, WORKSHOP OR FIELD TRIP CREDIT. A maximum of 15 quarter hours of correspondence credit may be used toward a bachelor's degree.

Extension credit may be transferred toward graduation only from those institutions approved to give extension courses.

No more than 8 quarter hours credit in either workshop or field trips (tours) may be applied to a major and no more than 4 quarter hours of such credit may be applied to a minor. No more than a total of 16 quarter hours of workshop and field trip credits may be applied on any curriculum. These 16 hours cannot be earned exclusively in either workshop or field trips.

MAJOR PROGRAM OF STUDY. Students who expect to become candidates for the bachelor's degree may, when their completed credits equal or exceed 32 quarter hours earned at all colleges and at least 12 in residence at St. Cloud State University, make application for admission to a major program of study. The minimum scholarship requirement for admission to a major program is an honor point ratio of 2.0 in work taken at St. Cloud State University. An approved major program application is valid for seven years. To graduate after that time, a student may be required to meet new major program requirements. If necessary, contact the college dean for extension of time. Application for admission to a major program must be initiated as follows:

For majors and minors offered in:

Accounting
Business Education
Finance
General Business
Insurance
Management
Marketing
Office Administration
Quantitative Methods and Information Systems
Real Estate

Contact the Office of:

Dean, College of
Business

Athletic Training
Dance Education
Elementary Education
Health Education
Library and Audiovisual Education (Information Media)
Outdoor Education
Performing Dance
Physical Education
Psychology
Reading Instruction
Recreation
Special Education

Department Chairperson
in College of Education

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Aviation Technology
Driver and Traffic Safety Education
Electronics Engineering
Industrial Education
Industrial Engineering
Mechanical Engineering Technology
Photographic Engineering Technology
Photographic Science and Instrumentation
Vocational-Technical Education

Dean, College of Industry

American Studies
Anthropology
Applied Statistics
Biological Science
Bio-Medical Science
Chemistry
Comprehensive General Science
Comprehensive Physical Science
Computer Science
Creative Writing
Criminal Justice
Earth Sciences
East Asian Studies
Economics
English
Environmental Studies
Foreign Languages
French
Geography
German
Gerontology
History
Journalism
Latin American Studies
Local and Urban Affairs
Mass Communications
Mathematics
Medical Technology
Middle East Studies
Minority Studies
Nuclear Medical Technology
Philosophy
Physical Science
Physical Therapy
Physics
Political Science
Public Administration
Radio
Radio-Television
Religious Studies
Science, General
Social Science
Social Studies
Social Work
Sociology
Spanish
Speech Communication
Speech Science, Pathology and Audiology
Statistics
Television
Women's Studies

Dean, College of Liberal Arts
and Sciences

Elective Studies

Coordinator, Non-Traditional
Students

Art
Arts Administration
Cinematography
Music
Theatre

Dean, College of Fine Arts

Students interested in the Associate in Science program in secretarial science must contact the Dean of the College of Business; those interested in the general Associate in Arts program should contact the Director of Admissions and Records; those interested in the technology or industrial education two-year programs should contact the Dean, College of Industry, and those interested in the Associate in Elective Studies program should contact the Coordinator of Non-Traditional Students.

GRADUATION. Under the authority of the State University Board, St. Cloud State University awards the Specialist degree, the degrees of Master of Science, Master of Arts, Master of Business Administration, Bachelor of Science, Bachelor of Arts, Bachelor of Elective Studies, Bachelor of Fine Arts, Bachelor of Music, Associate in Arts, Associate in Elective Studies, and Associate in Science. A minimum total of 192 quarter hours of credit is required for any four-year degree. A minimum total of 96 quarter hours of credit is required for any two-year degree. Candidates for a Bachelor of Science degree in an education program must meet the following academic standards in order to qualify for graduation:

1. General scholarship—2.00.
2. Major field—2.25.
3. Minor field—2.00.
4. Professional Education Core—2.25.
5. Admission to Teacher Education.

Candidates for non-teaching degrees must meet the following academic standards to qualify for graduation:

1. General Scholarship—2.00.
2. Major field—2.00.
3. Minor field—2.00.

Application for graduation forms are obtained in the Office of Admissions and Records. Check the University Academic Calendar for the application for graduation deadline for any specific quarter.

Any student completing a major under two of the following degree designations, (B.A., B.S., B.F.A., or B.Mus.) may elect the degree designation of his/her choice. Majors or minors earned under the B.E.S. program may only be applied to a B.E.S. degree. No student will be awarded more than one degree at the end of any given quarter.

Students returning for additional undergraduate work after completing an undergraduate degree at St. Cloud State University will be required to complete a minimum of 45 credits at St. Cloud State University to earn an additional (different) degree.

Thirty-six credits must be earned in residence. If less than 45 credits are earned, the major will be recorded but no new diploma will be issued or degree designated.

Students returning for additional undergraduate credit may not receive two diplomas for the same degree. The additional major will be listed on the Permanent Record.

The Permanent Record will list the student's major(s), minor(s), and area(s) of emphasis within the major, if any.

The graduation for a particular quarter will be "final" seven working days after the end of the quarter.

GRADUATION WITH HONORS. Students who complete an associate or baccalaureate degree program will be graduated with honors in accord with the following:

Cum Laude	Awarded to graduates who have achieved an honor point ratio of at least 3.25 but less than 3.50.
Magna Cum Laude	Awarded to graduates who have achieved an honor point ratio of at least 3.50 but less than 3.75.
Summa Cum Laude	Awarded to graduates who have achieved an honor point ratio of at least 3.75.

Only course work completed at St. Cloud State University will be used to determine academic honors. To be eligible for consideration, graduates of associate degree programs must have been in residence for at least three quarters and have completed a minimum of 45 quarter hours of credit at St. Cloud State University; graduates of baccalaureate degree programs must have

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been in residence at least six quarters and have completed a minimum of 90 quarter hours of credit at St. Cloud State University. Associate degree graduates must have earned at least 30 quarter hours of credit in courses graded on the A-E marking system; baccalaureate degree graduates must have earned at least 75 quarter hours on the A-E marking system.

CREDIT-BY-EXAMINATION. A student may earn a maximum of 48 quarter hours of credit by examination. Entering freshmen are eligible to take examinations for credit if they have a "B" average in high school in the area to be examined and for all high school work. Requests for exceptions will be considered when test scores or other evidence suggests greater ability than the high school record indicates.

All other students who meet the qualifications listed below may apply to take credit examinations:

1. The student must have a "B" average for all university work taken in the subject area of the examination.
2. A student should have a "C" average for all university work taken at St. Cloud State University. If a transfer student has taken less than two full quarters at St. Cloud State University, he/she must have a "B" average for all university work taken.
3. Students may not take examinations at a level below that of courses already taken in an area. For example, a student who has completed a 200-level course in a specific subject area may not take an examination for credit in a 100-level course in the same area without the special approval of the dean. Exceptions may be made in the case of transfer students who, in the judgment of the Assistant Director of Admissions and Records in the Office of Admissions and Records, and the chairperson of the department involved, have not had previous opportunity to cover the material in the 100-level course.
4. Students having completed 112 or more quarter hours may not receive credit by examination in courses at the 100 or 200 level.
5. A student may not take an examination in a course more than once.

Credit received by examination counts toward residence, general education, major and minor requirements. Examinations are graded on a Satisfactory/Unsatisfactory basis. Only "Satisfactory" grades are entered on the student's permanent record.

Examinations for credit may be requested in any course. The final authority for determining whether a student may take a course by examination rests with the department chairperson involved.

Students are not required to take the examination in the same quarter in which they apply. For example, students are encouraged to apply in the spring quarter for examinations to be taken in the fall, thus permitting the use of summer for reading and preparation.

Application forms are available in the Office of Admissions and Records, 117 Administrative Services Building.

COLLEGE LEVEL EXAMINATION PROGRAM. The University grants four credits for scores at the fiftieth percentile or higher on each of the following general examinations: mathematics, humanities, natural science, and social science-history. Four credits are granted for scores at the fiftieth percentile or higher on each of the following subject examinations: American government, general psychology, introductory business management, introductory business law, introductory marketing, introductory sociology, statistics, tests and measurements, Afro-American history, biology, microbiology, money and banking, computer and data processing, fundamentals of nursing, medical-surgical nursing, western civilization and human growth and development. Eight credits are granted for score at the fiftieth percentile or higher on the subject examination in American history. Credits for calculus are subject to department approval. Contact the office of Student Life and Development, Atwood Memorial Center 142 (255-3111) for testing arrangements.

ADVANCED PLACEMENT. St. Cloud State University is a formal participant in the Advanced Placement program administered by the College Entrance Examination Board. Students achieving a score of "3," "4," or "5" routinely receive credit. Students achieving a score of "2" are possibly qualified and may receive credit upon the recommendation of the department in which the test was taken. Additional information may be secured from the Office of Admissions and Records.

INDEPENDENT STUDY. Recognizing the diversity of interest, preparation and talent among its students, St. Cloud State University desires to individualize education as much as possible. This program permits a student to earn from one to four hours of credit for individual study in an area or topic not offered in a regular course.

In working out the arrangements for this special study, the student should consult with and receive the approval of his/her adviser, the instructor with whom the work will be done, and the

chairperson of the department. Application forms are available in the Office of Admissions and Records, 117 Administrative Services Building.

ARRANGED COURSE. A student who cannot take a regular course as scheduled for good reason may apply to take it by arrangement. Permission of the instructor of the course and the department chairperson must be obtained on the application form available in the Office of Admissions and Records or the department chairperson.

COMMON MARKET PROGRAM—STUDENT EXCHANGE. The Common Market Student Exchange is designed to encourage students to seek enrichment in their education by considering the offerings of the other state universities. The program provides for mobility that allows students to take advantage of curriculum and program specialties and the different intellectual and social climates at other state universities.

A student is eligible to participate in the Common Market Student Exchange if he/she has a minimum grade-point average of 2.0 and has completed at least 45 quarter hour credits at the home state university. All credits earned under the program are considered "residence credits" at the home university and will be entered as such on the student's record. Students may enroll in any other state university for one to three quarters.

Interested students should contact the Common Market Director in the Office of Admissions and Records. The director will assist with course evaluations, housing, financial aid, as well as have available catalogs, class schedules and applications to other universities.

INTERNSHIPS. An internship is a one-quarter, full or part-time work experience for university credit. The program offers students a supplement to classroom learning through a variety of internship positions in local, state, and federal government agencies, public service organizations and private business. Information about internship opportunities and policies is available from the offices of the college deans or department chairperson.

EXPERIMENTAL COURSES. The University offers a number of new courses on an experimental basis each quarter which are not listed in this bulletin. These courses are listed in quarterly class schedules. Course descriptions are available in the Office for Academic Affairs and in the appropriate department office.

TRI-COLLEGE REGISTRATION PROGRAM. St. Cloud State University, the college of St. Benedict and St. John's University have entered into a cooperative agreement to encourage registration for courses on any of the three campuses by regular full-time undergraduate students. The purpose of this agreement is to encourage students from one institution to take courses at the other institutions and thereby broaden their educational opportunities. The program is restricted to undergraduate students and excludes summer school and extension courses. Students will register and pay fees at their home institution while attending classes at the host institution. Additional information including special registration forms, class schedules, and bulletins may be obtained in the Office of Admissions and Records.

MILITARY SCIENCE. The Army Reserve Officers Training Corps Program prepares college students for careers in the active Army, Army Reserve, and National Guard. ROTC courses are offered to St. Cloud State University students on the SCSU campus by the St. John's University Military Science department. ROTC is open to both men and women, and students do not incur a military obligation until their third year in the program. Veterans, reservists, guard members and JROTC graduates may be eligible for advanced placement.

The military science on-campus program is divided into two phases: freshman and sophomore year (MS I and MS II) which make up the basic course; and the junior and senior year (MS III and MS IV) which comprise the advanced course. This program also involves one six-week, off-campus summer training program between the student's junior and senior academic year.

A two-year ROTC program is also offered which is designed for students having two years of undergraduate studies remaining or seniors planning to attend graduate school. This course entails a six-week basic summer training program, completion of MS III and MS IV, and completion of the six-week advanced summer training program.

All ROTC courses, textbooks, and uniforms are provided free of charge. Cadets selected for the advanced course (MS III and MS IV) receive a monthly, non-taxable subsistence allowance during their junior and senior years.

One, two and three-year scholarships (covering tuition, books and fees) are available. Competition is based on academic and military scholarship, leadership, and military aptitude. Prior ROTC enrollment is not required.

Upon graduation from college and the successful completion of Army ROTC, cadets are

commissioned Second Lieutenants in the U.S. Army Reserve. Cadets selected as distinguished military graduates may apply for regular army commissions. Active duty (for other than scholarship cadets or regular army commissions) is optional.

Registration for the following military science courses is conducted through the SJU Military Science Department. Students desiring more information, course listings, or enrollment should contact the SCSU Military Science Office at 255-3113, the ROTC Club (Room 222L, Atwood) at 255-3649, or the St. John's University Military Science Department at 363-2713.

MILITARY SCIENCE COURSES OFFERED BY ST. JOHN'S UNIVERSITY Sequences: All cadets should begin with 100 level courses their first year and take the 200 level courses their second year. MS 121, 181, 213 and three electives (either 100 or 200 level) must be completed prior to enrolling in the advanced course. Advanced course classes must be taken in the following sequence: 331, 332, 341, 342. Requests for sequence deviation must be approved by the department chairperson.

121. INTRODUCTION TO MILITARY SCIENCE. An introduction to the basic concepts of the American military including the U.S. defense system, organization and purpose of the U.S. Army, drill and ceremonies, customs of the service, weaponry and an explanation of the ROTC program. Prerequisite: Enrollment in ROTC or permission of the instructor. Required course for all ROTC cadets. 1 semester credit

142. AMERICAN REVOLUTION TO THE CIVIL WAR. A survey of American military history from 1689 to 1861. Prerequisite: Enrollment in ROTC or permission of the instructor. 1 semester credit

145. EMERGENCE TO POWER. A survey of American military history from 1861 to the present. Prerequisite: Enrollment in ROTC or permission of the instructor. 1 semester credit

151. ADVENTURE TRAINING I (WINTER). Emphasis on cold weather survival and camping, cross-country skiing and ice fishing techniques. Prerequisite: Enrollment in ROTC or permission of the instructor. 1 semester credit

161. DRILL AND CEREMONIES. Basic fundamentals of military drill and ceremonies to include practical application. Prerequisite: Enrollment in ROTC or permission of the instructor. 1 semester credit

181. BASIC RIFLE MARKSMANSHIP. Basic fundamentals of rifle marksmanship to include range firing. Required course for all ROTC cadets. Prerequisite: Enrollment in ROTC or permission of the instructor. 1 semester credit

185. PISTOL MARKSMANSHIP. Basic fundamentals of pistol marksmanship with range firing. Limited to freshmen and sophomores. Prerequisite: Enrollment in ROTC or permission of the instructor. 1 semester credit

188. INTRODUCTION TO WEAPONS. An introduction to the various weapons and weapons systems used by the American armed forces. This course will include disassembly, assembly and range firing of individual and crew-served weapons. Prerequisite: Enrollment in ROTC or permission of the instructor. 1 semester credit

191. PHYSICAL TRAINING I. Knowledge of Army conditioning drill I, basic physical fitness test and Run For Your Life Program. Prerequisite: Enrollment in ROTC or permission of the instructor. 1 semester credit

213. MAP READING. Basic skills of map and aerial photography reading. Required course for all ROTC cadets. Prerequisite: Enrollment in ROTC or permission of the instructor. 1 semester credit

214. ORIENTEERING. Practical application of the basic map reading skill to include use of the compass and land navigation. Prerequisite: Enrollment in ROTC or permission of the instructor. 1 semester credit

222. COMMUNICATIONS. Basic fundamentals of military communications to include telephone, switchboard and radio. Prerequisite: Enrollment in ROTC or permission of the instructor. 1 semester credit

248. U.S. DEFENSE ESTABLISHMENT. A study of our nation's defense system to include the history, organization and purpose of the Department of Defense, Army, Navy and Air Force. Emphasis will be on the role and development of the American military in national security. Prerequisite: Enrollment in ROTC or permission of the instructor. 1 semester credit

252. ADVENTURE TRAINING II (SPRING). Concepts of basis survival training during warm weather with emphasis on water training, canoeing, rafting, rope bridges and outdoor cooking and camping. Prerequisite: Enrollment in ROTC or permission of the instructor. 1 semester credit

253. RAPPELLING. Basic fundamentals of mountaineering skills. Course includes a weekend of practical application at St. Croix Falls. Prerequisite: Enrollment in ROTC or permission of the instructor. 1 semester credit

264. DYNAMICS OF LEADERSHIP. Introduction to leadership management using video tape

system to evaluate student mannerisms and techniques. Prerequisite: Enrollment in ROTC or permission of the instructor. 1 semester credit

282. ADVANCED RIFLE MARKSMANSHIP. An introduction to international type shooting with range firing. Prerequisite: Enrollment in ROTC, 181 or permission of the instructor. 1 semester credit

286. COMPETITIVE PISTOL MARKSMANSHIP. Introduction and participation in three-stage gallery type competition. Prerequisite: Enrollment in ROTC, 185 or permission of the instructor. 1 semester credit

292. PHYSICAL TRAINING II. Knowledge of Army conditioning drills II and III, advanced physical fitness test and Run For Your Life Program. Prerequisite: Enrollment in ROTC or permission of the instructor. 1 semester credit

293. COMPETITIVE RIFLE MARKSMANSHIP. Introduction to and participation in the National Rifle Association three-position and international competition. Prerequisite: Enrollment in ROTC, 181, 282 or permission of the instructor. 1 semester credit

331. TECHNIQUES OF LEADERSHIP. Military teaching principles, case studies in leadership and branches of the Army. Required course for all advanced course ROTC cadets. Prerequisite: 6 credits of ROTC or equivalent and permission of the department chairperson. 2 semester credits

332. LEADERSHIP AND TACTICS. Small unit tactics, communications and leadership development. Required course for all advanced course ROTC cadets. Prerequisite: MS 331 and permission of the department chairperson. 4 semester credits

341. MILITARY LAW. Basic principles of military judicial system to include the Uniform Code of Military Justice. Required course for all advanced course ROTC cadets. Prerequisite: 331, 332 and permission of the department chairperson. 1 semester credit

342. STAFF OPERATIONS. Fundamentals of the military staff, seminar in leadership and management. Required course for all advanced course ROTC cadets. Prerequisite: 341 and permission of the department chairperson. 4 semester credits

FINANCIAL INFORMATION

TUITION*

Following is the schedule of tuition charges for the Minnesota State Universities;

ON CAMPUS

Undergraduate:

Residents	\$12.50 per credit hour
Non-Residents	\$24.25 per credit hour

Graduate:

Residents	\$15.60 per credit hour
Non-Residents	\$31.35 per credit hour

OFF-CAMPUS COURSES

Undergraduate	\$12.20 per credit hour
Graduate	\$26.30 per credit hour

RECIPROCITY AGREEMENTS. Reciprocal agreements regarding in-state tuition fees have been reached with North Dakota, South Dakota and Wisconsin. Residents of those states are eligible to be charged in-state tuition fees at St. Cloud State University provided that they complete a reciprocity application and that the application is approved by their home state. Reciprocity applications are available at the Office of Admissions and Records and should be completed at the time the student receives notice of acceptance to St. Cloud State University.

All students granted a graduate assistantship at St. Cloud State University pay in-state graduate tuition fees.

LATE REGISTRATION. State University Board regulations stipulate that students are responsible for paying tuition and fees for those courses and credits for which they are enrolled at 8:00 a.m. the first day of classes. Students may, with permission, register within a period no longer than ten class days after a regular quarter begins or four class days after a summer term begins. For a regular quarter the late registration fee is \$5 after the third class day and \$2 for each succeeding class day. For a summer term the late registration fee is \$5 after the third class day. Students may register for off-campus courses no later than the second class meeting. Late registration fees do not apply to off-campus courses.

FEES*

Student Activity fees, Student Union fees and Health Service fees are assessed to students on the basis of \$2.90 per credit hour, with a maximum charge of \$43.50 per quarter. (Effective fall quarter 1978.)

Exceptions: Fees will not be charged for:

1. Courses offered by the Center for Continuing Studies or other off-campus courses as defined by the State University Board.
2. Courses numbered 495, 595 or 695 (workshops).
3. Courses numbered 488 or 588 (television).
4. Courses numbered 410 or 510 (tours).

SENIOR CITIZENS. Minnesota residents 62 years of age or older may enroll in courses at St. Cloud State University without paying tuition or fees, providing space is available after tuition-paying students have enrolled. An administration fee of \$2 per credit hour is required when a course is taken for credit. The student also must bear the cost of laboratory fees, books and materials.

Registration is not considered completed until all fees have been paid. Students may, with permission, register within a period no longer than ten class days after a regular quarter begins or four class days after a summer term begins. For a regular quarter the late registration fee is \$5 after the third class day and \$2 for each succeeding class day. For a summer term the late registration fee is \$5 after the third class day. Students may register for off-campus courses no later than the second class meeting. Late registration fees do not apply to off-campus courses.

A fee of \$2 is charged students who desire to alter their programs after the third class day. All fees and regulations are subject to change by action of the State University Board.

*Tuition and fees are subject to change by action of the State University Board.

SUMMARY OF EXPENSES

Board and room per quarter, residence halls	\$415.00*
Tuition per quarter (16 credit hours, resident)	195.20
Insurance premium (optional)	21.60
Fees per quarter (16 credit hours, resident)	43.50
Total (average student)	\$675.30

REFUND OF TUITION AND FEES

On-Campus Classes: State University Board regulations stipulate students are responsible for paying tuition and fees for those courses and credits for which they are enrolled at 8:00 a.m. the first day of classes. To receive a refund for the dropped portion of their class schedule, students must drop classes no later than the day before classes begin. Beginning the first day of classes, unless the student's class schedule is reduced by the University, no refund will be issued for dropping courses. For further information refer to the quarterly class schedule.

Students withdrawing completely from the University must process a withdrawal form in the Office of Admissions and Records, 117 Administrative Services Building. The following refund schedule applies to total withdrawal from classes. Up to and including the 5th instructional day, 80% refund; 6th through 10th instructional day, 60% refund; 11th through 15th instructional day, 40% refund; 16th through 20th instructional day, 20% refund; and thereafter, no refund will be given.

Evening and Extension Classes: No partial refunds will be made for courses dropped by a student unless he/she withdraws officially from the whole of his/her course work. State University Board regulations state that if there is notification of total withdrawal from classes prior to the first class meeting a full refund will be given. Prior to the second class meeting, 80%; prior to the third class meeting, 60%; prior to the fourth class meeting, 40%; prior to the fifth class meeting, 20%; thereafter, no refund will be given. If a student must withdraw, he/she should immediately contact the Office of Admissions and Records, St. Cloud State University, St. Cloud, Minnesota 56301; Telephone 612-255-2111.

Short Courses: No refunds will be made for short courses (duration of less than five weeks of a quarter or less than two and one-half of a summer session).

Special Fees: Students not eligible for refund of tuition, student union fees, student activity fees, may be eligible for refund of other special fees. Fees collected to support high-cost classroom activities may be refunded at the discretion of the instructor. Students should contact the Office of Admissions and Records for further information.

Amounts of \$1 or less: Amounts of \$1 or less will not be refunded.

Appeal Procedure: An appeal procedure has been established for those students whose request for a refund of tuition and fees has been denied. Students wishing to appeal should contact the Office of Admissions and Records for further information.

IDENTIFICATION CARD AND FEE STATEMENT. After payment of fees, each student must carry at all times a validated ID card and receipted fee statement. These are needed for identification, library use, proof of completed registration, admission to university events and locker and towel services.

FINANCIAL OBLIGATIONS. The student must discharge all financial and other obligations to the University. Students who have financial obligations to the University will not be permitted to register, receive grade reports, or receive or have official transcripts issued until such obligations are satisfactorily discharged. This policy will become effective September 1, 1980.

*Double occupancy—21 meal plan

FINANCIAL AID PROGRAM

121 ADMINISTRATIVE SERVICES BUILDING/255-2047

FINANCIAL NEED. A large number of federal, state, and university aid programs exist to help St. Cloud State University students who have difficulty financing their college educations. The University subscribes to a policy of "aid according to need" as the most equitable way of distributing financial aid funds. The family and the student are expected to make a realistic effort to contribute toward the cost of the student's education. The difference between expected contributions from the family's resources and the college cost is called financial need and is the basis for awards. While students from lower-income families generally qualify for more financial assistance, aid is also available to students from middle-income families. However, financial need does not mean financial poverty. Since the Congress of the United States has passed the Middle-Income Student Assistance Act, many more students from middle- and upper-income families will be able to qualify for substantial amounts of financial assistance.

AWARD PACKAGES. In order to meet financial need, it has become common practice to "package" or combine several types of awards in varying amounts. The financial aids officer combines the aids available and makes an award which will be most advantageous to the student, depending on available funds. Usually each student's package is a combination of loan, scholarship or grant, and employment. It is important to realize that loans require repayment, while grants do not.

FAMILY FINANCIAL STATEMENT. All students applying for financial assistance under need-based programs, which include college work-study employment, Supplemental Educational Opportunity grant, or the National Direct Student Loan program, are required to file a Family Financial Statement with the American College Testing program. Forms are available from high school counselors and the Financial Aids Office. This form should reflect the most recent income and asset information about the student and his/her family. This document should be filed between February 15 and July 1 each year.

APPLICATIONS. In addition to the Family Financial Statement, every student wishing to be considered for aid under the three programs mentioned above should file an institutional application with the Financial Aids Office between February 15 and June 1 of each year for assistance the following September. Applications filed before May 1 will be given priority consideration. Also since the federal Basic Educational Opportunity Grant program is the "floor" of all financial support, every undergraduate student seeking financial assistance is expected to apply for aid under this program.

If detailed information is desired regarding the financial aid programs available to students attending St. Cloud State University, please request a financial aids information brochure. This document may be obtained by writing directly to the Financial Aids Office, Room 121, Administrative Services Building, St. Cloud State University, St. Cloud, MN 56301. Financial aid officers are available by appointment to consult with students and/or parents regarding financial aid matters.

STUDENT LIFE AND DEVELOPMENT

STUDENT LIFE AND DEVELOPMENT OFFICE

142 Atwood Center/255-3111

The Student Life and Development Office staff provides the functional supervision of the following major areas and programs: University Program Office, Counseling Center and Reading Center, Atwood Memorial Center, University Housing, Financial Aids Office, Student Health Service, Minority Cultural Center, Recreational Sports Office, Student Legal Assistance Center, Fraternity and Sorority program, the Orientation program and the Student Retention program.

Services include provisions and validation of a student identification system; administering the College Level Examination Program (CLEP); Millers Analogy and Graduate Record testing programs; providing local phone numbers and addresses of students; and providing other information and assistance as may be requested.

ATWOOD MEMORIAL CENTER

255-2202

Programming/255-2205

Atwood Center provides facilities, services and programs to accommodate the university community in the development of individual and group resources.

Facilities include the ballroom, a large multi-purpose area suitable for concerts, banquets, etc.; a small theater; a variety of conference rooms; bakery and delicatessen; snack bar; unique dining settings; a music listening room; recital, reading and gallery lounges; display areas; ticket sales; gift shop; Coffeehouse Apocalypse; Commuter/Non-Traditional lounge; and student organization offices. Atwood Center also has a craft center which is open to students, staff and general public alike. Individuals may learn and practice a variety of skills informally or through a variety of scheduled workshops.

Services include a program advisory staff, Atwood reservations secretary and special events food service staff. Recreation and games services include bowling, billiards, table tennis and table games. Also included are a professional hair stylist shop, a print shop, and the Office of Student Life and Development.

Programs are primarily a result of the efforts of students involved in the various program committees of the University Program Board and other special interest groups. These include concerts, lectures and discussions, films, exhibits, tournaments, dances, workshops, outings, performing arts and special events. Something for every interest is on the agenda during the course of the year. Also located in Atwood Center are offices of the Student Senate, the Legal Assistance office, non-traditional students' board, plus many other student organizations. Most are housed, along with full-time professional program staff, in the Activities Center, Room 222.

COUNSELING CENTER

118 STEWART HALL/255-3171

The Counseling Center assists students in making personal, educational, vocational and social adjustments through individual and group counseling. A complete psychological test library is maintained and tests in the areas of mental ability, interests, personality, special aptitudes, and achievements are frequently used to assist students. An educational, vocational, and personal information library is also provided. In addition, the center provides technical support to institutional staffs and student organizations. This support encompasses a broad range of counseling-related activities, which seek to promote the overall development of the student. Staff training in residence halls and organizational training are illustrative of this outreach orientation.

HANDICAPPED STUDENT SERVICES

142 ATWOOD CENTER/255-3111

Handicapped Student Services are designed to assist disabled students with their special problems. Students can receive assistance in typing, test taking, studying, and a variety of other areas. These services will be provided upon request.

HEALTH SERVICES

HILL HALL FIRST FLOOR/255-3191

Health Services is a completely equipped medical clinic that is staffed by qualified medical personnel. The clinic provides on-campus medical care to all students who pay the quarterly health service fee and who have a validated ID card in their possession. For a more detailed description of services available, consult the Student Handbook.

The State University Board and Health Services encourage every student attending a state university to have health insurance coverage. If not covered by an individual or parents' policy, the student may purchase a health plan contracted for by the State University System.

HOUSING

Carol Hall/255-2166

RESIDENCE HALL FACILITIES

Holes Hall and **Stearns Hall** are freshmen halls with men and women living on alternate floors. **Mitchell Hall** is the only all women's hall, for all classes.

Hill-Case Hall houses freshmen to senior men and women in separate wings with common recreational facilities and lounges.

Sherburne Hall (St. Cloud's tallest building) houses upperclass men and women on alternate floors.

Benton Hall provides apartment-like living for upperclass men and women, with recreational facilities located in Carol Hall.

Shoemaker Hall provides housing for upperclass men and women on alternate floors. Additionally, Shoemaker offers a quarterly only/room only option. Cooking facilities are provided for those desiring the no board option.

All residence halls have areas set aside for study and relaxing activities, typing, laundry, and snack cooking. Each room has a bed and pillow, draperies, desk with adequate study lighting, telephone, wastebasket, chairs, and closet space. Students furnish their linens, blankets, and bedspread. Linen service may be purchased from a private launderer.

RESIDENCE HALL PROGRAM

Residence hall living is designed to provide an experience in community, at the same time affording conditions conducive to academic achievement. A hall council elected in each hall shares governance of the hall with an under-graduate resident adviser on each floor and a full-time director. Scholastic, athletic, activities, and social committees are active in each hall. The Housing Office provides a full schedule of special programs, such as tutoring, films, topical meetings on issues such as sexuality and alcoholism, recreational and athletic competitions, small group interest sessions, skiing and roller skating parties, dances, and many more.

APPLICATIONS AND CONTRACTS

1. Regular students enrolling at SCSU for the first time will receive housing application forms and detailed information shortly after they are notified of acceptance. Students who have previously been enrolled and summer school students may contact the Housing Office for application forms.

2. Completed applications should be returned to the Housing Office with a \$25.00 room reservation deposit. This deposit serves as a damage deposit for the duration of residency.

3. Notices of room assignments are mailed out in early June.

4. Notice of cancellation must be given 60 days prior to the opening of the fall term and 45 days prior to the opening of all other terms.

5. Contracts for all residence halls except Shoemaker are for room and board for the entire academic year, and are paid quarterly in advance or according to established pay schedules. Shoemaker contracts are quarterly and for room only.

6. Room and board fees are approximately \$1,245.00 per year for a double room, subject to change by the State University Board.

7. Room without board is available for summer school students at \$100 per term for a double, \$125 for a single, subject to change by the State University Board.

INTRAMURALS AND RECREATIONAL SPORTS

2 EASTMAN HALL/255-2289

The Intramurals and Recreational Sports Office organizes and conducts a comprehensive men's, women's and co-recreational program in intramural sports, sports clubs, and open recreation. Activities include a variety of individual and team sports as well as special events. Eastman Hall facilities include a swimming pool, three gymnasiums, locker rooms and sauna baths. The Halenbeck addition will be open for intramurals and recreational sports activities January, 1981.

St. Cloud State University will not assume liability for injuries or damage which may be sustained by an individual or his/her personal equipment while participating in any or all phases of the intramural program.

MINORITY CULTURAL CENTER

MITCHELL HALL BASEMENT/255-3220

The Minority Cultural Center provides a place and an opportunity for minority students to meet and work together on their similar concerns and needs. These students are able to gain both social and academic support from others who share their cultural background. The center sponsors a variety of activities which add a multi-cultural dimension to the University's regular programming. The minority cultural programs aid the minority student in understanding and functioning within a majority environment. The programs also help to educate the university community and the local population to the talents, needs, and life-styles of minorities. The center offers workshops, art exhibits, films, theatrical productions, speakers, and many other cultural events throughout the year.

READING CENTER

110 STEWART HALL/255-2262

Students who have questions concerning reading efficiency and study skills may seek assistance at the Reading Center. The Reading Center provides two courses: 019 Reading and Study Skills and 120 Reading Rate Improvement. Students may also work independently to improve their skills in areas such as vocabulary and comprehension. Courses are listed in the All-University courses section of this bulletin.

SPEECH-LANGUAGE AND HEARING CLINIC

Education Building/255-2092 or 4143

Testing, consultation and therapy for problems in verbal communication is available for students, faculty, staff and their families. Clinic staff is fully credentialed to provide service for problems of articulation/pronunciation, stuttering, voice, language and hearing. All assessment and therapy is done on an individual basis on an arranged schedule.

STUDENT LEGAL ASSISTANCE CENTER

152 ATWOOD CENTER/255-3128

Students who have questions regarding their legal rights and responsibilities may seek help at the Student Legal Assistance Center. The Student Legal Assistance Center is staffed by an attorney who provides advice, research, and counseling on legal problems. The service is available to individual students, student groups and student organizations. Informal preventative law lectures or discussions are also conducted by the attorney.

UNIVERSITY PROGRAM OFFICE

222 ATWOOD MEMORIAL CENTER/255-2205/2206

Campus Student Organizations numbering over one hundred help provide a wide variety of programs suited to meet individual interests and wants. This office helps promote their activities

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and maintains a number of program resources for campus groups. A complete listing of approved student organizations is available at this office and any student who wishes to learn more about these groups should direct questions to this office. Also housed in the university programming complex are the offices of the University Program Board (UPB), the Inter-Residence Hall Association (IRHA), the Student Association, University Television Service (UTVS), the Non-Traditional Students group, and several special interest groups.

The Calendar of Events for the campus community is coordinated, printed and distributed by the Office of University Programming. Events that are submitted by the first week of each month are included in the next month's printed calendar. There are over twenty-five locations on campus where students can pick up a calendar.

Non-Traditional and Commuting Student Information and programs are promoted through the Office of University Organizations Adviser. Students wishing further information should contact this office.

University Program Board (UPB) serves as the major student programming agency on this campus. The staff work very closely with this volunteer group to provide students with the best variety of extra and co-curricular activities. The board has nine committees (Concerts, Lectures, Outings, Recreation, Arts, Public Relations, Special Events, Coffeehouse, and Films) which students are invited to join. A brochure and applications are available in the office.

UNIVERSITY SERVICES

ACADEMIC AFFAIRS

ACADEMIC COMPUTER SERVICES. As the focal point of educational computing, Academic Computer Services provides access to five different computer systems. Local computing requirements are served by use of the Data 100 FML-11 and PDP-11/60 minicomputers. Other educational computing requirements are supported by using remote computers: (1) Univac 1100/80 (State University System's academic batch computer), (2) CDC 6400 (MERITSS Time-sharing System), and (3) CDC Cyber 172 (Minnesota Timesharing System). The staff of Academic Computer Services provides consulting for students in computer-related courses, assistance for students and faculty requiring statistical programming, and support for faculty interested in developing computer applications to be used in various courses. User numbers and account numbers are available upon request. The Academic Computer Center, open every day except major holidays, provides an area for students to work on projects.

OFFICE OF ADMISSIONS AND RECORDS. This office is responsible for admission of undergraduate and special (non-degree) students, registration for courses, reporting grades at the end of each quarter, undergraduate graduation evaluations, issuing of diplomas and maintaining the permanent academic records. A copy of the academic record (transcript) may be obtained by writing the Office of Admissions and Records. The complete name, social security number, last year of attendance and signature should be provided when requesting a transcript.

CENTER FOR ECONOMIC EDUCATION. The Center for Economic Education provides an inter-school program that has as a general objective the improvement of undergraduate and graduate economic education programs at the elementary, secondary and college levels of instruction. The center initiates research projects, participates in the planning of new academic programs and provides resource assistance to elementary and secondary schools in central Minnesota. This office conducts special adult education courses and offers symposiums and in-service workshops in economic education for teachers and curriculum supervisors. The center emphasizes the development and distribution of economics curricular materials for classroom use and provides assistance to outside professional groups and institutions concerned with economic education.

In cooperation with the Department of Economics and Interdisciplinary Studies, the center offers a Master of Science Degree in Social Science (Economic Education). This office conducts National Science Foundation, U.S. Office of Education and private foundation supported curriculum and research programs in economic education. The center administers the National Depository of Children's Stories in Economics.

CENTRAL MINNESOTA HISTORICAL CENTER. The center is a joint operation of St. Cloud State University and the Minnesota Historical Society. Its purpose is to collect primary and secondary sources of history of central Minnesota in order to preserve these materials and to make them available for the use of students, scholars and interested citizens.

INSTITUTIONAL STUDIES AND RESEARCH. This office conducts studies on a variety of institutional aspects in order to support administrative decisions. It gathers and reports institutional data in response to questionnaires and individual requests, advises others conducting institutional analyses, promotes sponsored programs by encouraging the development of grant proposals, and coordinates the faculty research program.

ADMINISTRATIVE AFFAIRS

ADMINISTRATIVE COMPUTER SERVICES. The Administrative computer Center provides data processing for all administrative offices on campus. In addition, the central computer, a UNIVAC 1100/81 located in Room 37, Centennial Hall, serves the administrative data processing needs of the entire state university system. Inquiry terminals (cathode ray tubes) are located in various offices on each campus with one remote batch terminal located in each computer center throughout the system for input and output.

AUXILIARY SERVICES. This office assumes responsibility for the care, maintenance and operation of university-owned equipment and facilities. Also under the jurisdiction of Auxiliary Services are the custodial and maintenance operations, security, parking, and the motor pool.

PRINTING SERVICES. A central duplicating, xeroxing and printing facility for university-related materials is provided by this office.

CENTER FOR CONTINUING STUDIES

The Center for Continuing Studies at St. Cloud State University has as its main purpose, the development of educational programs and services for non-traditional students. As related to the broad goals and mission of the University, the center provides leadership in meeting educational needs that relate to: mid-career changes, the worthy use of increased leisure hours, the need to find work in a changing job market, re-certification or re-training needs, or simply to explore new interests. In attempting to meet these needs the staff of the center is responsible for the development, coordination and implementation of the following programs: community education and extension, external studies, evening programming, radio and television as alternative delivery systems, educational conferences and non-credit offerings.

The major functions of the Center for Continuing Studies are to:

1. Provide leadership and coordinate programs of continuing studies with other academic and administrative units.
2. Cooperate with business, industry and other professions, groups and individuals in providing credit and non-credit courses.
3. Provide leadership for the development and coordination of programs of study focusing upon the needs of non-traditional students.
4. Develop and sponsor educational lectures and conferences.
5. Coordinate the policy for non-credit programs.

LEARNING RESOURCES

Centennial Hall, the Learning Resources Center for St. Cloud State University, serves all disciplines of the University. It is located as a focal point in the approximate geographic center of the campus.

The Learning Resources Center includes all print and non-print materials (and attendant hardware) for the academic community. This collection includes approximately one and one-half million items. Seating in the reading areas and study carrels accommodates two thousand. It contains 495,000 cataloged books, 132,000 paper copies of federal documents, 667,000 units of microform (including total Educational Resources Information Center [ERIC]), 83,000 microbook units, 50,000 maps, 22,000 audio items (records and tapes), realia, slide sets, transparency sets, and video tapes and over 2,000 magazines and newspapers. In addition to the resources in this collection, St. Cloud State University has access to the MINITEX network systems of Minnesota which provides access to all major collections in Minnesota as well as those in North Dakota, South Dakota, and Wisconsin.

UNIVERSITY RELATIONS

ALUMNI SERVICES. The Office of Alumni Services maintains a computerized file of graduates and serves as the liaison between the graduate and the University. It keeps the graduate informed about the University and his/her classmates through a quarterly tabloid, Outlook. It provides opportunities for graduates to keep in touch with their university acquaintances through activities and reunions, both on and off campus, throughout Minnesota and the nation. The office is located in the Alumni House which also provides overnight accommodations for visiting alumni and university guests.

The Alumni Association promotes the interests of St. Cloud State University and establishes mutually beneficial relations between the University and its alumni. It is one of the vehicles through which graduates may give gifts of cash or property to the University.

CAREER PLANNING AND PLACEMENT. The office provides services for all members of the university community, as well as for employers. Career counseling is provided for all interested students, both undergraduate and graduate. Assistance helpful in making major-minor selec-

tions, setting career objectives, and identifying appropriate career preparation is offered. Individuals approaching graduation are assisted in preparing a set of credentials and in developing effective skills and techniques for use in their search for employment. On-campus interviewing opportunities are made available for students and, where possible, off-campus interviews are arranged.

In addition to interviewing arrangements, employers are assisted in making employment opportunities known to interested students and alumni by means of a weekly job vacancy list distributed to all individuals actively seeking employment. A referral service is also provided whereby employers are provided with information regarding qualified students and alumni upon request.

Resource information about various industrial, business, governmental, and institutional organizations is available in the center's career information library. The library also provides information concerning salaries, interviewing, resume preparation, correspondence, and other job-seeking skills and techniques.

DEVELOPMENT OFFICE. The purpose of the Development Office is to direct and expand the overall development (fund raising) program of the University. Three kinds of money are obtained: current operational, endowment and capital. The programs that are used to obtain money are the annual fund, deferred giving and the periodic high intensity capital campaign. Many volunteers are used in the funding process for the purposes of general solicitation and telephone contacts. Money from both private and government sources is solicited with this office serving as the coordinator for the governmental grant application process.

HIGH SCHOOL AND COMMUNITY COLLEGE RELATIONS. St. Cloud State University is represented at College Day/Night programs and individual high school and community college visits by members of this office. It provides specific admission, financial aid, and program information to college-bound students and their high school counselors. Tours are provided for campus visitors.

INFORMATION SERVICES. This office disseminates information of general interest about the University to various publics served by the institution. It provides the mass media with University news and photographs. It prepares and coordinates all official university publications. The office also helps plan and publicize University-sponsored events and assists outside groups in scheduling activities on the campus.

COLLEGES

College of Business

James G. Marmas, Dean
Wayne G. Little, Associate Dean
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DEPARTMENTS

Accounting
Business Education and Office Administration
Management and Finance
Marketing and General Business
Quantitative Methods and Information Systems

RESEARCH, DEVELOPMENT AND COMMUNITY SERVICE

Small Business Development Center
Small Business Institute Program
Business Research
Continuing Education and Community Service

OBJECTIVES

The primary purpose of the College of Business is to prepare students for professional careers in business, education, or government and for competent and responsible participation and leadership in society. The College firmly supports the principle that education for business requires both a broad preparation in business and substantial exposure to the sciences, arts, and humanities.

Attainment of this major purpose within the institutional capabilities of the College of Business requires each business student to:

1. Acquire the broad conceptual knowledge essential to an understanding of the environmental processes which exercise a controlling influence upon the operating business organization.
2. Comprehend the relevant systematic bodies of knowledge and skills characterizing effective business administration (business functions and operations, economic-social-legal environment, quantitative methods and information systems, organization theory and interpersonal behavior, and administrative processes and policy) and have the ability to use this knowledge to solve the problems of business and society.
3. Secure a substantial exposure to the arts, sciences, and humanities which will enable the knowledges and understandings gained to enhance personal, civic, and professional life.
4. Develop an appropriate specialization for a lifelong career based upon the student's ability and interest.
5. Develop and be able to use the organizational, analytical, and creative capabilities requisite to incisive reasoning, rational judgment, problem solving, and continued personal growth.
6. Appreciate and put into practice the standards for responsible and ethical conduct necessary for business to meet its social responsibilities.
7. Have the ability and capacity to cope with rapid change and to discover solutions to human and decision-making problems within the internal and external environment of business.
8. Develop a concern and sensitivity for people in academic, social, and ultimately the student's professional life.
9. Have an inquisitive attitude about the problems of business and society and actively seek creative solutions to these problems.

The College of Business offers programs leading to the Bachelor of Science degree with majors in Business Teacher Education, Finance, General Business, Insurance and Real Estate, Management, Marketing, Private/Industrial Accounting, Public Accounting, Quantitative Methods and Information Systems, and Office Administration. An Associate in Science program in

secretarial science and minor programs are also available.

The College of Business offers graduate programs leading to the Master of Business Administration and Master of Science in Business Education degrees. Detailed information concerning these programs may be found in the Graduate Bulletin.

RESEARCH, DEVELOPMENT AND COMMUNITY SERVICE

Andrew T. Nappi, Director/255-3215

This office is responsible for administering the Small Business Development Center, Small Business Institute Program, business research and continuing education and community service programs of the College of Business. The major objective of this office is to provide faculty and students with facilities and opportunities for research in business and related areas and to be of service to the community. Some of the specific functions of this office are:

1. To provide faculty and students with a practical training ground which supplements academic theory by permitting them to address problems in a real business environment.
2. To offer in-depth counseling and training to the business community including management training seminars, marketing research, accounting and financial analysis, and consultation services to help solve business problems.
3. To coordinate grant requests and research proposals designed to broaden the scope of faculty activities and to enrich the educational programs of the College of Business.
4. To initiate and conduct specific research and service projects on small business problems through cooperative arrangements with individuals, industries and business organizations.
5. To serve as a resource center for the collection, dissemination and interpretation of data to be used for research in business and as a source of information for business, industry and government.

INTERNSHIP PROGRAM IN BUSINESS

B. Roy Hein, Director/255-3214

Business majors are encouraged to participate in the internship program in business available in each department. The program provides:

1. An opportunity to work under a carefully planned and approved program for a quarter of the academic year with a participating firm or organization.
2. Students an opportunity to identify with the business world while yet undergraduate students in the University.
3. The business community an opportunity to cooperate with the College of Business in preparing students for opportunities after graduation.
4. All majors in the College of Business a unique experience during their senior year.

The programs are available for any quarter during the academic year and also during the summer period. Majors in the College of Business are urged to arrange an interview with advisers at their earliest convenience so that their total program includes provision for participation in the internship program during the first or second quarter of their senior year of study. The student must spend at least one quarter in residence at St. Cloud State University with full-time status following the completion of the internship.

ACADEMIC POLICIES

Admission to Pre-Business Status

As soon as a student decides to major in business, the following should be accomplished:

1. Contact the Student Services Office, Room 123, Business Building (255-3214).
2. Bring a transcript of credits earned at St. Cloud State University, or, if a transfer student, an evaluation of credits being transferred to the University.

During the interview, the student will be properly registered as a pre-business student and a personal file will be established. The student will be advised at that time of the courses required to be completed before admission to a major program in the College of Business. As a pre-business student, it is necessary to obtain a Permit to Register form from the Student Services Office prior to the pre-registration dates for any quarter and the summer terms.

Admission to Major in Business

A pre-business student may be admitted to a designated major in the College of Business after:

1. Completing those courses required by the appropriate department for the freshman and sophomore years (Pre-Business program). This information is available in the Student Services Office.

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2. Attaining a cumulative honor point ratio of 2.50.*
3. Achieving a grade of 'C' or better in the following courses: ACCT 291 and 292, ENGL 162, QMIS 140**, and MATH 131.
4. Obtaining an Admission to Major Program form from the Student Services Office and is referred to the respective department chairperson for assignment to a major adviser.
5. Completing the Major-Minor form with the assistance of the major adviser. Admission to a major program is not complete until the Major-Minor Program form is on record in the Office of Admissions and Records and the Office of the Dean.

*Students who first attended St. Cloud State University before Fall, 1980, must have a 2.50 cumulative honor point ratio to be admitted to a business major after September 1, 1981. (A 2.00 cumulative honor point ratio is required for admission before this date.) Students who first attend St. Cloud State University after September 1, 1980, must have a cumulative honor point ratio of 2.50 to be admitted to a major in business regardless of the date of application for the major.

Transfer Policies

In addition to the general requirements of the University and the college, the following special requirements apply to transfer students seeking a business degree.

1. Transfer of credit for business and related courses to be applied to the business core and to the major program shall be limited to those courses completed with grades of "C" or higher (C-6 in the General College of the University of Minnesota).
2. Transfer of business and related courses from two-year institutions to be applied to the business core and to the major program shall be limited to such courses as the College of Business offers at the lower division level (freshman and sophomore years).
3. Transfer of business and related courses from baccalaureate degree granting institutions to be applied to the business core and to the major program shall be limited to those courses offered at levels no lower than the levels of comparable courses offered in the College of Business.
4. Students may register for the first quarter for the following courses: MGMT 361, MGMT 371, MKGB 320, BEOA 309 providing the following courses (or their equivalents) have been completed: MATH 131; QMIS 140, 141 (except certain BEOA majors); ACCT 291, 292, 293; ECON 273, 274; QMIS 250, MKGB 235. If a transfer student has not completed the pre-business requirements that student must see the Associate Dean of the College of Business before enrolling for business courses at the 300 level.
5. Obtain a Permit to Register form from the Student Services Office each quarter until officially admitted to the major program.

A comprehensive examination may be requested to establish competence in a subject. A transfer student who has completed an Associate of Arts degree from an accredited college in a college transfer program may enroll in specified 300 level courses for one quarter.

300-400 Level Courses. Only students admitted to a university major program and who have completed 96 quarter credits (junior standing) may enroll in 300-400 level courses. (See policy statements regarding required honor point ratios.)

Admission to Minor Program in Business

Business majors may not elect a business minor except in the area of quantitative methods and information systems. A student with a major program in a college other than the College of Business who desires a business minor may declare that minor at the time of application for admission to the major program. A cumulative honor point ratio of 2.50 is required in order to apply for a business minor. *

Exceptions. The following College of Business courses are exempt from the above statements: BEOA 101-Typewriting I, BEOA 102-Typewriting II, BEOA 167-Introduction to Business, BEOA 208-Survey of Business Law, BEOA 216-Consumer Education, MGMT 368-Business and Society, MKGB 238-Law and Society.

Beginning Fall, 1981, students in majors and/or minors other than business may enroll in College of Business courses if they meet one of the following criteria:

- (a) They are admitted to a major or minor program requiring these courses. (Fall, 1980)
- (b) For upper division courses (300-400), they have been admitted to a major program, have completed 96 quarter credits, and have a cumulative honor point ratio of 2.50 or higher.
- (c) For lower division courses (100-200), they will have been admitted to a major program.

Probation Policy. Students officially admitted to a major program in the College of Business who do not maintain an accumulative grade point average (HPR) of 2.0 shall be placed on probation effective immediately at the close of the quarter (or summer term) in which the accumulative grade point average (HPR) falls below 2.0. If a student who is on probation fails to achieve an accumulative grade point average (HPR) of 2.0 in the next quarter of University work (full summer term), that student will be suspended from the major program in the College of Business. Students who are in suspended status from their major program in the College of Business may petition for permission to reapply for a major program.

Residence Requirement. Students majoring in business (Bachelor of Science Degree) must complete their last year (48 credits) in residence at St. Cloud State University. Under unusual circumstances, the Dean of the College of Business may grant a modification of this requirement.

*Students who first attended St. Cloud State University before Fall, 1980, must have a 2.50 cumulative honor point ratio to be admitted to a business minor after September 1, 1981. (A 2.00 cumulative honor point ratio is required for admission before this date.) Students who first attend St. Cloud State University after September 1, 1980, must have a cumulative honor point ratio of 2.50 to be admitted to a minor in business regardless of the date of application for the major.

**Majors in Business Teacher Education substitute PSY 362.

Core Requirements for Business Programs

All students majoring in the business programs must complete the following core requirements:

MATH 131	College Algebra (or equivalent)	4*
**QMIS 140	Business Statistics I	4*
ACCT 291	Accounting I	4*
ACCT 292	Accounting II	4*
ACCT 293	Accounting III	4*
ECON 273	Principles of Economics I	4*
ECON 274	Principles of Economics II	4*
MKGB 235	Business Law I	4*
QMIS 250	Data Processing for Business	4*
BEQA 309	Business Communications	4
MKGB 320	Introduction to Marketing	4
MGMF 361	Management Theory and Practice	4
MGMF 371	Managerial Finance	4
MGMF 363	Production Management	4
MGMF 468	Business Policies I	4

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*Must be completed in the pre-business program.

**Majors in Business Teacher Education substitute PSY 362.

ALL-COLLEGE OF BUSINESS COURSES

444. Internship in Business. Participation in a full-time position as an intern-in-business with a cooperating business, governmental, or civic organization whose program has been approved in advance by the department in which the student has an approved major. Sixteen credits are provided upon completion of all requirements of which 4 credits apply to the required electives under the major program and 12 credits apply to university electives for graduation. 16 credits.

College Of Education

Kenneth A. Ames, Dean

A110 EDUCATION BUILDING/255-3023

DEPARTMENTS

Health, Physical Education and Recreation

Psychology

Special Education

Teacher Development

CENTERS

Educational Administration and Leadership
Educational Change
Library and Audio-Visual Education
Campus Laboratory School

SERVICES

Curriculum Materials Laboratory
Professional Field Experiences and Program Services
Research and Evaluation
Men's Athletics
Women's Athletics

The College of Education proposes to meet today's educational needs as well as the broader, related needs of the communities which it serves. In concert with the total University mission, the faculty, administration, and staff of the College endorse the following goals as guides to the development and implementation of programs and services.

1. We shall continue to strive for excellence in education, committed to the total human development of all participants within the context of respect for the academic freedom and individual rights of staff, students, faculty, and administration of the College.
2. We shall pursue excellence in education by accepting the challenge and responsibility of research and by supporting the design, experimentation, implementation, and evaluation of educational programs and services.
3. We seek the development of educational programs and services designed through the collaborative efforts of faculty, students, administration, and appropriate advisory personnel.
4. We shall place emphasis on the development of educational environments characterized by open communication, trust and cooperation among students, staff, faculty, and administration.
5. We place high value on the concept of life-long learning and will support the concept as a vital consideration for all persons involved in college programs and services.
6. We shall continue to emphasize the development of excellent programs of study generally characterized by an integration of theory and practice, programs providing well-balanced learning experiences, taking advantage of technological advances in the systematic design and delivery of instruction.
7. We shall seek to enhance the quality of our educational programs and services by encouraging the exchange of talents and ideas between college personnel and various community groups and agencies.
8. We shall foster and provide for educational evaluation, research and service activities; it is imperative that these activities be maintained both within the College as well as in relationship to area educational and community agencies which are vital to the improvement of programs and services, and to the general improvement of the quality of life for all those persons involved in or affected by those programs and services.
9. We shall continue to provide academically rigorous pre-service, continuing education, and graduate programs of study for the preparation of such personnel as elementary and secondary school teachers; counselors; administrators; teaching specialists (e.g., special educators, information media specialists); non-degree orientated community persons; community-based persons in programs such as health, recreation, and psychology; persons interested in the helping services; coaches of athletics; persons interested in the study of psychology.
10. We support programs of an all-university nature.

Supervised, professional clinical experiences are integral to education programs. Students will participate in a variety of observations, internships, and student teacher experiences designed to help students develop appropriate understandings and skills. Various models of education are available for students to learn about and participate in; the CATE (Cooperative Approach to Teacher Education) program, the Resident Teaching in Special Education program, Student Teaching, and the Thomas J. Gray Laboratory School are examples.

In addition to the primary purpose of the College of Education, the departments of Psychology and Health, Physical Education and Recreation offer courses contributing to the general education program for all university students, as well as programs leading to the Bachelor of Arts and Bachelor of Elective Studies degrees.

TEACHER EDUCATION PROGRAMS

St. Cloud State University operates on the approved-teacher-education-program basis for licensure of those students who successfully complete the approved programs. Departments and colleges in the University develop major and minor programs for teacher education (Bachelor of Science Degree) which meet Minnesota State Department of Education Standards, Minnesota State Statutes, Board of Teaching Standards, and Minnesota State Board of Education regulations. After approval by appropriate college and university committees and/or councils, the programs are forwarded to the Minnesota Board of Teaching through the Dean of the College of Education. All teacher education programs have also been approved by NCATE (National Council for Accreditation of Teacher Education).

When students successfully complete an approved program and apply for a Minnesota teacher's license, the College of Education verifies program completion and recommends the graduate for the appropriate license. The procedure for licensure in states other than Minnesota is similar.

Students pursuing licensure (certification) programs have major responsibility for making certain that they meet concomitant and/or antecedent requirements as well as the academic program requirements for the licensure they seek.

GENERAL REQUIREMENTS IN THE TEACHER EDUCATION PROGRAMS

Bachelor of Science Degree

1. General Education—required by the University and approved program.
2. Major—Minnesota Board of Teaching approved teacher education major.
3. Minor—Minnesota Board of Teaching approved teacher education minor. (Not required of students with a comprehensive major [84 Cr.] or who have an interdisciplinary major of 60 credits or more and whose department does not require a minor.)
4. Professional Education sequence for secondary and K-12 teachers in special areas (elementary, special education, and speech pathology majors include the professional sequence in their major programs).
PSY 262, 362, 463; ED 221, 447, 421; IM 468; Student Teaching
5. HLTH 125 or 498 (for elementary education majors)—Minnesota State Statute 126.02.
6. HLTH 405 (formerly 301)—Minnesota State Statute 126.05.
7. HURL 496, 497—not required for graduation but is required for licensure in Minnesota by Minnesota Board of Teaching Licensure rule 3.041.

Graduates of teacher education programs in Minnesota who wish to be licensed for teaching in Minnesota public schools must satisfactorily complete a Minnesota State Board of Education approved human relations program. The program does not have to be for credit or taken at St. Cloud State University; however, it must be an approved program.

ADMISSION TO TEACHER EDUCATION. All students preparing to teach will make application for Admission to Teacher Education and will be admitted when they have met the following requirements:

1. Admission to a major program of study.
2. Satisfactory completion of PSY 262; and ED 220 for elementary majors, ED 221 for secondary and special area majors, or SPED 401/451 for special education majors.
3. Completion of the required communication courses (SPC 161, ENGL 162, 163) with no mark below C. This requirement must be met by all transfer students who apply for admission to teacher education regardless of previous degree status.
4. Overall honor point ratio of 2.0 or more.
5. Application for admission to teacher education will normally be made in ED, ED 221 or SPED 401/451.

In cases where there is a question regarding a student's eligibility for Admission to Teacher Education for reason other than academic record, the case will be reviewed by the College Dean or the College of Education Selection and Retention Committee.

ADMISSION TO STUDENT TEACHING. Early in spring quarter students apply for student teaching assignments for the following academic year. Completed applications should be on file in the Teacher Development Office, A132 Education Building, by the end of the first week of spring quarter. The admission requirements include the following:

1. Admission to Teacher Education
2. General Scholarship—2.00 Honor Point Ratio
3. Major Field—2.25 Honor Point Ratio
4. Minor Field—2.00 Honor Point Ratio
5. Professional Education Sequence—no grade less than C

46 / College of Fine Arts

6. Health Examination—Mantoux Test

The College reserves the right to consider as part of admission to student teaching those personal qualities, general health, scholastic achievement, conduct, or other standards seen as appropriately related.

GRADUATION. A minimum of 192 quarter hours of credit is required for graduation. Candidates for the Bachelor of Science degree in teacher education must meet the following academic standards in order to qualify for graduation:

1. General Scholarship—2.00 Honor Point Ratio
2. Major Field—2.25 Honor Point Ratio
3. Minor Field—2.00 Honor Point Ratio
4. Professional Education Core—2.25

Application for graduation forms are obtained in the Office of Admissions and Records. The University Academic Calendar lists the due dates for each quarter.

College of Fine Arts

William F. Bunch, Dean

111 KIEHLE VISUAL ARTS CENTER/255-3093

DEPARTMENTS

Art

Music

Theatre

INTERDEPARTMENTAL PROGRAMS

Arts Administration

The College of Fine Arts serves the needs of four groups of people.

1. **ALL STUDENTS**, regardless of vocational objectives, are helped to understand and enjoy communication through the various arts, to discover truth through the arts, to develop some basis for discrimination against cheap, tawdry, and dishonest art, and to have the uniquely human experience of creating in an art form.
2. **FINE ARTS STUDENTS**, through concentrated work and study under outstanding artist-teachers, are prepared for professional life as creative or performing artists, artist-teachers, arts administrators, or for graduate work. Students may obtain the Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Music, or Bachelor of Science degree at the undergraduate level and the Master of Arts or Master of Science at the graduate level and may obtain elementary or secondary school licensure as teachers in a fully accredited program.
3. **THE FACULTY** in the arts are given encouragement and facilities to continue their own careers as artists or scholars.
4. **THE SURROUNDING COMMUNITY** is provided continuing cultural opportunities through a regular extensive program created by faculty, students and visiting artists. The program includes exhibitions, demonstrations, concerts, plays, recitals, operas, musicals, and festivals of the arts.

The departments of the College of Fine Arts are distinguished by the creative element in the disciplines with which they are concerned. Each department seeks within the framework of creative talent and high standards of professional competence to develop students with the sensibilities, skills, and knowledge to meet the responsibilities and demands of a creative life. The broad general education portion of the students' program helps them to appreciate their heritage, to understand their social obligations and responsibilities, and to achieve some measure of individual human worth and dignity.

The College of Fine Arts attempts to integrate the best possible professional training in the arts into the total university setting. Because of the length and nature of certain undergraduate programs, students may find it difficult to complete degree requirements in four academic years.

COURSE DESCRIPTIONS.

150. Fine Arts Survey—Europe. Utilizes the wealth of fine arts resources in Europe, including museums, concerts, and theatres. Lectures on the arts from classical times to the present. 4 Cr. May be repeated once. F, W.

College of Industry

Alfred A. Lease, Dean
216 HEADLEY HALL/255-3137

DEPARTMENTS

Industrial Education
Technology
Center for Driver Education and Safety

SERVICES

Vocational-Technical Teacher Education
Aviation-Aerospace Education

The College of Industry is an administrative unit for the purpose of coordinating the administration and functions of programs which draw a considerable amount of their content from industry—industrial education (industrial arts and trade and industrial), engineering technology and industrial engineering.

Programs are offered leading to the Bachelor of Science and the Master of Science degrees, the Associate in Science degree, and the Driver Education Certificate.

Sequential courses in a particular subject area should be taken in order of numbering.

College of Liberal Arts and Sciences

Louise H. Johnson, Dean
Jonathan N. Lawson, Associate Dean
101 WHITNEY HOUSE/255-2192

DEPARTMENTS

Biological Sciences
Chemistry
Earth Sciences
Economics
English
Foreign Languages and Literature
Geography
History
Interdisciplinary Studies

Mass Communications
Mathematics and Computer Science
Philosophy
Physics and Astronomy
Political Science
Sociology, Anthropology, and Social Work
Speech Communication
Speech Science, Pathology, and Audiology

INTERDEPARTMENTAL FIELDS

American Studies
Criminal Justice Studies
East Asian Studies
Environmental Studies
Gerontology
Latin American Studies
Local and Urban Affairs
Medical Technology
Middle East Studies

Minority Studies
Physical Therapy
Public Administration
Religious Studies
Sciences
Social Science
Social Studies
Social Work
Women's Studies

CENTER

Criminal Justice Studies

48 / College of Liberal Arts and Sciences

The College of Liberal Arts and Sciences at St. Cloud State University serves two basic functions in education at this institution:

1. Through the General Education program required of all students, the College endeavors to provide a broad range of exposure to the varieties of knowledge and experience which make possible a better understanding and appreciation of the world in which we live. The College accepts its charge to introduce students to a wide range of ideas and experience so that they may be equipped to deal with their world more intelligently, productively, and humanely.
2. In addition, the College, through the specialized programs of majors and minors offered by its 17 departments, one center, and its interdepartmental programs, provides education in a wide variety of professional skills. We aspire to the preparation of students who, upon completion of requirements, are prepared to assume various roles in society and who possess those skills and that knowledge necessary for not only useful and gainful employment, but also an understanding of the varieties of the human condition, its experiences, and its possibilities.

More specifically, the College of Liberal Arts and Sciences strives to:

1. Foster independence of thought by encouraging an analytical attitude toward ideas and ways of doing things.
2. Promote innovative thinking and the acceptance of both continuity and change as two fundamental principles that guide the life of any society.
3. Provide the foundation of knowledge and learning so necessary if both criticism and innovation are to be serious, well-considered, and responsible.
4. Develop broader perspectives on the issues affecting the students' personal lives and the community, nation, and world, so they may act with the wisdom and civility that should be the hallmark of the democratic society.
5. Educate the student in the knowledge and skills important today in a wide array of occupations in the public and private sectors and at both professional and pre-professional levels.
 - a. Owing to the need in many occupations for increased knowledge about the social and physical world within which people carry out their occupational responsibilities, the College of Liberal Arts and Sciences seeks to acquaint the student with the social, historical, and philosophical factors in people's values, attitudes, needs, and behavior, and the physical processes and geographic realities that underlie and affect resource availability and utilization.
 - b. The College seeks to give students the tools or methods with which to gather, analyze, and evaluate information, as well as the skills to communicate their thinking to others.

DEGREE PROGRAMS

The College of Liberal Arts and Sciences offers the following degrees: A.A., A.S., B.A., B.E.S., B.S., M.A. and M.S. Information concerning the graduate programs is available in the *Graduate Bulletin*.

ALL-UNIVERSITY COURSES

COMMUNITY SHORT COURSE

196. Community Short Course. (Name of department or program). Specific subjects selected to meet community educational needs. Exact nature of course will be defined by the department.

EDUCATIONAL TOURS

410-510. Educational Tours. (Name of department or program). Tours taken under supervision of the University. Exact nature of course will be defined by the department involved and approved by the Vice President for Academic Affairs. Considered residence credit. 1-8 Cr.

EXTERNAL STUDIES

150. Individual Education Planning. An introduction to the external studies concept, including information about and skills in the areas of (1) individual education planning, (2) independent study, and (3) utilization of learning resources. No prerequisites. Permission of instructor is required. 2 Cr.

INDEPENDENT STUDY

199-499. Independent Study. (Name of Department or Program). Offered at the discretion of departments, this program is intended for the very able, motivated student whose intellectual needs are partially served by serious independent study. Permission of instructor required. May be repeated. 1-4 Cr.

INTERNSHIPS

Internships are offered at the discretion of departments. Course number and number of credits are determined by the departments. Contact departmental offices for further information. 1-16 Cr.

ORIENTATION

121. Introduction to College. This course is designed to acquaint entering students with the services of the University as well as the Learning Resources Center. 1 Cr.

READING

019. Reading and Study Skills. Emphasis on study skills which includes developing an effective study approach, listening, and notetaking skills, preparing for examinations, and vocabulary development. 2 Cr. (not applicable on degree). S-U grading.

120. Reading Rate Improvement. Emphasis on improving speed and flexibility in rate of reading through application of efficient comprehension and vocabulary strategies. 2 Cr. (applicable on degree). Alternative grading: S-U, A-E.

Permission of instructor required to enroll in 019 and 120 concurrently.

SPECIAL PROBLEMS

400. Special Problems. (Name of department or program). A seminar or conference course for advanced students wishing to work out a special problem in the academic area. 1-4 Cr.

TELEVISION

488-588. (Name of department or program). Exact nature of the course to be offered on television will be defined by the department.

WORKSHOPS

495-595. Workshop. (Name of department or program). Specific subjects selected to meet special educational needs, offered in a format different from the typical scheduled course. Exact nature of the course will be defined by the department.

DEPARTMENTS, CENTERS, AND PROGRAMS

Accounting (ACCT)

310 BUSINESS BUILDING/255-3038

Also see College of Business description and requirements.

Chairperson Larry Sundby. **Faculty** R. Carlson, Gerber, Lassila, D. Lu, McLean, Olsberg, Roser, Schwieger, Sundby.

The Department of Accounting offers programs to students interested in professional careers in public accounting, industry, non-profit organizations, governmental bodies, and teaching. Courses offered emphasize the development of students' analytical capabilities and understanding of the usefulness and limitations of accounting. Depending upon areas of interest, the accounting major may select a concentration in private/industrial or public accounting.

Following graduation, students frequently apply for professional certification. St. Cloud State University graduates are eligible to sit for the Certified Public Accountant exam which is administered through the State of Minnesota, the Certified Internal Auditor exam which is administered by the Institute of Internal Auditors organization, and the Certified Managerial Accountant exam which is administered through the National Association of Accountants organization.

BACHELOR OF SCIENCE

MAJORS (120-124)

A major in Accounting includes the business core (56 Cr.) plus one of the following programs:

Public Accounting (60)

MATH 231 (or equivalent course).

MKGB 336, 437; QMIS 141.

4 credits from: QMIS 351, 440, 441, 451.

4 credits from: ECON 471, 475, 476.

ACCT 380, 381, 382, 383, 385, 481, 485, 486.

4 credits from: ACCT 444, 487, 488, 490.

Private/Industrial Accounting (64)

MATH 231, 232, 257 (or equivalent courses).

QMIS 141.

8 credits from: QMIS 351, 440, 441, 442, 451.

8 credits from: ECON 471, 475, 476.

ACCT 380, 381, 382, 383, 490, 492.

8 credits from: ACCT 444, 481, 486, 488.

Accounting Minor (36)

MKGB 235.

MGMF 371.

ACCT 291, 292, 293, 380, 381, 382, 385.

COURSE DESCRIPTIONS

291. Accounting I. Accounting as a process of measurement and communication of economic data is explored; techniques of recording, classifying, measuring, and reporting economic data are studied with emphasis on the preparation of the balance sheet and income statement. 4 Cr. F, W, S, SUM.

292. Accounting II. Continuation of Accounting I, preparation of the funds statement and refinements in the balance sheet accounts; present value analysis and income taxation. Prereq.: 291. 4 Cr. F, W, S, SUM.

293. Accounting III. Accounting as a planning, analysis and control tool facilitating the decision making processes of management. Prereq.: 292. 4 Cr. F, W, S, SUM.

294. Cost Accounting for Engineers. Cost concepts, cost flow; methods of cost accumulation and allocation. Prereq.: 291. 4 Cr. F, W, S.

Only students admitted to a university major program and who have completed 96 quarter credits (junior standing) may enroll in 300 and 400 level courses.

380. Cost Accounting I. Cost accounting systems which provide information used in inventory valuation and in making decisions regarding routine as well as non-routine operations. Prereq.: 293. 4 Cr. F, W, S, SUM.

381. Intermediate Accounting I. Theories of accounting, accounting practice related to current asset measurement and reporting, evaluation of generally accepted accounting theory and practice vis-a-vis alternative theories. Prereq.: 293. 4 Cr. F, W, S, SUM.

382. Intermediate Accounting II. Analysis and evaluation of current and alternative accounting theories relating to measurement and reporting problems of non-current assets and liabilities. Prereq.: 381. 4 Cr. F, W, S, SUM.

383. Intermediate Accounting III. Analysis and evaluation of current and alternative accounting theories relating to owners' equity, special income determination problems, and other topics of significant current interest. Prereq.: 382. 4 Cr. F, W, S, SUM.

385. Income Tax. Federal income taxation of individuals. 4 Cr. F, W, S, SUM.

491. Senior Research. A research seminar for senior accounting students. 1-4 Cr. F, W, S, SUM.

492. Management and Income Taxation. Federal income taxation of the continuing business enterprise with emphasis on areas critical to the industrial/private accountant from both a tax planning and determination view point. 4 Cr. W.

498. Small Business Institute Case Analysis. Application of relevant theories to actual practice in business. Interdisciplinary teams of students majoring in business work with area businesses to help solve actual business problems in finance, marketing, management and accounting. 4 Cr. DEMAND.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

481-581. Advanced Accounting. Theory and practice of accounting for business combinations; parents and subsidiary accounting for consolidated financial statements. Prereq.: 383. 4 Cr. F, S, SUM.

485-585. Advanced Income Tax. Federal income taxation of partnerships, corporations, trusts and estates; federal estate and gift taxation with emphasis placed on tax planning and tax research. Prereq.: 385. 4 Cr. F, W, S, SUM.

486-586. Auditing Theory. Nature of the audit function, nature of the audit evidence, audit standards and procedures, professional ethics, and audit reports. Prereq.: 383. 4 Cr. F, S, SUM.

487-587. Auditing Problems and Cases. Nature of internal auditing, auditing in an EDP environment and the use of statistical sampling in auditing. Prereq.: 383. 4 Cr. W.

488-588. Accounting Systems. System planning, design, and applications; emphasis is placed on the interaction of computers and accounting in the development of management information systems. Prereq.: QMIS 250. 4 Cr. F.

490-590. Cost Accounting II. A study of the essential issues of cost analysis emphasizing the development and use of cost data appropriate for implementation of long and short run decision making, control and evaluation models. Prereq.: 380, MATH 231, QMIS 141. 4 Cr. S.

496-596. Accounting for Non-Profit Organizations. Nature, usefulness and limitations of accounting information as a tool for program planning and control in non-profit organizations. 4 Cr. F.

Allied Health Programs

262 MATHEMATICS AND SCIENCE CENTER/255-2036

Also see College of Liberal Arts and Sciences description of requirements.

Allied Health programs offered by St. Cloud State University include Medical Technology, Nuclear Medical Technology, and Physical Therapy. Consult the individual program descriptions in this bulletin.

American Studies (AMST)

104C STEWART HALL/255-2097

A program of the Department of Interdisciplinary Studies. Also see *College of Liberal Arts and Sciences description and requirements*.

Director Eleanor E. Simpson. **Faculty** Committee Bovee, Coen, Lane, Morgan, Pluth.

American Studies is the interdisciplinary study of American culture; that is, it attempts to understand what makes Americans "tick" by drawing on the methods and materials of several disciplines (chiefly history, the social sciences, literature and the arts). By refusing to remain confined within any of the traditional disciplines or departments, the "Americanist" is free to pursue problems, trends, and issues wherever they lead. The purpose of American Studies is to make connections—to help students discover the interrelationships between such things as material culture (the world of things) and ideas; between "highbrow" and "popular" culture; between the "mainstream" and minority subcultures.

American Studies provides a liberal arts education for those who aren't sure what they want to specialize in, and for those who are sure they don't want to specialize in any one thing. The major is especially valuable for students planning careers in business, journalism, public service, historic preservation and restoration, and museum work. American Studies may also serve as preparation for graduate work in a number of fields, and as a pre-professional major for law, library and medical school. The B.S. in American Studies leads to certification to teach secondary school social studies. The American Studies major provides the flexibility needed by transfer students, community college graduates and people investing in continuing education, as well as giving the four-year student a large measure of freedom to construct a program which meets her/his individual needs.

BACHELOR OF ARTS

Major (60)

The program shall be constructed at the time the student elects the major. It will be prepared by the student in consultation with the major adviser from the list of courses available for American Studies (see adviser) and shall take the following form:

AMST 101, 102, 201, 301, 390, 401.

American Hist.: 8-10 Cr.

American Lit.: 9-12 Cr.

American Phil. and the Fine Arts: 9-12 Cr.

The American Society: 9-12 Cr.

Foreign Backgrounds to American Civilization: 6-10 Cr.

Minor (36)

AMST 101, 102, 201, 301, 390.

A program of 20 Cr. selected from the list of courses available for American studies (see adviser).

The study of a language in addition to English is strongly recommended as a valuable means to increased comprehension of and competence in the history and culture of a people. Many graduate schools not only require language competence but also use such competence as part of their entrance requirements.

BACHELOR OF SCIENCE

Major (50)

This major is designed for students seeking social studies licensure. It is to be completed in conjunction with the competency based licensing program described below.*

*Applicants for secondary social studies licensure in Minnesota must fulfill the requirements of a competency based regulation. Students who plan to seek such licensure should consult the social studies coordinator as soon as possible to determine how the social science competencies are to be developed and demonstrated. The University's approved program for the development and demonstration of the required social science competencies is as follows: SSCI 104, ANTH 250, ECON 259, GEOG 253, HIST 285, POL 217, PSY 264, SOC 260, SSCI 421, SST 353.

Students should consult the American Studies adviser as soon as possible to plan a program.

- a. AMST 101, 102, 201, 301, 390, 401. (Other AMST courses, e.g., 302, 490, may be substituted for 101 and/or 102 with adviser's approval.)
 - b. American history: 12 Cr.
 - c. European history since 1600: 8 Cr.
 - d. Humanities and/or social sciences: 12 Cr. (AMST courses not included in a. may be used in d.)
- 36 of the 50 credits must be at the 200 level or above. At least two courses in the major program must focus on a minority group or culture outside the American "mainstream" (e.g., native Americans, black Americans, women, the aged, etc.).

Minor (36)

AMST 101, 102, 201, 301, 390. A program of 20 Cr. selected from the list of courses available for American Studies (see adviser).

Elementary Education Minor (36)

AMST 101, 102, 201, 301, 390. A program of 20 Cr. selected from the list of courses available for American Studies (see adviser).

COURSE DESCRIPTIONS

101. American Civilization I. Interdisciplinary exploration of significant cultural trends and periods in early America. Uses methods and materials of history, literature, the arts and the social sciences. Need not be taken in sequence. 4 Cr. F, W, S.

102. American Civilization II. Interdisciplinary exploration of significant cultural trends and periods in later America. Uses methods and materials of history, literature, the arts and the social sciences. Need not be taken in sequence. 4 Cr. F, W, S.

201. Pro-Seminar in American Studies. An introduction to research techniques and materials and to preparation of research papers. 3 Cr. F.

301. Theories of American Studies. Analysis and evaluation of several different methods of interpreting American culture and society. Prereq.: 201 and junior standing or consent of the instructor. 2 Cr. W, ALT.

302. Topics in American Studies. Small group discussion focusing on various trends and concepts in American culture from political thought to popular music. Specific titles to be listed in the class schedule. May be repeated to a maximum of 8 Cr. with instructor's consent. 2-4 Cr. F, W, S.

390. Readings in American Studies. Acquaints students with some important works by American Studies scholars. Materials illustrate the range of methods and subjects open to interdisciplinary investigation. Prereq.: 301 or consent of instructor. 3 Cr. W, ALT.

401. Seminar in American Studies. Research on a theme in twentieth century America that results in a synthesis. Prereq.: 301 and senior standing or consent of instructor. 2 Cr. S, ALT.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

490-590. Contemporary American Cultures. An interdisciplinary exploration of one of the cultures in contemporary America through its political, philosophical, literary and artistic creations. Specific titles to be listed in class schedule. May be repeated with consent of instructor. 4 Cr. F, W, S.

Anthropology (ANTH)

334 STEWART HALL/255-3139

A program of the Department of Sociology, Anthropology and Social Work.
Also see College of Liberal Arts and Sciences description and requirements.

BACHELOR OF ARTS

Anthropology Major (48)

ANTH 267, 350, 365, 480, 490; SOC 278.*

ANTH Electives: 20 Cr.

54 / Anthropology (ANTH)

Anthropology Minor (24)

ANTH 250, 265, 267.

ANTH Electives: 12 Cr.

Select courses from those with a 250 prereq.

Anthropology Related Fields Minor (36)

In consultation with ANTH adviser, 18 Cr. from the following list, including no more than 12 Cr. in any one department, plus 18 Cr. in a concentration from the list below (A or B).

ART 320; BIOL 201, 203; ENGL 332; FORL; GEOG 270, 273; HIST 200; MATH 132, 329; PHIL 220, 240, 332, 334, 447; SOC 268, 279, 379; SSPA 220, 420.

A. Concentration in Museology: ART 101, 102, 430; IND 110, 165; IM 275, 468, 478; GEOG 405.

B. Concentration in Archeology: BIOL 203, 301, 342, 350, 489; GEOG 390, 405, 472; HIST 320, 321, 370, 371; ESCI 284, 285.

COURSE DESCRIPTIONS—ANTHROPOLOGY (ANTH)

250. Introduction to Anthropology. A brief survey of human origins. The nature and origins of culture, its development through prehistoric ages. Comparative analysis of cultures and social organization. 4 Cr. F, W, S.

255. Anthropology of Art. The relation of art to other aspects of culture; survey of styles in the visual arts from the ethnographic and archeological contexts, art as visual communications. 4 Cr. DEMAND.

267. Cultural Anthropology. Culture: its meaning, analysis, changes. Significance of culture in human relations. Study of various lifestyles in societies of all sizes and complexities. 4 Cr. F, W, S.

270. World Prehistory. Comparison of prehistoric cultural materials from both hemispheres to demonstrate processes of cultural evolution and rates of cultural and human biological evolution. 4 Cr. W.

275. Introduction to Museology. An introduction to the operation and functions of anthropology museums for education, research, and preservation; practicum in preparation of exhibits, cataloging, and restoration. Prereq.: 267 or consent of instructor. 4 Cr. DEMAND.

350. Social Anthropology. Introduction to theoretical basis of anthropology and cross-cultural method. Prereq.: 267. 4 Cr. DEMAND.

354. Mesoamerican Prehistory. Brief history of Mesoamerican civilizations and study of their crafts, arts, cities, religions, and other institutions. Special attention to Maya and Aztec civilizations. Prereq.: 267. 4 Cr. DEMAND.

355. Peoples and Cultures of Africa. Culture history of the continent and social anthropology of traditional societies. Background factors related to the problems of modern Africa. Prereq.: 267. 4 Cr. DEMAND.

356. Peoples and Cultures of Asia. Survey and analysis of cultural diversity and unity on the continent of Asia. Prereq.: 267. 4 Cr. DEMAND.

358. Peoples and Cultures of the South Pacific. An analysis of the native peoples and cultures of Melanesia, Micronesia, and Polynesia; impact of industrial societies on the indigenous populations. Prereq.: 267. 4 Cr. DEMAND.

359. Indians of North America. The cultural anthropology of selected societies and culture areas of pre-Columbian North America; impact of European conquest upon these cultures. Prereq.: 267. 4 Cr. F.

362. Urban Anthropology. An introduction to use of anthropological theory and methods to the urban milieu. Prereq.: 267. 4 Cr. DEMAND.

363. Applied Anthropology. Introduction to practical application of anthropology to problems of social change. Emphasis on ethical problems inherent in social engineering. Prereq.: 267. 4 Cr. DEMAND.

365. Physical Anthropology. An introductory survey of the methods and aims of physical anthropology. Emphasizes the significance of variations, adaptations, and adjustments of the human species. 4 Cr. F.

376. Advanced Museology. Institutional roles and relationships of a museum-emphasizing administration, management, policy making, and development; on-campus practicum in a small anthropology museum. Prereq.: 275. 4 Cr. W.

380. Cultural Resource Management. Applied approaches to management of ethnic, historic and prehistoric cultural resources emphasizing site location and identification, level of significance, impact assessment, and mitigation procedures. Prereq.: 267. 4 Cr. S.

*Anthropology majors may substitute ANTH 250 & 265 for SOC 260 as a prerequisite for SOC 278.

444. Internship. A maximum of 8 credits may be used toward a major; 4 credits used toward a minor; remainder will be used in general electives. 1-16 Cr.

469. Theory of Cultural Change. An examination of various theoretical approaches to the dynamics of cultural change. Prereq.: 250 or SOC 260. 267. 4 Cr. DEMAND.

471. Culture and Personality. Personality development in context of cultural patterns for behavior in both preliterate and modern societies. Prereq.: 267. 4 Cr. W.

472. Anthropological Analysis and Interpretation. A survey of various anthropological methods and techniques of data analysis and interpretation obtained from prior field work. Prereq.: 267. 4 Cr. DEMAND.

480. Theories and Methods in Anthropology. History of anthropological thought. Emphasis on basic problems and theoretical approaches used in various sub-disciplines of anthropology, the relation of theory to method. Prereq.: 267 and 12 Cr. in ANTH. 4 Cr. W.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

463-563. Seminar. Discussion and readings in advanced anthropology. A specific topic selected each time offered. May be repeated. Prereq.: 250 or permission of department chairperson. 4 Cr. DEMAND.

467-567. Principles of Cultural Anthropology. Concepts and theories of anthropology. Analysis of tribal and peasant cultures; comparison with more complex societies. Prereq.: 250 or SOC 260. 4 Cr. DEMAND.

490-590. Field Methods in Anthropology. Anthropological field methods in one of the major subdisciplines of anthropology-archaeology, ethnography, or linguistics. Prereq.: ANTH 250 or 267 or SOC 260 or consent of instructor. 1-8 Cr. DEMAND.

Art (ART)

101 KIEHLE VISUAL ARTS CENTER/255-4283

Also see College of Fine Arts description and requirements.

Chairperson James Roy. **Faculty** Aiken, Alhelm, Beck, D. Brown, Coen, Ellingson, Gutteter, L. Halberg, Hluch, Jasmin, Korte, Loch, Metcalf, Mills, Roy, Sherarts, Sykora, Wallin.

The Visual Arts program is based upon objectives which are three-fold: (1) To introduce the student to the visual arts, (2) To provide preparation for the studio artist, and (3) To prepare teachers and supervisors in elementary, junior high and secondary schools.

The department offers course work pursuant to either the Bachelor of Arts, Bachelor of Science, or Bachelor of Fine Arts degrees on the undergraduate level. On the graduate level, it offers course work leading to the degrees of Master of Arts in studio and Master of Science in education.

BACHELOR OF ARTS

Comprehensive Art Major (84)

ART 101, 102, 103, 110, 111, 222, 240, 243, 250, 260, 270, 275, 280, 303, 315, 320.

Art History Electives 12; IND 169.

Electives (24)

Art History Major (48)

ART 320, 430, 431, 432, 433, 434, 435, 436, 437.

Select 20 Cr. from: (in any combination)

8 Cr. in FREN, GERM, or SPAN.

8 Cr. in HIST or AMST or 4 Cr. in HIST and 4 Cr. in PHIL (aesthetics);.

8 Cr. in Drawing and Painting.

4 Cr. in Special Problems. This will be a major thesis on some problem in art history.

8 Cr. in ANTH.

Major (48)

ART 101, 102, 110, 111, 222, 240, 250, 260, 270, 275, 280, 320. Electives (12).

56 / Art (ART)

Minor (36)

ART 101, 102, 110, 111, 222, 240, 250, 260, 270, 320. Electives (6).

Commercial Art: Advertising Art Minor (36)

ART 101, 102, 110, 111, 303, 304, 305; MKGB 322.

Select 11 Cr. from: ART 405; MKGB 321, 423; IND 224, 225, 424; COMM 220, 246, 370, 371, 376.

Other electives may be substituted with permission of instructor and minor adviser.

BACHELOR OF SCIENCE

Comprehensive Art Major (84)

ART 101, 102, 103, 110, 111, 222, 240, 243, 250, 260, 270, 275, 280, 290, 303, 315, 320, 390, 391, 392, 490.

Art History Electives (12).

IND 169.

Electives (9).

Major (48)

ART 101, 102, 110, 111, 222, 240, 250, 260, 270, 275, 280, 290, 320, 390, 396, 490.

Elementary Minor (24)

ART 101, 110, 320, 391, 392. Select 8 Cr. from: ART 102, 111, 222, 240, 243, 250, 260, 270, 275, 280, 285, 305, or additional Art History.

Minor (36)

ART 101, 102, 110, 222, 240, 250, 260, 270, 290, 320, 390, 392.

BACHELOR OF FINE ARTS

Basic Courses

ART 101, 102, 103, 110, 111, 210, 222, 315, 320.

Art History Electives (12); IND 169.

Art Electives (19)

Taken outside the major studio area with a minimum of 4 courses from the following:

ART 240, 243, 250, 260, 270, 275, 280, 303, plus 7 Cr. of art electives.

Art Major Studio Area (47)

Areas of concentration may be chosen from the following in consultation with adviser: ceramics, glassworking, jewelry, painting, photography, printmaking, sculpture, weaving.

General Electives (18)

BACHELOR OF ELECTIVE STUDIES

Major (48)

Completion of 48 credits with the approval of the department.

Minor (36)

Completion of 36 credits with the approval of the department.

Departmental Evaluation. Students seeking admission to a 48 quarter hour major or a 36 quarter hour minor in Art are required to successfully pass a departmental evaluation. The evaluation is based upon studio work from ART 101, 102, 110, and 111 and is conducted by members of the faculty in Art.

COURSE DESCRIPTIONS

101. Design I. Principles and elements of two-dimensional design. 3 Cr. F, W, S, SUM.

102. Design II. Principles and elements of three-dimensional design. 3 Cr. F, W, S.

103. Design III. Investigation of various color theories; the nature and physical properties of

pigment and light as color determinants; and the inter-relatedness of those color properties in developing color combinations, schemes, and/or coordinations. 3 Cr. F, W, S.

110. Drawing I. Introductory experiences with varied drawing media. 3 Cr. F, W, S, SUM.

111. Drawing II. Pictorial composition, problems in space division and three-dimensional representation. Prereq.: 110. 3 Cr. F, W, S.

120. Studio Humanities. Fundamental studio experiences in art with lecture and media presentations as related to human conditions. See quarterly class schedule for listing of topics. 3 Cr. May be repeated with different topics. F, W, S, SUM.

121. Humanities. Humanity as it reveals itself through the visual arts. Includes architecture, painting, sculpture and the minor arts. Lectures, discussions, movies, exhibits. 4 Cr. F, W, S, SUM.

210. Drawing III. Practice in various techniques with different media such as charcoal, pen, pencil, and brush. Prereq.: 102, 111. 3 Cr. DEMAND.

222. Theory of Art. Philosophies and definitions of the visual arts relative to the art major and minor. Emphasis on understanding the nature of art itself as revealed in various media of expression. 2 Cr. F, W, S.

240. Oil Painting I. Nature of the various paints, surfaces, and styles of painting. 3 Cr. F, W, S.

241. Life Painting I. Introduction to basic concepts of illusionistic form and 2-D design in relation to the human figure, landscape, portrait, etc. as subject matter with media concentration on oil painting techniques. 3 Cr. F, S.

243. Water Color Painting I. Water color painting and various combined media. 2 Cr. F, S.

250. Printmaking I. Basic graphic processes. 3 Cr. F, W, S.

251. Woodcut Printmaking I. Basic processes in woodcut printing. 3 Cr. F, W, S.

252. Silkscreen Printmaking I. Basic processes in silkscreen printing. 3 Cr. W.

253. Lithography. Basic lithography techniques. Prereq.: 250. 3 Cr. W, S.

260. Sculpture I. Three-dimensional work in many materials: stone, wood, plaster, metal, etc.; modeling, carving, and casting. 3 Cr. F, W, S.

261. Life Sculpture I. A study of 3-dimensional form and design in relation to the human figure as subject matter, with concentration on microcrystalline wax modeling techniques. The utilization of wax sculpture for bronze casting. 3 Cr. DEMAND.

270. Introduction to Ceramic Studio. Creative experience in hand methods, glazing, and firing. 3 Cr. F, W, S, SUM.

271. Beginning Throwing. Work on potter's wheel, glazing, and firing. Prereq.: 270. 3 Cr. F, W, S.

275. Weaving I. Warping and weaving on floor and table looms. Reading of patterns. 3 Cr. F, W, S, SUM.

277. Printed and Dyed Fabrics I. Introduction to textile design, color separation, block printing and tie dyeing techniques. Production of both printed and dyed fabrics. 3 Cr. W.

280. Jewelry I. Creative experience in decorative and constructive processes in the use of silver or other metals and in enameling. Prereq.: 102, 111, 222. 3 Cr. F, W, S.

285. Glassworking I. Basic glassblowing techniques. 3 Cr. F, S.

290. Art in the Elementary School. Analysis of a child's changing needs for artistic expression; parallel growth in creative and mental development, methods for different age levels and classroom situations. Majors and minors only. Prereq.: 12 credits in art or permission of department. Not open to Elementary Education Majors. 3 Cr. F.

296. Art for Elementary Classroom Teachers. Developmental stages of artistic activity. Art media for each stage. Experience with art materials to develop confidence in the student's own creative approach and the use of these materials in relation to creative needs of elementary students. 4 Cr. F, W, S.

302. Interior Designs. Emphasis on basic principles of good design in furnishing a home. Brief study of period furniture. 3 Cr. DEMAND.

303. Graphic Design I. Introduction to visual presentation and illustration. Principles and practices of advertising art, concepts, and problems in the visual communication of messages, events, ideas or values. 3 Cr. F, W, S.

304. Graphic Design II. Advanced problems in presentation and illustration. Prereq.: 303. 3 Cr. F, W, S.

305. Photography I. Analysis of the qualities of good photography. Experimentation with various subjects and techniques. Prereq.: 102. 3-12 Cr. F, W, S.

306. Visual Illustration and Layout. For non-art majors. Basic illustration techniques. Design, layout and presentation concepts. 3 Cr. F, W.

315. Life Drawing I. Anatomy of the human body. Drawing and painting from models. Prereq.: 102, 111, 222. 3-12 Cr. F, W, S.

320. Art History Survey. Human creativity presented through a select number of works including painting, sculpture, architecture, prints, ceramics, and jewelry. Includes art from prehistoric to modern times and deals with both eastern and western traditions. 4 Cr. F, W, S.

340. Oil Painting II. Oil painting and combined experimental media. Prereq.: 240. 3-12 Cr. F, W, S.

341. Life Painting II. Concentration on exploring various approaches to subject matter and various oil painting techniques in relation to composition. Prereq.: 241. 3-12 Cr. F, W, S.

343. Water Color Painting II. Transparent water color painting, casein, tempera and combined media. Prereq.: 243. 3-12 Cr. F, S.

350. Printmaking II. Basic techniques in wood block printing, etching, and other processes. Prereq.: 250. 3-12 Cr. F, W, S.

353. Lithography II. Basic lithography techniques with advanced individual artistic concerns. Prereq.: 253. 3-12 Cr. DEMAND.

360. Sculpture II. Continuation of Sculpture I. Prereq.: 260. 3-12 Cr. F, W, S.

370. Intermediate Clay Construction. Intermediate clay construction, glazing, and firing. Prereq.: 270. 3-15 Cr. F, S.

371. Intermediate Throwing. Work with composite forms, glazing, and firing techniques. Prereq.: 271. 3-15 Cr. F, W, S.

372. Glaze Technology. Glaze technology, calculation and experimentation. Prereq.: 270. 2-8 Cr. W, DEMAND.

374. Ceramic Arts History. Survey of ceramic forms from antiquity to contemporary. Prereq.: 270, 320. 4 Cr. W, DEMAND.

375. Weaving II. Emphasis on creative application of color, texture, and design in weaving. Prereq.: 275. 3-12 Cr. F, W, S.

377. Printed and Dyed Fabrics II. Exploration of the silk screen process as it applies to fabric design. Experimentation with the batik process. Production of both printed and dyed fabrics. Prereq.: 101, 103, 277. 3 Cr. DEMAND.

380. Jewelry II. Advanced experience in jewelry and enameling; developing previously learned techniques; introduction to casting processes. Prereq.: 280. 3-12 Cr. F, W, S.

385. Glassworking II. Intermediate glassblowing techniques. Prereq.: 285. 3-12 Cr. F, S.

390. Art in the Secondary School. Analysis and demonstration of methods and techniques which develop confidence and skill in creative art activity during adolescence. Must precede student teaching. Prereq.: 290. C.A.T.E. or equivalent. 3 Cr. F.

391. Materials. Experimentation with media suitable for elementary grades. 3 Cr. W.

392. Personal and Decorative Arts. The hand production of original, individually planned, aesthetically pleasing products and study of basic ideas and techniques used by designer-craftspersons from various cultures. 3 Cr. DEMAND.

405. Photography II. Advanced work in photography. Prereq.: 305. 3-15 Cr. F, W, S.

415. Life Drawing II. Advanced study of anatomy of the human body. Drawing and painting from models. Prereq.: 315. 3-15 Cr. DEMAND.

440. Oil Painting III. Continuation of Oil Painting II with emphasis on development of individual expression and teaching techniques. Prereq.: 240. 3-15 Cr. F, W, S.

441. Life Painting III. Concentration on exploration of "stylistic" concepts in life painting. Prereq.: 241, 341. 3-15 Cr. F, W, S.

443. Watercolor Painting III. Prereq.: 343. 3-15 Cr. F, S.

450. Printmaking III. Intaglio, serigraphy, or lithography. Prereq.: 350. 3-15 Cr. F, W, S.

453. Lithography III. Advanced lithography techniques and involvements. Concerns are for excellence of the printed image and improved artistic images. Prereq.: 353. 3-15 Cr. DEMAND.

460. Sculpture III. Wood, direct metal, stone; critical evaluation of student and professional sculpture. Prereq.: 360. 3-15 Cr. F, W, S.

470. Ceramic Sculpture. Advanced composite construction, firing and kiln considerations. Prereq.: 260, 370. 3-15 Cr. DEMAND.

471. Advanced Throwing. Production techniques, oversized units of clay, glazing, and kiln supervision. Prereq.: 371. 3-15 Cr. F, W, S.

475. Weaving III. Design and completion of a major creative project in weaving, making use of the tapestry, rya, or other techniques. Prereq.: 375. 3-15 Cr. F, W, S.

477. Advanced Printed and Dyed Fabrics. Using various combinations of printing, dyeing and other forms of surface decorations on fabric. Prereq.: 277, 377. 3 Cr. DEMAND.

480. Jewelry III. Advanced experience in centrifugal and steam casting and an introduction to basic silversmithing processes. Prereq.: 380. 3-15 Cr. F, W, S.

485. Glassworking III. Advanced glassblowing techniques. Prereq.: 385. 3-15 Cr. F, W, S.

490. Art Curriculum and Supervision. Selection and organization of subject matter, methods, materials, and techniques for teaching and supervision of art. Not open to B.A. candidates. 3 Cr. W.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

430-530. Ancient & Classical Art. The art of the great ancient civilizations including Egyptian, Mesopotamian, Aegean, Greek, Etruscan, and Roman. 4 Cr. DEMAND.

431-531. Early Christian & Medieval Art. Christian art from the catacombs of Rome to the Gothic Cathedrals of Western Europe and the art of the Byzantine Empire. 4 Cr. DEMAND.

432-532. Renaissance Art. The art of the Italian Renaissance beginning with Giotto and including the masters of 15th and 16th century Northern Europe. 4 Cr. DEMAND.

433-533. Baroque and Rococo Art. European Art of the 17th and 18th centuries including El Greco, Rembrandt, Bernini, etc. 4 Cr. DEMAND.

434-534. European Nineteenth Century Art. Non-Classicism, Romanticism, Realism, Impressionism and Post Impressionism emphasized. 4 Cr. DEMAND.

435-535. History of the American Art I. Art in America from the Indian cultures through the United States of the pre-Civil War period. 4 Cr. DEMAND.

436-536. History of American Art II. Painting, sculpture, architecture, prints and crafts from the Civil War to present. 4 Cr. DEMAND.

437-537. Modern Art, 1900-1945. Movements and concepts of modernism in the first half of the 20th century, including Fauvism, Cubism, Constructivism, de Styl, Dada, Surrealism. 4 Cr. DEMAND.

472-572. Ceramics Studio Equipment and Kiln Construction. Design and construction of clay-working equipment, use of refractories and fuels in kiln technology. Prereq.: 370 or 371. 3-12 Cr. DEMAND.

473-573. Ceramic Studio Operation and Management. Apprenticeship and studio visitation. Prereq.: 470 or 471. 3-15 Cr. DEMAND.

474-574. Specified Culture or Area of Ceramic Art History. Guest lecturer. Prereq.: 270, 320. 4 Cr. DEMAND.

497-597. Art for the Exceptional Child. The role of creative art activity for the exceptional child. To include the physically and mentally handicapped as well as the gifted child. Prereq.: 290, 296. 4 Cr. DEMAND.

Arts Administration (ARAD)

208 PERFORMING ARTS CENTER/255-3221

Also see College of Fine Arts description and requirements.

Coordinator Dale Swanson.

The College of Fine Arts offers a unique interdisciplinary degree program to provide specialized, professional education of prospective arts administrators. A preliminary admissions interview with the program coordinator of the theatre department, is required of all students prior to admission to the program.

BACHELOR OF SCIENCE (192) (NON TEACHING)

Track A*

Requirements

48 credits in one department within the College of Fine Arts.

60 / Biological Sciences (BIOL)

24 credits in Business and Economics including ECON 259; MKGB 235, 320, 321; ACCT 291; MGMT 361.

24 credits in Arts Administration courses, projects, and internships.

24 credits divided among other departments in the College of Fine Arts and the following, according to individual student needs: MKGB 322; MGMT 362, 370, 371, 477; BEOA 309; COMM 240, 372, 420; SPC 270, 325.

68 credits General Education

Electives (4).

Track B (May reduce prerequisite requirements for admission to M.B.A. program)*

Requirements

48 credits in one department within the College of Fine Arts.

48 credits in Business and Economics including QMIS 140, 141, 250, 441; ACCT 291, 292, 293; ECON 273, 274; MKGB 320; MGMT 363, 371.

24 credits in Arts Administration courses, projects, and internships. 68 credits General Education Electives (4).

***Total credits earned in the College of Business may not exceed 48.**

COURSE DESCRIPTIONS

440. Audience Development. Techniques of public relations, publicity, house management and staffing of arts oriented organizations. 4 Cr. F, ALT.

450. Attraction Financing. Techniques of attraction booking, box office management, fund raising and budget-making as relevant to arts oriented organizations. 4 Cr. W, ALT.

Biological Sciences (BIOL)

262 MATHEMATICS AND SCIENCE CENTER/255-2036

Also see College of Liberal Arts and Sciences description and requirements.

Chairperson Wayland Ezell. **Faculty** Barker, Bruton, Clapp, Coulter, Cronn, Ezell, Grether, Grewe, R. Gundersen, Hopkins, Hopwood, V. Johnson, K. Knutson, Kramer, S. Lewis, Lindstrom, McCue, D. Mork, Peck, D. G. Peterson, C. Pou, Rehwaltd, Torrence, Williams.

BACHELOR OF ARTS: BIOLOGY

Major (64-76)

BIOL 201, 202, 203, 301, 303, 332

BIOL electives (38) at the 200-level or higher

CHEM 215

MATH 130 or 2 years of high school algebra

MATH 132 or 134 or one semester of high school trigonometry

Minor (36)

BIOL 201, 202, 203, 301, 303, 332

BIOL electives (14) at the 200-level or higher

Certain professional careers in biology or admission to graduate school may require one or more of the following courses. See the appropriate adviser in the Department of Biological Sciences in your freshman year. Recommended courses include:

PHYS 211, 212, 213

CHEM 216, 217, 251, 252, 325

MATH 241, 242 & 243; or 329

An introductory course in computer science may be helpful.

A student in a B.A. biology major who meets the above-stated requirements and includes in the biology electives and supporting courses one of the groups of courses described below may declare an emphasis in aquatic biology, botany, ecology, microbiology, physiology, or zoology. Only one emphasis may be declared. Details can be obtained from the major adviser.

Biology Major: Aquatic Biology Emphasis

BIOL 433, 434, 438, 470
ESCI 284

Biology Major: Botany Emphasis

BIOL 343 or 345, 436, 437, 441, 458

Biology Major: Ecology Emphasis

BIOL 343 or 345, 350, 441, 451
ESCI 284

Biology Major: Microbiology Emphasis

A minimum of 16 credits from:

BIOL 344, 404, 414, 432, 434, 440, 445, 446, 447, 452, 455, 469, 471, 484
CHEM 251

Biology Major: Physiology Emphasis

BIOL 435, 436, 463, 464, 465
CHEM 216, 251, 252, 353

Biology Major: Zoology Emphasis

BIOL 342, 453, plus a minimum of 20 credits of zoology courses

BACHELOR OF ARTS: BIOMEDICAL SCIENCE

Major (93-97)

This is a broad degree program in the life sciences designed for students who desire versatility instead of early specialization. The program provides the background needed for laboratory type positions, for graduate work, and for entrance into professional training in the health care fields, such as medicine, physician's assistant, medical technology, physical therapy, dentistry, and veterinary medicine. This program provides an excellent background for entrance into specialized training for new health care professions which may develop in the future. Proficiency in MATH 132 or 134 is required. In special cases, certain course substitutions may be made with the approval of the adviser and department chairperson provided that the program consists of at least 48 credits in biology and 36 credits in the physical sciences.

Students planning to enter graduate work and those expecting to enter medical schools may wish to supplement this major with a minor in chemistry. The chemistry minor requires proficiency in calculus (MATH 243).

BIOL 201, 203, 303, 309, 332, 344, 439, 464, 465

CHEM 215, 216, 217, 251, 252, 323, (CHEM 325 may be substituted for 323)

PHYS 211, 212, 213

Electives to be selected from courses such as (22):

BIOL 305, 366, 403, 405, 413, 420, 432, 442, 444, 445, 446, 447, 452, 455, 462, 463, 499

CHEM 353; PSY 250

Proficiency in high school trigonometry or MATH 132 or 134 is required.

BACHELOR OF ELECTIVE STUDIES: BIOLOGY

Major (48)

Completion of any 48 credits in biological sciences at the 200-level or higher.

Minor (36)

Completion of any 36 credits in biological sciences at the 200-level or higher.

BACHELOR OF SCIENCE: BIOLOGY

Comprehensive Biology Major (84-88)

BIOL 201, 202, 203, 301, 303, 332, 344, 456, 457

CHEM 215, 216

PHYS 211, 212

ESCI 250, 284, 340

BIOL electives (25) at the 200-level or higher

Supporting course: MATH 132 or 134 or high school trigonometry

62 / Biological Sciences (BIOL)

The above major meets the State of Minnesota life science licensure requirements to teach grades 5-12. Students planning to become licensed to teach science should contact an adviser at the earliest opportunity for specific program requirements for licensure in science majors and minors.

Minor (36)

BIOL 201, 202, 203, 301, 303, 332, 349, 457

A minimum of 4 credits from:

BIOL 341, 343, 344, 345, 347

BIOL electives (4) at the 200-level or higher

Elementary Education Minor (24)

BIOL 201, 202, 203

BIOL electives (12) at the 200-level or higher

(BIOL 341, 345, 347, or 349 are recommended)

COURSE DESCRIPTIONS

101. Life and Environment. The living world and interrelationship with the environment offered as different topics: general principles; environmental problems; aquatic environments; etc. May be repeated under different topics. Lab. 4 Cr. F, W, S, SUM.

104. Human Biology. Biology of the human body offered as different topics: general principles; human diseases; genetics and birth defects; etc. May be repeated under different topics. Lab. 4 Cr. F, W, S, SUM.

107. Plants and Civilization. Importance of plants in nature and human culture; plants and ecology; wild and cultivated edible plants; drug and medicinal plants; garden plants; plants and human nutrition; plant growth and reproduction. 4 Cr. F, W, S, SUM.

201. Biology I. General principles and concepts of biology. Lab. 4 Cr. F, W, S, SUM.

202. Biology II. Major principles of plant biology. Lab. Prereq.: 201. 4 Cr. F, W, S, SUM.

203. Biology III. Major principles of animal biology. Lab. Prereq.: 201. 4 Cr. F, W, S, SUM.

209. Health Effects of Environmental Pollutants. Effects of pollutants and additives as agents of disease and abnormal growth in humans and other life. 4 Cr. W. For non-majors or minors. (Biology majors or minors by permission only.)

221. Criminological Biology. Introduction to biological concepts and procedures related to criminal justice. Lab. 4 Cr. W.

249. Edible Wild Plants. Field collection, identification, and preparation of edible wild plants. Lab. 4 Cr. F, S, SUM.

301. General Ecology. Interrelationships between the biotic and physical aspects of the species, population, and community levels of organization. Prereq.: 202, 203. 3 Cr. W, S, SUM ALT.

303. Cell Biology. Molecular structure of protoplasm, surface and osmotic phenomena, permeability, nutrition, metabolism, mechanisms of energy exchange. Prereq.: 201, CHEM 215. 3 Cr. W, S.

305. Microtechnique. Introduction to methods for the preparation of histological specimens with special emphasis on clinical technique. 4 Cr. W ALT.

307. Medical Terminology. Practice in interpretation and building of medical terms from Latin and Greek roots. Sophomore, junior, senior. 2 Cr. F, W, S.

309. Histology. Microscopic structure and related functions of mammalian cells and tissues. Lab. Prereq.: 201. 4 Cr. F, W, S.

312. Etiology and Pathogenesis of Disease. Major disease etiologies; detailed study of the most common disease or conditions classified under each etiology. Prereq.: a course in human anatomy or physiology. Not open to biology majors/minors. 4 Cr. S.

326. Biology for Elementary Teachers. Concepts in biological sciences appropriate for the elementary school. Lab. 3 Cr. F, W, S.

332. Genetics. Introduction to genetics with emphasis on human inheritance. Lab. Prereq.: 201, MATH 132 or equivalent. 4 Cr. F, W, S.

339. Mammalogy. Principles of classification, morphology, ecology, life histories and population dynamics of mammals. Lab. Prereq.: 203. 4 Cr. W.

341. Entomology. Morphology, physiology, and classification of common orders and families of insects. Lab. Prereq.: 203. 4 Cr. F.

342. Comparative Vertebrate Anatomy. Development and structure of representative vertebrates. Dissection of cat and selected lower forms. Lab. Prereq.: 203. 4 Cr. W.

343. Spring Flora. Taxonomy and ecology of spring vascular plants; principles of taxonomy, use of keys and taxonomic relationships of families. Lab. Prereq.: 202 or consent of instructor. 4 Cr. S.

344. Microbiology. Morphology, classification, and culture of bacteria and other microorganisms of economic importance. Lab. Prereq.: 303, CHEM 215. 5 Cr. F, W, S, SUM.

345. Summer Flora. Taxonomy and ecology of summer vascular plants; principles of taxonomy, use of keys and taxonomic relationships of families. Lab. Prereq.: 202 or consent of instructor. 4 Cr. SUM.

347. Ornithology. Identification, field study and life histories of birds. Lab. Prereq.: 203. 4 Cr. S.

349. Principles of Resource Management. Conservation of natural resources with emphasis on soil, water forests, and wildlife. (May not be taken for credit if credit has already been received for GEOG 372). Lab. 4 Cr. S.

350. Soils. Origin, development, classification, plant relationship, physical and chemical properties. Lab. Prereq.: CHEM 215. 4 Cr. F, S.

354. Trees and Shrubs. The classification, morphology, ecology, distribution and silvics of trees and shrubs. Field trips. Lab. Prereq.: 202. 4 Cr. S ALT.

366. Microscopy and Photomicrography. Principles and use of light microscopes including bright-field, dark-field, phase contrast, polarized-light, Nomarski and fluorescence optics. Lab. 4 Cr. DEMAND.

403. Research. Independent laboratory or field research. Prereq.: consent of instructor. 1-4 Cr. F, W, S, SUM.

444. Biology Internship. Full time participation in industry or a government agency. Offered every quarter. Arrangements must be made before registration. Max. of 8 credits may be counted toward major requirements, remaining credits to be used in general electives. 4-16 Cr. F, W, S, SUM.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

402-502. Systematic Botany. Principles of plant taxonomy; species concept and speciation; methods in biosystematics, chemotaxonomy, and numerical taxonomy. Lab. Prereq.: 332 and 343 or 345. 4 Cr. DEMAND.

404-504. Protozoology. Taxonomy, ecology, physiology, economic importance of the protozoa. Lab. Prereq.: 203. 4 Cr. F ALT.

405-505. Radiation Biology. Introduction to radiation, laws governing its use, medical uses, and its effects on humans. Lab. Prereq.: 201, 203 or 464, 332, CHEM 215. 4 Cr. W.

406-506. Taxonomy of Grasses and Grasslike Plants. Collection and identification of grasses and grasslike plants; mainly of the Poaceae, Cyperaceae and Juncaceae families. Lab. Prereq.: 343 or 345. 4 Cr. SUM ALT.

408-508. Cell Metabolism. Metabolic processes of cells. Lab. Prereq.: 303, CHEM 213 or 216. 4 Cr. S ALT.

409-509. Biological Techniques. Collection, preparation, and display of biological materials. Lab. 2 Cr. S ALT.

411-511. Human Heredity. Fundamentals of inheritance; genetic disorders; medical, social and legal aspects; genetic counseling. Not applicable to biology major/minor program. 4 Cr. S.

412-512. Biology of Aging. Study and discussion of changes in the physiology of biological processes at the organism, organ, cell and subcellular levels. Part of core requirement in gerontology minor. 4 Cr. Undgr., 3 Cr. Gr. S.

413-513. Electron Microscope Techniques. Specimen preparation, mechanics and operation of the transmission and scanning electron microscopes. Lab. Prereq.: 303. 4 Cr. F, W, S.

414-514. Applied Instrumentation in the Biological Sciences. The application of instrumentation in monitoring, quantifying and isolating biological entities. Lab. Prereq.: 303. 4 Cr. W.

415-515. Aquarium Science. Setting up and maintaining aquaria; testing and trouble shooting; nutrition and feeding; infections and infestations. 1 Cr. DEMAND.

419-519. Wildlife Parasitology. Host-parasite interactions, techniques for the collection, identification, and preservation of specimens. Lab. Prereq.: 201, 203, 439. 4 Cr. DEMAND.

420-520. Seminar. Lectures, readings, and discussion on selected topics. May be repeated once. 1 Cr. F, W, S, SUM.

421-521. Practicum: (Topical). Supervised experience in selected areas such as laboratory management, greenhouse management, animal room management, aquarium management, museum/herbarium curator. May be repeated up to 4 credits. Departmental approval required for enrollment. 1-4 Cr. F, W, S, SUM.

422-522. Ichthyology. The systematics, anatomy, physiology, and natural history of fishes, with special emphasis on local freshwater forms. Lab. Prereq.: 203. 4 Cr. S.

423-523. Environmental Science for Teachers. Classroom and field techniques useful in the analysis and interpretation of the interrelations of biotic and abiotic environmental factors. Prereq.: 326 or consent of instructor. 3 Cr. F.

424-524. Common Plants of Minnesota. Introduction to the common plants of Minnesota, their recognition and habitats. Not applicable to biology B.A. major/minor programs. Field trips. 4 Cr. F.

425-525. Common Animals of Minnesota. Recognition, habits, and economic importance of selected Minnesota animals. Not applicable to biology B.A. major/minor programs. Lab. 4 Cr. S, ALT.

426-526. Herpetology. The systematics, anatomy, physiology, and natural history of reptiles and amphibians. Lab. Prereq.: 203. 4 Cr. DEMAND.

429-529. Marine Biology. The ocean and marine organisms; their relation to humans. Prereq.: 301. 3 Cr. W ALT.

432-532. Molecular Genetics. Biochemical approach to inheritance and development. Lab. Prereq.: 332, 344. 4 Cr. W.

433-533. Aquatic Plants. Taxonomy and ecology of aquatic plants, including vascular plants, mosses and selected algae and fungi. Lab. Prereq.: 301, 345. 4 Cr. SUM ALT.

434-534. Freshwater Algae. Morphology, taxonomy, and ecology of algae of lakes, ponds, streams, bogs, and soils. Lab. Prereq.: 202. 4 Cr. F.

435-535. Comparative Animal Physiology. Comparative study of functional mechanisms in the various phyla. Prereq.: 203, 303, CHEM 215. 3 Cr. S ALT.

436-536. Plant Physiology. Principles of metabolic processes of higher plants. Lab. Prereq.: 202, 303, CHEM 215. 4 Cr. W.

437-537. Plant Morphology. Survey of plant kingdom with emphasis on structure and form of primitive plants. Lab. Prereq.: 202. 4 Cr. W ALT.

438-538. Freshwater Invertebrates. Collection, preservation and classification of local species. Lab. Prereq.: 341. 4 Cr. S ALT, SUM ALT.

439-539. General Parasitology. Animal parasites and their relation to diseases of humans and other animals. Lab. Prereq.: 201, 203, or 464. 4 Cr. S.

440-540. Mycology. Structure, development, and identification of fungi with emphasis on species of economic importance. Lab. Prereq.: 202. 4 Cr. F ALT.

441-541. Plant Ecology. Relations between plants and their environment; field studies of plant communities and succession. Lab. Prereq.: 301, one course or concurrent registration in 343 or 345. 4 Cr. F ALT, SUM ALT.

442-542. Embryology. Prenatal development of human body; laboratory emphasis on chick and pig. Lab. Prereq.: 203. 4 Cr. W.

443-543. Animal Behavior. Behavior of animals as interpreted through comparative studies and experimentation. Lab. Prereq.: 203 or consent of instructor. 4 Cr. W.

445-545. Medical Bacteriology I. Morphology, classification, techniques of culture and rapid identification of pathogenic bacteria. Lab. Prereq.: 344. 4 Cr. S.

446-546. Immunology. Systems of infection and immunity with antigen-antibody relationships; and their effect on humans with respect to protection and injury. Hypersensitivity; natural and acquired immunity. Prereq.: major or pre-professional. 3 Cr. F, W.

447-547. Laboratory Methods in Immunology. Preparation of antibodies, immune reactions, protein estimation, electrophoresis, fluorescent antibody and column chromatography. Lab. Prereq.: 446 or concurrent enrollment. 2 Cr. W.

448-548. Limnology. Lakes and streams, their physical environment, plant and animal life and dynamic interrelations. Lab. Prereq.: 301, CHEM 216. 4 Cr. F.

451-551. Animal Ecology. Distribution, life histories habitat requirements, and environmental interrelations of vertebrates and invertebrates. Lab. Prereq.: 301 and one of the following: 339, 341, 347, 422, 426. 4 Cr. S ALT.

452-552. Water and Sewage Microbiology. Indicators of pollution, determination of numbers and kinds of microorganisms, standards of pollution, purification of water, microbiology of sewage disposal. Lab. Prereq.: 344, CHEM 251. 4 Cr. F.

453-553. Invertebrate Zoology. Classification phylogeny, anatomy, physiology, and natural history of invertebrates. Lab. Prereq.: 203. 4 Cr. W ALT.

454-554. Wildlife Management. General principles of wildlife management with detailed studies of selected species. Lab. Prereq.: 301. 4 Cr. F.

- 455-555. Physiology of Bacteria.** Comparative study of the metabolism of growth and reproduction of microbes. Lab. Prereq.: 303, 344, CHEM 251. 4 Cr. S.
- 456-556. Methods for Teaching Junior High School Science.** Modern approaches to teaching science in junior high school. Not open to B.A. majors. Lab. 2 Cr. F, W, S.
- 457-557. Methods and Materials for Teaching Biology.** Modern approaches to teaching high school biology in classroom and laboratory, including materials of Biological Sciences Curriculum Study. Lab. Not open to B.A. majors. 2 Cr. F, W.
- 458-558. Plant Anatomy.** The structure organization and development of the plant body of higher plants. Lab. Prereq.: 202. 4 Cr. W ALT.
- 459-559. Biological Evolution.** History, evidence, and processes of evolution. Prereq.: 332. 3 Cr. W ALT.
- 460-560. Evolution and Sociobiology.** Theories and processes of biological evolution; origins of life; role of evolution in animal behavior; concepts of species and biological race. Not open to biology majors or minors. 4 Cr. DEMAND.
- 461-561. Economic Entomology.** Life histories and control measures for economically important insects. Lab. Prereq.: 341. 2 Cr. DEMAND.
- 462-562. Medical Entomology.** Study of arthropods of medical and veterinary importance with emphasis on vector biology and disease ecology. Lab. Prereq.: 439 or consent of instructor. 2-4 Cr. S ALT.
- 463-563. Endocrinology.** A study of the morphology and physiology of the endocrine glands in physiological communication and regulation. Lab. Prereq.: 464, 465. 4 Cr. S.
- 464-564. Human Anatomy and Physiology I.** Structure and metabolic activity of organ systems including muscular, skeletal, nervous and integumentary. Lab. Prereq.: 303. 4 Cr. F, W, SUM.
- 465-565. Human Anatomy and Physiology II.** Structure and metabolic activity of organ systems including circulatory, respiratory, digestive, urinary, endocrine and reproductive. Lab. Prereq.: 464. 4 Cr. W, S, SUM.
- 466-566. Immunohematology.** The immunology of blood groups and its application to blood transfusions, hemolytic disease of the newborn, and detailed blood group typings. Lab. Prereq.: 446. 3 Cr. W.
- 467-567. Hematology I.** Blood cell formation and function; tests and procedures pertinent to clinical hematology. Prereq.: 309. 2 Cr. W.
- 468-568. Limnological Methods.** Theory and practice in limnological sampling and analysis, emphasis on plankton, physical and chemical parameters. Lab. Prereq.: 448. 4 Cr. DEMAND.
- 469-569. Soil Microbiology.** The role of microorganisms in the soil, their identification, culture, and environmental significance. Lab. Prereq.: 303, 344. 4 Cr. W.
- 470-570. Fisheries Biology.** Natural history ecology, recreational and commercial aspects, and special methods. Lab. Prereq.: 301, 422. 4 Cr. F.
- 471-571. Medical Bacteriology II.** Taxonomy, morphology, cultural and biochemical activities, and pathogenesis of bacteria; basic mycology and virology; emphasis on humans as required for medical technology. Prereq.: 445. 3 Cr. F.
- 472-572. Plant Growth and Development.** Selected topics in plant physiology with emphasis on the hormonal control of plant growth and development. Lab. Prereq.: 436. 4 Cr. S ALT.
- 473-573. Diatoms.** The morphology, identification, culture, and scanning electron microscopy of diatoms with U.S. and foreign ecological and taxonomical literature evaluation. Lab. Prereq.: 434. 4 Cr. W ALT.
- 474-574. Fall Ornithology.** Migration patterns, fall plumage, feeding behavior, population studies. Lab. Prereq.: 347. By permission only. 4 Cr. F ALT.
- 475-575. Environmental Biology.** Readings and discussions relating to environmental problems as they concern humans and other organisms. Designed for students with little or no background in biology. Biology majors and minors by permission only. 4 Cr. F, SUM ALT.
- 477-577. Biology Institute.** Selected topics in biology for experienced teachers of science. Lab. 3-6 Cr. DEMAND.
- 480-580. Economic Botany.** Biology of plants and plant products which are useful to humans. Prereq.: 202, 332. 3 Cr. S ALT.
- 481-581. Fall Flora.** Field characteristics and collection of vascular plants; emphasis on fruits and seeds. Intensive study of selected families and genera. Three all-day Saturday field trips. Lab. Prereq.: 343 or 345. 4 Cr. F ALT.
- 484-584. Virology.** Structure, life cycles, classification, virus-host relationships, lysogeny transformation, tumor induction. Prereq.: 303, 344. 3 Cr. F.

485-585. Laboratory Methods in Virology. Techniques of virus isolation, production, purification, enumeration and experimentation. Lab. Prereq.: 484 or concurrent enrollment. 2 Cr. F.

486-586. Pathophysiology. Various abnormalities of human physiology; covering such abnormalities as seen in immunology, bacterial and viral invasion and disorders of various systems. Prereq.: 344, 465. 4 Cr. F ALT.

487-587. Hematology II. Hematologic diseases, pathological findings and their interpretations, and introduction to coagulation chemistry. Prereq.: 467. 2 Cr. F.

489-589. Paleobiology. Field and laboratory study of living and fossil species and geological aspects of the environment. Lab. Prereq.: 202, 203, ESCI 284, or consent of instructor. 4 Cr. S ALT.

498-598. The Nature of Biological Science. Assumptions, methods and limitations of science. Historical roots of biology and the development of major concepts. Communication in biology and society. 3 Cr. F ALT.

Business Education and Office Administration (BEOA)

204 BUSINESS BUILDING/255-3248

Also see College of Business description and requirements.

Chairperson L. Marilyn Stinson. **Faculty** Hall, Lane, Little, Madsen, Olson, Reha, Stinson.

The Department of Business Education and Office Administration offers four-year business teacher education programs leading to the Bachelor of Science and the Master of Science degrees; four-year programs in Office Administration leading to the Bachelor of Science degree; and a two-year business program leading to the Associate of Science degree.

The functions of the Department of Business Education and Office Administration are to prepare business teachers for the junior high, senior high, or the post-secondary levels; to prepare business teachers in vocational education; to prepare business students for entry into the office administration field; and to provide students with the competencies needed to work successfully in an office.

Students who intend to major or minor in Business Education and Office Administration should consult with the chairperson of the department during their first year on campus.

ASSOCIATE IN SCIENCE (96 Cr.)

An Associate in Science degree in secretarial science includes general education requirements (32 Cr.) plus one of two options:

Option A (Secretarial): BEOA 102, 103, 108, 167, 201, 202, 203, 207, 208, 306, 307, 309, 310, 413; ACCT 291, 292.

Option B (Clerical): BEOA 102, 103, 108, 167, 207, 208, 306, 307, 309, 310, 413; ACCT 291, 292.

Electives chosen with consent of adviser. Possible electives: BEOA 216, 305, 411, 412, 414, 417, 419.

The two-year Associate in Science degree may be applied to the requirements for the first two years of college work toward a four-year degree.

BACHELOR OF SCIENCE (192 Cr.)

Students completing an Office Administration major will be prepared to assume a responsible position as an office administrator, office manager, records manager, word processing supervisor, executive assistant, or a similar occupational capacity.

Students working towards a B.S. in office administration will complete 68 credits of general education subjects, 60 credits of the College of Business core requirements, and major requirements as indicated:

OFFICE ADMINISTRATION MAJOR (52)

Core (20) plus one of the following emphases (32):

Required core: BEOA 310, 412, 413, 417; MGMF 362.

Emphasis One: Office Management (32)

Select from: BEOA 102 (or equivalent), 203 (or equivalent), 207, 216, 306, 307, 411, 414, 419, 444, 498; MGMF 465; QMIS 141, 351, 450.

Emphasis Two: Records Management (32)

Select from: BEOA 102, 103, 108, 207, 307, 411, 414, 419, 444, 498; MKGB 336; QMIS 141, 351, 452; MGMF 370, 460, 462; ECON 460.

Emphasis Three: Executive Secretarial (32)

Select from: BEOA 103, 108, 202, 203, 204, 304, 305, 307, 411, 414, 419, 444, 498; MGMF 362; MKGB 336, 437; PSY 222; PE 248, 348, 349; Science (4 credits).

BACHELOR OF SCIENCE DEGREE— BUSINESS TEACHER/EDUCATION MAJORS

This area of emphasis is intended to prepare students who wish to teach business, office, or distributive education subjects in secondary or post-secondary schools.

A major in business education leads to the initial two-year license to teach in Minnesota.

In addition to the courses listed for the various teaching majors, a number of psychology, education, human relations, and health courses are required for all students seeking certification to teach. See the requirements in Secondary Education and Student Teaching. See also the requirements for the College of Business core, admission requirements of the College of Education, and application for student teaching.

OPTIONS

Accounting/Data Processing Teacher Education. (32)

Must include BEOA 207, 311; ACCT 381, 382, 385. Choice of BEOA 103 and 312, or BEOA 216 and 314. (Internship may be required to meet vocational certification requirements.) Electives must be chosen with consent of adviser from above or related fields.

Basic Business Teacher Education. (32)

Consumer Education, Economics, Business Law.

Must include BEOA 216, 314; MKGB 336. Choice of ECON 460 or 471. Choice of BEOA 103 and 312, or four additional credits in accounting and 311. Electives must be chosen with consent of adviser from above or related fields.

Marketing Management Teacher Education. (29-30)

Distributive Education. Must include BEOA 315, 405, 406, 408, 409; MKGB 322, 323, 420. Choice of: BEOA 407 or MKGB 425. (Internship may be required to meet vocational certification requirements.) Electives must be chosen with consent of adviser from above or related fields.

Secretarial Teacher Education. (32)

Typewriting, Shorthand, Office Procedures, Word Processing, Related Subjects.

Must include BEOA 103, 108, 202, 203, 204, (or equivalent), 207, 306, 307, 310, 312, 313. (Internship may be required to meet vocational certification requirements.)

Electives from above or related fields must be chosen with consent of adviser.

Minor: Business Teacher Education

(Choose one of the following programs)

Accounting/Data Processing (36)

BEOA 167, 207, 311; ACCT 291, 292, 293; QMIS 250; MGMF 361.

Business electives: 9 credits (must include 4 credits in accounting). (Internship may be required to meet vocational certification requirements.)

Basic Business (36)

BEOA 167, 208, 216, 314; ECON 273, 274; MKGB 320; MGMF 361.

Business electives: 10 credits in business or economics.

Marketing Management—Distributive Education (36)

BEOA 315, 405, 406, 408; MKGB 322, 323, 420, 425.

Business electives: 9 credits. (Internship may be required to meet vocational certification requirements.)

Secretarial (36)

BEOA 103, 108, 203, 207, 208, 307, 310, 312, 313.

Business electives selected from BEOA 102, 202, 311, 314. (Internship may be required to meet vocational certification requirements.)

COURSE DESCRIPTIONS

101. Typewriting. Basic typing, simple letter writing, tabulation. May not be taken for credit if student has had high school typewriting or equivalent. Lab. 3 Cr. F, W, S, SUM.

102. Typewriting II. Continuation of 101; letter forms and styles, speed development. Individualized instruction on spirit and stencil duplication. Lab. 4 Cr. F, W.

103. Typewriting III. Continuation of 102; letters, stencils, drafts, legal documents, speed and production development. Skill instruction and experience on the IBM Executive Typewriter and the voice transcribing-dictating machines. Lab. 4 Cr. F, W, S.

108. Filing Proficiency. Demonstrate ability to file business letters by alphabetical, numerical, geographic, and subject methods; individualized instruction. 1 Cr. F, W.

167. Introduction to Business. Provides framework within which to develop an appreciation and understanding of the nature of business and the relationships of the functions of business to the environment of the American economy. (Not available to pre-business students or business major students except business education and office administration majors as indicated.) 4 Cr. F, W, S, SUM.

201. Shorthand. Principles; reading and writing basic characters. Prereq.: 102. 4 Cr. F.

202. Shorthand. Continuation of BEOA 201; completion of basic principles; fluency in reading and dictation. Prereq.: 103. 4 Cr. F, W.

203. Shorthand. Continuation of BEOA 202; dictation and transcription speed and accuracy. Prereq.: 103. 4 Cr. W, S.

204. Shorthand. Development of vocational competency. 4 Cr. S.

207. Machine Calculation. Ten-key adding-listing machines, ten-key printing calculators, electronic display and printing calculators, IBM 029 printing keypunch machine. Lab. 4 Cr. W, S.

208. Survey of Business Law. Contracts, sales, property, torts and other consumer-related topics. Not available to students who have had MKGB 235. 4 Cr. F, W.

216. Consumer Education. General education open to all students, problems of personal buying, consumption, credit, financing, investing, insuring, home-owning, household records. 4 Cr. F, W, S.

Only students admitted to a university major program and who have completed 96 quarter credits (junior standing) may enroll in 300 and 400 level courses.

304. Medical Shorthand. Medical terminology, case histories, abstracts, scientific articles, medical forms and office procedure. Prereq.: 202 (or equivalent). 4 Cr. S ALT.

305. Legal Shorthand. Legal terminology, office procedures, legal forms. Prereq.: 202 (or equivalent). 4 Cr. S ALT.

306. Office Practicum. A study of the reprographics processes of duplication, copying, and word processing. Emphasis will be on skill review and development as well as systems organization within the firm. Word and data processing communication will be the culminating activity. Prereq.: typewriting competency. 4 Cr. DEMAND.

307. Administrative Office Procedure. Office style techniques and practices; duties and responsibilities of office workers and administrators. 4 Cr. S.

309. Business Communications. Business report writing, letters and memos; analysis and interpretation of business communications; critical thinking and logical organization of thought. 4 Cr. F, W, S, SUM.

310. Records Management. The application of systematic analysis and scientific control of business records from their creation through processing, maintenance, protection, and final disposition presented from the manager's point of view. 4 Cr. W.

311. Methods in Teaching Accounting and Data Processing. Subject matter, materials, methods, evaluation procedures. Required before student teaching. Prereq.: ACCT 291, 292 and MKGB 250. 2 Cr. S.

- 312. Methods in Teaching Typewriting and Related Subjects.** Subject matter materials, methods, evaluation procedures. Required before student teaching. Prereq.: 103. 2 Cr. S.
- 313. Methods in Teaching Shorthand and Transcription.** Subject matter, materials, methods, evaluation procedures. Required before student teaching. Prereq.: 103 and 203. 2 Cr. S.
- 314. Methods in Teaching Basic Business Subjects.** Subject matter, materials, methods, evaluation procedures. Required before student teaching. Prereq.: consent of department. 2 Cr. S.
- 315. Methods in Teaching Distributive Education.** Subject matter, materials, methods, evaluation procedures. Required before student teaching. Prereq.: MKGB 322, 323. 2 Cr. S.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

- 405-505. Philosophy of Vocational Education.** History, purpose, organization, philosophy of vocational education. 3 Cr. F, W, S, SUM.
- 406-506. Methods for Vocational Education.** Instructional methods, materials. 3 Cr. W.
- 407-507. Adult Education Programs.** Planning, administering, supervising, evaluating adult programs. Selecting, training adult education instructors. 3 Cr. SUM.
- 408-508. Coordination Techniques.** Guidance, selection, placing students in training stations; job adjustments; developing training programs. 3 Cr. S, SUM.
- 409-509. Organization and Administration of Vocational Programs.** Principles, practices; local, state, federal regulations; reporting and evaluation; club programs; curriculum; affiliations. 3 Cr. F.
- 411-511. Advanced Topics in Records Management.** Problems in creation, use, maintenance, storage, and disposition of records. Emphasis on records management as an administrative service which includes the management of forms, reports, correspondence and microfilming. Prereq.: BEOA 310 or consent of instructor. 4 Cr. S.
- 412-512. Office Environmental Relationships.** Work and social relationships in the office; communications; needs and interpersonal attitudes; employer-employee relationships; survey of research in office environments. 4 Cr. DEMAND.
- 413-513. Office Management.** Problems in planning and directing functions of business or professional offices; executive duties and responsibilities of office manager and private secretary; supervision of employees. 4 Cr. F.
- 414-514. Office Management II.** Advanced analysis and problem-solving techniques related to administrative support functions. Prereq.: BEOA 413-513. 4 Cr. S.
- 417-517. Advanced Topics in Business Communication.** Development of managerial communication skills; business report writing; strategies of business communications at organizational levels. Prereq.: 309 or consent of department chairperson. 4 Cr. DEMAND.
- 419-519. Personal Finance.** A study of banking and credit, budgeting, casualty and life insurance, investments and annuities. Federal income tax regulations, estate planning and wills from a personal or consumers point of view. 3 Cr. F.

Chemistry (CHEM)

358 MATHEMATICS AND SCIENCE CENTER/255-3031

Also see College of Liberal Arts and Sciences description and requirements.

Chairperson John H. Carpenter. **Faculty** Arndts, Carpenter, Dendinger, J. M. Erickson, James, Kennedy, Magnus, McMullen, Nickles, Sorensen, Weiskopf.

Courses in chemistry are offered as part of the education of every college student and as preparation for (1) careers in chemical industries or in governmental laboratories, (2) teaching in secondary schools, (3) professional careers in medicine, dentistry, pharmacy, medical technology, nursing, and allied professions, (4) graduate study in chemistry and its related fields. Students planning to major in chemistry are urged to consult with the chemistry staff at the earliest possible time.

In addition to the requirements for majors and minors given below, students who have not had advanced algebra and trigonometry in high school are required to complete MATH 130 and 134. For those students taking the B.S. 28-credit minor, only high school advanced algebra or MATH 130 is required.

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Requirements for American Chemical Society Certification: The Chemistry Department provides a program approved by the American Chemical Society (ACS). Those students who wish to be certified as having completed the minimum requirements for the ACS approved program must complete all required courses for the B.A. 87-credit major, and a German scientific reading course at the 200 level. A minimum of 9 credits of approved 400-level CHEM elective courses is required. Elective courses shall be chosen to fulfill the basic requirement of 400 hours of lecture and 500 hours of laboratory instruction in chemistry. For further details students should consult with the chemistry staff.

BACHELOR OF ARTS

This program is designed for those interested in chemical industries, chemical professions, or graduate study in chemistry and its related fields.

Major (87)

CHEM 213*, or 215 & 216; 217, 291, 292, 293, 325, 425, 426, 427, 428, 429, 434, 440, 490; MATH 241, 242, 243; PHYS 234, 235, 236 (or PHYS 211, 212, 213, 238).

Select 9 Cr. from 300-400 level CHEM courses.

Recommended, but not required: 12 Cr. in foreign language.

Minor (60)

CHEM 213*, or 215 & 216; 217, 251, 252, 325, 425, 426, 427; MATH 241, 242, 243; PHYS 211, 212, 213.

Select 2 Cr. from 300-400 level CHEM courses.

BACHELOR OF ELECTIVE STUDIES

Major (48)

Completion of 48 credits with the approval of the department.

Minor (36)

Completion of 36 credits with the approval of the department.

BACHELOR OF SCIENCE

This degree is primarily for those interested in teaching chemistry and related sciences in high school. The B.S. minors given below can be used for science teacher licensure in Minnesota; however, the B.S. majors cannot be used for licensure in Minnesota, but may be used in other states. Students who desire to obtain licensure to teach chemistry in Minnesota should take the physical science major found in the science section. Prospective science teachers are strongly urged to see a B.S. adviser during their first quarter.

Comprehensive Chemistry Major (84)

CHEM 213*, or 215 & 216; 217, 291, 292, 293, 325, 425, 426, 427, 428, 429, 434, 456, 458
CHEM Elective 300-400 level (2 Cr.)

BIOL 201; 202 or 203.

MATH 241, 242, 243.

PHYS 211, 212, 213.

Major (72)

To be taken with a 36-hour minor in some other field such as mathematics.

CHEM 213*, or 215 & 216; 217, 251, 252, 325, 425, 426, 427, 428, 429, 456, 458.

MATH 241, 242, 243.

PHYS 211, 212, 213.

Electives 300-400 level (6 Cr.)

*Students who qualify for advanced placement may substitute 213 for both 215 and 216 and may petition for a 3 credit reduction in chemistry requirements.

Minor (60)

CHEM 213*, or 215 & 216; 217, 251, 252, 325, 425, 426, 427, 428.

MATH 241, 242, 243.

PHYS 211, 212, 213.

Minor (28)

CHEM 213*, or 215 & 216; 217, 251, 252, 323 or 325.

CHEM Elective 300-400 level (3 Cr.)

COURSE DESCRIPTIONS

For courses with a laboratory, the number of lecture hours and laboratory hours per week are given in parentheses following the course title.

102. Concepts in Chemistry. The course acquaints students with the basic concepts of chemistry and helps them to understand and cope with the problems of our society and environment. The specific topic and emphasis for each section is selected by the instructor. (See class schedule for listing of topics.) 4 Cr. F, W, S, SUM.

201, 202, 203. Chemistry of Life Processes I, II, & III. (3, 2) General organic and biological chemistry sequence. Appropriate for pre-nursing, mortuary science, and some pre-home economics, pre-forestry and other disciplines requiring no more than a year of chemistry. Lab. 4 Cr. per quarter. 201, F, W, S; 202, W, S; 203 S.

208. Forensic Science. (2, 4) Basic theory and methods for scientific investigation of physical evidence found at the scene of a crime. Emphasis on laboratory analysis currently in use. Lab. 4 Cr. F, W.

213. General Chemistry II-A. (4, 2) Includes the same topics as 215 & 216 with emphasis on advanced topics. Open to students who have passed the departmental advanced placement examination or by departmental approval. Lab. 5 Cr. F.

215, 216, 217. General Chemistry I, II and III. (3, 2 or 4) Atomic theory, chemical formulas and equations, stoichiometry, chemical bonding, molecular structure, gases, liquids, solids, solutions, elementary thermodynamics, kinetics, equilibria, acids, bases, salts, electrochemistry, nuclear reactions, coordination compounds, and qualitative analysis. Lab. Prereq.: high school advanced algebra or MATH 130; high school chemistry or CHEM 201 or 102 strongly recommended. 215, 216, 4 Cr. per quarter, F, W, S, SUM; 217, 5 Cr. F, W, S.

251, 252. Bio-Organic Chemistry I and II. (3, 3) Structure, chemical and physical properties, nomenclature, synthesis and applications of the chief classes of carbon compounds. For biological science majors and chemistry minors. Lab. Prereq.: 213 or 216. 4 Cr. per quarter. 251 F, W, SUM; 252 W, S, SUM.

291, 292, 293. Organic Chemistry I, II and III. (3, 4) Structures, nomenclature, preparations, and reactions of monofunctional carbon compounds. A modern full-year introductory course with a mechanistic emphasis based on energetics, especially for chemistry majors and pre-pharmacy students. Lab. Prereq.: 213 or 216. 4 Cr. per quarter. 291 F; 292 W; 293 S.

316. Advanced Forensic Science Laboratory. (2, 4) Analysis of physical evidence through the use of laboratory instrumentation. Sample collection and preparation methods and techniques. Prereq.: 208. 4 Cr. S.

322. Environmental Chemistry. (3, 2) Properties, sources, interactions, analysis and abatement methods for deleterious chemical species in the environment Lab. Prereq.: 213 or 216. 4 Cr. S ALT.

323. Analytical Chemistry of the Body Fluids. (2, 4) Quantitative clinical analysis. Emphasis on theory and application of modern instrumentation and related manual procedures currently in use in hospital labs. Prereq.: 217. 4 Cr. F, S.

325. Quantitative Analysis. (2, 6) The theory and techniques of volumetric and gravimetric analysis; an introduction to selected instrumental methods. Lab. Prereq.: 217. 4 Cr. F, S.

327. Physical Sciences for Elementary Teachers. Concepts in the physical sciences appropriate for the elementary school. Integrated Lab. 3 Cr. F, W, S, SUM.

333. Chemistry Instrument Check Methods. (2, 4) Systematic methods for isolation, identification and correction of chemistry laboratory instrument malfunctions. Lab. Prereq.: 323 or instructor approval; PHYS 211. 4 Cr. W.

353. Introductory Biochemistry. (3, 3) The structure, properties, and functions of biologically important compounds as they relate to the metabolic activities of living tissue. Lab. Prereq.: 252 or 292. 4 Cr. S.

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430. Industrial Chemistry. The chemical industry, technical reports and patents, chemical processing equipment design and construction, some unit operations, and industrial processes. Prereq.: 293, 425. 3 Cr. W ALT.

443. Advanced Chemical Analysis of Body Fluids. (2, 4) Theory and application of advanced instrumental techniques for analysis of body fluids in a clinical laboratory. Lab. Prereq.: 333. 4 Cr. S.

451. Biochemical Theory of Body Fluid Analysis. Theoretical aspects of the chemistry of the living cell as related to specific analysis in clinical laboratory procedures. Designed for medical technologists. Prereq.: 353. 2 Cr. S.

489. Undergraduate Research in Chemistry. (0, 3 per Cr.) A laboratory investigation of a research problem in chemistry. Prereq.: junior or senior standing and consent of instructor. May be repeated. Max. of 4 Cr. 1-4 Cr. DEMAND.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

412-512. Radiochemistry. Concepts of nuclear stability and structure; decay systematics and energetics; interactions of radiation with matter; applications to chemical problems. Basic calculus desirable. Prereq.: 213 or 216. 2 Cr. F, SUM.

413-513. Radiochemistry Laboratory. (0, 4) Detection, characterization, and measurement of radiation; chemical operations and the applications of radioisotopes to chemical and biochemical problems. Prereq.: 412 or concurrent registration. 2 Cr. F, SUM.

425-525, 426-526, 427-527. Physical Chemistry. Application of fundamental laws and theoretical principles to atomic and molecular structure gases, liquids, solids, solutions, phase equilibrium, chemical reactions (equilibrium and kinetics) and electrochemical processes; to understand the macroscopic in terms of molecular behavior. Prereq.: 325; PHYS 212, 213; MATH 243. 3 Cr. per quarter. 425-525 F; 426-526 W; 427-527 S.

428-528, 429-529. Physical Chemistry Laboratory. (0, 4) These are laboratory courses to complement the physical chemistry lecture sequence. A quantitative measurement of properties and phenomena of chemical interest and their interpretation by use of chemical principles. Prereq.: 425, 426 or concurrent registration. 2 Cr. per quarter. 428-528 W; 429-529 S.

434-534. Advanced Inorganic Chemistry I. (3, 2) Development of the concepts of inorganic chemistry; electronic structures of atoms; crystal structure; chemical bonding including molecular orbital theory; coordination compounds. Lab. Prereq. or concurrent registration; 425 or consent of instructor. 4 Cr. F.

435-535. Advanced Inorganic Chemistry II. Application of the concepts of inorganic chemistry as applied to chemical elements and compounds. Further work in coordination chemistry including the ligand field theory. Prereq.: 434. 4 Cr. W.

440-540. Instrumental Analysis. (2, 6) Major instrumental methods of chemical analysis including spectroscopic, electrometric, and chromatographic methods. Prereq.: 425, 426 or concurrent registration. 4 Cr. W.

450-550. Qualitative Organic Analysis. (1, 12) Identification of several single and mixed organic compounds by physical and organic qualitative methods. Lab. Prereq.: 293, 440. 4 Cr. S.

453-553. Biochemistry. (3, 4) Dynamic aspects of the intermediary metabolism of carbohydrates, lipids, proteins, and nucleic acids; energy production and utilization of living systems. Lab. Prereq.: 293, 427, or consent of instructor. 4 Cr. F ALT.

456-556. Methods and Materials for Teaching Sciences. Modern approaches to teaching sciences in junior and senior high school. Integrated Lab. 2 Cr. F, W, S.

458-558. Methods and Materials for Teaching Chemistry. Modern approaches to teaching high school chemistry in classroom and laboratory. Integrated Lab. 2 Cr. W.

460-469, 560-569. Selected Topics in Chemistry. Non-sequence courses designed for intensive study of a special topic. Topic will be announced in class schedule. Departmental approval required for enrollment. 1-4 Cr. DEMAND.

472-572. Advanced Organic Chemistry. Topics such as condensations, rearrangements, conservation of orbital symmetry, polymers, benzenoid and non-benzenoid aromaticity. Prereq.: 293, 434 or consent of instructor. 4 Cr. S ALT.

481-581. Chemical Thermodynamics. Concepts of both classical and modern thermodynamics applied to problems encountered in chemistry. Prereq.: 426. 4 Cr. S ALT.

490-590. Seminar. Lectures, readings, discussion on selected topics. May be repeated. 1 Cr. per quarter to a max. of 4 Cr. F, W, S.

Computer Science (CSCI)

168 MATHEMATICS AND SCIENCE CENTER/255-3001

A program of the Department of Mathematics and Computer Science.

Also see College of Liberal Arts and Sciences description and requirements.

It is suggested that a student planning to major or minor in computer science have some programming experience such as that offered in a high school course, CSCI 169, or equivalent before enrolling in the required courses. The Mathematics and Computer Science department recommends that CSCI 270, 280 or CSCI 270, 301 be completed with at least a 3.0 average before a major application is submitted.

The student majoring in computer science will generally be required to complete a minor or to develop an area of concentration subject to adviser approval.

BACHELOR OF SCIENCE: COMPUTER SCIENCE

Major (48) (non-teaching)

CSCI 270, 280, 301, 380, 383, 390, 465;

MATH 254, 329; QMIS 250, 251, 351.

Minor (24) (teaching - noncertified)

CSCI 270, 280, 301, 380, 477, 478.

Minor (36) (teaching - noncertified)

CSCI 270, 280, 301, 380, 465, 477, 478;

MATH 254, 329.

BACHELOR OF ELECTIVE STUDIES: COMPUTER SCIENCE

Major (48)

Completion of 48 credits with the approval of the department.

Minor (36)

Completion of 36 credits with the approval of the department.

BACHELOR OF ARTS—COMPUTER SCIENCE

Minor (24)

CSCI 270, 280, 301, 380, and 480. Electives chosen from: CSCI 271, 371, 383, 412, 444, 465, 473, 478, 489; MATH 329, 334, 441, 463, 470; ENGL 433; QMIS 251, 451, 452, 456; TECH 284.

Minor (36)

CSCI 270, 280, 301, 380, and 480. One course from: QMIS 141, MATH 329, PSY 351, or SOC 279.

A minimum of 8 credits from the following group: CSCI 271, 371, 383, 412, 444, 465, 473, 478, 489; QMIS 451. Additional electives from: MATH 329, 334, 441, 463, 470, ENGL 433; QMIS 250, 251, 351, 452, 456; PHYS 332.

COURSE DESCRIPTIONS

169. Computers in Society. Introduction to timesharing, programming in the ITS language BASIC, flowcharts, history and development of computers. 4 Cr. F, W, S, SUM. Not open to CSCI 268 students.

268. BASIC Programming. Introduction to BASIC, branching and looping, subscripted variables, functions and subroutines, formulating, matrix operations, data files. Prereq.: MATH 131 or equivalent. 4 Cr. W.

270. Fundamentals of Programming. Design and representation of algorithms in high level programming languages (PASCAL, FORTRAN, etc.). Batch and timesharing. Prereq.: MATH 131 or equivalent and programming experience. 4 Cr. F, W, S, SUM.

74 / Computer Science (CSCI)

271. Computer Programming-Compiler Language. Algorithms, flowcharting, fundamental programming techniques and program structure, computer solution of problems using FORTRAN language. 2 Cr. F, W, S.

280. Assembly Language Programming. Programming in assembly language, subroutine linkage conventions, macros, study of data structures appropriate to assembly language. Prereq.: 270. 4 Cr. F, W, S.

301. High Level Languages and Data Structures. Survey of several high level languages and their compilers and inherent data structures. Formal description of high level languages. Prereq.: 280. 4 Cr. W, S.

371. Advanced FORTRAN. Multi-dimensional arrays, logical operators, function subprograms, subroutine programs, auxiliary storage operations. Lab. Prereq.: 271 or equivalent. 2 Cr. F, W, S.

380. Systems Programming. Multiprogramming Goals. Theory and practical experience with resource allocation and memory management. System structure, utilization and operation. Prereq.: 301. 4 Cr. W, S.

383. Mini/Micro Computers I. Hardware organization including a general discussion of computer architecture, control concepts, characteristics of minicomputer I/O devices, projects for current applications. Prereq.: 380. 4 Cr. F.

385. Topics in Mini/Micro Computers. Microprogramming, use of minis as simulators of microprocessors, cross-assemblers, data base management using minis, telecommunications and networks. Prereq.: 384. 4 Cr. S.

390. Introduction to File Processing. Algorithmic analysis and programming techniques used in File Processing. Prereq.: 380. 4 Cr. W, S.

395. Systems Programming. Multiprogramming goals. Theory and practical experience with resource allocation and memory management. System structure, utilization and operation. Prereq.: 280, 301. 4 Cr. W, S.

412. Computer Graphics. Graphical data processing, introduction to psychophysical photometry and display parameters, picture models and data structures, display software. Prereq.: 383. 4 Cr. DEMAND.

444. Internship. Supervised training opportunity provided by industry or educational institution. Maximum of 8 credits toward major. Prereq.: 383. 4-16 Cr. F, W, S, SUM.

467. Digital Logic Concepts. Design of combinatorial and sequential logic; emphasis placed on algorithms and general theory. Prereq.: 465. 4 Cr. W.

469. Introduction to the Theory of Computation. Finite state machines, algorithms, infinite machines, turing machines. Prereq.: 465. 4 Cr. W.

473. Analysis of Algorithms. Computing time functions, maximum, minimum, and average computing time of various algorithms. Prereq.: 469, MATH 329. 4 Cr. DEMAND.

480. Computer Seminar. Reading, research, and discussion of selected topics. Prereq.: consent of instructor. 2 Cr. S.

484. Mini/Micro Computers II. Microcomputer operating systems, survey of current systems, interface design and telecommunication, minis and process control, networks and distributed processing, major project. Prereq.: 383, 390, 467. 4 Cr. W.

485. Topics in Mini/Micro Computers. Microprogramming use of minis as simulators of microprocessors, cross-assemblers, data base management using minis, telecommunications and networks. Prereq.: 484. 4 Cr. S.

487. Mathematical Theory of Computer Languages. Formal grammars, structure of formal languages, algorithms for top-down, bottom-up, left-right, other parsing techniques. Prereq.: 390, 469. 4 Cr. DEMAND.

489. Compiler Construction. One-pass compilation techniques, storage allocation, procedure, and blocking, data types and transfer functions, languages designed for writing compilers. Prereq.: 487. 4 Cr. DEMAND.

490. Practicum in Computer Science. Supervised programming for various departments. Can be repeated for a maximum of 8 credits. Prereq.: approval of department. 2-4 Cr. DEMAND.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

465-565. Discrete Computational Structures. Basic forms and operations, binary trees, formal and natural languages, Boolean algebras. Prereq.: 301; MATH 254. 4 Undgr. Cr., 3 Gr. Cr. F, ALT SUM.

477-577. Computers in Society and the Classroom. Historical development of computing, use of BASIC language in timesharing, instructional timesharing in the school. Prereq.: consent of instructor. 4 Undgr. Cr., 3 Gr. Cr. DEMAND.

478-578. Artificial Intelligence and Heuristic Programming. Heuristic versus deterministic methods, game playing programs, theorem proving programs, decision making programs. Prereq.: consent of instructor. 4 Undgr. Cr., 3 Gr. Cr. DEMAND.

Criminal Justice Studies (CJS)

G3 LAWRENCE HALL/255-4101

Also see College of Liberal Arts and Sciences description and requirements.

Director Robert Prout. **Faculty** Becker, Chester, Kittel, Klaphake, Lorette, Prout, Schreiber, Terrill.

The baccalaureate degree program emphasizes the interrelatedness of law enforcement, court services, corrections, and juvenile justice within the criminal justice continuum. If students wish to specialize in a subfield of the continuum, they must first receive an exposure to the total system. After this balance, the students can then pursue their specialization through formal instruction, seminars, internships, and independent study. Criminal justice majors may also choose not to specialize but to continue an indepth study within the general field of criminal justice.

Additional credit hours beyond the General Education requirements, prerequisite courses, and the minimum 60 quarter hours necessary for a major in Criminal Justice Studies are needed to meet the 192 quarter hours of credit necessary for the Bachelor of Arts degree. This additional course work is recommended in both cognate and elective areas; the former includes chemistry, economics, political science, psychology (human services), social work, and statistics; and the latter includes education, English, foreign language, history, and philosophy.

A requirement for graduation with a major in Criminal Justice Studies at St. Cloud State University is researching, writing, and orally defending a senior thesis. This requirement is completed in CJS 488 Individual Research.

BACHELOR OF ARTS

Major (60)

Required: (48 Cr.)

CJS 101, 287, 311, 320, 340, 351, 488, 489; ECON 281;

PHIL 344; SOC 260*, 367;

POL 282*, 413.

Electives: (12 Cr.)

CJS 100, 201, 244, 325, 361, 400, 441, 451, 495, 188-388 (1-12 Cr.); 199-499 (1-16 Cr.), BIOL 221; CHEM 208, ENGL 269; GEOG 490; HLTH 405; HIST 350; DTS 391, 392; PHIL 122; POL 485, 491, 492; PSY 474, 475; SSCI 460; SOC 278, 279, 293, 364, 366; SPC 350, 420.

Minor (30)

Required: (24 Cr.)

CJS 101, 311, 351; ECON 281; PHIL 344; SOC 367.

Electives: (6 Cr.)

The 6 credit hours of elective courses must be chosen from those courses offered within the program major.

BACHELOR OF ELECTIVE STUDIES

Minor (36)

Completion of 36 credits with the approval of the department.

*SOC 260 is prerequisite for all SOC courses. POL 282 (not 211) is a prerequisite for all POL courses in the CJS Program. POL 211 is not a prerequisite for POL 282 for CJS students.

COURSE DESCRIPTIONS

100. History of Criminal Justice. An introduction to the historical development of the Anglo-American criminal justice system from its inception to the Omnibus Crime Control and Safe Streets Act of 1968. 4 Cr. DEMAND.

101. Survey of Criminal Justice. Overview concerning an understanding of the purpose of law enforcement, courts, penal institutions, probation, parole, and the role of the police officer in contemporary society. 4 Cr. F, W, S, SUM.

201. Women in the Criminal Justice System. An overview of women in the criminal justice system from three foci: (1) an analysis of female offenders and the female prison world, (2) an overview of female victims in such areas as rape, prostitution, and family members of the incarcerated husbands and fathers, (3) consideration of female professionals (e.g. attorneys, criminologists, matrons, policewomen, probation and parole officers, correctional counselors and judges). 4 Cr. DEMAND.

244. Internship. Permission required. 1-16 Cr. F, W, S, SUM.

287. Research in Criminal Justice. An introduction to the theoretical and practical considerations of research in criminal justice. Emphasis is placed on current theories of research design, analytical techniques, data collection and processing, and the development of a research proposal. 4 Cr. F, W, S, SUM.

311. Organization and Administration in Criminal Justice. An overview of the principles of organization and administration in criminal justice. Emphasis is placed on current theories of organization as they relate to the needs of the criminal justice process. Prereq.: 101 or permission. 4 Cr. F, W, S.

320. Critical Issues in Law Enforcement. An overview of the broad spectrum of critical issues facing contemporary law enforcement officials in a free society. Areas relating to ethnic tension, civil disobedience, police conduct, unionization, civil disturbances, and professionalism within law enforcement are discussed. Prereq.: 101 or permission. 4 Cr. F, W, S.

325. Comparative Criminal Justice. A comparative study of criminal justice systems in the world. The philosophical, historical, legal, and political roots of these systems will be examined. Although the course is international in scope, emphasis will be placed on Europe. 4 Cr. DEMAND.

340. Criminal Law. Principles of criminal liability, defenses to criminal prosecution, elements of major crimes. Prereq.: 101 or permission. 4 Cr. F, S.

341. Criminal Procedure. Development of the law of criminal procedure from arrest through post-trial proceedings. Prereq.: 101 or permission. 4 Cr. W.

351. The Correctional Community. Critical examination of historical development, theories and institutions of punishment and social control. Analysis of contemporary issues: (1) the social systems of prisoners and guards; (2) institutional administration and legal issues in management; policy and strategies of intervention; (3) decision-making in sentencing and parole; and (4) treatment and custodial philosophies and programs. Emphasis will be on a systematic evaluation of research literature. Prereq.: 101 or permission of the instructor. 4 Cr. F, W, S.

361. Juvenile Justice Processes. A tracing of the development of independent justice for youth; the current conflicts within the system; its weaknesses and strengths, as well as trends and direction of movement. Primary emphasis will be on Minnesota procedure. 4 Cr. DEMAND.

441. Probation and Parole. Examines probation and parole as organizations, sentencing dispositions, and as change-agent/client relationships through the use of historical and functional analysis. The student conducts simulated interviews, pre-sentence investigations and prepares recommendations to the court. Prereq.: 101 and 351. 4 Cr. DEMAND.

451. Theories and Methods of Offender Treatment. An examination of the principles and practices of correctional treatment procedures accorded offenders at the various types of detaining institutions. Prereq.: 101, 351, or permission. 4 Cr. DEMAND.

188, 288, 388, 488. Individual Research. Directed study in an approved area of the criminal justice continuum. Permission required. 1-4 Cr. per course. 16 Cr. max. F, W, S.

489. Seminar in Criminal Justice. Devoted to an exploration and analysis of special issues in the fields of corrections, law enforcement, and the general areas of the administration of justice: includes detailed examinations on vital issues and emerging trends which promise to affect the future. May be repeated for a maximum of twelve credits. 4 Cr. F, W, S.

Driver Education and Safety (DTS)

1 WHITNEY HOUSE/255-4251

Also see College of Industry description and requirements.

Director Howard Matthias. **Faculty** Dobey, Flicek, Hegman, Huddleston, Matthias, Palmer, Rowe, Schoppe, Schultz, Shaw.

The Center for Driver Education and Safety is a program designed to meet the needs of individuals and programs associated with traffic safety. Among the programs within the Center is the driver education program, elective studies, certification, the traffic safety minor, the advanced driving program for professional drivers and various projects associated with research.

BACHELOR OF ARTS AND BACHELOR OF SCIENCE

Driver and Traffic Safety Education Minor (30)

DTS 290, 390, 491; HLTH 305; Elect 15 credits from DTS 295, 391, 392, 393, 394, 395, 396, 397, 398, 445, 485, 486, 487, 492, 495.

CERTIFICATION

Driver Education (15): DTS 390, 490, 491; HLTH 305.

BACHELOR OF ELECTIVE STUDIES

Minor (36)

Completion of 36 credits with approval of department.

COURSE DESCRIPTIONS

095. Learn to Drive. A course for the adult beginning driver, includes classroom and laboratory experience. Credit does not count toward graduation. 1 Cr. W, S, 7 SUM.

290. Transportation Systems. A basic study of various transportation systems in the United States, their development, importance and future. An emphasis on highway transportation. 3 Cr. F, S.

295. Defensive Driving Theory and Practice. A course combining classroom defensive driving theory and practical driving experience. Advanced and emergency driving emphasized. 2 Cr. F, W, S, SUM.

390. Driver and Traffic Safety Education I. Basic analysis of the driving task. Theory of teaching techniques and the practical application to classroom teaching. Individual driver orientation will be provided. Classroom laboratory teaching experience included. 4 Cr. F, W, SUM.

391. Traffic Law, Enforcement, and Licensing. A study of the organization, administration and functioning of local, county and state political jurisdictions and their effect on traffic safety. 4 Cr. W.

392. Behavioral Influence on Accident Prevention. A study of behavior, attitude, motivation, personal interrelation and chance as related to accident causation and prevention. Relativity to traffic accidents will be emphasized. 3 Cr. S.

393. Alcohol and Drugs. The relationship of alcohol and other drugs to the driving task, emotions, behavior and society. 3 Cr. F.

394. Basic Automotive Systems and Maintenance. A basic course for the automobile owner and driver education teacher covering basic vehicle functioning, identification of vehicle components, maintenance and recommendations. 3 Cr. F, W, S, SUM.

395. Organization and Administration of Safety Education. The development, administration and supervision of a safety education program at all educational levels. 3 Cr. DEMAND.

396. School Transportation. An analytical study of the organization, administration, supervision and evaluation of school transportation. 3 Cr. DEMAND.

397. Driver Education Simulation Instruction. A classroom-laboratory course designed to provide a student with background philosophy, functioning and values of driving simulation. Practicum experience included. Students are encouraged to enroll in both 397 and 491. 2 Cr. W.

78 / Early Childhood and Family Studies (ECFS)

398. Driver Education Multiple-Vehicle Instruction. A practical course involving design, construction and effective instructional techniques on an off-street, multiple-vehicle driving range. Students are encouraged to enroll in both 398 and 491. 3 Cr. S.

445. Driver Education Internship. Practical experience working with traffic safety agencies, governmental departments, industry and/or commercial establishments. Arrangements must be made through traffic advisers. 1-8 Cr. F, W, S, SUM.

485. Highway and Traffic Engineering. The planning, design, construction, operation and control of the highway system of the United States. 4 Cr. W.

491. Driver and Traffic Safety Education II. A practical application of educational techniques to classroom and laboratory phases of driver education. An emphasis on administration, supervision and evaluation. Laboratory teaching experience included. Prereq.: 390. 4 Cr. W, S, SUM.

492. Motorcycles and Other Recreational Vehicles. A basic course for teacher preparation in the areas of motorcycles and recreational vehicles. Laboratory experience will be provided. 2 Cr. F, S.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

480-580. Fleet Safety Supervision. A course designed to assist supervision of transportation fleet personnel, budgets, scheduling, accident investigation and regulations. 4 Cr. W.

486-586. Advanced Traffic Safety Teaching Techniques. An analysis and practical application of advanced teaching methods in classroom and laboratory. 3 Cr. F, S.

487-587. Problems and Methods of Driver Education. The identification, analysis and appraisal of selected problems related to the administration and supervision of traffic safety problems. 3 Cr. W, S, SUM.

490-590. Organization and Administration of Driver Education. Rules and regulations pertaining to driver education will be investigated. Administrative aspects related to scheduling, record keeping, report writing, and budgeting will be emphasized. 3 Cr. F, W, S.

Early Childhood and Family Studies (ECFS)

B124 EDUCATION BUILDING/255-3232

Also see College of Education description and requirements.

Coordinator Jack Mayala.

A recommendation for licensure as a nursery school teacher can be made for students who complete the requirements for a bachelor's degree and who have completed the following coursework.

ECFS 421, Development of Young Children, 4 Cr.

ECFS 422, Parent and Family Studies, 4 Cr.

ECFS 423, Early Education, 9 Cr.

SSPA 468, Introduction to Children's Language, 4 Cr.

ED 351, Kindergarten Education, 4 Cr.

ED 460, Student Teaching in Early Childhood, 4 Cr.

Courses in human relations and the effects of narcotics and alcohol must be taken as required by the Minnesota State Department of Education/Board of Teaching.

There is no undergraduate major or minor program in ECFS at St. Cloud State University. Students should check with their major adviser to determine which of the above courses are applicable toward degree completion.

Any student who plans to take these courses for a nursery school teaching license should contact the coordinator, Early Childhood and Family Studies, Education Building, St. Cloud State University, St. Cloud, MN 56301.

COURSE DESCRIPTIONS

421-521. Development of Young Children. Development of young children (prenatal development through eight years). Theories of child development, impacts of early experience, developmental assessment and planning. Prereq.: permission of department. 1-9 Cr. DEMAND.

422-522. Parent and Family Studies. Model of parent and family education. Ways to involve parents, methods of parent education, family unit studies. Prereq.: permission of department. 1-9 Cr. DEMAND.

423-523. Early Education. Teaching techniques, curriculum selection and construction, and evaluation of instructional materials appropriate for early education programs. Prereq.: 421, 422. 1-9 Cr. DEMAND.

Earth Sciences (ESCI)

46 MATHEMATICS AND SCIENCE CENTER/255-2009

Also see College of Liberal Arts and Sciences description and requirements.

Chairperson Garry Anderson. **Faculty** A. C. Anderson, G. Anderson, C. L. Nelson, Shurr, Soroka, Watkins.

The earth sciences available in this program include the geologic, atmospheric and oceanographic sciences.

The Bachelor of Science is intended to satisfy the requirements for teacher licensure as set down by the State Department of Education. The Bachelor of Arts is designed for students who will terminate at the bachelor's level to seek employment and for students who will be continuing in graduate school.

Earth Science is basically an applied science and as such draws heavily upon the disciplines of mathematics, physics, chemistry, and biology. Consequently, prerequisites in these basic sciences are required and earth sciences students are encouraged to take minors in these fields.

BACHELOR OF ARTS

Major (84)

To complete the major, students must take a core of required courses (49 to 55 credits) and must pursue one of the tracks described below:

Core: ESCI 250, 284, 340, 465; CHEM 215 and 216 (or 213); MATH 241, 242, 243; PHYS 211, 212, 213 (or PHYS 234, 235, 236), 311.

General Earth Science Track: ESCI (16) electives with adviser approval. Electives (13-19) from BIOL, CHEM, ESCI, GEOG, MATH, PHYS with adviser approval.

Geology Track: ESCI (24) 285, 335, 336, 345, 420, 439; CHEM 217. Electives (5-11) from BIOL, CHEM, ESCI, GEOG, MATH, PHYS with adviser approval. A summer geologic field course is recommended.

Meteorology Track: Students are required to take PHYS 234, 235, 236. ESCI (8) 440, 441; MATH (8) 244, 334; PHYS (3) 334; GEOG (4) 475; Electives (6-9) from CHEM, ESCI, MATH, PHYS with adviser approval.

Oceanography Track: ESCI (16) 350, 429, 440, 455, 465; Electives (13-19) from BIOL, CHEM, ESCI, GEOG, MATH, PHYS with adviser approval.

Before completing MATH 241: MATH 130 and 134 are required for students who have not completed high school algebra (or equivalent) and high school trigonometry (or equivalent).

Minor (36)

ESCI 284, 308, 340; PHYS 211 or 234, 311; CHEM 215.

Electives: MATH, PHYS, CHEM, BIOL, ESCI, GEOG. Courses to be taken with approval of earth sciences adviser.

BACHELOR OF SCIENCE

Comprehensive Major (84)

The Comprehensive Earth Science major meets the Minnesota requirements for full time teaching (major preparation) of earth science, in grades 7-12, effective July 1, 1979.

CHEM 215, 216

PHYS 211, 212, 311

BIOL 201, 202, 203

ESCI 250, 284, 285, 307, 340, 456, 460

Elect credits with adviser approval from BIOL, CHEM, ESCI, GEOG, and PHYS to bring total to 84 credits.

Minor (36)

ESCI 284, 308, 340; PHYS 211 or 234, 311; CHEM 215.

Electives: BIOL, CHEM, ESCI, GEOG, MATH, PHYS, courses with approval of earth sciences adviser.

BACHELOR OF ELECTIVE STUDIES

Major (48)

Completion of any 48 Cr. in Earth Sciences.

Minor (36)

Completion of any 36 Cr. in Earth Sciences.

COURSE DESCRIPTIONS

104. Introduction to Atmospheric Science. Introductory study of earth's weather. Topics include atmospheric composition, earth's energy budget, atmospheric motions, clouds and precipitation, measurement of weather data and interpretation of weather maps. Lab. 4 Cr. F, W, S, SUM.

109. The Geologic Environment. The study of the basic concepts of geology and the utilization of these concepts to develop an understanding of the dynamic earth. 4 Cr. F, W, S.

150. The Water Environment. A study of the physical interrelationships between oceans, lakes, and rivers. 4 Cr. F, W, S.

206. Concepts of Earth Science. Concepts from near-space astronomy, meteorology, oceanography, and geology. 4 Cr. F, W, S, SUM.

250. Physical Oceanography. A descriptive study of currents and circulation of ocean waters; waves; tides; acoustical, chemical, and optical oceanography; sea ice, heat budget of the oceans; and coastal processes. Lab. Prereq.: high school algebra or MATH 130. 4 Cr. F, W.

284. Physical Geology. Rocks and minerals, igneous activity, igneous rocks, weathering erosion, sedimentary rocks, mountain building and metamorphism. Prereq.: CHEM 215 or high school physics and chemistry. 4 Cr. F, W, S.

285. Historical Geology. Evolution of the earth with emphasis on biological and physical events of the stratigraphic record. Lab. and some field work. Prereq.: 284. 4 Cr. W, S.

307. Field Geology. Comprehensive study of the physical and historical geology of Minnesota. Field and Lab. Prereq.: 284 and 285. 4 Cr. F.

311. The Solar System and Planetology. Solar system configurations and energy relations, planetary atmospheres, planetary models and structure, formation of surface features. Prereq.: PHYS 211. 4 Cr. DEMAND.

330. Environmental Earth Science. A survey of the role of geology in the management and use of earth resources. Prereq.: 284. 3 Cr. DEMAND.

335. Earth Materials: Mineralogy. A study of the physical and chemical properties of minerals, the processes controlling the genesis of minerals and mineral identification. Prereq.: 284, CHEM 216. 3 Cr. W.

336. Earth Materials: Petrology. Description and origin of sedimentary, igneous and metamorphic rocks. Rock identification. Prereq.: 335. 3 Cr. S.

340. Atmospheric Physics. Atmospheric structure and processes will be presented and analyzed in terms of existing physical relationships. Prereq.: PHYS 211 or 234. 4 Cr. F, W.

345. Structural and Tectonic Geology. The study of the development and relationship of continents through the description and genesis of folds, faults and related structural features. Prereq.: 284. 4 Cr. S ALT.

350. Marine Geology. A descriptive study of the geology of the oceans. Includes sediments, sediment transport, ocean basins, plate tectonics, volcanic island arcs, turbidity currents, continental margins, geologic history, and submarine topography. Prereq.: 250, 284. 4 Cr. S, ALT.

429. Geophysics. The basic concepts of physics will be applied to the global earth and to the geologic processes at work in the earth. Prereq.: 284, PHYS 211 or 236, MATH 243. 4 Cr. F.

438. Environmental Analysis of Sedimentary Rocks. An analysis of the environment of deposition of sedimentary rocks based upon their fossil constituents, and textural and mineralogic characters. Prereq.: 284, 285; BIOL 489. 4 Cr. DEMAND.

440. Dynamic Meteorology I. Thermodynamics of water vapor and moist air, hydrostatic equilibrium, lapse rates, atmospheric energy, forces, equations of motions. Mathematical treat-

ment will include differential and integral calculus. Prereq.: PHYS 211 or equiv., MATH 242 or equiv. or approval of instructor. 4 Cr. W.

441. Dynamic Meteorology II. Rotating coordinate systems, geostrophic flow, gradient flow, vorticity, divergence, numerical weather prediction. Prereq.: 440. 4 Cr. S.

450. Investigations in Earth Science. This course is designed to give the student an opportunity to pursue a program of concentrated study or research in some area of earth science that is of particular interest to him. All B.A. majors in ESCI are required to earn 4 Cr. 1-4 Cr. DEMAND.

455. Selected Topics in Fluid Mechanics. Non-sequence courses designed for intensive study of a special topic. Topic announced in class schedule. Prereq.: PHYS 236, MATH 243, and department approval. Lab. 4 Cr. DEMAND.

465. Advanced Oceanography. A descriptive-mathematical investigation into dynamical oceanography; generation and propagation of waves and tides. Prereq.: PHYS 236, MATH 243. 4 Cr. S.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

420-520. Seminar. Lectures, readings, discussions on selected topics. May be repeated. 1-4 Cr. F, W, S.

428-528. Glacial Geologic Processes. A survey of the mechanics of glaciers, the sediments and landforms they produce, followed by a discussion of the glacial geology of the upper midwest and Minnesota. Prereq.: 284. 3 Cr. W.

439-539. Stratigraphy and Earth History. Techniques of studying the stratigraphy of sedimentary rocks including correlation and mapping. Interpretations of ancient tectonic movements and sedimentary environments from these data. Prereq.: 285. 4 Cr. S.

456-556. Methods and Materials for Teaching Sciences. Modern approaches to teaching science in junior and senior high school. Lab. 2 Cr. DEMAND.

460-560. Methods and Materials for Teaching Earth Science. Modern approaches to teaching junior high science in classroom and lab, including work on the major junior high science curricula with emphasis on the earth science curriculum projects. Lab. 2 Cr. DEMAND.

477-577. Earth Science Institute. Selected topics in earth science for experienced teachers. 3-6 Cr. DEMAND.

East Asian Studies (EAST)

205 STEWART HALL/255-2056

A program of the Department of Interdisciplinary Studies.

Also see *College of Liberal Arts and Sciences description and requirements.*

Coordinator William Nunn. **Faculty Committee** Masih, Melton, Morohoshi, Nunn, J. Phillips, Pietz, Roy, Schmidt, Schwerdtfeger.

The Tri-College East Asian Studies program is a cooperative effort to improve opportunities for students to learn about that area of the world. Students who participate in the program register and pay fees on their own campus, but may travel to one of the other two campuses for instruction. Courses listed at St. Cloud State University (SCSU) are handled in the regular way, but students who elect to take courses at The College of St. Benedict (CSB) or St. John's University (SJU) should consult with the campus coordinator in advance.

BACHELOR OF ARTS AND BACHELOR OF SCIENCE

Minor (30)

Required Courses:

EAST 363 or 364

Select 12 Cr. from at least 2 fields:

ANTH 356; ECON 480; GEOG 269; HIST 369; POL 336; SSCI 470 (Area Studies—Japan or China); Comparative communist political systems (SJU); Seminar in historical studies: Afro-Asian (SJU); East Asian history (CSB)

Select 4 Cr. from:

ENGL 394; PHIL 340; East Asian Art (CSB); Chinese literature in English (CSB)

Electives to be selected from any of the above (8)

COURSE DESCRIPTIONS

363. Tri-College Faculty-Student Seminar—Japan. An interdisciplinary study of Japan. Consent of coordinator required. 2 Cr. per quarter for three consecutive quarters for a total of 6 Cr. ALT.

364. Tri-College Faculty-Student Seminar—China. An interdisciplinary study of China. Consent of coordinator required. 2 Cr. per quarter for a total of 6 Cr. ALT.

Economics (ECON)

24 LAWRENCE HALL/255-2227

Also see College of Liberal Arts and Sciences description and requirements.

Chairperson Harold A. Lofgreen. **Faculty** Evanoff, Gamber, Gleisner, Hendricks, Lange, Larsen, Lofgreen, Luksetich, Masih, White.

Economics is concerned with society's arrangements for the production and distribution of goods and services in an environment of scarce resources and unlimited wants. In the United States, a modified, free-enterprise, capitalistic system, the basic problems are largely solved by the pricing process in a system of markets. The knowledge of economics as a discipline has witnessed great expansion during the last thirty years, and the means of influencing the level of income, employment, and prices are quite well known. Therefore, it is essential that the American citizen understand the basic subject matter of economics in order to participate intelligently for his/her economic life.

The Department of Economics is thoroughly committed to the pursuit of economic education in all its various forms. Specific courses are offered such as ECON 602, 610, 631, 645, 679 and occasional workshops. For further information the reader is directed to a description, elsewhere in this bulletin, of the Center for Economic Education, an autonomous university unit of an interdisciplinary nature charged with furthering economic education.

Admission to a Major Program in Economics. The only prerequisite to admission as a major in economics other than the all-university requirements is the completion of ECON 273 and 274 with a grade of C or better in each course. The prospective major is advised to attempt to complete the core courses (see below) before admission or as early as possible in his/her program. The mathematics requirement is minimal as far as preparation is concerned. The department recommends that the student continue the study of mathematics through MATH 242.

BACHELOR OF ARTS

Major (64)

ECON 273, 274, 471, 475, 476, 478, 480, or 481 or 483.

ACCT 291, 292; MATH 131 or 140; MATH 329 or QMIS 140.

Electives: 20 credits selected from 300-400 level ECON courses. Up to two of the following courses may be substituted for ECON electives: GEOG 271; HIST 345; MGMT 371, 473; POL 211, 251, 282, 313, 380, 452; SSCI 472.

Minor (24)

Required courses: 273, 274, 478. Electives in ECON: (12)

Elementary Education Minor (36)

Required courses: 259 or 273, and 274, 280, 445; BEOA 216.

Electives in ECON: (20-24). It is recommended that the courses be taken in the sequence indicated.

Elementary Education Minor (24)

Required courses: 259 or 273, and 274, 280, 445; BEOA 216.

Electives in ECON: (8-12). It is recommended that the courses be taken in the sequence indicated.

BACHELOR OF ELECTIVE STUDIES

Major (48)

Completion of 48 credits with the approval of the department.

Minor (36)

Completion of any 36 credits in ECON.

For those students who would like to prepare to teach economics in the public schools, see the social studies department in this bulletin for a description of the social science major: economics emphasis.

INTERNSHIP PROGRAM. The internship program of the Department of Economics is designed to give competent, interested students an opportunity to participate in an approved off-campus learning and work situation in an area of interest which relates to the major. The program will offer the student a method by which he/she can relate course work and major requirements to the reality of its application in the working world. The program will be an extension of the classroom in such a way as to broaden and deepen the student's understanding of the discipline of economics. See ECON 444 in the course listings. A maximum of four (4) credits may be applied to the elective credits needed in the major program and the balance, if any, apply as general electives toward graduation. Students interested in the internship program should contact the department as early as possible to apply for the program.

HONORS IN ECONOMICS. The Department of Economics offers an honors program to its majors. The program is designed to provide students with an opportunity to do individualized advanced-level work in the discipline, guided and supervised by interested individual faculty members, to add maximum flexibility to the major program, and to provide a way to reward superior performance.

Admission to the Honors Program:

3.0 Honor Point Ratio overall—on all work taken.

A grade of B or better in each of ECON 273 and 274.

Honors Requirements. The departmental requirements for the major must be met. However, the department honors adviser may make suggestions for possible changes in the major program to tailor the program for individual honor students.

Work must be continued with a minimum of 3.0 HPR average on all subsequent courses taken in order to remain in the program.

In addition to the above requirements the student must: (1) complete a senior thesis project; and (2) take a comprehensive oral examination in the major area. The thesis project should be selected after consultation with the faculty no later than the beginning of the senior year. The student may register for no more than four hours credit of ECON 499, Honors Thesis, which will be counted as elective credit in the major. The comprehensive oral should be scheduled early in the final quarter before graduation. The oral may cover discussion of the thesis project and any part of the major work.

To graduate with department honors the student must satisfactorily complete all requirements in effect at the time of admission to the department honors program, and have an honor point ratio of 3.3 or higher for all college work and a ratio of 3.5 or higher for work completed in the major.

Supplementary and/or Supporting Work. Some suggested areas or minor programs which complement the program of the honor student in economics are: philosophy, mathematics, accounting, marketing, management and finance, and political science.

For the student who is preparing to do graduate work in economics the following courses may be preferred to completing a minor:

MATH 140, 241, 242, 269, 271.

Foreign Language, 12 credit hours or more, French, German, or Russian.

COURSE DESCRIPTIONS

259. Introduction to Economics. A basic terminal course in the fundamentals of economics. A study of the operation of markets and the national economy. Cannot be taken after 273 or 274. 4 Cr. F, W, S, SUM.

273. Principles of Economics I. The economic process, nature of the free enterprise system, national income, money and the banking process, and other aspects of macro-economics. 4 Cr. F, W, S, SUM.

274. Principles of Economics II. Theory of income distribution, pricing process under different market situations, emphasis on micro-economics. 4 Cr. F, W, S, SUM.

281. Economics of Crime and Justice. Topics include economic motivation for criminal behavior; costs of crime; optimal allocation of resources for prevention of crime; welfare costs of criminal behavior. 4 Cr. W, S, SUM.

360. Comparative Economic Systems. Description of different economic organizational structures and control mechanisms. Capitalism, Socialism, Communism in relation to economic systems. 4 Cr. F, S.

377. Economics and Its Business Applications. The relevance of economic analysis to business decision-making. Demand, cost, capital, and profit analysis are the four major topical areas discussed. Prereq.: 273, 274. 4 Cr. W, DEMAND.

378. Economics of Agriculture. Agricultural production and its problems in the United States; scientific developments, organizations, programs, and legislation proposed to aid agriculture. 4 Cr. DEMAND.

444. Internship and Field Work. Participation as an intern-in-economics or as an intern-in-public service with a cooperating business, governmental, or civic organization whose intern program has been approved in advance by the department. 1-16 Cr. DEMAND.

445. Economics of Underdeveloped Countries. Economic development and policy issues in underdeveloped countries. Prereq.: 273. 4 Cr. W ALT.

486. Introduction to Mathematical Economics. Mathematical economics with emphasis on the application of mathematical tools to the problems of micro and macro economic theory. Prereq.: 476 and MATH 241 or equivalent. 4 Cr. DEMAND.

499. Honors Thesis. A senior thesis project the nature of which shall be determined by the student and the department. It must be a project that reveals scholarly effort, the ability to think critically, and the ability to handle bibliographic and research tools. 1-4 Cr. DEMAND.

NOTE: ECON 273, Section 1 and ECON 274, Section 1 are always taught with 'Guided Learning' methodology. These are non-lecture sections utilizing individualized instruction techniques.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

451-551. Resource and Environmental Economics. Analysis of problems of natural resource allocation, including air and water quality control. Economic efficiency, externalities, and long run implications. Prereq.: 273, 274, or consent of instructor. 4 Cr. F, DEMAND.

460-560. Public Finance. The role of government in the economy with emphasis upon public revenues and expenditures, tax structure, inter-governmental fiscal relations, fiscal policy, and public debt management. Prereq.: 273, 274. 4 Cr. DEMAND.

461-561. Public Economics: State and Local. The economics of state and local government. Public projects, tax and revenue structures, and inter-governmental relations. Some emphasis on Minnesota. Prereq.: 273, 274, or consent of instructor. 4 Cr. DEMAND.

465-565. Urban and Regional Economics. Analysis of regions, including the city as a regional center. Emphasis on regional development, location theory, central place theory, and financing. Some emphasis on Central Minnesota. Prereq.: 273, 274. 4 Cr. F, DEMAND.

470-570. Business Cycles and Forecasting. Factors causing fluctuations in national income and proposed methods of stabilization, with consideration of business forecasting techniques. Prereq.: 273, 274. 4 Cr. DEMAND.

471-571. Money and Banking. Monetary and banking system of the United States; bank credit; the banking system; the Federal Reserve System, central bank policy and the relationship between bank credit, money, and price levels. Prereq.: 273, 274. 4 Cr. F, W, S, SUM.

472-572. Social Control of Business. Economic theory and government regulation controlling business activity in the United States. Prereq.: 273, 274. 4 Cr. F.

473-573. Labor Economics. Labor as a factor of production; growth of collective bargaining and labor legislation, and its effects upon society. Prereq.: 273, 274. 4 Cr. W.

474-574. International Economics. International economic relationships; commercial and financial policies; tariffs, exchange controls, international monetary standards, and international settlements. Prereq.: 273, 274. 4 Cr. W ALT.

475-575. National Income and Employment Analysis. Flow of expenditures and income and their impact upon national income and price levels, with consideration of stabilization controls. Prereq.: 273, 274. 4 Cr. F, W, S, SUM.

476-576. Price and Distribution Theory. Economic processes in the free enterprise system; determination of price, output, and factor services in different market structures. Prereq.: 273, 274. 4 Cr. F, S.

478-578. History of Economic Thought. Development of economic thought and analysis from Adam Smith to the present. Prereq.: 273, 274. 4 Cr. F, S.

479-579. Manpower Policy and Analysis. The factors which influence the quantity and quality of labor and the economic aspects of government policy toward labor as an individual entity. Prereq.: 273, 274. 4 Cr. W ALT.

480-580. Seminar in Area Economic Studies. The economy and current economic problems of selected regions, areas, or countries of the world. Prereq.: consent of the department. 1-4 Cr. May be repeated with different topics. Max. 9 Cr. DEMAND.

481-581. Seminar. Selected topics in economic theory. Prereq.: consent of department. 1-4 Cr. May be repeated with different topics. Max. 9 Cr. DEMAND.

483-583. Contemporary Economic Problems. Solutions of problems arising from growth and development of modern institutions under the free enterprise system. Prereq.: consent of department. 4 Cr. May be repeated with different topics. Max. 9 Cr. DEMAND.

487-587. Economic Growth and Stability. Behavior of the aggregate output and income over time. Models of long-run growth and short-run cycles are utilized to examine policies and programs to maintain economic stability. Prereq.: 475. 4 Cr. DEMAND.

Education

See *Teacher Development section.*

Educational Administration (EDAD)

B118 EDUCATION BUILDING/255-2160

Also see *College of Education description and requirements.*

Chairperson James W. Anderson. **Faculty** Anderson, Farrah, Holden, Holmgren, Renz.

The Department of Educational Administration includes graduate level programs for the preparation of educational leaders. The preparation programs are designed to qualify personnel for administrative and supervisory positions in the elementary and secondary schools: elementary principalship, secondary principalship, the superintendency, school business manager, special education administration, and community education administration. Master of Science, Specialist Degree, and Sixth Year programs are available. Additional comprehensive information on these programs is available in the Graduate Bulletin of St. Cloud State University.

Elementary Education

See *Teacher Development section.*

English (ENGL)

108 RIVERVIEW BUILDING/255-3061

Also see *College of Liberal Arts and Sciences description and requirements.*

Chairperson James Gottshall. **Faculty** Abartis, J.B. Anderson, Bovee, J. Brunkhorst, Coard, Dillman, A.E. Falk, Gottshall, Hansen, Keith, Lawson, Leja, Lundquist, Meissner, Melton, Otto, Parham, L. Perkins, Regnier, Rylander, Summers, R. Thompson, Tosh, E. Van Pelt, L. Van Pelt, L. Voelker, Young.

The functions of the Department of English are four: first, to help all students of the University to achieve proficiency in writing, reading, and speaking; second, to help English majors and minors to develop critical appreciation for literary content and form and an understanding of the structure and history of the language; third, to prepare English majors and minors for teaching and other careers; fourth, to provide cultural enrichment for individual development.

Composition and creative writing are emphasized for those who wish to express themselves well or who become interested in the writing of poetry, drama, and fiction, or who wish to improve these skills for advertising, public relations, film, and television writing.

Literature is emphasized for those who wish to do graduate work, teach, or work in magazine or book publishing, or who desire to prepare themselves in the liberal arts tradition.

Departmental Honors in English. The English department invites inquiry regarding honors in English. Interested students should see the department chairperson not later than the last quarter of the sophomore year.

Note: Credit for 100-level courses will not count toward the English major or minor.

BACHELOR OF ARTS

Major (General) (48)

48 credits selected by the student in consultation with his adviser. At least 29 credits must be at the 300 and/or 400 level. Students planning graduate study in English are advised to include ENGL 440, 441, and 443, and, in addition, to take at least 12 credits in a foreign language at the 200 level or above. Students should also consult the statement on university requirements for the B.A. degree.

A student in a B.A. English major who meets the above stated requirements and completes the required courses and electives described below may declare an emphasis in literature, writing, creative writing, or linguistics. Only one emphasis may be declared. Details can be obtained from the major adviser.

ENGL 331, Advanced Expository Writing, is required in all four emphases.

Major (Literature Emphasis) (48)

Required: ENGL 331, 421.

Three American literature courses (9-12).

Three British literature courses (9-12).

Electives in literature (18-24).

Major (Writing Emphasis) (48)

Required: ENGL 331, 338, 339, 425.

Select one: ENGL 230, 432, 434, 435, 436.

Electives in English (26-31).

Major (Creative Writing Emphasis) (48)

Required: ENGL 221, 331, 437.

Select two: ENGL 332, 333, 334.

Electives in English (31-32).

Major (Linguistics Emphasis) (48)

Required: ENGL 232, 331, 434, 435.

Select two: ENGL 230, 431, 432, 433, 436, 439.

Electives in English (26).

Minor (32)

32 credits selected by the student in consultation with an English department adviser. At least 18 credits must be taken at the 300 and/or 400 level.

BACHELOR OF ELECTIVE STUDIES

Requirements for the Bachelor of Elective Studies major and minor are the same as the requirements for the Bachelor of Arts major and minor.

BACHELOR OF SCIENCE

Major (72)

This program is designed for students who wish to meet licensure requirements to teach English in secondary schools. Students are advised to take a minor along with this major to increase employment opportunities.

ENGL 221; 232; 331 or 338; 343; 352; 353; 421; 434 or 435 or 436. (ENGL 232, 352 and 353 must be taken before student teaching.)

One contemporary literature course: ENGL 252, 253, 396, 468 or 498. (A course selected to meet this requirement may not be used to meet any of the following requirements.)

Three American literature courses: ENGL 260, 265, 366; 252 or 253 or 468. (Only one of the three preceding may be counted for this requirement.)

Four English literature courses from any 4 of the 7 groupings that follow: ENGL 370 or 440; 270 or 443; 277, 279 or 441; 284, 285 or 485; 286 or 287; 288 or 289; 396 or 498. (Students who are considering graduate study are advised to take ENGL 440, 441 and 443.)

One course in the theory and practice of public speaking to be chosen from the following: SPC 220, 324, 325, 420 or 440.

One course in oral interpretation or play production and direction: TH 331 or TH 349 (TH 235 prereq. for TH 349) or SPC 331.

Electives: English courses above the 100 level selected to bring the total for the English major to a minimum of 72 credits.

Minor (Secondary Teaching) (40-47)

ENGL 232; 331 or 338; 343; 352.

Four English literature courses: ENGL 370 or 440; 270 or 443; 277, 279, or 441; 284, 285 or 485; 286 or 287; 288 or 289; 396 or 498.

Two American literature courses: ENGL 260, 265, 366; 252 or 253 or 468. (Only one of the three preceding may be counted for this requirement.)

Choose one: SPC 220, 324, 325, 420 or 440.

TH 331 or 349 (TH 235 prereq. for TH 349) or SPC 331.

Minor (Elementary Education) (36)

ENGL 232; 331 or 338; 343.

Four English literature courses from any 4 of the 7 groupings that follow: ENGL 370 or 440; 270 or 443; 277, 279 or 441; 284, 285 or 485; 286 or 287; 288 or 289; 396 or 498.

Two American literature courses: ENGL 260, 265, 366; 252 or 253 or 468. (Only one of the three preceding may be counted for this requirement.)

Electives: English courses above the 100 level selected to bring the total for the minor to a minimum of 36 credits.

Minor (Elementary Education) (26)

26 credits selected by the student from above the 100 level in consultation with an English department adviser. The student is advised to include courses in composition, English language, English literature and American literature.

BACHELOR OF SCIENCE or BACHELOR OF ARTS

Minor (Creative Writing) (32)

ENGL 332, 333, 334, 468.

Choose two: ENGL 437 Fiction; 437 Poetry; 437 Playwriting. (The genre not chosen to meet the requirement may be taken as an elective.)

A final advanced independent project in poetry, fiction, or playwriting, or an approved substitution. (1-3 Cr.)

Choose one: ENGL 252, 253, 396.

Approved elective courses in English and mass communications. (3-6 Cr.)

The English major who wishes to elect the creative writing minor:

A. Must satisfy the requirements for the minor;

B. May apply courses which have also satisfied his major requirements;

C. Must, however, present a total of 21 hours in the minor program in addition to his English.

Other majors and minors who intend to take the creative writing minor should consult with the English department chairperson in order to be assigned a minor adviser within the English department.

The creative writing minors do not meet the teacher licensure requirements for English.

COURSE DESCRIPTIONS

062. Individual Writing Problems. For the student whose diagnostic evaluation indicates deficiencies in written composition. Instruction based on the individual student's needs. Permits a student to enter ENGL 162 upon successful completion. Credits not applicable toward graduation. 1-4 Cr. F, W, S. NOTE: Students needing help in composition may also attend the writing clinic in Riverview 1A. The clinic is free and provides no credit.

124. Introduction to Literature. A study of imaginative literature to improve the understanding and increase reading enjoyment. Thematic organization and concentration on one type of literature (the short story, novel, poetry, and drama) at the option of instructor. 4 Cr. F, W, S, SUM.

125. Introduction to Fiction. The art of fiction as represented in the drama or short story or the novel. 4 Cr. F, W, S.

162. Written Composition: Expository Writing. The common principles and practices of expository composition. 4 Cr. F, W, S, SUM.

163. Written Composition: Based on Selected Topics. Further development of critical thinking and writing skills established in ENGL 162, with the selected topic to offer a concentrated focus for writing experiences. Prereq.: 162. 4 Cr. F, W, S, SUM.

164. Written Composition: The Craft of Writing. Continued practice in reading and writing with attention to style, polishing of skills, and refinement of abilities. Prereq.: 162, 163. 4 Cr. F, W, S, SUM.

220. The Forms of Non-fiction. Designed to equip the student with the skills and knowledge necessary for an intelligent reading of the various types of non-fiction prose, such as biography, narrative accounts, and essays. Attention to the individual student's needs. 3 Cr. DEMAND.

221. Introduction to Poetry. The forms and techniques of poetry. Designed to develop the skills and knowledge needed for advanced work in the study of poetry. Suggested as the first course for the English major or minor. 3 Cr. F, W, S, SUM.

230. History of Ideas About Language. Philosophical and scientific as well as popular belief and thought about language from ancient times to the present. 4 Cr. DEMAND.

232. Introduction to Linguistics. Systematic study of language: linguistic analysis of sound patterns, structures and meanings in language, with special reference to present-day American English. (Must be taken before student teaching.) 4 Cr. F, W, S.

250. Literature of the American Frontier. The concept of the frontier as developed in American literature from the Colonial Period to the present. 4 Cr. DEMAND.

251. Folklore in American Literature. A study of the uses of folklore in American literature. 3 Cr. W.

252. Great Modern American Writers I: Fitzgerald, Hemingway, Others. Twentieth century literary trends and authors to World War II, including Fitzgerald, Hemingway, Eliot, Anderson, and others. 3 Cr. DEMAND.

253. Great Modern American Writers II: Faulkner, Steinbeck, Others. Twentieth century literary trends and authors to World War II, including Richard Wright, Frost, Faulkner, Steinbeck, and others. 3 Cr. DEMAND.

260. Poe, Irving, and Early American Literature. The rise of American literary forms: Franklin, Irving, Bryant, Cooper, Poe, and selected authors of the Colonial Period. 3 Cr. F, S.

265. The American Renaissance. The Transcendentalists and their critics: Emerson, Thoreau, Hawthorne, Melville, Whitman and related authors. 4 Cr. F, W.

267. Literature of the Upper Midwest. Writers such as Fitzgerald, Garland, Lewis, Cather, Rolvaag, Bly, James Wright, McGrath and Manfred, whose works deal with the culture of this area. 3 Cr. DEMAND.

268. Ethnic Literature. Contributions of one or more of the following groups to American life and literature: Native American, Chicano, Asian-American, Jewish-American, and other immigrant groups. Content and focus to vary. 4 Cr. S.

269. Black Literature in America. The contribution of Black Americans to literature from the late nineteenth century to the present, with an emphasis on contemporary authors. 4 Cr. F, W.

270. The English Renaissance. The Tudor poets from Wyatt to Sidney and Spenser, as well as the essayist, travelers and dramatists (exclusive of Shakespeare). 3 Cr. W.

277. Seventeenth Century to the Restoration. John Donne and the metaphysical poets, Ben Jonson and the poets of the classical school, and the prose writers of the period. 3 Cr. W ALT.

279. The Restoration. Dryden, Pepys, Butler, Wycherley, Congreve, and related authors. 3 Cr. S ALT.

284. The Age of Pope. Defoe, Swift, Addison, Steele, Pope, Collins, and related authors. 3 Cr. S ALT.

285. The Age of Johnson. Gray, Boswell, Johnson, Walpole, Goldsmith, Cowper, Burns, and related authors. 3 Cr. S ALT.

286. The Romantics I. The first generation of romantic poets: Blake, Coleridge, Wordsworth, Scott, Southey, and the minor poets, as well as the essayists and periodical writers of the period. 4 Cr. F.

287. The Romantics II. The second generation of romantic poets: Byron, Shelley, Keats, and the minor poets, as well as the essayists and periodical writers of the period. 3 Cr. S ALT.

288. Victorian Studies I: Poetry. The poetry of Tennyson, Browning, Arnold, and related authors. 4 Cr. W ALT.

289. Victorian Studies II: Fiction, Drama, and Essays. Carlyle, Ruskin, Huxley, Arnold, and related authors, as well as an introduction to the drama and novels of the period. 3 Cr. F.

290. Masterpieces of Literature. Selected works of significance in western culture. A course designed for non-English majors and minors. Does not count towards an English major or minor. 4 Cr. W.

291. Literature of the Ancient World. Selected literature of the Greeks and Romans in translation. 4 Cr. DEMAND.

292. The Bible as Literature. Selections from those books of the Old and New Testaments which relate most significantly to the literary heritage of the Western World. 4 Cr. W.

293. Recent European Literature. Selected major authors in translation; literary forms and movements. 4 Cr. F.

294. Myth and Legend. A study of mythology based on Greek, Roman, and other legends (especially Northern European) in relation to literature. 4 Cr. S.

301. Elective Composition. An individualized composition course for the upper class or adult extension student with particular writing needs. It is not intended primarily for English majors or minors. 4 Cr. F, W, S. S/U grading.

331. Advanced Expository Writing. The principles and practices of advanced expository composition. 3 Cr. F, W, S, SUM.

332. Creative Writing: Fiction. Emphasis on description, dialogue, and characterization. Prereq.: 163. 3 Cr. F.

333. Creative Writing: Play-Writing. Practice in writing plays on the introductory level. Emphasis on dialogue, characterization and the writing of a one-act play. Prereq.: 163. 4 Cr. S.

334. Creative Writing: Poetry. Practice in writing poetry at the introductory level. Emphasis on imaginative language and free verse. Prereq.: 163. 3 Cr. F, W.

338. Advanced Rhetorical Writing. A rhetorical approach to writing and to the evaluation of various forms of written discourse. 3 Cr. DEMAND.

339. Writing for Government, Business, and Industry. Study and practice in the standard types of writing required in government, business, and industry: proposals, abstracts, resumés, sales and advertising articles, business and administrative letters, and technical reports. 4 Cr. W.

343. Shakespeare I. The histories, comedies, and tragedies. 4 Cr. F, S, SUM.

352. Teaching Language Arts in Secondary Schools. The methods, materials and organization of the teaching of literature, language, and composition. (Must be taken before student teaching.) 4 Cr. F, S.

353. Literature for Adolescents. The types of literature suitable for recreational reading in junior and senior high school; standards for selecting materials, methods of presentation, and bibliography. Must be taken before student teaching. 3 Cr. F, W, S, SUM.

366. The Rise of Realism in American Literature. Post-Civil War literary trends and writers, including Mark Twain and Henry James. 3 Cr. F, S.

370. Medieval English Literature. The literature and language of the Middle English Period: Chaucer, Langland, Malory, and the anonymous poets and playwrights. 3 Cr. DEMAND.

391. Literature of the Post-Classical Western World. Selected literature in translation from the Middle Ages to modern times: Dante, Montaigne, Cervantes, Moliere, Voltaire, Goethe, Heine, and others. 4 Cr. DEMAND.

394. Literature of the Eastern World. Major works of the Near and Far East, with some attention to primitive literatures. 4 Cr. DEMAND.

396. Twentieth Century British Fiction. Trends and authors in British fiction of the Twentieth Century, including major novelists of the period. 4 Cr. F.

400. Special Problems in English. A seminar or conference course for advanced students wishing to work out a special problem in the academic area. 1-4 Cr. DEMAND.

- 440. Chaucer.** "The Canterbury Tales" and other works of Chaucer. 3 Cr. F.
- 443. Shakespeare II.** The texts, background, and criticism, with emphasis on the works of the later period. 3 Cr. W.
- 454. Composition Skills in the Secondary English Class.** Theory and methods of teaching written, spoken, and multi-sensory composition in the secondary school English class. Preparation for school situations in which the communications concept of English prevails. 4 Cr. DEMAND.
- 456. Comprehension Skills in the Secondary English Class.** Theory and methods of teaching the communications skills of reading, listening, and visual appreciation in the secondary school English class. Preparation for school situations in which the communications concept of English prevails. 4 Cr. DEMAND.
- 457. Public Service Internship.** Participation in a full-time position as an intern in an English-related activity with a cooperating business, industrial, or governmental organization whose program has been approved in advance by the Department of English. Permission of department chairperson required. 1-16 Cr. DEMAND.
- 468. Contemporary American Literature.** Literary trends and writers since World War II. 4 Cr. W, S.
- 498. Twentieth Century British Poetry and Drama.** Trends and authors in British poetry and drama of the Twentieth Century, including such authors as Yeats, Eliot, Auden, Thomas, Synge, Osborne, Beckett, and Pinter. 4 Cr. W.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

- 421-521. Literary Theory and Criticism.** The concepts which apply to such problems as the writer's creative process, the various purposes of literary art, form, and technique, and the responses that literature elicits. 3 Cr. F, S.
- 425-525. Rhetoric of Writing.** Rhetorical analysis of written language for students of composition and literature. Differences between speech and writing. Modes of written discourse, stylistics and history of written composition. 4 Cr. DEMAND.
- 431-531. Teaching Spoken English as a Second Language.** Theory and applications in teaching (standard) spoken English to speakers of other languages or dialects. Prereq.: 232. Recommend knowledge of a foreign language. SPC 250; SSPA 230. 4 Cr. DEMAND.
- 432-532. Teaching Written English as a Second Language.** An investigation of form, structure, and method of written American English for teachers of English as a second language. Prereq.: 232. 4 Cr. DEMAND.
- 433-533. Computers and Language.** Introduction to computer applications in language data analysis and processing; presentation of the fundamentals of SNOBOL. Prereq.: ENGL 232 or MATH 169 or consent of instructor. 4 Cr. DEMAND.
- 434-534. English Grammars.** The application of modern linguistics to the description of English grammar, including an introduction to the theories and methods of structural and generative-transformational grammars. 4 Cr. DEMAND.
- 435-535. History of the English Language.** The development of English sounds, grammatical structures, and vocabulary from Old English to Modern English; the reading and analysis of selected texts. Prereq.: 232. 3 Cr. DEMAND.
- 436-536. American English.** Contemporary spoken American English, social and regional dialects, and their relationship to the written language. 4 Cr. DEMAND.
- 437-537. Advanced Practices in Creative Writing.** Study and practice in writing of poetry, plays and fiction of publishable quality at the advanced undergraduate and graduate level. May be repeated for additional credit when content varies. Prereq.: 332, 333, or 334, or permission of the instructor. 4 Cr. W, S.
- 439-539. Topics in Linguistics.** One or more topics of current importance in linguistics. 4 Cr. DEMAND.
- 441-541. Milton.** The minor poetry, "Comus," "Paradise Lost," "Paradise Regained," "Samson Agonistes," and "Areopagitica." 4 Cr. S.
- 445-545. The Nineteenth Century English Novel.** Austen, Scott, Mary Shelley, Dickens, Thackeray, Meredith, Butler, Eliot, Hardy, and others. 4 Cr. F ALT.
- 446-546. The American Novel.** The development of the American novel. 4 Cr. S ALT.
- 447-547. Seminar in Literary Themes.** Selected recurrent themes in literature, such as science fiction, the gothic, recent best sellers. Variable content. May be repeated. 4 Cr. DEMAND.
- 448-548. Seminar in Literary Forms.** The forms of literature, such as types of satire, comedy, and fantasy. Variable content. May be repeated. 4 Cr. DEMAND.

450-550. Science Fiction. A study of science fiction as a literary genre: its history, development, relationship to other genres, criticism, concepts, and types. Emphasis on twentieth-century science fiction. 4 Cr. DEMAND.

451-551. Women in Literature. Images of women and their life experiences as revealed in literature. Emphasis on portrayals by women writers of conflicts between role definition by society and women's struggle for self-realization. 4 Cr. W ALT.

453-553. Literature of Dying and Death. Literary treatments of the problems faced by the dying person and associates. Biographies, poetry, and fiction which provide insight into the nature and meaning of death. 4 Cr. DEMAND.

467-567. Recent Best Sellers. Reading and discussion of various types of contemporary, worthwhile and interesting books. Variable content. May be repeated once. 4 Cr. DEMAND.

469-569. Literature and American Minorities. A study of the contributions of American minorities, Black Americans, Native Americans, Asian Americans and Mexican Americans, to American Literature through themes, content, and forms. Content and focus to vary. 4 Cr. F.

485-585. The Eighteenth Century English Novel. Defoe, Richardson, Fielding, Smolett, Sterne, and related authors. 4 Cr. DEMAND.

490-590. European Writers of the Twentieth Century. 4 Cr. DEMAND.

491-591. Drama I. World drama: its origins to early English Renaissance. 4 Cr. F.

492-592. Drama II. World drama: from English Renaissance to early twentieth century. Prereq.: 491. 4 Cr. W.

493-593. Drama III. World drama: twentieth century. Prereq.: 491. 4 Cr. S.

494-594. American Writers of the Twentieth Century. 4 Cr. DEMAND.

497-597. British Writers of the Twentieth Century. 4 Cr. DEMAND.

ENGLISH AS A FOREIGN LANGUAGE (EFL)

131. English as a Foreign Language I. American English speech patterns and intonations, common expressions, vocabulary, "signs" in reading and writing, and special problems. Prereq.: consent of instructor or of English as a Foreign Language joint committee. 4 Cr. F. S/U grading.

132. English as a Foreign Language II. American idioms, reading, writing, speaking (discussion and pronunciation) and special problems. Prereq.: consent of instructor or of English as a Foreign Language joint committee. 4 Cr. W. S/U grading.

133. English as a Foreign Language III. Critical reading and writing, problems of interpretation, methods of understanding organization, the message of a communication, style, rhetorical considerations, and special problems. Prereq.: consent of instructor or of English as a Foreign Language joint committee. 4 Cr. S. S/U grading.

Environmental Studies (ENV)

109 BROWN HALL/255-4112

Also see College of Liberal Arts and Sciences description and requirements.

Director John Phillips. **Faculty Committee** G. Anderson, Hopwood, E. Jones, Lieberman, Lofgreen, McMullen, Paschall, Peck, Phillips, Tideman.

Environmental Studies is an interdisciplinary program. The broad objectives are to provide information about the environment to students and the general populace, to extend the services of faculty and students to communities, industries or agencies needing assistance in environmental planning, monitoring or problem solving, and to continue involvement of faculty and students in basic and applied research.

The main feature of the program is early and continuing involvement in seminars and special studies courses for diverse perspectives on environmental issues. The student is encouraged to combine the environmental studies major with a departmental major. Up to 24 credits may be counted in both.

BACHELOR OF ARTS

Major (72)

Core (12) Courses required of all majors: ENV 210, 320 (Any 4 Cr.), 412.

92 / External Studies and Evening Program

Natural Science Emphasis (60)

Supporting Courses (36).

BIOL 201, 202, 203 (12 Cr.).

CHEM 215, 216, 251 (12 Cr.).

MATH 131, or 132 or equivalent, 329 or statistics equivalent (8 Cr.).

ESCI 284 (4 Cr.).

Natural Science electives (16).

Select from: BIOL 301, 339, 341, 344, 343 or 345, 347, 350, 405, 411, 422, 426, 433, 434, 438, 441, 448, 451, 452, 454, 461, 462, 468, 469, 470; CHEM 252, 322, 325, 353, 393, 412, 413; ESCI 285, 307, 308, 325, 330, 340; PHYS 208.

Social Science electives (8).

Social Science Emphasis (60)

Social Science distribution (40).

Tool courses (Select at least two of the following): GEOG 350, 405; CSCI 169, 269 and 271; SOC 278, 279, 379.

Substantive courses (Select at least two courses from each area):

1. ECON 273, 274, 378, 445, 451, 460, 472, 483, HIST 345.

2. GEOG 270, 271, 273, 380, 394, 454, 459, 472, 474, 480, 490, 492.

3. POL 211, 282, 313, 411, 412, 413, 481, 491, HIST 343, 344.

4. SOC 260, 261, 447; ANTH 250, 265, 342, 347, 370, 442, 445, 476, PSY 383.

Social Science electives (12).

Natural Science electives (8).

Minor (24)

ENV 210, 320, (Any two different 320 courses), 350*

Electives (12-14)**

*Combined with electives as a high or low option to total 24 credits.

**Disciplinary electives from outside student's major as approved by the environmental studies adviser.

COURSE DESCRIPTIONS

210. Introduction to Environmental Studies. Principles and contributing factors of past, present and future human environments, survey of environmental concerns. Lectures, discussions, laboratory and televised experiences. 4 Cr. F, S.

320. Selected Environmental Studies. In-depth study of one or more environmental subjects (as announced in the quarterly class schedule). Format and subjects covered vary with instructors. May be repeated. Prereq.: 210. 1-3 Cr. F, W.

350. Plenary Seminar. Lectures, readings, discussion on selected topics. Participation by students, faculty, and visitors. May be repeated. 1 Cr. W.

412. Senior Seminar in Environmental Studies. Presentation of papers, discussions based upon independent research. Students should have projects in progress before registration. Prereq.: senior standing, in major or minor environmental studies. 3 Cr. S.

External Studies and Evening Program

201 WHITNEY HOUSE/255-3081

Director Delaine Halberg

This program is designed to help facilitate the entry or reentry of older students to the University who are not able to attend on a full-time, daytime basis. It is best designed for students who have access to evening on-campus classes.

The office serves as an on-campus contact point for these students, providing orientation and information. It informs students about classes that may be taken off campus or on an independent basis, as they become available. It also provides the coordination for the evaluation of prior learning by providing information on testing opportunities.

Each student in the program is encouraged to develop an academic plan, which may be directed toward either earning a degree or meeting other personal goals. The Associate of Arts

degree is now available through the evening program and students may also work on elective studies degrees by combining various courses available in the evening that meet their educational needs and goals.

Foreign Languages and Literature

228 BROWN HALL/255-4142

Also see College of Liberal Arts and Sciences description and requirements.

Chairperson James E. O'Neill. **Faculty** Bloomer, Escalas, Kiese, Langen, Levilain, O'Neill, Retiz, Savage.

We live in a multilingual world. Educated people with a command of one or more foreign languages are needed in business and professional life.

Placement of entering freshmen: Courses at the 100 level (Elementary) are for those who are beginning the study of a particular language.

A student with one year of a language in high school may register for 131 of the same language in the St. Cloud State University program; with two or three years in high school for 211, and four years in high school, 243, 311 or 312. During the first week tests will be given to ascertain if the placement is correct. Changes may be made on the basis of individual competence.

All major and minor credits must be earned at the 200-level or above, except as indicated for the comprehensive major. All students who intend to major or minor in a foreign language which they have not previously studied in high school should note the following:

1. For a B.S. degree in secondary education, with a foreign language major or minor, 100-level language courses must be begun in fall quarter (or winter quarter, when offered) of the freshman year.
2. For a B.S. degree with an elementary education major and a foreign language minor, 100-level courses must be begun no later than fall quarter of the sophomore year.
3. For a B.A. degree with a major in a foreign language, 100-level courses must be begun in fall quarter (or winter quarter, when offered) of the freshman year.
4. For a B.A. degree with a minor in a foreign language, 100-level language courses must be begun no later than fall quarter of the sophomore year.

The requirements for these degrees are outlined below. All literature and civilization courses are conducted in the foreign language, unless they are marked as courses in translation.

Bachelor of Science programs are primarily for those who are preparing to teach a foreign language in elementary or secondary school.

BACHELOR OF SCIENCE: French, German, Spanish

Comprehensive Major (84)

Core: 48 to 60 credits in the major foreign language (French, German or Spanish) to satisfy all requirements of the 48-hour major in that language. Students who begin the language in college may count the credits for the elementary year (not to exceed 15 credits) in the maximum of 60.

Electives: 24 to 36 credits in related studies, to be approved by an adviser in the Department of Foreign Languages and Literature. At least two of the following groups must be represented:

1. Social Sciences. Courses which relate to the history and culture of regions where the language is spoken; see the listings for the Department of Economics, History, Geography, Sociology, Anthropology and Social Work, and Interdisciplinary Studies.
2. Linguistics. Courses which relate to the study of language in general, or to the English language; see the listings for the linguistics concentration in this bulletin.
3. Fine Arts, Literature, Philosophy. Courses which relate to the theory, history, and criticism of the arts and letters related to the major foreign languages; see the listings for the Department of Art, English, Music, Philosophy, and Speech.
4. Foreign Languages. Courses in a second foreign language, for a minimum of 15 and a maximum of 27 credits. (Students who desire a greater concentration than this should elect a minor in the second foreign language.)

94 / Foreign Languages and Literature

Elementary Minor (24)

Courses at 200-level, where necessary 0-12 Cr.

311	3
455 and 456	5
Electives at 300- or 400-level	4

BACHELOR OF ARTS

French Major (36-48)

0-12 Cr. 200-level courses (where necessary), 311, 312, 313, 421, 422, 423. Electives: 24 Cr. at 300- or 400-level (to include 15 Cr. in literature).

German Major (36-48)

0-12 Cr. 200-level courses (where necessary), 311, 312, 313, 421, 422, 423. Electives: 24 Cr. at 300- or 400-level (to include 15 Cr. in literature).

Spanish Major (36-48)

0-12 Cr. 200-level courses (where necessary), 311, 312, 313, 421, 422, 423. 6 Cr. from 431, 432, 433, 434, 435, 436. 6 Cr. from 437, 438, 439. Electives: 12 Cr. at 300- or 400-level.

Foreign Languages Minor (36)

12 Cr. at the 200-level in each of three foreign languages (French, German, Spanish, or Russian).

French Minor (24-36)

0-12 Cr. 200-level courses (where necessary), 311, 312, 313. Electives: 15 Cr. at 300- or 400-level.

German Minor (24-36)

0-12 Cr. 200-level courses (where necessary), 311, 312, 313. Electives: 15 Cr. at 300- or 400-level.

Spanish Minor (24-36)

0-12 Cr. 200-level courses (where necessary), 311, 312, 313. 3 Cr. from 431, 432, 433, 434, 435, 436. 3 Cr. from 437, 438, 439. Electives: 9 Cr. at 300- or 400-level.

BACHELOR OF SCIENCE

French Major (36-48)

0-12 Cr. 200-level courses (where necessary), 311, 312, 313, 421, 422, 423, 453 or 455, 454 or 456. Electives: 19 Cr. at 300- or 400-level (to include 12 Cr. in literature).

German Major (36-48)

0-12 Cr. 200-level courses (where necessary), 311, 312, 313, 421, 422, 423, 453 or 455, 454 or 456. Electives: 19 Cr. at 300- or 400-level (to include 12 Cr. in literature).

Spanish Major (36-48)

0-12 Cr. 200-level courses (where necessary), 311, 312, 313, 421, 422, 423, 453 or 455, 454 or 456. 6 Cr. from 431, 432, 433, 434, 435, 436. 6 Cr. from 437, 438, 439. Electives: 7 Cr. at 300- or 400-level.

French Minor (24-36)

0-12 Cr. 200-level courses (where necessary), 311, 312, 313, 453 or 455, 454 or 456. Electives: 10 Cr. at 300- or 400-level.

German Minor (24-36)

0-12 Cr. 200-level courses (where necessary), 311, 312, 313, 453 or 455, 454 or 456. Electives: 10 Cr. at 300- or 400-level.

Spanish Minor (24-36)

0-12 Cr. 200-level courses (where necessary), 311, 312, 313, 453 or 455, 454 or 456. 3 Cr. from 431, 432, 433, 434, 435, 436. 3 Cr. from 437, 438, 439. Electives: 4 Cr. at 300- or 400-level.

BACHELOR OF ELECTIVE STUDIES

French, German, or Spanish Major (48) arranged in consultation with and approved by adviser.

French, German, or Spanish Minor (36) arranged in consultation with and approved by adviser.

COURSE DESCRIPTIONS

DANISH (DAN)

131, 132, 133. Elementary Danish I, II, III. Basic vocabulary and grammatical structures with emphasis on the spoken language. Must be taken in sequence. 4 Cr. each quarter. 131—W, S; 132—S; 133—DEMAND.

ENGLISH AS A FOREIGN LANGUAGE (EFL)

131. English as a Foreign Language I. American English speech patterns and intonations, common expressions, vocabulary, "signs" in reading and writing, and special problems. Prereq.: consent of instructor or of English as a Foreign Language joint committee. 4 Cr. F. S/U grading.

132. English as a Foreign Language II. American idioms, reading, writing, speaking (discussion and pronunciation) and special problems. Prereq.: consent of instructor or of English as a Foreign Language joint committee. 4 Cr. W. S/U grading.

133. English as a Foreign Language III. Critical reading and writing, problems of interpretation, methods of understanding organization, the message of a communication, style, rhetorical considerations, and special problems. Prereq.: consent of instructor or of English as a Foreign Language joint committee. 4 Cr. S. S/U grading.

FRENCH (FREN)

131, 132, 133. Elementary French I, II, III. Basic vocabulary and grammatical structures with emphasis on the spoken language. Must be taken in sequence. 4 Cr. each quarter. 131—F, W, S; 132—F, W, S; 133—F, W, S.

210. Elementary Review Grammar. A review of first year grammar and conversation designed to prepare the student for FREN 211. Credits do not count toward major. Prereq.: departmental permission. 4 Cr. F.

211, 212. Intermediate. Review and expansion of basic vocabulary and grammatical structures; conversational practice. Must be taken in sequence. Prereq.: 133, or 2 or 3 years high school French. 4 Cr. each quarter. 211—F; 212—W, DEMAND.

243. Readings in Modern Literature. Graded selections from prose, drama, and poetry. Prereq.: 4 quarter Cr. at the 200-level, or 4 years high school French. 4 Cr. S.

Note: 12 Cr. in French at the 200-level (or the equivalent as determined by the department) are prereq. to all courses at the 300-level.

311. Conversation and Composition I. Written and oral practice based on themes drawn from the contemporary culture of French-speaking countries. Directed toward correct expression. Must be taken concurrently with the first literary course at the 300- or 400-level. 3 Cr. F.

312. Conversation and Composition II. Written and oral practice based on themes drawn from the contemporary culture of French-speaking countries. Directed toward correct expression of a more sophisticated nature. Prereq.: FREN 311. 3 Cr. W.

313. Conversation and Composition III. Written and oral practice based on themes drawn from the contemporary culture of French-speaking countries. Directed toward an appreciation of literary style. Prereq.: FREN 312. 3 Cr. S.

321, 322, 323. Form and Style in French Literature. Representative works of French literature. Need not be taken in sequence. Prereq.: FREN 311.

321. Poetry. 3 Cr. F.

322. Drama. 3 Cr. W.

323. Prose Fiction. 3 Cr. S.

341. French Civilization I. Studies in the history and culture of French-speaking countries. 4 Cr. DEMAND.

351. Phonetics. Contrastive analysis of French and English phonological features; intensive oral practice. 3 Cr. S.

Note: 6 Cr. in French at the 300-level are prereq. to all courses at the 400-level.

421, 422, 423. Advanced Conversation and Composition I, II, III. Advanced written and oral practice based on themes drawn from contemporary culture of French-speaking countries. Conducted on a tutorial basis and required for all majors. Directed toward fluent self-expression. Includes special student projects with different emphasis in each course to be decided upon by student and instructor. 1 Cr. per course. 421—F; 422—W; 423—S.

431. Medieval Literature. Survey of the medieval heritage with emphasis on the *chanson de geste* and theatre. 3 Cr. DEMAND.

432. Renaissance Literature. Survey of the Sixteenth century with emphasis on Montaigne, Rabelais, and the Pleiade. 3 Cr. DEMAND.

433. Seventeenth Century Literature. The Age of Classicism, with emphasis on Corneille, Racine, Moliere. 3 Cr. DEMAND.

434. Eighteenth Century Literature. The "Enlightenment", with emphasis on philosophy, theatre, and novel. 3 Cr. DEMAND.

435. Nineteenth Century Literature. Romantic and realistic trends in poetry, theatre, and novel. 3 Cr. DEMAND.

436. Twentieth Century Literature. Trends in twentieth century poetry, prose, and drama. 3 Cr. DEMAND.

441. French Civilization II. Studies in the history and culture of French-speaking countries. 4 Cr. DEMAND.

452. Advanced Grammar. Contrastive analysis of French morphological and syntactical features for native speakers of English. 3 Cr. DEMAND.

453. French for Secondary Teachers. Materials for class and extracurricular use, and practice in presenting them. Required for student teaching. 3 Cr. S.

***454. Teaching of Modern Foreign Languages in Secondary Schools.** Current curriculum developments, objectives and procedures in classroom and laboratory. Should be taken after student teaching. 2 Cr. W, S.

455. French for Elementary Teachers. Materials for class and extracurricular use, and practice in presenting them. Required for student teaching. 3 Cr. S.

****456. Teaching of Modern Foreign Languages in Elementary Schools.** Current curriculum developments, classroom objectives and procedures. Should be taken after student teaching. 2 Cr. W, S.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

411-511. Advanced Studies in French Literature. Seminar for intensive study of a particular movement, author, or work as announced in advance. To be taught in French. Prereq.: 9 Cr. of literature or consent of instructor. 1-4 Cr. each registration; max., 12 Cr. DEMAND.

414-514. Advanced Studies in French Literature in Translation. Seminar for intensive study of a particular movement, author, or work as announced in advance. Prereq.: 9 Cr. of literature or consent of instructor. 1-4 Cr. each registration; max., 12 Cr. DEMAND.

460-560. Study Abroad. Prereq.: FREN 311, 312, or the equivalent and approval of program director. 8 Cr. undergraduate, 3-6 Cr. graduate. DEMAND.

GERMAN (GER)

131, 132, 133. Elementary German I, II, III. Basic vocabulary and grammatical structures with emphasis on the spoken language. Must be taken in sequence. 4 Cr. each quarter. 131—F, W, S; 132—F, W, S; 133—F, W, S.

211, 212. Intermediate. Review and expansion of basic vocabulary and grammatical structures; conversational practice. Must be taken in sequence. Prereq.: 133, or 2 or 3 years high school German. 4 Cr. each quarter. 211—F; 212—W, DEMAND.

243. Readings in Modern Literature. Graded selections from prose, drama and poetry. Prereq.: 4 quarter credits at the 200-level or 4 years high school German. 4 Cr. S.

*French 454, German 454, Russian 454, and Spanish 454 are the same course, taught in English. A student with a major or minor combination in two languages may register for 454 only once, under one language designation.

**French 456, German 456, Russian 456, and Spanish 456 are the same course, taught in English. A student with a major or minor combination in two languages may register for 456 only once, under one language designation.

Note: 12 Cr. in German at the 200-level (or the equivalent as determined by the department) are prereq. to all courses at the 300-level.

311. Conversation and Composition I. Written and oral practice based on themes drawn from the contemporary culture of German-speaking countries. Directed toward correct expression. Must be taken before or concurrently with the first literary course at the 300- or 400-level. 3 Cr. F.

312. Conversation and Composition II. Written and oral practice based on themes drawn from the contemporary culture of German-speaking countries. Directed toward correct expression of a more sophisticated nature. Prereq.: 311. 3 Cr. W.

313. Conversation and Composition III. Written and oral practice based on themes from the contemporary culture of German-speaking countries. Directed toward an appreciation of literary style. Prereq.: 312. 3 Cr. S.

321, 322, 323. Form and Style in German Literature. Representative works considered as varieties of artistic experience and expression. Need not be taken in sequence. Prereq.: 311.

321. Poetry. 3 Cr. DEMAND.

322. Drama. 3 Cr. S.

323. Prose Fiction. 3 Cr. W.

341. Cultural History. Introductory studies in the history, culture and civilization of the German-speaking nations. 4 Cr. F.

351. Pronunciation and Intonation. Analysis of German phonology for native speakers of English: intensive oral practice. 3 Cr. S.

Note: 6 Cr. in German at the 300-level are prereq. to all courses at the 400-level.

412. Advanced Studies in German Language. Intensive study of a particular aspect of the German language, such as history or structure as announced in advance. Prereq.: 452 or consent of instructor. 1-4 Cr. each registration; max., 12 Cr. DEMAND.

413. Advanced Studies in German Civilization. Intensive study of a particular aspect of the historical, sociological, artistic, political or intellectual development of the German-speaking people as announced in advance. Prereq.: 341 and 441 or consent of instructor. 1-4 Cr. each registration; max., 12 Cr. DEMAND.

415. Advanced Studies in the Teaching of German. Intensive study of a particular problem in the teaching of German language, literature or civilization. 1-4 Cr. each registration; max., 12 Cr. DEMAND.

421, 422, 423. Advanced Conversation and Composition I, II, III. Advanced written and oral practice based on themes drawn from contemporary culture of German-speaking countries. Conducted on a tutorial basis. Required for all majors. Directed toward fluent self-expression. Includes special student projects with different emphasis in each course to be decided upon by student and instructor. 1 Cr. per course. 421—F; 422—W; 423—S.

431. Medieval and Early Modern Literature. Middle High German epic and courtly love lyric; writers of the Reformation, Renaissance and Baroque. 3 Cr. DEMAND.

432. Classical Period. Enlightenment and Age of Goethe. 3 Cr. DEMAND.

433. Faust. Examination of Goethe's classic within its historical and autobiographical context. 3 Cr. DEMAND.

434. Romanticism. Themes of early and later Romantic authors. 3 Cr. DEMAND.

435. Realism and Naturalism. Principal writers of the second half of the Nineteenth century. 3 Cr. DEMAND.

436. Twentieth Century Literature. Trends in poetry, prose and drama. 3 Cr. DEMAND.

441. German Civilization. Studies in the history and culture of the German-language area of Europe. 4 Cr. DEMAND.

452. Advanced Grammar. Analysis and practice of German phonological, morphological and syntactical features for native speakers of English. 3 Cr. DEMAND.

453. German for Secondary Teachers. Materials for class and extracurricular use, and practice in methods of presenting them. Required for student teaching. 3 Cr. S.

***454. Teaching of Modern Foreign Languages in Secondary Schools.** Current curriculum developments, objectives and procedures. Should be taken after student teaching. 2 Cr. W. S.

455. German for Elementary Teachers. Materials for class and extracurricular use, and practice in presenting them. Required for student teaching. 3 Cr. S.

****456. Teaching of Modern Foreign Languages in Elementary Schools.** Current curriculum developments, classroom objectives and procedures. Should be taken after student teaching. 2 Cr. W. S.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

411-511. Advanced Studies in German Literature. Intensive study of a particular movement, author, or work as announced in advance. To be taught in German. Prereq.: 9 Cr. of literature or consent of instructor. 1-4 Cr. each registration; max., 12 Cr. DEMAND.

460-560. Study Abroad. Prereq.: 311, 312, or the equivalent and approval of program director. 8 Cr. undergraduate, 3-6 Cr. graduate. DEMAND.

RUSSIAN (RUSS)

131, 132, 133. Elementary Russian I, II, III. Basic vocabulary and grammatical structures with emphasis on the spoken language. Must be taken in sequence. 4 Cr. each quarter. 131—F, W, S; 132—F, W, S; 133—F, W, S.

140. Russian Conversation I. A study of conversation utilizing first year grammar. 3 Cr. DEMAND.

210. Elementary Review Grammar. A review of first year grammar and conversation designed to prepare the student for RUSS 211. Credits do not count toward major. Prereq.: departmental permission. 4 Cr. DEMAND.

211-212. Intermediate. Review and expansion of basic vocabulary and grammatical structures; conversational practice. Must be taken in sequence. Prereq.: 133 or 2 or 3 years high school Russian. 4 Cr. each quarter. 211—F; 212—W. DEMAND.

243. Readings in Modern Literature. Graded selections from prose, drama, and poetry. Prereq.: 4 Cr. at the 200-level or 4 years high school Russian. 4 Cr. S.

311. Conversation and Composition I. Written and oral practice based on themes drawn from the contemporary culture of U.S.S.R. Must be taken before or concurrently with the first literary course at the 300- or 400-level. 3 Cr. F.

312. Conversation and Composition II. Written and oral practice based on themes drawn from the contemporary culture of U.S.S.R. Prereq.: RUSS 311. 3 Cr. W.

313. Conversation and Composition III. Written and oral practice based on themes drawn from the contemporary culture of U.S.S.R. Prereq.: RUSS 312. 3 Cr. S.

321, 322, 323. Form and Style in Russian Literature. Representative works of Russian literature. Need not be taken in sequence. Prereq.: RUSS 311 must be taken before or concurrently with the first literary course at the 300- or 400-level.

321. Poetry. 3 Cr. DEMAND.

322. Drama. 3 Cr. DEMAND.

323. Prose Fiction. 3 Cr. DEMAND.

421, 422, 423. Advanced Conversation and Composition I, II, III. Advanced written and oral practice based on themes drawn from contemporary culture of U.S.S.R. Conducted on a tutorial basis. 1 Cr. per course. 421—F; 422—W; 423—S.

435. Nineteenth Century Literature. Romantic and realistic trends in poetry, theatre, and novel. Trends in critical thought. 3 Cr. DEMAND.

436. Twentieth Century Literature. Trends in pre-revolutionary and Soviet prose, poetry and drama. 3 Cr. DEMAND.

452. Advanced Grammar. Intensive review and study of the principal phonological, morphological and syntactical difficulties of Russian. 3 Cr. DEMAND.

453. Russian for Secondary Teachers. Materials for class and extracurricular use and practice in presenting them. Required for student teaching. 3 Cr. DEMAND.

***454. Teaching of Modern Foreign Languages in Secondary Schools.** Current curriculum developments, objectives and procedures in classroom and laboratory. Should be taken after student teaching. 2 Cr. W, S. DEMAND.

455. Russian for Elementary Teachers. Materials for class and extracurricular use and practice in presenting them. Required for student teaching. 3 Cr. DEMAND.

*French 454, German 454, Russian 454 and Spanish 454 are the same course, taught in English. A student with a major or minor combination in two languages may register for 454 only once, under one language designation.

**French 456, German 456, Russian 456, and Spanish 456, are the same course, taught in English. A student with a major or minor combination in two languages may register for 456 only once, under one language designation.

****456. Teaching of Modern Foreign Languages in Elementary Schools.** Current curriculum developments, objectives and procedures in classroom and laboratory. Should be taken after student teaching. 2 Cr. DEMAND.

SPANISH (SPAN)

131, 132, 133. Elementary Spanish I, II, III. Basic vocabulary and grammatical structures with emphasis on the spoken language. Must be taken in sequence. 4 Cr. each quarter. 131—F, W, S; 132—F, W, S; 133—F, W, S.

210. Elementary Review Grammar. A review of first year grammar and conversation designed to prepare the student for SPAN 211. Credits do not count toward major. Prereq.: departmental permission. 4 Cr. DEMAND.

211, 212. Intermediate. Review and expansion of basic vocabulary and grammatical structures conversational practice. Must be taken in sequence. Prereq.: 133 or 2 or 3 years in high school. 4 Cr. each quarter. 211—F, W; 212—W, S. DEMAND.

243. Readings in Modern Literature. Graded selections from prose, drama and poetry. Prereq.: 4 Cr. at the 200-level or 4 years in high school. 4 Cr. S.

Note: 12 Cr. of Spanish at the 200-level (or the equivalent as determined by the department) are prereq. to all courses at the 300-level.

311. Conversation and Composition I. Written and oral practice based on themes drawn from the contemporary culture of Spanish-speaking countries. Must be taken before or concurrently with the first literary course at the 300- or 400-level. 3 Cr. F.

312. Conversation and Composition II. Written and oral practice based on themes drawn from the contemporary culture of Spanish-speaking countries. Prereq.: SPAN 311. 3 Cr. W.

313. Conversation and Composition III. Written and oral practice based on themes drawn from the contemporary culture of Spanish-speaking countries. Prereq.: SPAN 312. 3 Cr. S.

341. Culture and Civilization of the Spanish-Speaking Peoples. Introductory studies in the culture and civilization of Spain and Spanish America. 4 Cr. DEMAND.

351. Pronunciation and Intonation. Analysis of Spanish phonology for native speakers of English; intensive oral practice. 3 Cr. DEMAND.

Note: 6 Cr. in Spanish at the 300-level are prereq. to all courses at the 400-level.

411. Advanced Studies in Spanish and Spanish American Literature. Study of a particular Spanish or Spanish-American author or of specific topics in Spanish and/or Spanish-American literature. 1-4 Cr. each registration; Max., 12 Cr. DEMAND.

421, 422, 423. Advanced Conversation and Composition I, II, III. Advanced written and oral practice based on themes drawn from contemporary culture of Spanish-American countries. Required for all majors. 1 Cr. per course. 421—F; 422—W; 423—S. DEMAND.

431. Medieval Literature. From the Cid to the Celestina. 3 Cr. DEMAND.

432. The Golden Age. Emphasis on Cervantes, Lope de Vega, Tirso de Molina, Calderon de la Barca. 3 Cr. DEMAND.

433. Neoclassicism. Influence of French literature on Spanish literature of the eighteenth century. 3 Cr. DEMAND.

434. Romanticism. Nineteenth century literature, with emphasis on Becquer, Duque de Rivas, and Zorrilla. 3 Cr. DEMAND.

435. The Generation of 1898. Emphasis on Unamuno, Baroja, and Ortega y Gasset. 3 Cr. DEMAND.

436. Contemporary Literature. Trends in twentieth-century poetry, prose and drama. 3 Cr. DEMAND.

437. Survey of Spanish American Literature I. Spanish American literature from the Mexican Revolution to the present. 3 Cr. DEMAND.

438. Survey of Spanish American Literature II. Major works and literary trends, Independence to the Mexican Revolution. 3 Cr. DEMAND.

*French 454, German 454, Russian 454, and Spanish 454 are the same course, taught in English. A student with a major or minor combination in two languages may register for 454 only once, under one language designation.

**French 456, German 456, Russian 456, and Spanish 456 are the same course, taught in English. A student with a major or minor combination in two languages may register for 456 only once, under one language designation.

100 / Geography (GEOG)

439. Survey of Spanish American Literature III. Spanish American literature of the Colonial period. 3 Cr. DEMAND.

441. Spanish Civilization. Studies in the history and culture of Spain. 4 Cr. DEMAND.

452. Advanced Grammar. Contrastive analysis of Spanish phonological, morphological and syntactical features for native speakers of English. 3 Cr. DEMAND.

453. Spanish for Secondary Teachers. Materials for class and extracurricular use and practice in presenting them. Required for student teaching. 3 Cr. S.

***454. Teaching of Modern Foreign Languages in Secondary Schools.** Current curriculum development, objectives and procedures. Should be taken after student teaching. 2 Cr. W, S.

455. Spanish for Elementary Teachers. Materials for class and extracurricular use, and practice in presenting them. Required for student teaching. 3 Cr. S.

****456. Teaching of Modern Foreign Languages in Elementary Schools.** Current curriculum developments, classroom objectives and procedures. Should be taken after student teaching. 2 Cr. W, S.

460. Study Abroad. Prereq.: SPAN 311, 312 or the equivalent and approval of program director. 8 Cr.. Undgr., 3-6 Cr. Gr. DEMAND.

*French 454, German 454, Russian 454, and Spanish 454 are the same course, taught in English. A student with a major or minor combination in two languages may register for 454 only once, under one language designation.

**French 456, German 456, Russian 456, and Spanish 456 are the same course, taught in English. A student with a major or minor combination in two languages may register for 456 only once, under one language designation.

Geography (GEOG)

314 STEWART HALL/255-3160

Also see College of Liberal Arts and Sciences description and requirements.

Chairperson Henry Coppock. **Faculty** Addicott, Coppock, Dockendorff, G. B. Erickson, Harper, Pietz, Richason, Tideman, Wixon.

The Geography program provides the student with an awareness that the earth's phenomena are spatially associated and often interdependent. Emphasis is placed upon the principles basic to a general geographic education and upon the associated skills required for the teaching of geography or for non-teaching professional employment. Important elements of geographic training include regional, topical, physical and cultural studies as well as applied skills in cartography, aerial photo interpretation, field observation and quantitative methods. Land use planning within an urban or regional framework also represents an important thrust in this program.

BACHELOR OF ARTS

Major (48)

GEOG 271, 273, 405.

Not less than 29 credits in upper division courses.

Minor (36)

GEOG 271, 273, 405.

Not less than 18 credits in upper division courses.

BACHELOR OF SCIENCE

As a result of new licensure requirements (effective July 1, 1979), B.S. majors desiring teaching certification in social studies must complete the following 36 credits in addition to the 48 credit major listed below:

ANTH 250, ECON 259, HIST 285, POL 217, PSY 264, SOC 260, SSCI 104 and 421, SST 353.

Major (48)

A total of 48 GEOG credits at 200-level or above.

A minimum of four topical and four regional courses in GEOG. GEOG 253 required.

Elementary Education Minor (36)

A minimum of four topical courses and four regional courses in GEOG.

Elementary Education Minor (24)

A minimum of three topical and two regional courses.

The program for Social Studies, Geography Emphasis, is undergoing revision. Check with department chairperson for details.

BACHELOR OF ELECTIVE STUDIES

Major (48)

Completion of any 48 Cr. in geography

Minor (36)

Completion of any 36 Cr. in geography

COURSE DESCRIPTIONS

101. World Place Location. Practical, programmed course designed to teach the location and geographic significance of major cultural and economic centers, political units, and important physical features in the landscape. 4 Cr. F, W, S, SUM.

171. Regional Human Geography. Fundamental concepts necessary for geographic thinking. Understandings of world patterns. Emphasis on relationships. 4 Cr. F, W, S, SUM.

230. Directed Study in Geography. Directed study of a specific topic as predetermined by the instructor. Arranged with the consent of instructor. May be repeated with a different topic. S/U Grading. 1 Cr. DEMAND.

253. Theories and Concepts in Geography. Philosophy, theories, concepts, methods, and techniques in the teaching of geography; required for Minnesota Social Studies Teacher Certification. 4 Cr. S.

269. Asian Crescent. Introduction to the physical and human geography of South, Southeast, and East Asia. 4 Cr. DEMAND.

270. Introduction to Cultural Geography. A topical treatment of those aspects of geography that are the result of our modification of the environment. Topical. 4 Cr. F, W, S.

271. Economic Geography. Types of industries. Emphasis on methods, practices, and relationships. Topical. 4 Cr. F, W, S.

273. Physical Geography. Fundamentals of weather and climate, natural vegetation, soils, water, minerals, and landforms; emphasis on physical patterns and interrelationships. Recommended as a foundation course. Lab. Topical. 4 Cr. F, W, S, SUM.

275. Geography of the United States. Study of how the cultural and physical elements of geography combine to impart regional identity to various areas of the country. Regional. 4 Cr. F, W, S, SUM.

276. Geography of Canada. Regional contrasts and interrelationships, problems of human occupancy under varied environmental conditions. Regional. 2 Cr. W.

277. Geography of South America. Physical geography, resources, and people of various regions in each South American country related to economic stage and to possibilities of future development. Regional. 4 Cr. W.

279. Geography of Outdoor Recreation. Perception, use, and management of amenities of landscape, particularly landscape of the United States of America. Topical. 4 Cr. F, W, S.

280. Australia and New Zealand. Regional study of those two parts of the world from standpoint of human response to environment. Regional. 2 Cr. S.

281. Geography of the Pacific Basin. Human and physical geography of the Pacific Basin. Special emphasis given to the islands of Melanesia, Micronesia, and Polynesia. Regional. 2 Cr. S.

301. Introduction to Geographic Research and Presentation. An introduction to geographic research methods, trends, data collection, analysis, and presentation. 4 Cr. W.

303. Environmental Impact Statements. Practical course designed for the professional training of persons interested in the preparation and use of environmental impact statements. Topical. 4 Cr. W.

325. Geography of Soils. World-wide distributions, characteristics, and uses of major soil groups. Properties of soils are reviewed as well as various classification schemes. 4 Cr. DEMAND.

326. Soils Mapping and Classification. Methods and procedures whereby basic properties of soils can be analyzed, classified, and mapped in the field. Prereq.: 325 or approval of instructor. 4 Cr. DEMAND.

345. Military Geography. Analysis of geographic conditions that may influence or constrain the exercise of military power. Topical. 4 Cr. DEMAND.

350. Aerial Photography Interpretation. Observation and analysis of photographic images on the earth's landscape for the purpose of identifying objects that reveal spatial relations, and interpreting their significance. Consent of instructor. Topical. 4 Cr. F, W, S, SUM.

368. Geography of the Middle East. Geographical analysis of lands and peoples that occupy a world's crossroads positions; emphasis on present pattern of physical and cultural resources. Regional. 4 Cr. S ALT.

371. The Geography of Discovery and Exploration. Geographic interpretation of explorations of the earth's surface, emphasizing their impact on the formation of cultural landscapes. Topical. 4 Cr. W ALT.

372. Conservation of World Resources. Conservation movement and its expression in conservation policies and activities. Supply, use, and management of natural resources, their planned development and use. (May not be taken for credit if credit has already been received for BIOL 349.) Topical. 4 Cr. F, W, S.

373. Geography of Middle America. Geographic analysis of Mexico, Central American countries, and West Indian Islands. Regional. 4 Cr. S.

374. Geography of Western Europe. Regional treatment of areas not dominated by the U.S.S.R. Interpretation of economic conditions. Regional. 4 Cr. S.

375. Climate and the Human Environment. A study of climatology as related to both natural and modified environments. Emphasis is upon urban climates, climatic trends, and climate as applied to human activities. Topical. 4 Cr. S.

376. Geography of Minnesota. Regional treatment of the geography of Minnesota, including distribution of surface features, natural resources, climatic differences, crops, and human activity. Regional. 3 Cr. F, W, S, SUM.

377. Geography of Sub-Saharan Africa. Physical geography, resources and people of the various regions of Africa related to economic stage and possibilities for future development. Regional. 4 Cr. S ALT.

378. Geography of the U.S.S.R. Physical, cultural, economical, historical and political study of geography of the land and peoples now a part of the U.S.S.R. Geographic analysis of Russia's strengths and weaknesses; limited regional work. Regional. 4 Cr. F.

379. American Wilderness. Perception, delineation, use and analysis of wilderness land in the United States. Topical. 4 Cr. F, W, S.

380. Transportation Geography. A study of the transportation networks of the world, and interpretation of the geographic, economic, and political differences from place to place that have produced transportation patterns. Special emphasis on transportation in the United States. Topical. 4 Cr. W.

390. Geography Field Course. Concepts and techniques of geographic field work. Practice in data collection and appraisal of cultural and physical features. Topical. 4 Cr. F.

394. Introduction to Urban Planning. Examination of the theory, objectives, and methods of the planning process, particularly in the United States. Topical. 4 Cr. F, W, S.

427. Geography of Landscapes. A study of landscape assemblage, its perception, attitudes, and values. Topical. 2 Cr. W.

444. Internship: Practical Geography. Permission of instructor required. A maximum of 8 credits may be used toward a major; 4 credits used toward a minor; remainder will be used in general electives. 1-16 Cr. DEMAND.

471. Historical Geography. Geographic factors acting upon discovery and settlement of North America to 1890. Topical. 4 Cr. W ALT.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

405-505. Cartography. Map making and construction. Work with map making tools. Consent of instructor. Topical. 4 Cr. F, W, SUM.

406-506. Intermediate Cartography. Application of basic cartographic skills to advanced map

design and construction. Prereq.: 405-505 and/or consent of instructor. Topical. 4 Cr. S.
407-507. Advanced Cartography. Application of cartographic techniques to map making, particularly by use of the computer. Prereq.: 405-505 and/or consent of the instructor. Topical. 4 Cr. S, SUM.

408-508. Remote Sensing: Application and Interpretation. Study of characteristics and qualities of nonconventional remote sensing imagery as it applies to inventory and assessment of various environmental phenomena. Topical. Prereq.: 350 or approval of instructor. 4 Cr. S.

454-554. Regional Planning. Examination of the attitudes, physical basis, and solutions to regional problems that are beyond being simply "rural" or "urban" in nature. Topical. Prereq.: consent of instructor. 4 Cr. F.

455-555. Urban Site Development. Emphasis on art of planning arrangement of buildings and other structures on the land so as to be in harmony with each other and the environment. 4 Cr. S.

456-556. Foundations of Planning. A professional level course to provide an understanding of the authority for state and local planning. Topical. 4 Cr. S.

457-557. Historic Preservation Planning. A systematic view of historic preservation planning in the United States. Attention is given to district and neighborhood preservation, as well as historic sites and buildings. 4 Cr. S, SUM.

459-559. Outdoor Recreation Land Use. Case studies and field investigations of outdoor recreation land use and related activities. Topical. Prereq.: GEOG 279 or consent of instructor. 4 Cr. F, S.

472-572. Geomorphology. The configuration of the earth's surface and physical processes which have brought the surface to its present condition. Topical. 4 Cr. S.

474-574. Meteorology. The study of atmospheric phenomena; familiarity with sensing and recording instruments; the analysis of weather maps and weather forecasting. Topical. 4 Cr. F.

475-575. Climatology and the World's Climates. Inspection and analysis of climatological data with respect to climatic types and their corresponding climatic controls. Emphasis is given to spatial distribution. Topical. 4 Cr. W.

480-580. Agricultural Geography. World area differences in crops, livestock, and technological patterns. Special emphasis on farming in the United States. Topical. 4 Cr. F ALT.

486-586. Political Geography. Geographical strengths and weaknesses of the Great Powers which influence political changes in the world today. An elective in Political Science. Topical. 4 Cr. S ALT.

490-590. Urban Geography. The development of spatial patterns and relationships within and among urban centers and non-urban areas. Topical. 4 Cr. S ALT.

492-592. Water Resources. Survey of major problems in the development and management of water resources: problems of supply, distribution, quality, pollution, floods and variability; case-studies in selected regions. Topical. 4 Cr. S.

Gerontology

109 STEWART HALL/255-3013 or
 B 240 EDUCATION BUILDING/255-3278

A program of the Department of Interdisciplinary Studies. *Also see College of Liberal Arts and Sciences description and requirements.*

Directors Mary Boltuck, Linda Havir. **Faculty Committee** Barker, Boltuck, Havir, Morohoshi, Stensland.

Gerontology is the interdisciplinary study of the processes of aging and of the problems and needs of the aged. The realities of aging, including psychological, social, institutional, physical, and economic aspects affect everyone, not only those who plan to work directly or indirectly with the elderly.

The gerontology minor was developed to complement programs in biology, health, psychology, recreation, social science, social work, sociology, and other disciplines whose majors may have a personal or vocational interest in aging.

BACHELOR OF ARTS

Minor (36)

Required (16): SSCI 208, BIOL 412, PSY 380, SOC 350.

Electives: 20 Cr. selected from BIOL 104, 307, 312, 411, 446; ENGL 447; HLTH 210, 215, 405; IDS 445; PSY 262, 271, 475, 485; REC 339; SSCI 204 (Death & Dying), 460 (Topics in Aging); SW 211 or PSY 320; SOC 262, 347, 372, 375, 465 or PSY 315.

A maximum of 8 elective credits may be selected from any one department, excluding IDS 445 (Field Experience). Students with majors in biology, health, physical education and recreation, psychology, or sociology may not select electives from their major department. On occasion other appropriate courses may be approved by the minor adviser. Students with a gerontology related internship in their major may register for 2 to 8 credits of IDS 445. Students with no gerontology related field experience in their major are strongly encouraged to take 8 credits of IDS 445. General education courses may not be used to meet general education requirements and gerontology minor requirements at the same time.

BACHELOR OF ELECTIVE STUDIES

Minor (36)

Completion of 36 credits with approval of department.

Health Education (HLTH)

219 HALENBECK HALL/255-3106

A program of the Department of Health, Physical Education and Recreation. *Also see College of Education description and requirements.*

Coordinator George Serdula.

BACHELOR OF SCIENCE

Major (64)

HLTH 210, 215, 305, 315, 415, 438, 481, 482; CHEM 201 or 215; SOC 260; PE 206, 248, 349; Select 2 (8 Cr.) from BIOL 201, 303, 312, 332, 334, 411. Select biology courses and 2 psychology courses with consent of adviser.

Minor (36)

HLTH 210, 215, 305, 315, 415, 438, 481; PE 206, 248, 349.

BACHELOR OF SCIENCE—NON-TEACHING

Major (48)

PE 206, 248, 349; HLTH 210, 215, 220, 305, 405, 481, 482; SOC 260. Select 2 (8 Cr.) from BIOL 201, 303, 312, 332, 344, 411.

Electives: 2 credits with adviser's consent.

24 or 36 credit minor required for graduation.

Minor (36)

PE 206, 248, 349; HLTH 210, 215, 220, 305, 481. Plus 9 elective credits with adviser's consent.

BACHELOR OF ELECTIVE STUDIES

Major (48)

Completion of 48 credits with approval of department.

Minor (36)

Completion of 36 credits with approval of department.

COURSE DESCRIPTIONS

125. Health Education. Development of acceptable health information and practices including personal and community health for the present and future of the student and her/his family. 3 Cr. F, W, S, SUM.

210. Principles of Nutrition. Overview of basic principles of nutrition. Applied nutrition, selection of an adequate diet, dietary standards, tables of food composition, and dietary problems. 3 Cr. F, W, S, DEMAND.

215. Personal and Community Health. Exploration of personal and community problems in selected emotional, social, physical, intellectual areas. 3 Cr. DEMAND.

220. Introduction to Public Health. Historical background-development, areas, programs, activities, and organization of public health. 3 Cr. W, DEMAND.

230. Theories of Chemical Dependency. Current theories of causes, social implications and prevention. 4 Cr. W.

305. Principles of Safety Education. Theories of accident causation and prevention are discussed with special emphasis on the role of education. Includes home, farm, recreation, industry, transportation, and school. 4 Cr. F, W, SUM.

315. Organization of Elementary and Secondary School Health Program. History; legal basis; curriculum; school health services and program; emotional climate of school; emergency care; evaluating results of health instruction; role of physical education in health. 4 Cr. F, S, DEMAND.

330. Diagnosis, Intervention, Treatment of Chemical Dependency. Application of diagnosis, intervention and treatment. Prereq.: 230 or consent of instructor. 5 Cr. S.

401. Field Work. Supervised field experience in health service agencies, institutions or other approved facilities. 1-4 Cr. DEMAND.

438. Methods and Materials in Elementary and Secondary School Health Education. Activities, projects, and units in health curriculum at elementary and secondary school levels. Prereq.: HLTH 210, 215, 301, 305, 315, 415, 481. Must complete before student teaching. 4 Cr. F, W, DEMAND.

444. Internship. Arranged by contract with field supervisor, college supervisor and student. Should be established quarter previous to experience. Credits awarded are determined by clock hours involved. 8, 12, or 16 Cr. DEMAND.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

405-505. Mood Modifying Substances in Contemporary Society. A study of mood modifiers including alcohol and nicotine. Suggested educational strategies K-12. Complies with requirement of MSA 126.05. Prereq.: 90 Cr. of prior coursework. 3 Cr. F, W, S, SUM.

415-515. Health Education Curriculum Development. Organization and development of a school health curriculum, K-12; techniques for course of study construction. Lab. Prereq.: HLTH 210, 215, 301, 315, 481. 4 Cr. DEMAND.

481-581. Human Sexuality. Body growth and development, reproduction and heredity. Role of the home, church, school and community in family life education, dating and courtship, marriage and family living. 4 Cr. F, W, SUM ALT.

482-582. Environmental Health. Effects of environmental factors, processes, and activities on man's health, comfort, welfare and survival. Prereq.: HLTH 125 or 215 or instructor's consent. 4 Cr. Undgr., 3 Cr. Gr. DEMAND.

498-598. Elementary School Health Program. Concepts of health, disease, safety, family life, nutrition and consumer information for the elementary school. 3 Cr. DEMAND.

Health, Physical Education and Recreation

227 HALENBECK HALL/255-2155

Also see College of Education description and requirements.

Chairperson Ray Collins. **Faculty** Anderson, Anfenson, Basch, Bleick, Brink, Buckley, Collins, Glowatzke, Goemer, Helgelien-Hanafy, Hortis, Kalm, Kasper, Kelly, McClellan, Morohoshi, Nearing, Olson, Osendorf, Oxtan, Serdula, Simpson, Stanek, Templin, Thompson, Troyer, Vinje, Waxlax, Whitlock, Wink, Ziemer.

Health, physical education, and recreation is a means of education through knowledge, activities and experiences. These are selected and conducted to enable the individual to develop and maintain maximum mental and physical efficiency, to acquire skills, to conduct oneself in socially acceptable ways, and to enjoy wholesome living.

Students enrolling in swimming classes must furnish their own suits.

All Associate in Arts and baccalaureate degree students are required to earn two credits in physical education courses.

History (HIST)

B LAWRENCE HALL/255-3165

Also see College of Liberal Arts and Sciences description and requirements.

Chairperson David Overy. **Faculty** Gambill, Gower, Gruver, R. Lewis, Massmann, Medler, Nayenga, Overy, D. Peterson, Pluth, Samarrai, Vaughter.

The History department offers major and minor programs and provides background courses for the other humanities and social sciences and for area study and special programs.

Students interested in social studies programs with emphasis in history should refer to the programs listed in social studies.

BACHELOR OF ARTS*

Major (48)

A total of 48 history credits (16 required; 32 elective), of which at least 36 must be at the 200 level or above. A minimum of one course is to be taken from each of the following areas (16):

- U.S. (HIST 140 or 141).**
- Ancient, Medieval, and/or European up to 1500.
- Europe since 1500.
- Asia, Africa, Latin America, or Middle East.

HIST Electives (32).

Student is required to take either a minimum of 12 credits in a foreign language or a minor outside of history.

Minor (36)

A total of 36 history credits (16 required; 20 elective), of which at least 24 must be at the 200 level or above. A minimum of one course is to be taken from each of the following areas (16):

- U.S. (HIST 140 or 141).**
- Ancient, Medieval, and/or European up to 1500.
- Europe since 1500.
- Asia, Africa, Latin America, or Middle East.

HIST Electives (20).

BACHELOR OF SCIENCE*

Major (48)***

A total of 48 history credits (20 required; 28 elective), of which at least 36 must be at the 200 level or above. A minimum of one course is to be taken from each of the following areas (16):

- U.S. (HIST 140 or 141).**
- Ancient, Medieval, and/or European up to 1500.
- Europe since 1500.
- Asia, Africa, Latin America, or Middle East.

HIST 285 (4).

HIST Electives (28).

Minor (36)

A minimum of one course is to be taken from each of the following areas (16):

- a. U.S. (HIST 140 or 141).^{**}
- b. Ancient, Medieval, and/or European up to 1500.
- c. Europe since 1500.
- d. Asia, Africa, Latin America, or Middle East.

HIST Electives (8).

SST 353 (4).

Electives in two of the following departments: ECON, GEOG, POL, OR SOC, ANTH, and SW (8).

Elementary Education Minor (36)

A minimum of one course is to be taken from each of the following areas (16):

- a. U.S. (HIST 140 or 141).^{**}
- b. Ancient, Medieval, and/or European up to 1500.
- c. Europe since 1500.
- d. Asia, Africa, Latin America, or Middle East.

HIST Electives (12).

Electives in two of the following departments:

ECON, GEOG, POL, or SOC, ANTH, and SW (8).

Elementary Education Minor (24)

A minimum of one course is to be taken from each of the following areas (16):

- a. U.S. (HIST 140 or 141).^{**}
- b. Ancient, Medieval, and/or European up to 1500.
- c. Europe since 1500.
- d. Asia, Africa, Latin America, or Middle East.

HIST Electives (8).

BACHELOR OF ELECTIVE STUDIES

Students may present a self-selected pattern of courses to the department for an advised approved 48 Cr. major or 36 Cr. minor.

Major (48)

4 HIST courses at 100 and/or 200 level (16).

4 HIST courses at 300 and/or 400 level (16).

HIST Electives (16).

Minor (36)

3 HIST courses at 100 and/or 200 level (12).

3 HIST courses at 300 and/or 400 level (12).

HIST Electives (12).

*The study of language in addition to English is strongly recommended to increase comprehension of and competence in the history and culture of a people.

** (HIST 140 or 141) Student may petition to department chairperson for permission to substitute a course from HIST 340-344.

***This major is designed for students seeking secondary social studies licensure in Minnesota and is to be completed in conjunction with a competency based licensing program the requirements of which became mandatory July 1, 1979. Students who plan to seek licensure should consult with the social studies coordinator as soon as possible to determine how the social science competencies are to be developed and demonstrated. The University's approved program for the development and demonstration of those required competencies is as follows: SSCI 104; ANTH 250; ECON 259; GEOG 253; HIST 285; POL 217; PSY 264; SOC 260; SSCI 421; SST 353.

COURSE DESCRIPTIONS

101. Studies in World History. An interpretive study of general trends and selected topics in various periods and subjects that are cross-cultural, national, and regional in scope. May be repeated with different instructor and subject. 4 Cr. F, W, S.

105. Studies in U.S. History. An interpretive study of general trends and selected topics in the social, cultural, political, and economic history. May be repeated with different instructor and subject. 4 Cr. F, W, S.

- 111. Studies in European History.** An interpretive study of general trends and selected topics in social, cultural, political, and economic history. May be repeated with different instructor and subject. 4 Cr. W, S.
- 131. Introduction to African History.** An interpretive study of general trends and selected topics in social, cultural, political, and economic history. 4 Cr. F, W, S.
- 140. America to 1865.** Interpretations of general trends and topics from colonization through the Civil War. 4 Cr. F, W, S.
- 141. United States since 1865.** Interpretations of general trends and topics from reconstruction through the mid-twentieth century. 4 Cr. F, W, S.
- 200. Ancient Civilization.** The origins of society's early developments in the Near East, Greece, and Rome. 4 Cr. F, W, S.
- 201. Europe, 1500-1715.** Renaissance and Reformation; rise of nation states. 4 Cr. F, W.
- 202. Europe, 1715-1870.** Revolutionary nationalism and decline of absolutism; Industrial Revolution and Imperialism. 4 Cr. W, S.
- 203. Europe, Since 1870.** Imperialism and nationalism; World Wars I and II; totalitarianism and democracy; rival state systems. 4 Cr. F, S.
- 220. Directed Study in History.** Directed readings in a specific aspect of history. Topic determined by instructor. May be repeated with different topics. 1 Cr. Max. 4 Cr. W.
- 285. Concepts and Theories in History.** A study and analysis of the nature of history as a discipline. 4 Cr. S.
- 323. Medieval Europe, 325-1500.** Political, economic, and cultural history of Europe from the later Roman Empire to the end of the Middle Ages. 4 Cr. F, W.
- 324. The Middle East.** The rise and development of medieval Islamic civilization; the Middle East under the Ottomans; the recent age. 4 Cr. DEMAND.
- 325. The Renaissance, 1300-1500.** Growth of the secular spirit and state; rise of humanism; social and economic forces; beginnings of European expansion; the dawn of modern science. 4 Cr. F.
- 326. The Reformation, 1500-1648.** Protestant and Catholic Reformations; religious wars, rise of the modern state, modern culture and capitalism. 4 Cr. W.
- 327. Absolutism and Enlightenment: Europe 1600-1789.** Dynastic and political systems; scope and spread of scientific inquiry; challenges to traditional authorities. 4 Cr. S.
- 331. Europe and World War I.** Origins of World War I; the war and the peace settlement; Russian Revolution; post-war problems; origins and rise of Fascism and Nazism. 4 Cr. F.
- 332. Europe and World War II.** Causes of World War II; the war and post-war problems; adjustments which have created contemporary Europe. 4 Cr. W.
- 336. England, 1485-1717.** Rise and fall of dynastic politics; growth of Parliamentary influence; the basis for empire. 4 Cr. DEMAND.
- 338. Modern Germany.** Germany's rise from a nonpolitical entity to a modern state; emphasis on nationalism and militarism. 4 Cr. S.
- 339. Modern France.** The Revolution and Napoleon; institutional and cultural life in the nineteenth century; the maturing of the Republic. 4 Cr. DEMAND.
- 340. Colonial America, 1607-1783.** European colonization; colonial society; Revolution. 4 Cr. ALT.
- 341. United States, 1783-1848.** Confederation; Constitutional government; Federalist era; Jeffersonian and Jacksonian Democracy; Manifest Destiny; Sectionalism. 4 Cr. ALT.
- 342. Civil War and Reconstruction, 1848-1877.** Sectionalism; disunion and war; the Confederacy; reunion and reaction. 4 Cr. F.
- 343. United States, 1877-1920.** Protests by economic, social, and political groups affected by rapid urban-industrial development; Progressivism as a response to social change; the domestic impact of World War I. 4 Cr. W.
- 344. United States, 1920 to Present.** Development of the modern liberal state; domestic and foreign problems. 4 Cr. S.
- 345. American Economic.** Colonial times to present; transformation from an agricultural to an industrial economy. An elective for majors in Economics. 4 Cr. W.
- 346. Minnesota.** Indians, explorers, early settlement, territorial period, and statehood years. 3 Cr. F, W, S.
- 347. American Urban History.** Urban America from colonial to modern times; the origin and growth of cities and their impact upon the development of the U.S. 4 Cr. S.

- 348. American Labor History.** A chronological survey of conditions of work and workers' movements from colonial times to the present. 3 Cr. ALT.
- 349. Americans and Nature.** The interaction of Americans with their natural environment from early settlement into the twentieth century. 4 Cr. S.
- 350. Black Americans.** African background, Western racism, slave systems, beginning of Black institutions, Black nationalism and protest, civil rights movements. 4 Cr. F.
- 351. Black American Cultural and Intellectual.** Black folk culture, middle class ideology, music, literary and historical writings, nationalism and assimilation, the search for a Black Aesthetic. 4 Cr. ALT.
- 352. Native Americans.** Indian people in the U.S. from early man to modern times, Indian cultures, Indian-white relations, the Indian today. 4 Cr. S.
- 354. Mexican-Americans.** Spanish and Indian backgrounds in Mexico; primary emphasis upon Mexican-Americans in the U.S. since 1848. 4 Cr. ALT.
- 356. Women in History.** Study of women's roles in shaping societies and cultures of the past and their struggle to achieve equality with men. 4 Cr. W.
- 358. Immigration to U.S.** Why people migrated, areas of settlement, contributions to American society, problems faced within the U.S. 4 Cr. ALT.
- 361. Latin America, 1492-1825.** Spanish and Portuguese colonial empires in America from their origins through the Wars of Independence. 4 Cr. F.
- 362. Latin America Since 1825.** Development of the major Latin American countries since the Wars of Independence. 4 Cr. W.
- 369. China Since 1800.** The modernization of China. Primary emphasis on political, social, and economic developments during the Manchu, Nationalist, and Communist periods. 4 Cr. DEMAND.
- 370. Africa to 1500.** Origins of humans in Africa; Ancient African kingdoms; Roman, Byzantine and Islamic influences up to the coming of the Portuguese. 4 Cr. W.
- 371. Africa Since 1500.** African reactions to European discovery, settlement, and colonial domination; European colonial regions to the advent of African self-rule. 4 Cr. F, S.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

- 433-533. Imperial Russia, 1725-1917.** Politics, diplomacy, society, economics, and culture from Peter the Great to the Revolution. 4 Cr. W.
- 434-534. Soviet Russia Since 1917.** Historical survey of politics, society, economics, and culture. 4 Cr. S.
- 445-545. United States Military History.** Military problems and accomplishments from 1775 to the present. 4 Cr. DEMAND.
- 448-548. U.S. Social and Intellectual to 1865.** Puritanism, revivalism, early American political thought, economic values, agrarianism, reform movements, literary traditions, individualism. 4 Cr. ALT.
- 449-549. U.S. Social and Intellectual Since 1865.** "Rugged individualism," pragmatism, reform, evolution, racism, liberalism, conservatism, radicalism. 4 Cr. ALT.
- 455-555. U.S. Foreign Relations, 1775-1898.** American foreign policy; neutral rights; Monroe Doctrine; influence of sectionalism on foreign relations; Civil War and its effects; overseas expansion. 4 Cr. ALT.
- 456-556. U.S. Foreign Relations Since 1898.** The U.S. as a world power; diplomatic policies in two world wars and their aftermath. 4 Cr. DEMAND.
- 458-558. The American West.** Topical and chronological consideration of western land policy, territorial government, Indian policy, economic development. 4 Cr. DEMAND.
- 463-563. U.S. Latin American Relations.** General trends with emphasis on specific relations with selected Latin American countries or regions. 4 Cr. DEMAND.
- 472-572. European Historiography Since 1750.** Readings in and interpretations of important European historians. 3 Cr. DEMAND.
- 473-573. American Historiography.** Reading and discussion of historians and historical interpretation from Colonial America to the present. 3 Cr. ALT.
- 478-578. Historical Criticism and Writing.** Problems in and methods of historical accuracy and consistency; references, chronology, availability of knowledge, historical "myths", preparation of research papers and theses. 3 Cr. ALT.
- 480-580. Seminar in American History.** Intensive reading and research in one area or topic of

110 / Honors (HONS)

U.S. or Latin American history. Limited to senior or graduate students. 3 Cr. May be repeated with different topic. Max. 9 Cr. DEMAND.

483-583. Seminar in European History. Bibliographical study, research, and discussion of a selected topic. Limited to senior or graduate students. 3 Cr. May be repeated with different topic. Max. 9 Cr. DEMAND.

486-586. Seminar in Africa, Asia, or Middle East. Reading and research on a selected topic. Limited to senior or graduate students. 3 Cr. May be repeated with different topic. Max. 9 Cr. DEMAND.

Honors (HONS)

209 ADMINISTRATIVE SERVICES BUILDING/255-3143

Director Robert Earles

The Honors program at St. Cloud State University strives to provide a climate within which serious intellectual endeavor can flourish. The primary purpose of the program is to provide the best possible situation for the student to develop into a liberally educated scholar, capable of intellectual independence, critical thought, and self-enlightenment. The University attempts to confront the superior student with a variety of ideas; it desires to deepen the intellectual experience, awaken sensitivities, and stimulate a love for learning. In the process, the student is encouraged to carry on dialogue of the intellectual discovery with colleagues and professors both in and out of the classroom. Consequently the close relationships created in small classes and in seminars are nurtured by discussions, forums, and cultural activities.

There are three possible degrees with honors—Honors in Liberal Studies, Honors in Major, and University Honors. The first is granted to those who satisfactorily complete the requirements in the liberal studies honors curriculum, the second to those who complete honors requirements in a major field, and the third to those who complete honors requirements in both.

For information concerning admission to Honors contact the director.

Liberal Studies Curriculum. Students admitted into the Honors program enroll in honors courses rather than in the university general education courses. Honors courses are listed below.

FRESHMAN YEAR

100. Honors English. Emphasis upon advanced composition, creative writing, reading of selected literature and critical analysis. 4 Cr.

102. Honors English. Study of various literary forms with additional emphasis on analytical and interpretative thinking and writing. 4 Cr.

110. Honors Mathematics. Designed to help the student acquire greater insight into the nature of mathematical thinking—methods of proof, language of symbols, logical discourse, and deductive systems. 4 Cr.

120. Honors Physical Science. The purpose of all honors science requirements is to acquaint the student with major problems of a general area and the different ways of attempting solutions. The student is expected to develop skills and tools helpful in comprehending and evaluating scientific thought. 4 Cr.

121. Honors Biological Science. See description under Physical Science. 4 Cr.

SOPHOMORE YEAR

200. Honors Philosophy. Content will vary from year to year but is concerned with helping the student sharpen conceptual tools and critical techniques, encouraging development of a questioning intellectual attitude, and promoting the habit of original thought. 4 Cr.

210. Honors Social Science I. Seminars are designed to provide insight into the methods of the area, to demonstrate the interrelatedness of disciplines within the area, and to encourage the habit of critical thought. 4 Cr.

220. Honors Humanities I. Seminars are designed to provide insights into the area, to help the student discover relationships among disciplines within the area, and to allow opportunity for the student to develop powers of critical thought. 4 Cr.

JUNIOR YEAR

310. Honors Social Science II. A second seminar in social and behavioral science. 4 Cr.

320. Honors Humanities II. A second seminar in humanities. 4 Cr.

SENIOR YEAR

401. Honors Interdisciplinary Colloquium: Humanities. 4 Cr.

402. Honors Interdisciplinary Colloquium: Natural Science. 4 Cr.

403. Honors Interdisciplinary Colloquium: Social Science. 4 Cr.

Senior honors students must take two of the above interdisciplinary colloquia. One must be in the area of the student's major department and the other must be outside the area of the major.

LANGUAGE REQUIREMENT

Each student must complete one of the following options:

- a. a minimum of one year of satisfactory classwork in one foreign language at the University;
- b. present evidence of two years of satisfactory work in one foreign language at the high school level;
- c. demonstrate proficiency (as determined by the Foreign Language department) in one modern language;
- d. three courses in linguistics and/or in foreign literature in translation.

ADVENTURE IN MEANING. All honors students are involved in this extracurricular academic activity every quarter they are in the honors program. All students read the same materials, attend occasional lectures by scholars and artists, and meet together in small groups with selected professors. The objectives of the program are to provide a common source of conversation for all honors students; to further develop an appreciation for the liberal arts idea; and to help provide a sense of intellectual community.

DEPARTMENT HONORS. With the exception of three common features each departmental program has its own individual characteristics. All have opportunity for students to do independent work for credit. The course entitled Independent Honors Study is available in every department and may carry from 2 to 12 credits. The departments offer Independent Honors Study as the number of honor students and the availability of faculty permit. The purpose is to give students ample opportunity to pursue various readings or research topics not available to them through the regular departmental curriculum.

Secondly, each department requires a senior project for graduation with honors. This is normally begun during the spring quarter of the junior year or the fall quarter of the senior year. The nature of the project is determined by the student and the department; it must be a work that reveals scholarly or artistic competence in one's field. It should also reveal the student's ability to think critically, to handle the bibliographic and research tools of the field, and to use expression in a scholarly manner.

Finally, senior honor students must stand a comprehensive examination in their major field. The details of the examination are governed by the department.

Departments are free to develop further aspects of an honors curriculum. For information concerning various departments, students should contact the chairperson.

REQUIREMENTS FOR GRADUATION IN HONORS PROGRAMS

Honors in Liberal Studies:

1. Completion of the Liberal Studies curriculum unless waivers are granted by the director
2. 3.0 average in Liberal Studies and 3.3 for all work taken.
3. Participation in Adventures in Meaning every quarter of a student's membership in the Honors program.

Honors in Major:

1. Completion of program established by the department at the time the student was accepted into honors.
2. Acceptance by the department of a student's senior project and comprehensive examination.
3. 3.3 for all work taken and 3.5 in major.
4. Recommendation of major department.
5. Participation in Adventures in Meaning every quarter of a student's membership in the Honors program.

University Honors:

1. Completion of requirements for honors in Liberal Studies.
2. Completion of the requirements for honors in a major department.
3. Approval of both the department and the director.

Continuation in Honors Program. Any time honor students fall below a 3.0 average for all work taken they are permitted to continue for one quarter. If they are still below 3.0 at the end of the next quarter, they will be asked to discuss their situation with the director and may be asked to withdraw from the program. Regardless of a student's average, the director may review a student's status at any time should there be evidence from a faculty member that a student's performance or attitude is inconsistent with the honors outlook.

In the case of departmental honors, a department should notify the director when a student has been dropped from the program for low grades or other reasons.

Pass-Fail Courses. Honors students may take one course other than an honors course each year without being graded. At the end of the quarter they will be given a grade of "Satisfactory" or "Unsatisfactory." Credits earned in this way will not be included in computing grade point average. The purpose of this opportunity is to allow the superior students to learn more about an area where they have some interest but inadequate background to compete with advanced majors in the field. To exercise this pass-fail option the student should obtain approval from the Honors program director during the first week the course meets.

Human Relations (HURL)

A131 EDUCATION BUILDING/255-3124

Also see College of Education description and requirements.

Coordinator Julie Andrzejewski. **Faculty** Andrzejewski, Downes, Hellwig, V. Lawson, Purdom, Risberg.

The Human Relations program provides training in self-awareness and skills essential for living and teaching in a pluralistic society. Courses are available for those planning to enter education and public service positions in government, health care, business, and industry. These courses are designed to enable participants to enhance their effectiveness in analyzing how power, resources, cultural standards, and institutional practices and procedures are used to perpetuate the oppression of various groups in society, and how people may be effective in creating social and institutional change. Other objectives include 1) an understanding of the contributions and life styles of the various racial, cultural, and economic groups in society; 2) recognizing and dealing with dehumanizing biases, discrimination, and prejudices; 3) creating learning environments which contribute to the self-esteem of all persons and to positive interpersonal relations; 4) respecting human diversity and personal rights.

COURSE DESCRIPTION

201. Non-Oppressive Relationships. Development of practical skills for eliminating racism, sexism, and other oppressive elements from your personal, professional, and public life. 4 Cr. DEMAND.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

450-550. Nonverbal Communication and Education. Role of nonverbal communication in human interaction. Includes analysis of environmental factors, physical appearance, body language, touching behavior and paralanguage. 3 Cr. DEMAND.

491-591. Change Agent Skills. Practical skills for producing institutional change in education and related areas. Permission only. 4 Cr. DEMAND.

493-593. Values and Teaching. The value clarification theory of Rath, Harmon and Simon will be the major focus. Theory, research and teaching strategies will be presented. 4 Undgr. Cr., 3 Gr. Cr. DEMAND.

496-596. Human Relations and the Teacher Part I. Part I of the program to meet State Board of Teaching Licensure Rule 3.041 Human Relations teacher certification requirement. The focus is upon parts bb, cc and dd of the state requirement. 3 Cr. F, W, S. SUM.

497-597. Human Relations and the Teacher Part II. Part II of the program to meet State Board of

Teaching Licensure Rule 3.041 Human Relations teacher certification requirement. The focus will be upon part aa of the state requirement. Prereq.: HURL 496-596. 3 Cr. F, W, S, SUM.

498-598. Application of Theory for Developing Moral Reasoning. Various theories on moral development provide bases for integrating moral education into school curriculum. Focus upon understanding Larry Kohlberg's structural-developmental theory and developing skills for utilizing the theory. 4 Cr. F.

Industrial Education (IND)

205 HEADLEY HALL/255-2128

Also see College of Industry description and requirements.

Chairperson William Lacroix. **Faculty** Albin, Bergstrom, Bjorklund, Braun, Carter, Kemp, W. Lacroix, Nestel, Schwaller, Walton.

The Department of Industrial Education assists the individual in the development of concepts, understanding and appreciations regarding industry through a study of its tools, materials, processes, products, problems, conditions and workers. The functions of the Department of Industrial Education are to prepare industrial arts teachers for instruction on the elementary, junior and senior high school levels; to prepare teachers of aviation-aerospace education; to prepare teachers in vocational-technical education; and to offer opportunity for graduate study in industrial education. Ever increasing functions are meeting the needs of teachers, preprofessional people, recreational workers, rehabilitation workers and community groups.

BACHELOR OF SCIENCE

Industrial Education Major (80)

Core (60) plus one Option (20)

Students who have not had higher algebra in high school must take MATH 130. Students who have not had a full year of physics in high school must take PHYS 103, 207, or 208 as a part of their General Education program. All incoming Industrial Education majors are required to take an advanced placement drafting test to determine their status. Students not meeting the minimum standard must take IND 110 with the 4 credits to be counted in the electives category of the core. When applying for or revising major program, core or option electives may be satisfied by any university course(s) which may be justified by the candidate as being appropriate to his/her major program. (It should be noted that a combination of state licensing requirements and the comprehensiveness of the industrial education major may result in a program of studies that will exceed the minimum degree requirement of 192 credits.)

CORE: (60)

IND 100, 111, 112, 124, 134, 144, 184, 224, 234, 245, 284, 351, 450, 452, 455; TECH 170; IND Electives (6).

OPTION 1: Communications—Drafting (20)

Prerequisites: IND 124, 224.

Required (8): IND 225, 314.

Select 12 credits from: IND 214, 411, 412, 498 (4 credit maximum).

OPTION 2: Communications—Graphic Arts (20)

Prerequisites: IND 124, 224.

Required (8): IND 225, 314.

Select 12 credits from: IND 324, 424, 425, 498 (4 credit maximum).

OPTION 3: Communications—Photography (20)

Prerequisites: IND 124, 224.

Required: IND 225, 314.

Select 12 credits from: TECH 165, 166, 167, 265; IND 498 (4 credit maximum).

OPTION 4: Communications—Electronics (20)

Prerequisites: IND 124, 224.

Required (8): IND 225, 314.

Select 12 credits from: TECH 271, 272, 471; COMM 371, 376, 451, 476; IND 498 (4 credit maximum).

114 / Industrial Education (IND)

OPTION 5: Construction (20)

Prerequisites: IND 134, 234.

Required (10): IND 230, 333, 334.

Select 10 credits from: IND 330, 335, 411, 430, 436, 498 (6 credit maximum).

OPTION 6: Manufacturing (20)

Prerequisites: IND 144, 245.

Required (12): IND 244, 340, 346, 442.

Select 8 credits from: IND 344, 365, 430, 440, 444, 446, 498 (6 credit maximum); TECH 326, 327.

OPTION 7: Transportation/Energy—Power (20)

Prerequisites: IND 184, 284.

Required (8): IND 285; TECH 374.

Select 12 credits from: IND 381, 384, 481, 498 (4 credit maximum); TECH 155, 329.

OPTION 8: Transportation/Energy—Electronics (20)

Prerequisites: IND 184, 284.

Required (8): IND 285; TECH 374.

Select 12 credits from: TECH 271, 272, 373, 471, 472; IND 498 (4 credit maximum).

OPTION 9: Institutional Therapy (20)

IND 493; PSY 475; SOC 260, 261.

OPTION 10: Special Needs (22)

(Note: IND Electives in Core may be reduced to 4 if this option is selected.) SPED 401, 423, 424, 451; PSY 466, 473; ED 469 (Credits not applicable to option.)

Licensure: A graduate with this major who has completed the professional education requirements is qualified for a Minnesota teacher's license in industrial education.

Vocational-Technical Education Major (124)

Professional Education (52)

Required (40): IND 351, 431, 450, 454; BEOA 405; HLTH 125, 405; HURL 496, 497. Electives (12) selected from: IND 151, 250, 251, 415, 417 (or BEOA 409), 418, 452, 453; BEOA 407, 408. (Those presently teaching in a vocational-technical station may earn the 16 credits in IND 454 at their regular positions under special supervision. Others must complete supervised teaching assignments in a vocational station.)

Subject matter specialty (64)

Evaluated work experience and/or vocational-technical institute training plus competency examinations up to 64 credits. Students having three years or more of occupational experience or having satisfactorily completed a two-year post high school program in a public or private vocational-technical institute and declared majors may apply for competency examinations. Residence requirement may be satisfied by these credits; however, a minimum of three courses must be taken on campus.

If above is less than 64 credits, the remainder must be earned in advanced technical courses in IND or TECH or in a supervised work experience, IND 498.

Note: Only those candidates who have had the occupational experience required in the State Plan may qualify for the vocational certificate required by the State Department of Education. Electives (8). Courses in IND or other fields may be selected with the approval of the adviser.

Industrial Education Minor (36) (For Elementary Education majors and others, but does not qualify one for industrial education teaching license.)

Required (21): IND 110, 124, 134, 144, 184; Electives (15) selected from: IND 111, 130, 161, 224, 234, 245, 284, 365; TECH 165, 170, 220.

BACHELOR OF ELECTIVE STUDIES

Major (48)

Non-teaching

Completion of 48 credits with the approval of the department.

ASSOCIATE IN SCIENCE

Vocational-Technical Education (96)

General Education: (32)

See page 9.

Professional Vocational-Technical courses:(32)

Required (12): IND 351, 431, 450; BEOA 405. Electives (20) selected from: IND 151, 250, 251, 415, 417 (or BEOA 409), 418, 452, 453; BEOA 407, 408; Human Relations.

Technical competence (32)

May be earned in any of the following ways:

1. Three or more years of occupational experience, or two years of post-high school training in an approved public or private vocational-technical institute. The student must demonstrate technical competence by passing comprehensive examinations in the trade or technical occupation. Each examination is 8 credits and may be taken after earning a minimum of 16 additional credits. (8, 16, 24, 32).
2. IND 498 (1-32)
3. Technical course work in IND or TECH approved by major adviser. (1-32)
4. Any combination of the above totaling 32 credits.

Note: Only those candidates who have had the occupational experience required in the State Plan may qualify for the vocational certificate required by the State Department of Education.

SEQUENCE

Aviation-Aerospace Education (12): IND 186; TECH 101, 201.

COURSE DESCRIPTIONS

100. Competency Exams. Demonstrated competencies in various curricula of vocational-technical education. Total of five examinations possible. Exams 1-4, 8 Cr. Exam 5, 0-32 Cr. DEMAND.

110. Technical Drawing I. Use and care of instruments, lettering, freehand sketching, orthographic, pictorial, sections, auxiliary, revolutions and measurements. Lab. 4 Cr. F, W.

111. Technical Drawing II. Symbols and conventions common to working drawings of industry. Special emphasis on dimensioning, tolerancing, fasteners, cams, gears, blueprint reading, microfilming, photodrafting, introduction to computer graphics theory and reproduction of drawings. Prereq.: 110 or demonstrated competency. Lab. 4 Cr. F, W, S.

112. Industrial Design. Competency based individualized instruction in the application of the elements and principles of industrial design. Emphasis on the industrial design process. 1 Cr. (Meeting time arr., instructor approval required.)F, S.

124. Introduction to Communications Technology. Industrial communications systems (visual and electronic) used in originating, developing, sending, receiving, storing, retrieving, and interpreting ideas and knowledge. Lab. 4 Cr. F, W.

130. General Woodworking. Tools, machines, and processes involved in woodworking. Instruction and lab activities are varied to meet individual needs. Lab. 3 Cr. F, W, S, SUM.

134. Introduction to Construction Technology. Various phases of a construction activity. Includes light and heavy structures, and custom and factory construction. Specific coverage of residential construction procedures. Experimentation with construction materials and techniques. Lab. 4 Cr. F, W.

144. Introduction to Manufacturing Technology. Production, processes, management and personnel practices of modern manufacturing. Practices in tooling, assembly, packaging and post processing. Lab. 5 Cr. F, S.

151. Introduction to Industrial Education. An overview of industrial education department offerings, professional opportunities, history and philosophies. 4 Cr. S.

154. Vocational Teaching Internship. A supervised teaching experience for beginning secondary vocational teachers. 6 Cr. F, W, S.

161. Industrial Crafts. Leather; plastics forming, shaping, casting and molding; ceramics, hand work, tile, molds; wood turning; metal etching; and engraving. Lab. 4 Cr. F, W, S, SUM.

169. Tools and Machines. The care and use of tools and machines common to the Departments of Art and Theatre. Not open to industrial majors. Lab. 1 Cr. F, W, S, SUM ALT.

184. Introduction to Transportation/Energy Technology. Transportation/Energy as the prime movers of people, products, and services of a technological and career literacy. Experiences and experimentation applied to their working principles. 4 Cr. F, S.

186. Introduction to Aviation. Role aerospace has played in the United States. Basic information in areas related to flight. 4 Cr. W, S.

192. Modern Technology and Civilization. Analysis of contemporary technology and its effects

on the individual and society. Special emphasis is placed on change created by technology, as well as such topics as modern industrial structure, the labor force, leisure, automation and the resulting social consequences. 4 Cr. F, W, S, SUM.

195. Workshop: Introduction to Vocational Teaching. Philosophy of vocational education, course construction, methods of instruction, and evaluation of learning. 3 Cr. DEMAND.

214. Technical Drawing III. Spatial graphics in the solution of drafting problems. Measurements, intersections, developments, sizes and shapes. Prereq.: 111. Lab. 4 Cr. S.

224. Communication Processes. Development of technical skills and knowledge in areas of the Communications cluster. Prereq.: 124 or consent of instructor. Lab. 4 Cr. W, S, SUM.

225. Photomechanical Processes. Photomechanical processes related to letterpress, offset lithography, gravure, screen process printing, and electrostatics. Character generation, photo conversion, sensitometry, image carriers, and image transfer. Prereq.: 224 (or consent of instructor). Lab. 4 Cr. W, S, SUM ALT.

230. Wood Technology. Use and maintenance of woodworking machines; designing of instruction for secondary school use. Lab work to develop advanced woodworking skills. Prereq.: 130 or demonstrated basic skills. Lab. 3 Cr. W.

234. Construction Processes. Designed to develop minimal skills in a wide variety of construction activities for those electing the construction option. Also useful for home construction and maintenance. Prereq.: 134 or consent of instructor. 4 Cr. Lab. W, S, SUM ALT.

244. Welding I. Principles and practices of gas and arc welding and brazing of cast iron, mild steel and aluminum. Lab. 2 Cr. F, W, S, SUM.

245. Manufacturing Processes. Development of technical skills and knowledge in the areas of the Manufacturing cluster. Prereq.: 144 or consent of instructor. Lab. 3 Cr. F, W, SUM ALT.

250. Instructional Aids in Industrial Subjects. Selection, use, planning, and production of teacher-originated materials; application of commercially produced materials; role of models and mockups. 3 Cr. F, SUM ALT.

251. Shop Management and Control. Organization of procedures to facilitate teaching; setting up roll-checking devices, issuing procedures for tools and materials, keeping material inventory, using assignment and progress charts, using student leadership in routing non-teaching class and laboratory activities, keeping records and requisitioning technique. 3 Cr. W, SUM ALT.

284. Transportation/Energy Processes. Basic information and manipulative skills directly related to the areas of transportation and energy utilization through study of the transactional systems including heat engines, fluidics, electricity-electronics, mathematics and scientific principles, and logistics. Prereq.: 184 or consent of instructor. 4 Cr. Lab. F, W, SUM ALT.

285. Alternative Transportation/Energy Systems. Comprehensive study of alternative energy resources and transportation systems. 4 Cr. S.

314. Technical Illustrating. Translation of working drawings into pictorial drawing through axonometric, oblique, and perspective projection techniques. Airbrush fundamentals emphasized. Prereq.: 111 or instructor permission. Lab. 4 Cr. DEMAND.

321. Elementary School Industrial Arts. Projects, tools, materials and processes of industry which provide experiences and exploration for motivation in the integration of subject matter. (Meets four hours per week.) Not open to industrial majors. Lab. 2 Cr. F, W, S, SUM.

324. Industrial Screen Process Printing. Preparation of camera ready copy, film positives, direct/indirect transfer films, direct photo emulsions, screens, inks, and reproduction. Lab. 4 Cr. F.

330. Cabinet and Furniture Construction. Design, construction, and finishing of wood furniture and cabinetry. Prereq.: 230 or demonstrated basic woodworking skills. Lab. 4 Cr. S.

333. Masonry and Concrete Technology. Study of knowledge and practice of skills required in masonry and concrete work. An analysis of the role of concrete, brick, stone and related materials in construction is made. Includes experimentation in designing forms, mixes, and finishes, and in testing masonry materials. Lab. 3 Cr. S.

334. Residential Carpentry. Covers a variety of activities a carpenter normally encounters with residential work. Emphasis is on the framing aspects. Involves lab activities where feasible. 4 Cr. S.

335. Electrical and Mechanical Systems in Residential Construction. Electrical, plumbing, and climate control systems commonly associated with residential construction. Lab. 4 Cr. F.

340. Patternmaking, Foundry, and Heat Treatment. Casting of nonferrous metal; designing and constructing wood, metal, and/or plastic patterns; and heat treating of metals. Lab. 3 Cr. W.

344. Forging and Metallurgy. Principles and practices of hot and cold forging of ferrous and nonferrous metals and the treating and metallurgical testing of ferrous metals. Lab. 2 Cr. F ALT.

346. Machine Metal I. Care and use of lathe, miller, shaper, metal saws, and other machinery common to metal area. Lab. 2 Cr. F, S.

351. Course Construction. Techniques employed in developing and evaluating course teaching content; innovative programs; developing behavioral objectives in the three learning domains. Prereq.: 151 or BEOA 405. 3 Cr. F, SUM ALT.

365. Plastics Technology. Identification, classification, properties and uses of plastics. Design theory and experimental techniques in basic processes. Lab. 3 Cr. F, S, SUM.

381. Basic Vehicle Systems. Engine systems, vehicle functioning, identification of components, maintenance and troubleshooting. 4 Cr. F, W, S, SUM.

384. Power Plants and Trains. Theory and operation of heat engines (gas, diesel, turbines), experience in disassembly and rebuilding; transmission of power through fluid, mechanical and electromechanical systems. Prereq.: 184. Lab. 4 Cr. S.

411. Architectural Drawing. Introduction to architecture including study and practical drawing problems in architecture; home programming; design; building codes and regulations; production and reproduction of a set of home working drawings. Some work in site and landscape planning. Lab. 4 Cr. W.

412. Industrial Design II. Creativity, industrial design problems, models, renderings, application of design process. Freehand line drawings, shading, airbrush methods. Design problems for individual student interests, experimentation, and design technique application. Prereq.: 112 or permission of instructor. Lab. 4 Cr. F ALT.

414. Practicum (Topical). Authentic practical experiences in one of the several occupational clusters. Practicums will be designed to encompass such areas as the communications, construction, manufacturing, and other industries. Lab. 5 Cr. SUM.

424. Photo Offset Lithography. Advanced techniques. Emphasis on operation of several brands of offset presses. Copy preparation, photo conversion, stripping and platemaking. Prereq.: 225 or consent of instructor. Lab. 4 Cr. S ALT., SUM ALT.

425. Color Separation. Introduction to procedures. Basic color theory, direct and indirect color separation, continuous tone intermediates, filtering, masking, screening positives, screened negatives, color stripping, and four color reproduction. Lab. 4 Cr. S ALT., SUM ALT.

430. Mass Production in Wood. Care and use of woodworking machines and special hand tools. Mass-production aspect of woodworking machines. Activity of class based upon a group project whenever possible. Lab. 4 Cr. S.

436. Construction Scheduling and Estimating. Introduction to preliminary detail and quantity estimating. Scheduling techniques. Emphasis on residential and small commercial projects. 4 Cr. F.

440. Advanced Foundry Practice. Materials, equipment and techniques used in volume production using both ferrous and nonferrous metals. Lab. 2 Cr. S ALT.

442. Manufacturing Concepts. Manufacturing concepts including the study of management practices, production practices and personnel practices. Emphasis will be upon contemporary industrial technology. Lab. 5 Cr. S.

444. Technical Welding II. The application of industrial welding techniques in heliarc, redi-spot, forge, furnace, flow and pressure and chemical welding of metals. Lab. 3 Cr. W ALT.

446. Machine Metal II. Experimentation and application of metal working processes. Tool and die, application of automation to machine shop processes. Lab. 3 Cr. S ALT.

450. Methods. Analysis and practical application of teaching techniques for contemporary and innovative programs; organization and guidance of learning experiences; design and use of instructional instruments; instructional evaluation; use of back-up personnel. Prereq.: 351. Required for student teaching. 3 Cr. W, SUM ALT.

454. Supervised Teaching. A specially supervised teaching experience for those presently employed in a vocational school. A regular student teaching experience in a vocational school for others. By permission. 16 Cr. F, W, S.

455. Senior Seminar. Discussions and presentations concerning teaching experiences, industrial education at SCSU, and the securing of a teaching position. A professional program capstone course. Prereq.: student teaching. 1 Cr. W, S.

481. Automotive Engine Analysis. Performance testing, evaluation, and troubleshooting of automotive systems including ignition system, charging system, fuel system, and overall engine efficiency testing. Lab. 4 Cr. S ALT.

493. Institutional Therapy. Placement in a supervised research or training project which may be a social service agency, correctional institution, hospital or other approved facility. Approval by college required for acceptance. 8 Cr. F, W, S, SUM.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

415-515. Vocational Guidance. Acquisition development and the dissemination of occupational and guidance information. 3 Cr. S, SUM ALT.

417-517. Organization and Administration of Industrial Education. Organization and administration of secondary, post-secondary, adult, and special needs classes. 3 Cr. W ALT, SUM ALT.

418-518. Conference Leading. Techniques and practices employed in leading and participating in conferences. 3 Cr. W ALT, SUM ALT.

424-524. Photo Offset Lithography. Advanced techniques in photo offset lithography including line and continuous tone copy preparation, line and halftone photography, stripping and flat making, platemaking, and press operation. Prereq.: 225. 4 Undgr. Cr., 3 Gr. Cr. S ALT, SUM ALT.

425-525. Color Separation. Introduction to color separation procedures. Basic color theory, direct and indirect color separation, continuous tone intermediates, filtering, masking, screening and color proofing. Prereq.: 424. 4 Undgr. Cr., 3 Gr. Cr. S ALT, SUM ALT.

431-531. Evaluation in Industrial Subjects. Processes of evaluation and problems of measuring achievement in industrial-technical areas. Selection, development and validation of evaluative instruments and techniques. 3 Cr. S ALT, SUM ALT.

451-551. Selection and Organization of Subject Matter. Techniques of trade and job analysis, selection of teaching content, and organization of content into instruction sheets and course material. 3 Cr. F ALT, SUM ALT.

452-552. Laboratory Planning and Safety. Theory and practice in planning industrial education laboratories; selection and arrangement of equipment; safety factors involved. 2 Cr. F, SUM ALT.

453-553. Individualized Instruction. Utilizing individualized instruction for designing new courses or converting existing ones to an individualized learning approach. Emphasis will be placed upon techniques and the use of media. 3 Cr. F, SUM ALT.

498-598. Internship. Offered only to students who hold internships with industrial organizations for which advanced approval has been given by the department. 1-16 Cr. May be repeated; however, a maximum of 16 Cr. will count toward an undergraduate degree and 8 Cr. toward a graduate degree. F, W, S, SUM.

Interdisciplinary Studies (IDS)

205 STEWART HALL/255-2248

Departmental Programs: American Studies
East Asian Studies
Gerontology
Latin American Studies

Local and Urban Affairs
Social Science
Social Studies

Also see College of Liberal Arts and Sciences description and requirements.

Chairperson Harold Lieberman. **Faculty** Downes, Haniiff, Hellwig, Hott, J. Kelley, Lieberman, Morgan, Nunn, Redd, Shenk., E. Simpson, Stensland, Wolfer.

The Department of Interdisciplinary Studies has strong commitments to general education and to interdisciplinary studies as important components of undergraduate education. All departmental courses and programs have been designed to cut across disciplinary lines and to promote the development of a wider perspective on the student's part.

The department has general responsibility for courses and programs in social science and social studies. Students interested in teaching or non-teaching programs in these areas should check the respective descriptions in this bulletin. The department also has developed or cooperated in the development of a number of broad interdisciplinary programs; each of which has a director or coordinator and a program advisory committee. These programs, under the general administration of the department, are listed above. Students interested in any of these interdisciplinary programs should consult the individual program descriptions in this bulletin.

COURSE DESCRIPTION

445. Field Experience in Gerontology. Supervised field experience in gerontology. Prereq.: Gerontology core requirements. 2-8 Cr. F, S.

International Programs

208 WHITNEY HOUSE/255-4287

Director C. Robert Frost.

Students at St. Cloud State University have the opportunity to study at a number of international centers for either six or nine months.

The six-month programs are language oriented, and are structured to improve the student's ability to use a foreign language and to increase her/his appreciation of the country's culture. The three language programs are located in Germany, France, and Spain. The German center is at Ingolstadt, a city of about 90,000 inhabitants which is near Munich. The French center is at Nevers, a city located in the Loire Valley, 140 miles south of Paris. The Spanish center is in Castellon, which is situated a short distance from Valencia. Students on the German and Spanish programs must have a year of college level work in the language or the high school equivalent; students on the French program must have two years of college level work or its equivalent.

The nine-month program in Aalborg, Denmark, has the purpose of broadening the experiences of its participants by providing them with the opportunity to live with people of different values and culture and to give them the opportunity to travel widely in Europe. A student may qualify by maintaining a 2.0 grade point average from the time of application through departure for Denmark.

An additional nine-month program is situated in London, England. Students live in two Victorian houses located only ten minutes by subway from the center of London. The purpose of this program is to give the enrollees an understanding of life and society in Britain in particular and Europe in general. A student must maintain a 2.5 grade point average to the time of departure to qualify.

Every effort has been made to keep the costs of each program as low as possible. In each case they are only slightly higher than studying at the local campus.

Latin American Studies (LAST)

8 LAWRENCE HALL/255-4294

A program of the Department of Interdisciplinary Studies. *Also see College of Liberal Arts and Sciences description and requirements.*

Director Dale Peterson. **Faculty Committee** Beck, G. B. Erickson, Hellwig, Lane, A. Larsen, O'Neill, Peterson, O. H. Schmidt.

BACHELOR OF ARTS

Major (66)

1. 30-31 required credits in the social sciences: ANTH 354 or 463, ECON 480, GEOG 277, 373, HIST 361, 362, POL 333, SSCI 460 or 470.
2. 21 required credits in Spanish: SPAN 211, 212, 243, 311, 312, and SPAN 437 or 438 or three one credit courses in SPAN 421, 422, and 423.
3. 14-15 elective credits to be chosen from the following courses: ANTH 354, 463, ECON 445, 474, HIST 354, 463, 480, LAST 250, SSCI 460, 470, Independent Study 199-499.

Minor (36)

A student must complete all of the requirements of Group 1 as well as 5-6 Cr. from Group 3.

COURSE DESCRIPTIONS

250. Introduction to Latin America. An interdisciplinary exploration of the Latin American experience, utilizing materials from geography, sociology, anthropology, history, economics, political science, and literature. 4 Cr. S.

Library and Audiovisual Education (IM)

214 CENTENNIAL HALL/255-2062

Also see College of Education description and requirements.

Director John Berling. **Faculty** Aichele, Berling, Blaske, Busse, Campbell, Cassidy, Clarke, Costanzo, Elsen, G. O. Erickson, Fields, Hedin, F. Hill, H. Jensen, Josephson, Keable, Lee, May, J. M. Nelson, Pehler, Polesak, Rydberg, C. Savage, Schulzetenberge, Simmons, Smelser, V. Sorenson, Sween, Westby.

With current emphasis on all media formats the Center for Library and Audiovisual Education has developed a program in information media to support persons in media (print and non-print library and audiovisual formats) for all levels of responsibility. Encompassed in the information media major at the graduate level and minor at the undergraduate level are concepts dealing with print and non-print materials.

BACHELOR OF ARTS

Information Media Minor (26)

IM 275, 471, 475, 476, 477, 478, 481 or other credits selected in consultation with an IM adviser. This minor would be useful for persons seeking careers in the business, industry, government or health fields.

BACHELOR OF SCIENCE

Information Media Minor (26)

Prerequisite: IM 275.

Courses required for Minnesota licensure as a school librarian: IM 471, 475, 476, 477, 478, 481.

Information Media Expanded Minor (36)

Prerequisite: IM 275.

Courses required for Minnesota licensure as a school librarian and AV coordinator: IM 471, 473 or 412, 475, 476, 477, 478, 481. ED 447 is required for elementary education majors; ED 346 is required for secondary education majors. Electives include other IM courses and ED 324, 371, or 372 if not already part of the student's program.

Note: After two years of teaching experience, an individual with the 36 credit minor is eligible for licensure as a media generalist.

BACHELOR OF ELECTIVE STUDIES

Minor (36)

36 credits selected in consultation with an information media adviser.

Information Media (IM)

COURSE DESCRIPTIONS

104. Introduction to the Learning Resources. Practical course designed to help the student use the services of Learning Resources in locating information pertinent to completing assignments for undergraduate classes. 2 Cr. F, W, S, SUM.

204. Information Resources in Society. Information sources in libraries, media centers, and community resources (public, regional, school, and academic libraries) for general education students. 4 Cr. F, W, S.

275. The Media Profession. An introduction to the library and audiovisual profession, its needs and requirements. 2 Cr. F, S.

468. Media Materials and Methods of Instruction. Theory and techniques of utilizing all media, including non-print and print materials in community and area resources. Opportunities to learn equipment operation. Lab. 3 Cr. F, W, S, SUM.

481. Reading, Listening, and Viewing Guidance. Types of materials for children and adolescents, their evaluation and use. Methods and approaches used in effective reading, listening, and viewing guidance. Prereq. or concurrent enrollment: 275. 4 Cr. S, SUM.

484. Seminar. Conferences, reports, readings, discussions, problems, and research in a special facet of media. 1-4 Cr. May be repeated. F, W, S, SUM.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

412-512. Television in Media. Operation and use in instructional program. Lab. 4 Undgr. Cr., 3 Gr. Cr. F, SUM.

471-571. Preparation of Media. Designing, producing, and utilizing projected and non-projected materials for instructional use. Lab. 4 Undgr. Cr., 3 Gr. Cr. W, SUM.

473-573. Photography in Media. Basic photographic processes in education, including still and motion photography, darkroom processes, and the operation of equipment. Lab. 4 Undgr. Cr., 3 Gr. Cr. F, SUM.

475-575. Administration of Media. Basic theory and techniques of administering media programs and service. Prereq. or concurrent enrollment: Undgr. 275; Gr. 275 and 468 or 603. 4 Undgr. Cr., 3 Gr. Cr. SUM.

476-576. Selection and Evaluation of Media. The selection of media materials, including theory, principles, techniques, and basic tools. Prereq. or concurrent enrollment: Undgr. 275; Gr. 275 and 468 or 603. 4 Undgr. Cr., 3 Gr. Cr. F, SUM.

477-577. Reference and Bibliography in Media. Reference and bibliographic works, including theory, practice, tools, and bibliographies. Prereq. or concurrent enrollment: Undgr. 275; Gr. 275 and 468 or 603. 4 Undgr. Cr., 3 Gr. Cr. W, SUM.

478-578. Technical Processes in Media. The basic processes for acquiring, cataloging, classifying, and organizing materials. Lab. Prereq. or concurrent enrollment: Undgr. 275; Gr. 275 and 468 or 603. 4 Undgr. Cr., 3 Gr. Cr. S, SUM.

482-582. Audio Systems. Theory and application of sound reproduction techniques to support planning, systems expansion, component selection, and purchasing for monophonic and polyphonic systems. Lab. 4 Undgr. Cr., 3 Gr. Cr. W.

483-583. Color Slide Presentations. Visual literacy approach to preparing color slides, slide presentations, and slide/tape presentations for information display, documentation, and instruction. Presentation design, selection of materials and format, and equipment utilization are included. No laboratory processing. 4 Undgr. Cr., 3 Gr. Cr. F.

Local and Urban Affairs (URB)

226 STEWART HALL/255-3184

A program of the Department of Interdisciplinary Studies.

Also see *College of Liberal Arts and Sciences description and requirements.*

Director James W. Kelley. **Faculty Committee** Addicott, Downes, Kelley, Lofgreen, Paschall.

The Local and Urban Affairs program is an all-university program. The program is directed toward producing public service career "generalists." Students will be encouraged to combine this program with a supporting program from one of the many disciplines offered by the University, which will aid in bridging the gap between depth and breadth. The program via the core, the emphasis, independent study, seminar, the internship, applied research, and close contacts between students and program personnel is intended to focus on community relationships and give an interdisciplinary perspective for advanced study and activities in the fields of local and urban studies.

While traditional methods of instruction, such as lectures and discussion are used, other approaches are also adopted. There is an emphasis on projects that direct students toward real problems and into contact with persons concerned with solving such problems. The development of a major and a supporting area of emphasis allows for flexibility in planning a program of study which will most directly meet the needs of the individual student. Career and "life style" planning is also an ongoing and important part of the program. Some of the areas of emphasis a student might choose include:

122 / Local and Urban Affairs (URB)

City and Regional Planning
Environmental Planning
Recreation Planning
Transportation Planning
Economic and Industrial Development
Public Administration
Community and Social Services
Community Education
Public Safety Planning
Consumer Investigation
Comprehensive Health Planning
Services to the Aged
Urban-Rural Relations
Community Public Relations

A major feature of the program is the internship. The internship will serve the student, the University, and society by providing experiences in an agency setting. It is hoped that the "service-learning-research internship" will add to the student's enthusiasm for learning and motivate the excitement of discovery and creativity. Placement of the intern will depend upon each student's interests and needs. A wide variety of internships is available with planning agencies, fine arts centers, hospitals and health planning facilities, public and private consumer service organizations, numerous local, state and federal agencies, education agencies, and others.

It is strongly urged that before students begin taking any of the local and urban affairs courses they consult the program director.

BACHELOR OF ARTS

Major (68-76)

Core (23) Courses required of all majors:

URB 200, 402, 403, 404. Supporting competencies (45-53). One from each group minimum except in Group 4.

Group 1. Environmental competency:

BIOL 349 or 475 or ENV 210 or GEOG 372 or TECH 306

Group 2. Planning competency:

GEOG 394 or 454

Group 3. Management competency:

MGMF 361 or POL 380

Group 4. Research competency:

AMST 201 and GEOG 390 or SOC 379 or MKGB 425

Group 5. Statistics competency:

QMIS 140 or MATH 329 or PSY 259 or SOC 278

Group 6. Computers competency:

CSCI 169 or QMIS 250

Group 7. Written communication:

Competency ENG 339 or COMM 240 or BEOA 309

Group 8. Speech communication:

Competency SPC 220 or 223 or 226 or 350

Group 9. Economics competency:

ECON 461* or 465*

Group 10. Sociology competency:

SOC 370*

Group 11. Political Science competency:

POL 313*

Group 12. Human Relations competency:

HURL 496-497

Course work in the supporting competency areas will be determined in consultation with the program director. The director has the authority, in consultation with the appropriate department, to decide whether a particular competency is to be demonstrated by taking a course or by some other means.

*Prerequisites to ECON 461, 465; POL 313; and SOC 370 are not required for Local and Urban Affairs majors and minors.

Minor (35)

URB 200; URB 350 (3 Cr. Min.); SOC 370*; ECON 461* or 465*; GEOG 394 or 454; POL 313*. Choose three from the following related electives: HIST 347; a course from Group 1, Environmental competency; a course from Group 2, Planning competency; a course from Group 3, Management competency; a course from Group 9, Economics competency. For specific courses see listings under major.

BACHELOR OF ELECTIVE STUDIES

Major (48)

Completion of 48 credits with the approval of the director.

COURSE DESCRIPTIONS

200. Introduction to Local and Urban Affairs. Survey of the field of urban affairs. Examination of ways community problems are dealt with and ways in which society sets priorities for dealing with these problems. Also pre-planning for internship and career areas. 4 Cr. F, W, S.

350. Contemporary Issues Seminar. Analysis of issues or problems of a contemporary nature. A specific topic will be selected each time the course is offered. May be repeated. Prereq.: 200 or consent of the instructor. 1-4 Cr. F, W, S.

402. Internship. Students will be involved in public and private organizations participating in study, planning, research decision-making and evaluation. Not to be taken during last quarter in residence. Prereq.: 200. 12 Cr. F, W, S.

403. Field Research. Applied research project begun as part of the internship program with further discussion, evaluation and completion the following quarter. 4 Cr. F, W, S.

404. Colloquium. An interdisciplinary senior-level seminar devoted to further examination of major concepts, processes, trends, and literature of the field. Prereq.: 402 or by permission. 3 Cr. W, S.

Management and Finance (MGMF)

104 BUSINESS BUILDING/255-3225

Also see College of Business description and requirements.

Chairperson Darrell F. Wentworth. **Faculty** Batdorf, Burnes, Christiansen, Farrell, Nystuen, Skalbeck, Swenson, Tallent, Vora, Wentworth.

The students' interests are focused on the technical and conceptual aspects of management, finance, insurance and real estate with emphasis placed on the behavioral aspects as well as the basic orientations and their applications to the business world.

BACHELOR OF SCIENCE

Majors (96-100)*

A major in management and finance includes the business core (60 Cr.) plus one of the following programs:

Management (36)

Required (20): MGMT 362, 363, 370, 375, 467; QMIS 141

Electives: (16) Three of the four electives must be taken from the College of Business courses listed below unless otherwise approved by the major adviser.

MGMT 368, 373, 444, 460, 461, 462, 463, 464, 465, 466, 470, 474, 498; MKGB 336; QMIS 351, 451; PSY 422, 474; SOC 456, 465; TECH 325, 326, 425; ECON 475, 476.

Insurance and Real Estate (40)

Required (24): QMIS 141; MGMT 375, 378, 467, 476 plus one of the following: MGMT 475, 478. If MGMT 475 and MGMT 478 are both taken, one may be counted toward fulfilling electives. At least two courses from the following: (8)

MGMT 373, 469, 472; MKGB 323 or from the following: (8)

124 / Management and Finance (MGMF)

No more than two courses taken outside the College of Business may be counted toward this requirement: MGMT 362, 444, 462, 474, 475, 478, 498; MKGB 336; QMIS 351, 451; ECON 465, 471, 475; GEOG 394, 454.

Finance (40)

MGMF 373, 375, 471, 472, 467; ECON 471; QMIS 141

Electives (12): Choose at least 8 credit hours from Group I: MGMT 462, 474; ECON 470; ACCT 380. Group II (0-4): MGMT 362, 370, 378, 444, 498; ACCT 385, 485; ECON 460, 475, 476; MKGB 336; QMIS 351, 451.

Management, Finance, Insurance, and Real Estate Minor (36)

ACCT 291, 292; MKGB 235, 320; MGMT 361, 300-400 level departmental courses elected from area of management, finance, and/or insurance and real estate (16).

COURSE DESCRIPTIONS

Only students admitted to a university major program and who have completed 96 quarter credits (junior standing) may enroll in 300 and 400 level courses.

361. Management Theory and Practice. Historical development; functions of management in the decision making process; current organizational concepts and practices. (Should be taken before 362 or 363.) 4 Cr. F, W, S, SUM.

362. Personnel Administration. Personnel function in business; acquisition and utilization of human resources; desirable working relationships; effective integration of the worker with company goals. 4 Cr. F, W, S, SUM.

363. Production Management. Transformation of inputs (material-labor-management-capital) into outputs (goods and services) in manufacturing organizations; management, design, analysis, and control of production systems. 4 Cr. F, W, S, SUM.

364. Entrepreneurship—Starting Your Own Business. Conception, initiation, and management of new business and ventures. Consideration of the problems, risks, and opportunities associated with new businesses and ventures. Prereq.: 361, 371; MKGB 320 or permission of instructor. 4 Cr. W.

368. Business and Society. To introduce students to broad perspectives of the role of business and its interaction with the forces which exist in its surroundings. To develop an awareness of the major contemporary issues between business and society. 4 Cr. F, S.

370. Organization Behavior in Business. To provide exposure and increase sensitivity to behavioral phenomena that exist in organizational relationships. To develop an understanding of the behavior aspects related to management and administration. Prereq.: MGMT 361 or permission. 4 Cr. F, W, S, SUM.

371. Managerial Finance. Financial analysis and methods involved for financing various enterprises. 4 Cr. F, W, S, SUM.

373. Investment Principles. Types of investment securities; security market operations; investment policies; principles for analyzing securities; investment institutional media; institutional aids; personal investment programs. 4 Cr. F, W, SUM.

375. Risk Management and Insurance. Management of risk in the business firm; property, liability, life and health insurance; economic and social significance; pricing, regulation, management, and investments. 4 Cr. F, W, S, SUM.

378. Real Estate Principles. Instruments, financing, marketing, planning, and valuation of real property. 4 Cr. F, W, S, SUM.

462. Small Business Management. Management problems and responsibilities in organizing, financing, and operating a small business. Prereq.: 371 or permission of instructor. 4 Cr. F, W, S, SUM.

468. Business Policies. Capstone problems of administration, policy and decision making, techniques for sound and consistent policies, appraisal of business situations, evaluating decisions for possible corrective action. 4 Cr. F, W, S, SUM.

498. Small Business Institute Case Analysis. Application of relevant theories to actual practice in business. Interdisciplinary teams of students majoring in business work with area businesses to help solve actual business problems in finance, marketing, management and accounting. 4 Cr. DEMAND.

Business majors may enroll only in the MGMT 468 in the last quarter of their program. All College of Business core requirements must have been completed or special permission obtained from the chairperson of the department. (A student should have completed a minimum of 175 credits to enroll in this course.)

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

460-560. Problems in Personnel Administration. Analysis of selected personnel problems; wage and salary surveys and administration; job evaluation; merit rating profit sharing; incentives; selected issues and problems of manpower utilization. 4 Cr. F.

461-561. Collective Bargaining. Analysis of bargaining processes; legislative and administrative requirements applicable to unions, managements, and employees; development and evaluation of collective bargaining agreements. 4 Cr. W.

463-563. Production and Inventory Control. Management control practices including production planning relative to engineering; production control including routing, scheduling and dispatching; manpower requirements; the interaction of decision-making processes. Recommended prior completion of 363 or permission of instructor. 4 Cr. F.

464-564. Purchasing and Materials Management. Principles, procedures, and methods for providing materials and services within the broad concept of complete management of the flows of materials. 4 Cr. S.

465-565. Motion and Time Study. Techniques of methods design and analysis (process charts, operations analysis, and micromotion and memotion studies); work measurement (stop watch time study, predetermined time study methods); work sampling. 363 recommended. 4 Cr. W, SUM.

466-566. Compensation Theory and Practice. An analysis of compensation theories and practices; their effect on employee motivation, productivity, and morale. Both monetary and non-monetary compensation systems are examined. 4 Cr. S.

467-567. Organization Theory. Analysis of relationships fostered by the industrialized productive setting leading to an integration of individual, group, and organization conclusions and data. 4 Cr. F, W, S, SUM.

470-570. International Business Management. Survey of the environmental, economic, political and social constraints on doing business abroad; effects of overseas business investments on domestic and foreign economics; and management and operational strategies of firms engaged in international business. Prereq.: Minimum of 144 Cr. or permission of instructor. 4 Cr. W.

471-571. Corporate Financial Policies. Examination and analysis of financial concepts relative to; corporate financial decision making; adjustments to changing conditions; market structure and corporate capital instruments; capital market movements and financial decisions. 4 Cr. F.

472-572. Financial Institutions. Examination and analysis of various financial institutions and their role in the field of finance: commercial banks; savings and investment institutions; personal finance companies; investment intermediaries. 4 Cr. W.

474-574. Security Analysis. Classification and analysis of securities, markets, industries; investment policies; management of portfolios of institutional investors. 4 Cr. S.

475-575. Life and Health Insurance. Examination and analysis of: individual life and health contracts; group life; pension plans; estate planning; annuities and equity funding. 4 Cr. F.

476-576. Property and Liability Insurance. Examination and analysis of: insurable property and liability risk; contract analysis; insurance law; rates and reserves; types of property and liability insurances; optimum insurance programs. 4 Cr. S.

477-577. Strategy and Organization of Public Administration. This course treats problems in bureaucratic organizations which arise from the political system and a non-profit orientation. The focus of the course is on strategy formulation and decision-making in the non-business sector. Prereq.: minimum of 144 Cr. or permission of instructor. 4 Cr. S.

478-578. Advanced Real Estate. Various ownership aspects of real estate and occupancy with emphasis on: deeds; contract for purchase; trust (intestate and testate); succession laws; taxation; homestead and special problems. Prereq.: 378 or permission of instructor. 4 Cr. S.

479-579. Social Insurance. Personnel risk analysis and treatment. Program designed to alleviate the perils of death, poor health, retirement and temporary unemployment. Poverty and its treatment through social insurance. 4 Cr. DEMAND.

Marketing and General Business (MKGB)

304 BUSINESS BUILDING/255-2057

Also see College of Business description and requirements.

Chairperson William C. Rodgers. **Faculty** R. Benson, Buchanan, Calhoun, Hanafy, Johnson, Rodgers, Schneider, Schofield.

The Marketing major seeks to provide students with knowledge and skills relating to product planning, pricing, physical distribution, retailing, sales management, marketing research, and advertising as they relate to career opportunities in the field of marketing. Some of the professional career fields that marketing graduates enter are sales and sales management, retailing, transportation, advertising, marketing research, buying, and brand management.

The General Business major is intended for those students who prefer a diversified business background without extensive concentration in any single field. It is intentionally designed to give the student maximum flexibility in course selection and to equip its graduates with "multi-career adaptability." Students interested in pursuing a career with a large corporation, government or a business for themselves are provided with an indepth exposure to several disciplines. The general nature of the major also makes it appropriate for students planning to enter law school. Flexibility is accomplished by permitting advanced work in addition to the introductory courses in at least three of the following areas: Marketing/Business Law, Management/Finance, Accounting, Quantitative Methods/Information Systems, Economics or Business Education/Office Administration.

BACHELOR OF SCIENCE

MAJORS (100-104)

A major in marketing-general business includes the business core (60 Cr.) plus one of the following programs:

Marketing (40)

24 required hours: QMIS 141, MKGB 321, 425, 427, 429, 336 or 437.

16 marketing electives from upper division MKGB courses and/or one of ECON 377, 470, or 472.

With approval of adviser, up to 8 credits of non-MKGB courses may be used as part of the 20 elective credits.

General Business (44)

12 required hours: QMIS 141; MKGB 336 or 437; ECON 377 or 472.

32 credits of business and related electives from 300-400 level courses according to the maximums set out below.

The student must select courses from at least three of the five designated areas. These limits exclude all required courses. The student may petition her/his major adviser for minor adjustments in the credit maximums where adequate cause is demonstrated.

1. 16 credits from MKGB
2. 16 credits from MGFM
3. 12 credits from ACCT
4. 12 credits from QMIS
5. 8 credits from BEOA or ECON

Minor (36)

Marketing & General Business (36)

ACCT 291, 292; MGFM 361, 363; MKGB 235, 320.

MKGB electives: 12 credits selected from 300-400 level courses.

COURSE DESCRIPTIONS

235. Business Law. Policy and rationale of the legal process, contracts, and sales. (All law offerings emphasize the features of the legal system.) Not recommended for freshmen. 4 Cr. F, W, S, SUM.

238. Law and Society. Origins and development of law; examination of contemporary national legal issues and comparisons with treatments of specific problems in other countries and times; effects of different underlying political and social philosophies on law. 4 Cr. W, SUM.

Only students admitted to a university major program and who have completed 96 quarter credits (junior standing) may enroll in 300 and 400 level courses.

320. Introduction to Marketing. Analysis, planning and control of marketing functions viewed as a total operating system. 4 Cr. F, W, S, SUM.

321. Consumer Behavior. The interdisciplinary approach to consumer buying behavior; draws upon psychological, economic, and socio-cultural theories as they relate to consumer activity. Prereq.: 320 or consent of instructor. 4 Cr. F, W, S, SUM.

322. Introduction to Advertising. Functions, theory, principles, and purpose of advertising. Includes methods of appeal, elementary problems of copy, layout, typography, and selection of media. Prereq.: 320 or consent of instructor. 4 Cr. F, W, S, SUM.

323. Personal Selling. Examination of personal sales practice with illustrations and demonstrations. Prereq.: 320 or consent of instructor. 4 Cr. F, W, S, SUM.

327. Industrial Marketing. Analysis of the industrial marketing system, its managerial aspects, and problems; the industrial market; the nature of industrial market behavior; and management strategies with emphasis on the managerial aspects, problems of pricing, selling, promotion, and managing customer services and relations. Prereq.: 320. 4 Cr. W, EVEN.

336. Business Law. Policy and rationale of the law of agency, partnerships and corporations; and government regulation; general functions and features of the legal system are emphasized. 4 Cr. F, W, S, SUM.

428. Independent Study in Marketing. Individual research and analysis of contemporary marketing problems and issues. Open to senior marketing majors only, with approval of department chairperson. Prereq.: 320. 1-3 Cr. DEMAND.

429. Marketing Management. Integration of marketing with other business functions; marketing management and decision making; planning marketing programs, product, channels of distribution, pricing, selling and promotion policies. (A student should have completed a minimum of 175 credits to enroll in this course.) 4 Cr. F, W, S, SUM.

430. Marketing Seminar. Contemporary issues in marketing as well as an overview of the role of marketing in an ever changing market condition; relation between environmental changes and marketing adjustment. Prereq.: 320. 4 Cr. F, W, S.

498. Small Business Institute Case Analysis. Application of relevant theories to actual practice in business. Interdisciplinary teams of students majoring in business work with area businesses to help solve actual business problems in finance, marketing, management and accounting. 4 Cr. DEMAND.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

420-520. Retailing Management. Organization for retailing and functional activities involved; problems of inventory methods, credit and collections, personnel, locations, layout, receiving, and delivery. Prereq.: 320. 4 Cr. F.

423-523. Advertising Management. Analysis of advertising policies and practices in campaign planning, media selection, client-agency relationships, research and testing. Prereq.: 322 or consent of instructor. 4 Cr. F, S.

424-524. Sales Management. Managerial aspects of sales promotion, problems involved in investigations of markets, planning sales effort, management of sales personnel, and control of sales operations. Prereq.: 320 or consent of instructor. 4 Cr. W.

425-525. Marketing Research. Research process as an aid to decision making in marketing management; research methodology; marketing research results; evaluation of the effectiveness of marketing research. 4 Cr. F, S, SUM.

426-526. Marketing Systems. An introduction to the system concept in the analysis of marketing activities; system theory and its application to marketing with emphasis on the explanation of varying approaches to marketing systems, such as ecological, institutional, and social physics; development of marketing systems. Prereq.: 320. 4 Cr. W, ODD.

427-527. International Marketing. Stresses the importance of international marketing to the American economy and analyzes United States international marketing with emphasis on the problems and practices of managing international marketing activities; analysis of characteristics, structures, and competitive factors of international markets. Prereq.: 320. 4 Cr. F, S, SUM.

431-531. Transportation Management. A survey course dealing with the role of transportation in the marketing system; economic characteristics of the transport modes; theory of rates and rate structure; regulation; and national transportation policy. Prereq.: 320. 4 Cr. S.

432-532. Marketing Channels. An examination of alternative marketing channels connecting producer and consumer. The characteristics of different marketing institutions are examined and recent trends in channels and institutions are considered. Prereq.: 320. 4 Cr. W.

433-533. Marketing Logistics. Provides an overview of physical distribution management and marketing channel management; covers channel selection and maintenance, transportation, storage, order processing and location decision making. Prereq.: 320. 4 Cr. F.

434-534. Marketing and Society. Marketing decisions and strategies related to social change. Consider such factors as values and ethics, energy shortages, sex roles, health questions, ecology, environment. 4 Cr. W, EVEN.

435-535. Marketing for Non-Profit Organizations. Application of marketing philosophy, concepts and techniques to non-business organizations related to the public. The course contains the analysis of non-business organizations in respect to market structure and market behavior. Marketing strategies and planning for health care, public sector, political ideas and persons, religious institutions, education and service marketing. 4 Cr. F, EVEN.

437-537. Business Law. Policy and rationale of the law of property (including realty, personality, wills, and environmental) and credit (including secured transactions, bankruptcy and negotiable instruments). 4 Cr. F, W, S, SUM.

Mass Communications (COMM)

135 STEWART HALL/255-3293

Also see College of Liberal Arts and Sciences description and requirements.

Chairperson R. John DeSanto. **Faculty** Bryce, Coyle, T. Eveslage, Habte, Montesano, Norlem, F. Voelker.

While the mass communications major in the Department of Mass Communications differs in scope and direction, the primary objective is to prepare students for responsible and rewarding careers in the mass media. The mass communications approach is based on the premise that the best preparation in the print or electronic media involves broad course selection from principally the Liberal Arts and Social Sciences. Students are encouraged to take their mass communications electives in both the electronic and print media areas.

On-the-job practice and laboratory experience are part of the overall program through course design and a varied internship program in each area of the mass media. Before students will be formally accepted into any major or minor program they must have successfully completed COMM 220 and one other mass communications course with at least a 'B' average and pass a pre-test before a major application is approved by the department chairperson for the B.S. and B.E.S. degree programs. Special mass communications programs include a Bachelor of Elective Studies degree and an External Studies degree.

The Bachelor of Science (non-teaching) major is in the process of curricular revision and approval. Contact the Mass Communications Department for details and requirements of the new program.

BACHELOR OF ARTS

Radio-TV Minor (36)

COMM 220, 272, 370, 371, 375, 376, 460. Electives: 8 Cr. Consult with adviser.

Journalism Minor (36)

COMM 220, 240, 340, 346, 350, 460, 487. Electives: 8 Cr. Consult with adviser.

Journalism Minor (24)

COMM 220, 240, 346, 350, 460. Electives: 4 Cr. Consult with adviser.

Radio Minor (24)

COMM 220, 333, 371, 451, 460. Electives: 4 Cr. Consult with adviser.

Television Minor (24)

COMM 220, 371, 376, 460, 476. Electives: 4 Cr. Consult with adviser.

Cinematography Minor (24)

COMM 220, 346, 370, 376, 460, 470.

BACHELOR OF ELECTIVE STUDIES

Major (48)

Completion of 48 credits with the approval of the department.

Minor (36)

Completion of 36 credits with the approval of the department.

BACHELOR OF SCIENCE (TEACHING)

Radio-TV Minor (24)

COMM 220, 370, 371, 376, 481.

Electives: 5 Cr. Consult with adviser.

Journalism Minor (26)

COMM 220, 240, 350, 320, 346, 350, 480, 481.

Journalism Minor (36)

COMM 220, 240, 350, 455, 460, 480, 487. Electives: 9 Cr. Consult with adviser.

Radio-TV Minor (36)

COMM 220, 333, 371, 376, 476.

Electives: 16 Cr. Consult with adviser.

COURSE DESCRIPTIONS

220. Introduction to Mass Communications. History, nature, functions, and criticisms of the mass media and their role in society. 4 Cr. F, W, S.

240. Reporting and Newswriting. Gathering material and writing news stories. Practice in covering assignments and preparing copy. Prereq.: ability to type 35 words per minute or BEOA 101. 4 Cr. F, W, S.

246. Visual Communications. Communication of information and ideas through the visual media. Relationships between verbal and visual media; their special characteristics and supportive functions. 3 Cr. F.

272. Radio-Television News Writing and Editing. Groundwork in gathering, writing, and editing news copy and tapings for broadcast; radio and television news style. Lab. 4 Cr. W, S.

273. Documentaries in Broadcasting. Introduction to the documentary. Historical and critical study of the techniques and influences of the film documentary. 4 Cr. F.

309. Communication Activities. Supervised study and practice in mass communications including radio, television, advertising, public relations, photojournalism, and newspaper journalism. Majors only. Prereq.: Instructor approval. 1-3 Cr. May be repeated to maximum of 3 Cr. F, W, S.

320. History of the Mass Media. Development of American newspapers and periodicals from beginnings in Europe; rise of radio and TV; role of journalism in American history and culture; significant journalists and their publications. Prereq.: 220. 3 Cr. F, W.

333. Announcing. Instruction and practice in voice and in various types of radio and television announcing. Prereq.: SPC 250 or 331 or consent of instructor. 4 Cr. F.

340. Advanced Reporting. Problems of reporting, especially on small and medium city media; interpretative and investigative reporting, feature writing, reporting of public affairs; law of libel; the New Journalism. Prereq.: 240. 4 Cr. F, W.

346. Photojournalism. Theoretical and practical considerations in planning and taking photographs for the media. Basic types of equipment and materials. Developing, printmaking, and other darkroom processes. Lab. Departmental approval. Majors/minors only. 4 Cr. F, W, S.

350. Editing and Makeup. Principles and practices in news selection, copyreading, headline writing, illustrations, makeup and design for the print media. Prereq.: 220, 240. 4 Cr. F, W.

357. Community Journalism. The local media, their editors and reporters; their role and effect among American media. Problems of news and editorial direction, organization, and responsibility. 3 Cr. DEMAND.

370. Cinematography I. An introduction to film production, criticism and techniques. Theory and practice in filming. Lab. Prereq.: 346 or consent of instructor. 4 Cr. F.

371. Radio Broadcast Production I. The structure and operation of radio stations. Study of

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program types. Theory and practices in facilities and production techniques. Lab. 4 Cr. F, W.

375. Commercial Writing for Radio and Television. Study and practice of radio and TV writing. Commercial scripting techniques and methods. 4 Cr. F or S.

376. Introduction to Television Production and Direction. The use of basic television facilities and techniques. Introduction to theory and practice in production and direction. Lab. 4 Cr. F, W.

401. Mass Communications Laboratory Experiences. Senior students or students who have attained a high level of proficiency in mass communications may serve as assistants to classroom instructors as laboratory assistants in the various areas of the mass media. 1 Cr. Repeatable up to 3 Cr. F, W, S.

409. Advanced Radio and Television Activities. Credit is earned by advanced participation in radio-television activities. Departmental approval to register is required. 1-2 Cr. per quarter. Maximum, 6 Cr. F, W, S.

414. Seminar (Topical). Lecture, readings, research and discussions on selected topics. 1-4 Cr. May be repeated with different topics. Maximum 8 Cr. DEMAND.

420. Mass Media and Social Institutions. A critical analysis of mass media as social institutions. Particular attention will be given to their effects on knowledge about the media and social norms, public opinion and government, and popular tastes. Media credibility, professionalism, media effects and press ethics will be reviewed. Prereq.: 220, 320. 4 Cr. W, S.

433. Advanced Announcing. Advanced study and practice in announcing procedures and techniques with emphasis upon the specialized announcing types. Study of pertinent FCC rules and regulations. Prereq.: 333. 4 Cr. DEMAND.

440. Specialty Reporting. Learning and practicing techniques of specialty reporting; print or electronic media students choose topics within course requirements. Prereq.: 240, 342, 372 or consent of instructor. 4 Cr. DEMAND.

444. Internship in Mass Communications. Department approved and directed field experience with approved mass media agency. Learning contract required. 3 Cr. F, W, S, SUM.

451. Radio Broadcast Production II. Intensive study in the production of educational and commercial radio programs. Broadcast theory and history. Emphasis upon social responsibility. Lab. Prereq.: 371. 4 Cr. S.

455. Editorial Writing. Logical organization and principles of persuasion. The column, critical review, letters to the editor, and other materials of the editorial page. Prereq.: 240. 3 Cr. DEMAND.

456. Sportswriting and Broadcastings. Reporting, writing, editing, and broadcasting news of sports and recreation. Prereq.: 240 or 372 or consent of instructor. 4 Cr. DEMAND.

464. Management of the Broadcast Station. Advanced study of the organization and operation of the radio and television station from the standpoint of management. Research in the design of a broadcasting station. 4 Cr. DEMAND.

470. Cinematography II. Advanced film production. Theory and practice in news, commercial and educational filming. Lab. Prereq.: 370. 4 Cr. S.

476. Advanced Television Production. Production and direction of various program types. The use of television facilities coordinated with production techniques. Lab. Prereq.: 376. 4 Cr. W.

477. Advanced Television Direction. Production and direction of more detailed program types. Emphasis is upon the central role of the television director. Experimental production. Lab. Prereq.: 376. 4 Cr. S.

484. Broadcast Law. Analysis of the legal history and development, present laws and regulations and the future significance of the commercial and non-commercial broadcasting industry. 4 Cr. DEMAND.

488. Mass Media Advertising. Overview of various types of advertising. Basic knowledge of selling and preparing ads for various mass media. History, economic and legal backgrounds. Prereq.: 220, 320. 4 Cr. W, S.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

441-541. Magazine Article Writing. Varied special types of writing for magazines, newspapers, journals, company publications, other printed media. Market study: adapting style, content to specific publications. 3 Cr. DEMAND.

445-545. Advanced Photojournalism. Lecture and lab in photojournalistic production for newspapers, magazines, company publications, television, etc. Photojournalism, history, theory, trends, legal aspects, ethics, composition, special techniques, development and execution of picture stories and essays. Prereq.: 346 or consent. Departmental approval. Majors/minors only. 3 Cr. DEMAND.

450-550. Advanced Editing and Makeup. Current trends in format, makeup and typography of newspapers, magazines and brochures; editing and makeup of special sections; attention to solutions of problems by outstanding publications. Prereq.: 350. 4 Cr. F, S.

460-560. Mass Communications Law. Freedom of the press with emphasis on the electronic and print media in the areas of First Amendment rights; libel, censorship and government regulations; major theories of the press. 4 Cr. W, S.

480-580. Advising School Publications. Role of the faculty adviser; trends, philosophies, problems; theoretical and practical considerations; content of journalism curriculum. 4 Cr. DEMAND.

481-581. Teaching Mass Communications. Theories, methods, materials and curriculum development for teaching mass communications in the secondary schools. 3 Cr. DEMAND.

485-585. Public Relations Production Workshop. The study and solution of public relations problems using the four-step public relations process. Emphasis is on media production of various public relations projects. Prereq.: 487 or consent of instructor. 4 Cr. S, SUM.

487-587. Public Relations. Interpreting the school, business, or other organizations for its publics; responsibilities of the public relations representative to the community served; the overall public relations program. 4 Cr. F, W.

Mathematics (MATH) and Computer Science (CSCI)

168 MATHEMATICS AND SCIENCE CENTER/255-3001

Also see College of Liberal Arts and Sciences description and requirements.

Chairperson Howard Bird. **Faculty** Bahauddin, Bird, Brink, Carlson, Carr, Crane, Dull, G. Earles, R. Earles, Ernst, Grover, Hebert, J. W. Johnson, M. Johnson, R. Johnson, Lahren, Leitch, Leung, Mellby, Meyer, Miller, E. Stennes, F. Stennes, Van Akin.

MATHEMATICS

A student wishing to major or minor in mathematics should complete high school advanced algebra, plane geometry, and trigonometry or their equivalents. The Mathematics and Computer Science Department recommends that MATH 241, 242 or MATH 241, 254 be completed with at least a 2.0 average before a major application is submitted.

The student majoring in mathematics will generally be required to complete a minor or to develop an area of concentration subject to adviser approval. All mathematics courses specifically required in the B.S. program must be completed prior to student teaching.

Mathematics majors who are minoring in statistics may count only MATH 437, 438, and 439 in both the mathematics major and statistics minor.

Individuals interested in Computer Science programs should consult the individual program description in this bulletin.

BACHELOR OF ARTS—MATHEMATICS

Major (60)

MATH 241, 242, 243, 244, 254, 354, 356, 457.

28 credits from: 300-400 level mathematics courses with at least 12 credits at the 400 level.

Minor (36)

MATH 241, 242, 243, 254.

20 credits from: 300-400 level mathematics courses, MATH 244.

Major (48)

MATH 241, 242, 243, 244, 254, 354, 356, 457.

16 credits from: 300-400 level mathematics courses with at least 8 credits at the 400 level, exclusive of MATH 430, 431, 432.

BACHELOR OF SCIENCE—MATHEMATICS

Major (60)

MATH 241, 242, 243, 254, 354, 356, 424, 425, 437, 451, 457. CSCI 269 and 271 are required for non-computer science minors only.

12-16 credits from: 300-400 level mathematics courses, MATH 244.

Minor (48)

MATH 241, 242, 243, 254, 354, 356, 424, 437, 451, 457.

8 credits from MATH 244, 300-400 level mathematics courses, exclusive of MATH 430, 431, 432.

Minor (36)

MATH 241, 242, 243, 254, 354, 356, 424, 437, 451.

Elementary Education Minor (24)

MATH 251, 352, 353.

14 credits in mathematics and computer science to be selected with prior approval of the mathematics minor adviser.

BACHELOR OF SCIENCE—STATISTICS

Applied Statistics Minor (24) (nonteaching)

Required: MATH 430, 431, 432, 433, 434.

Select 4 Cr. from MATH 329, SOC 278, PSY 259.

Statistics Minor (24) (nonteaching)

MATH 430, 431, 432, 437*, 438*, 439.

BACHELOR OF ELECTIVE STUDIES—MATHEMATICS

Major (48)

Completion of 48 credits with the approval of the department.

Minor (36)

Completion of 36 credits with the approval of the department.

COURSE DESCRIPTIONS—MATHEMATICS

121. Cultural Mathematics. Topics selected by the instructor to demonstrate the nature of mathematics. 4 Cr. F, W, S, SUM.

129. Introductory Algebra. Topics from beginning algebra including basic concepts, linear equations and inequalities, polynomials, graphs, systems of equations. 4 Cr. F, W, S.

130. Intermediate Algebra. Continuation of MATH 129 including fractional expressions and equations, powers, roots, quadratic equations, algebraic functions, exponential and logarithmic functions. 4 Cr. F, W, S, SUM.

131. College Algebra. Functions, permutations, combinations, probability; sequences, logarithms, systems of linear equations, matrices, determinants, inequalities, linear programming. Prereq.: 130 or high school advanced algebra. 4 Cr. F, W, S, SUM.

132. Mathematics for Biologists. Ratio, proportion, and variation; probability; central tendency; variability; frequencies and distributions. Not to be taken by students who have received credit in 131 or 134. 4 Cr. F, W, S.

134. Trigonometry. Trigonometric functions, solution of triangles, fundamental identities, inverse trigonometric functions, complex numbers. Prereq.: 130 or equivalent. 4 Cr. F, W, S, SUM ALT.

140. Pre-Calculus Mathematics. Selected topics from algebra, trigonometry, and analytic geometry. Prereq.: High school advanced algebra and trigonometry. 4 Cr. F, W, S.

211. Mathematics Via the Hand Calculator. Use of hand calculators as an aid in developing mathematical concepts and problem solving skills. 2 Cr. S.

*MATH 241, 242, 243, 254 are prerequisite to MATH 437 and MATH 244 is prerequisite to MATH 438.

- 231. Calculus I.** Sequences and limits. Differential and integral calculus of one variable. Applications. Prereq.: 130 or 131 or equivalent. 4 Cr. F, W, S, SUM ALT.
- 232. Calculus II.** Three dimensional analytic geometry, multivariate calculus, applications. Prereq.: 231. 4 Cr. S.
- 241. Analysis I.** Limits, continuity, differentiation of algebraic functions, application of derivatives. Prereq.: High school advanced algebra and trigonometry or equivalent. 4 Cr. F, W, S.
- 242. Analysis II.** Definite integral, fundamental theorem of calculus, indefinite integral, differentiation and integration of transcendental functions, techniques of integration. Prereq.: 241. 4 Cr. F, W, S.
- 243. Analysis III.** Topics in analytic geometry, applications of integration, sequences, series, L'Hospital's rule and improper integrals. Prereq.: 242. 4 Cr. F, W, S.
- 244. Analysis IV.** Three dimensional analytic geometry and vectors, partial derivatives and multiple integrals. Prereq.: 243. 4 Cr. F, W, S.
- 250. Foundations of Arithmetic.** Real number system and its subsystems. Selected topics from elementary number theory. For elementary education and special education majors only. 4 Cr. F, W, S, SUM.
- 251. Foundations of Geometry.** Designed for the elementary teacher. Space, plane and line as sets of points, simple closed curves, geometric figures considered as sets of points, concepts of measurement. 4 Cr. F, W, S.
- 254. Fundamentals of Mathematics I.** Logic, sets, functions, countability, partitions and equivalence relations, binary operations. An introduction to abstract mathematics for highly motivated students. 4 Cr. F, W, S.
- 257. Elementary Matrix Algebra.** Matrices and matrix operations. Systems of linear equations. Vector spaces and linear transformations. Linear programming. Prereq.: 131. 4 Cr. W.
- 315. Elementary Number Theory.** Study of the integers including such topics as the division and Euclidean algorithms, prime and composite integers, divisibility, the fundamentals theorem of arithmetic. 4 Cr. DEMAND.
- 329. Topics in Descriptive and Inferential Statistics.** Sampling procedures, data analysis, probability, statistical inference, decision making. Prereq.: MATH 130 or equivalent, not elective in math major or minor. 4 Cr. F, S.
- 334. Differential Equations.** Matrices, determinants, eigenvalues. First and second order differential equations. Systems of linear equations, series and numerical methods. Prereq.: 244. 4 Cr. F, S.
- 345. Topics in Advanced Calculus.** Implicit function theorems, transformations and mappings, topics in vector analysis, uniform convergence, improper integrals. Prereq.: 244. 4 Cr. W, S.
- 352. Algebra for the Elementary Teacher.** Properties of real numbers, linear equations and inequalities, quadratic equations and inequalities, modular arithmetic and algebraic structures, complex numbers, functions. 4 Cr. W.
- 353. Mathematics Laboratory for Elementary Teachers.** Concrete experiences for the purposes of reinforcing mathematical ideas and learning new concepts through open-ended activities. Materials and their use. 2 Cr. S.
- 354. Fundamentals of Mathematics II.** A continuation of 254 with an emphasis on properties of the number system. Natural numbers, the integers as an integral domain, the rational numbers as an ordered field. Prereq.: 254. 4 Cr. W, S.
- 356. Modern Algebra.** Group Theory, topics from Ring Theory. Prereq.: 354. 4 Cr. F, S.
- 424. Elements of Geometry.** An analysis of axiomatic systems, a critique of Euclid, and an axiomatic development of Neutral, Euclidean, Lobachevskian and Riemannian geometries. Prereq.: High School geometry and 254. 4 Cr. F, W.
- 433. Multivariate Statistics I.** Introduction to matrix algebra, samples from the multivariate normal population, inferences about regression coefficients and the correlation matrix, test of hypothesis about means. Prereq.: MATH 431. 4 Cr. DEMAND.
- 434. Multivariate Statistics II.** Profile analysis, classification by linear discriminant function, multivariate analysis of variance, principal component analysis, factor analysis. Prereq.: MATH 433. 4 Cr. DEMAND.
- 441. Topics in Applied Mathematics.** Convex sets, classical optimization, search techniques. Linear programming. Prereq.: Permission of instructors. 4 Cr. DEMAND.
- 451. Professional Subject Matter for Junior and Senior High School Mathematics.** For teacher candidates. Current curriculum developments, topics in modern mathematics, lesson planning, teaching. Taken prior to student teaching. 4 Cr. S.

463. Applied Mathematics I. Partial differential equations of mathematical physics, boundary value problems, classical solution methods, Bessel functions and Legendre polynomials. Prereq.: 334, 345. 4 Cr. DEMAND.

464. Applied Mathematics II. Topics selected from transform mathematics, integral equations, systems analysis. Prereq.: 463. 4 Cr. DEMAND.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

415-515. Number Theory. Prime and composite integers. Diophantine analysis, number congruences, quadratic residues. Prereq.: 254. 4 Undgr. Cr., 3 Gr. Cr. W.

425-525. Contemporary Geometry. Vectors and transformations on the Euclidean plane, and their application to problem solving. Prereq.: high school geometry and 254. 4 Undgr. Cr., 3 Gr. Cr. W.

426-526. Advanced Geometry. Projective geometry from both a synthetic and an analytic point of view. Primitive forms, projectivities, and conics. Prereq.: 424 or 425. 4 Undgr. Cr., 3 Gr. Cr. DEMAND.

430-530. Design and Analysis of Experiments. Analysis of variance, complete random design, randomized complete block design, nested design, Latin squares, other experimental designs. Prereq.: 329 or 437. 4 Undgr. Cr., 3 Gr. Cr. W.

431-531. Regression Analysis. Linear and multiple regression, model building with selection procedures, nonlinear estimation, analysis of covariance. Prereq.: 430-530 or 437. 4 Undgr. Cr., 3 Gr. Cr. S.

432-532. Nonparametric Statistics and Sample Survey. Sign test, rank sum tests, Mann-Whitney test, contingency tables, sampling, stratified sampling, other survey designs. Prereq.: 329 or 437. 4 Undgr. Cr., 3 Gr. Cr. DEMAND.

436-536. Complex Variables. The complex field, the theory of analytic functions, power series, Fundamental Theorem of Algebra. Prereq.: 354 or consent of instructor. 4 Undgr. Cr., 3 Gr. Cr. S.

437-537. Probability and Statistics I. Axiomatic development of probability, continuous and discrete sample spaces, random variables, probability density functions, Bayes' theorem. Prereq.: 243, 254. 4 Undgr. Cr., 3 Gr. Cr. F.

438-538. Probability and Statistics II. Distributions of functions of random variables, multidimensional random variables, T and F distributions, moment generating functions. Prereq.: 244, 437. 4 Undgr. Cr., 3 Gr. Cr. W.

439-539. Probability and Statistics III. Point estimation and sufficient statistics, maximum likelihood estimation of parameters, statistical hypotheses, statistical tests. Prereq.: 438-538. 4 Undgr. Cr., 3 Gr. Cr. S.

440-540. History of Mathematics. Historical survey of the development of mathematics. Prereq.: 241. 4 Undgr. Cr., 3 Gr. Cr. S, SUM ALT.

445-545. Introduction to Real Analysis I. Functions, complete ordered fields, sequences and series of real numbers. No calculus skills are required. Prereq.: MATH 354. 4 Undgr. Cr., 3 Gr. Cr. F ALT.

446-546. Introduction to Real Analysis II. Limits, metric spaces, continuous functions, connectedness, completeness, compactness, uniform continuity. Prereq.: 445-545. 4 Undgr. Cr., 3 Gr. Cr. W ALT.

447-547. Introduction to Real Analysis III. Riemann Integral, derivatives, theorems of calculus, sequences and series of functions, Lebesgue integral. Prereq.: 446-546. 4 Undgr. Cr., 3 Gr. Cr. S ALT.

452-552. Topics in Mathematics for Secondary School Teachers. Number systems, sets, deduction, algebras, geometries, functions, probability, computers. The changing mathematics curriculum. 4 Undgr. Cr., 4 Gr. Cr. DEMAND.

453-553. Mathematics for Special Education. Materials and activities employed in teaching mathematics to students in special education. Emphasis on stages of development. Prereq.: MATH 250. 4 Undgr. Cr., 3 Gr. Cr. DEMAND.

455-555. Foundations of Mathematics. Operations on sets, relations and functions, cardinal numbers, ordinal arithmetic, the axiom of choice, axiomatic theories. 4 Undgr. Cr., 3 Gr. Cr. SUM ALT.

457-557. Linear Algebra. Vector spaces, Euclidean n-space, linear transformations, matrices. Prereq.: 242, 356. 4 Undgr. Cr., 3 Gr. Cr. F, W, SUM ALT.

459-559. Recent Trends in Elementary School Mathematics. Modern approach to teaching arithmetic, teaching aids and devices, experimental work, recent research. 4 Undgr. Cr., 4 Gr. Cr. DEMAND.

460-560. Topology. Metric spaces, topological spaces, separation axioms, connectedness, compactness. Prereq.: 356. 4 Undgr. Cr., 3 Gr. Cr. W ALT.

470-570. Numerical Analysis. Difference tables and applications, interpolation, numerical integration and differentiation, error analysis, numerical solution of equations. Prereq.: 243, 271. 4 Undgr. Cr., 3 Gr. Cr. W.

Medical Technology (MEDT)

273 MATHEMATICS AND SCIENCE CENTER/255-3130

An Allied Health program. Also see individual program descriptions in this bulletin for nuclear medical technology and physical therapy.

Also see College of Liberal Arts and Sciences description and requirements.

Coordinator Judith Torrence.

The Bachelor of Science degree in medical technology requires a prescribed curriculum at St. Cloud State University and an internship at an affiliated School of Medical Technology. Two types of programs are available which are referred to as the (3+1) and (2+2) programs. These programs have the same core requirements and similar internship curricula. They differ in time and place of internship.

The (3+1) program internship is available through affiliated schools of medical technology in the Twin Cities. It consists of 12 consecutive months in-residence and includes courses in clinical hematology, clinical chemistry, clinical microbiology, clinical immunology, clinical microscopy and immunohematology. Forty-eight (48) credits are granted for these courses. The following hospitals have affiliation agreements with SCSU: Bethesda Lutheran Medical Center, Hennepin County Medical Center, Midway Hospital, Northwestern Hospital, St. Joseph's Hospital, St. Paul Ramsey Hospital and Medical Center, and United Hospital-Miller Division.

The (2+2) program distributes the same clinical courses, on a part time basis, over a two year period. The laboratory portions of these clinical courses are taken at St. Cloud Hospital's School of Medical Technology and the lecture portions are given on the St. Cloud State University campus. Twenty-four (24) credits are granted for the hospital based portion of this internship.

Both types of internship prepare the student to take national certification examinations. Students may apply to the major program of study when their completed credits equal or exceed 32 quarter credits including BIOL 201 and CHEM 211 with an honor point ratio of 2.0. At least 12 credits must have been earned in residence at St. Cloud State University. Admission to the major does not imply automatic acceptance into an internship.

Internships are awarded by affiliated hospitals on a competitive basis. Application to a hospital internship program is made one year prior to the internship. Specific information regarding the application process, the recommended honor point ratio and the details of each affiliate's program is available through the medical technology director's office. Students must complete all core requirements before beginning the one year internship. To qualify for the (2+2) internship, BIOL 344 and CHEM 323 must have been completed and the following courses should be completed: BIOL 201, 303, 309, 332, 464, 465; CHEM 215, 26, 217; PHYS 211, 212; MATH 132. Because letters of recommendation are important in securing an internship, it is suggested that students apply for the major well in advance of applying for internship and maintain frequent contact with the medical technology director.

BACHELOR OF SCIENCE

Core Requirements (75): The following courses are required in both programs.

BIOL 201, 303, 309, 332, 344, 445, 446, 464, 465; CHEM 215, 216, 217, 251, 252, 323, 353; PHYS 211, 212; MATH 132.

Internship Requirements: The student must complete one of two options listed below:

(3+1) Program, 48 credits to include:

MEDT 401 (9-12 Cr.), 402 (12-16 Cr.), 403 (2-4 Cr.), 404 (10-13 Cr.), 405 (4-8 Cr.), 406 (2-4 Cr.).

(2+2) Program, 24 credits to include:

MEDT 401 (5 Cr.), 402 (9 Cr.), 403 (1 Cr.), 404 (5 Cr.), 405 (3 Cr.), 406 (1 Cr.), and the following courses to be completed at St. Cloud State University: BIOL 405, 439, 446, 466, 467, 471, 487; CHEM 333, 443, 451.

COURSE DESCRIPTIONS

401. Clinical Hematology. Theory of blood cell formation; hematological diseases, hemostasis; microscopic examination of blood and bone marrow; practical experience with hematological instruments and techniques which determine major hematologic and clotting parameters. Lab. Prereq.: Acceptance into internship program, 1-12 Cr. F, W, S, SUM.

402. Clinical Chemistry. Identification and quantitation of specific chemical substances in blood and body fluids by various analytical techniques; clinical correlation with disease states; principles of instrumentation; quality control; data processing; toxicology. Lab. Prereq.: Acceptance into internship program, 1-16 Cr. F, W, S, SUM.

403. Clinical Immunology. Study of antigen/antibody structure, function and interaction; basic principles and procedures of humoral and cellular immunology; performance and clinical correlation of serological testing; quality control. Lab. Prereq.: Acceptance into internship program, 1-4 Cr. F, W, S, SUM.

404. Clinical Microbiology. Theory and techniques of cultivation, isolation and identification of bacteria, fungi, parasites, and viruses; determination of sensitivity to antimicrobial agents; clinical correlation to disease states; principles of asepsis; environmental monitoring; quality control. Lab. Prereq.: Acceptance into internship program, 1-13 Cr. F, W, S, SUM.

405. Clinical Immunohematology. Study of major blood group systems; principles and procedures for antigen antibody detection; identification; donor blood collection; preservation; processing; component therapy; transfusion reaction evaluation; Rh immune globulin; quality control. Lab. Prereq.: Acceptance into internship program, 1-8 Cr. F, W, S, SUM.

406. Clinical Microscopy. Theory of renal function in health and disease; renal function tests including chemical and microscopic examination of urine, fecal, gastric, spinal fluid and other body fluid analysis; quality control. Lab. Prereq.: Acceptance into internship program, 1-4 Cr. F, W, S, SUM.

Middle East Studies

34 LAWRENCE HALL/255-4144 or 255-2261

Also see College of Liberal Arts and Sciences description and requirements.

Director Carmen W. Harper. **Faculty Committee** J.B. Anderson, Beck, Hanafy, Haniff, C. Harper, Kairouz, Leja, Masih.

The Middle East Studies program provides a multidisciplinary undergraduate minor utilizing offerings in several colleges at St. Cloud State University. The student may choose one of two options. Option A is especially designed to meet the needs of students interested in a humanistic approach to understanding the Middle East. Option B provides the student with courses which concentrate on the economic and business aspects of the area.

Students may enroll in the program after completing at least 32 quarter hours, 12 of which are earned in residence at St. Cloud State University. A 2.0 honor point ratio in courses at St. Cloud State University is a minimum scholarship requirement for admission.

BACHELOR OF ARTS

Minor (36)

ART 430; ECON 474, 480; ENGL 292, 394; GEOG 368, HIST 200, 324; MKGB 320, 427, 499; POL 334, 429. Other courses may be chosen with the approval of the program adviser.

Option A

Required (20): ART 430; GEOG 368; ENGL 292 or 394; HIST 324; POL 334. 16 credits to be chosen from the other courses listed for the program.

Option B.

Required (24): GEOG 368; ECON 480; MKGB 320, 427; POL 334; HIST 324. 12 credits to be chosen from the other courses listed for the program.

Minority Studies

32 LAWRENCE HALL/255-2001

Also see College of Liberal Arts and Sciences description and requirements.

Director Edward Pluth. **Faculty Committee** Jones, Lane, Risberg, Simpson, A. E. Falk.

The Minority Studies program is designed for students who desire some study of minorities as complementary to their major course of study. It provides insight into the history, contributions, social/cultural development, intellectual expression, and present circumstances of various minority groups in American society. The Minority Studies minor is a multidisciplinary program, allowing for some flexibility within its framework.

Note 1. Courses marked with an asterisk (*) are applicable to the program only when they focus on minority groups.

Note 2. SOC 260 is a prereq. for SOC 268.

Note 3. ANTH 267 is a prereq. for ANTH 359.

BACHELOR OF ARTS AND BACHELOR OF SCIENCE (NON TEACHING)

Minor (32)

8 Cr. from Humanities: *AMST 490; ENGL 268, 269, *447, 451, 469; PHIL 413; MUS 124
8 Cr. from History: HIST 350, 351, 352, 354, 356, 358

8 Cr. from Social & Behavioral Sciences: SOC 268, 470; ANTH 359; SSCI 476; POL 492; PSY 270;
*SSCI 460

Electives: 8 Cr. from courses listed above or from: ANTH 354; SPED 404; *SPC 230; *ENGL 251;
MUS 229.

Music (MUSE, MUSM, MUSP)

238 PERFORMING ARTS CENTER/255-3223

Also see College of Fine Arts description and requirements.

MUSE, Music Education;

MUSM, Music—Musicianship; MUSP, Music Performance

Chairperson Kenton R. Frohrip. **Faculty** Abbott, Allen, Barrett, Echols, Ernest, Flom, Frohrip, Fuller, Gyllstrom, J. R. Johnson, Layne, Marderness, J. D. Miller, A. Moore, C. Peterson, Schrader, Tessendorf, B. Walton, Wilhite.

The Department of Music of St. Cloud State University is a fully accredited member of the National Association of Schools of Music. The functions of the Department of Music are to develop an awareness and perception within the student to the unique aesthetic experience of organized sound and its relationship to human senses and intellect; to offer a variety of curricula leading to the preparation of teachers of music for collegiate institutions, public schools and private studios, and musical performers, composers and researchers; to contribute to the musical life of the University, community, state and nation.

BACHELOR OF ARTS

This program is primarily for those interested in music as personal enrichment, as background for a career in the music industry or preparation for further studies in music. In addition to the 60 credit major this program requires 68 credits in general education and 64 credits of free electives selected from English composition and literature, foreign languages, history, social studies and philosophy, fine arts, the natural sciences or mathematics, with a maximum of 10 elective credits taken in the areas of music history and literature, theory and composition or performance.

138 / Music (MUSE, MUSM, MUSP)

Major (60)

MUSM 101, 102, 103, 203, 204, 221, 222, 223; MUSP 270, 271.

6 credits of Applied Major (Instrument, Guitar or Voice).

3 credits of Keyboard (MUSP 111). (May include 2 credits of Class Piano MUSP 101-102.)

6 credits of Major Performance Organization.

8 credits of MUSM electives: MUSM 229, 303, 304, 305, 306, 321, 402, 421, 422, 423.

4 credits of MUSP electives: MUSP 370, 371, 372, or a minimum of 3 credits from any one applied area or performance organization.

Minor (24 or 36)

A free elective minor of either 24 or 36 credits, depending upon the size of the major program.

Minor program developed with the assistance of music adviser.

BACHELOR OF ELECTIVE STUDIES

Major (48)

Completion of 48 credits with the approval of the department.

Minor (36)

Completion of 36 credits with the approval of the department.

BACHELOR OF MUSIC

This program is primarily for those interested in professional performance, college or private studio teaching.

Major (124)

Core (91)

MUSM 101, 102, 103, 203, 204, 221, 222, 223, 303, 304, 421, 423; MUSP 270, 271.

Select one: MUSM 430, 441, 442.

36 credits of Applied Major (Instrumental or Vocal).

12 credits of Major Performance Organization.

Choose one of the following:

Performance Emphasis (Instrumental or Vocal)

MUSM 301, 302, 305, 306, 402, 403, 422; MUSP 370 and 371 or MUSP 372; MUSP 396, 496.

9 credits of Applied Piano or Minor Instrument or Voice if piano is major instrument.

3 credits of Small Ensemble.

Piano Pedagogy Emphasis

MUSM 301 or 302, 305 or 306, 425, 431, 432; MUSE 311, 477, 478, 479, 484; PSY 463; MUSP 465, 496 or 2 credits of 396.

5 credits of music electives.

BACHELOR OF SCIENCE

This program is primarily for those interested in teaching music in the elementary and secondary schools. One quarter of 300 level applied study will be the minimum level of attainment of proficiency in the major performing area. This program requires the completion of more than 192 quarter credits. Entering freshmen are encouraged to seek academic advice early regarding specific requirements in order to plan their program most efficiently.

Major (87)

Core (48)

MUSM 101, 102, 103, 203, 204, 221, 222, 223; MUSP 270, 271; MUSE 360, 380, 480.

3 credits of Applied Major (Instrument or Voice).

3 credits of Keyboard (MUSP 111) (May include 2 credits of MUSP 101-102).

3 credits of Major Performing Organization.

Specialization: 20% of total baccalaureate degree (39 credits). Choose I or II.

Bachelor of Science majors are required to perform a one-half recital during or before their ninth quarter of applied study.

I. *Band or Orchestra K-12 and Classroom Music 5-12*

Required:

MUSM 305, 445; MUSEP 370, 371;

MUSE 247, 248, 347, 348, 370.

6 credits of Applied Major.

4 credits of Applied Secondary.

Choose one of the following:

Band Instruments

MUSE 249, 349.

6 credits of Wind Ensemble and/or Symphonic Band.

-or-

String Instruments

MUSE 246, 346.

6 credits of Orchestra.

II. *Vocal & Classroom Music K-9 or 5-12*

Required:

MUSM 306, 442; MUSEP 372;

MUSE 311, 332.

6 credits of Applied Voice.

5 credits of Applied Secondary or Pedagogy.

3 credits of Keyboard.*

6 credits of Vocal Performing Organization.

Choose one of the following:

Classroom Music Certification K-9

MUSE 313.

-or-

Classroom Music Certification 5-12

MUSE 333.

Music Minor for the Elementary Education Major (36)

MUSM 101, 102, 103; MUSEP 270, 271; MUSE 380, 480.

3 credits of history from: MUSM 222 or 223.

5 credits of voice lessons.

3 credits of MUSEP 111.*

5 credits of Major Performance Organization.

2 credits electives.

Department Evaluation. Students applying for their major in music should contact their applied instructor. Application should be made upon completion of 32 credit hours.

Piano Proficiency. A student must show proficiency to a degree in piano where practical application, in the opinion of the faculty, is feasible.

The student may take the proficiency examination at any time during the piano study, but not later than at the end of the sixth quarter of study.

All music majors are required to pass the examination one full quarter, prior to student teaching. Content of the examination is available from the music office. Proficiency tests in conducting, rehearsal techniques, piano and all music education methods courses must be taken prior to student teaching.

Private Lessons. Students should fill out an application for private lessons. Auditions for piano lessons are held the first week of registration.

Students not majoring in music may register for private lessons as electives.

Instrumental music majors and minors—A minimum of three years of high school experience in band or orchestra is recommended for prospective instrumental music majors and minors.

Vocal music majors and minors—A minimum of three years of high school experience in a vocal group is recommended for prospective vocal majors and minors. After registration for an applied music lesson or class, a student must attend class or contact the instructor within the first five days of the quarter in order to maintain his/her position in the class.

Incoming freshmen who would like to take voice lessons who have not had one year previous study are advised to take class voice prior to private voice.

*An additional keyboard emphasis may be developed by accruing nine credits in piano, organ or harpsicord.

Private Applied Lessons may be repeated twice with passing grades at each level. Repetitions to replace failing grades may be taken any number of times.

Transfer Students. Students wishing to transfer to St. Cloud State University should contact the department chairperson for evaluation of music credits.

Freshman Students

Freshman students interested in a degree program in music are encouraged to take the following courses:

MUSM 101, Theory I. (If the student's knowledge in music is very limited, MUSM 100 is recommended.)

An applied music lesson, instrumental or vocal.

Class or private piano. Applications for private lessons may be obtained in the music office.

A musical organization. The student may wish to speak with the director of the organization. Auditions for Wind Ensemble, Concert Choir, Chamber Choir and Jazz Band are given the first week of classes.

MUSIC EDUCATION (MUSE) COURSE DESCRIPTIONS

211. Music in the Primary Grades. Music fundamentals and procedures for grades K through 3. 3 Cr. F, W, S, SUM.

221. Music in the Intermediate Grades. Procedures and resources for grades 4 through 6. Prereq.: MUSE 211. 2 Cr. F, W, S, SUM.

246. String Class. Fundamental techniques and skills. Selection, care and assembly of the instrument; teaching techniques; and instructional materials. 2 Cr. F.

247. Brass Class. Fundamental techniques and skills. Selection, care, and assembly of the instrument; teaching techniques; and instructional materials. 2 Cr. W.

248. Woodwind Class. Fundamental techniques and skills. Selection, care, and assembly of the instrument; teaching techniques; and instructional materials. 2 Cr. W.

249. Percussion Class. Fundamental techniques and skills. Selection, care, and assembly of the instrument; teaching techniques; and instructional materials. 2 Cr. F.

311. Music Education—Elementary Grades. Procedures used in kindergarten through sixth grade for developing children's musical growth in the various areas of the music program. Should be taken concurrently with MUSE 313. 4 Cr. F.

313. Music Resources—Elementary Grades. Films, records, song literature, and community resources which are used in kindergarten through sixth grades. Should be taken concurrently with MUSE 311. 3 Cr. F.

332. Music Education—Secondary Grades. Activities and resources of vocal music in the secondary grades. Should be taken concurrently with MUSE 333. Prereq.: MUSE 311. 4 Cr. W.

333. Music Resources—Secondary Grades. Films, records, literature and community resources which are used in the secondary grades. Should be taken concurrently with MUSE 332. 3 Cr. W.

346. String Class. Continuation of MUSE 246. Prereq.: MUSE 246. 2 Cr. W.

347. Brass Class. Continuation of MUSE 247. Prereq.: MUSE 247. 2 Cr. S.

348. Woodwind Class. Continuation of MUSE 248. Prereq.: MUSE 248. 2 Cr. S.

349. Percussion Class. Continuation of MUSE 249. Prereq.: MUSE 249. 2 Cr. W.

360. Foundations, Principles and Administration of Music Education. Historical, philosophical and psychological principles of music education and the administration of a public school music program. Academic and related field experience. 4 Cr. S.

370. Music Education, Classroom Music (5-12). Developing vocal methodology and skills used by the instrumental specialist in general music classes, and vocal performance organizations, levels 5-12. 3 Cr. F.

380. Seminar in Music Education I. Individualized program of study. Exposure to pedagogical techniques of solo and accompanying instruments for the classroom (i.e., autoharp, guitar, recorder, and ukelele, percussion and selected ethnic instruments). Prereq.: Instr. MUSE 370; Vocal Emphasis MUSE 311 & 313 or 333; Music minors MUSE 211. 1 Cr. W.

477. Practicum in Piano Pedagogy I. Utilization of knowledge gained in MUSM 430, 431, 432 through practical supervised experience. Prereq.: MUSM 430, 431, 432; MUSE 311; PSY 463. 1 Cr. F.

478. Practicum in Piano Pedagogy II. Continuation of MUSE 477. Prereq.: MUSM 430, 431, 432; MUSE 311, 477; PSY 463. 1 Cr. W.

479. Practicum in Piano Pedagogy III. Continuation of MUSE 477, 478. Prereq.: MUSM 430, 431, 432; MUSE 311, 477, 478; PSY 463. 1 Cr. S.

480. Seminar in Music Education II. Continuation of MUSE 380. Major emphasis on the following: acoustics and electronic music, music and dance of other cultures, awareness of the relationship of music to the other arts. Prereq.: MUSE 380. 1 Cr. S.

484. Seminar in Piano Pedagogy. Discussion of problems encountered in practicum experience. Review of MUSM 430, 431 and 432 as relevant to those problems. Philosophical discussion of possible solutions. Prereq.: MUSM 341, 342, 343; MUSE 311, 477, 478; PSY 463. 2 Cr. S.

MUSICIANSHIP (MUSM) COURSE DESCRIPTIONS

100. Introduction to Musical Concepts. An introductory study of the language and basic concepts of music. (Not applicable for credit towards a major/minor program.) 4 Cr. F, W, S.

101. Theory I. A comprehensive study of the 18th and 19th century musical practices, including appropriate ear-training, keyboard, sight-singing, analysis, and notation. Prereq.: Ability to sing or to play the piano or an orchestral instrument. 4 Cr. F, W, SUM.

102. Theory II. Continuation of MUSM 101. Prereq.: MUSM 101. 4 Cr. W, S.

103. Theory III. Continuation of MUSM 102. Prereq.: MUSM 102. 4 Cr. S.

123. The Musical Experience. Significant aspects of humanity's creative works in music. 4 Cr. F, W, S, SUM.

124. Art and Music of Native American. Selective examination of representative art and musical works of the Native American of North America. Emphasis is placed upon perceptual viewing and listening with multi-media development of sight and sound. 2 Cr. W.

125. Music in World Culture. Comparative study of music and its function within cultures of non-Western countries and various Western folk traditions. Listener's point of view. Cultures surveyed include Oceania, East and Southeast Asia, India, Africa (and some American folk traditions). No previous musical experience required. 4 Cr. F.

130. Music for Recreation. Emphasis upon the practicum, singing of and leading of others in singing of songs for recreation and enjoyment. Resource materials, conducting techniques and various accompaniment. 2 Cr. F.

203. Theory IV. Continuation of MUSM 103. Prereq.: MUSM 103. 4 Cr. F.

204. Theory V. Continuation of MUSM 203. Prereq.: MUSM 203. 4 Cr. W.

205. Theory VI. Continuation of MUSM 204. Prereq.: MUSM 204. 4 Cr. S.

221. History of Music I. Historical changes in music from the earliest times through the sixteenth century. Sacred and secular developments will be analyzed culminating with the works of Palestrina. 3 Cr. F, SUM.

222. History of Music II. The period from Palestrina to 1800 with emphasis on the development of opera and instrumental music; ending with a study of the works of Beethoven. 3 Cr. W, SUM.

223. History of Music III. The period from Beethoven through our contemporary composers. Major literature and stylistic features of the important writers in the 19th and 20th centuries. 3 Cr. S, SUM.

228. Italian Opera. For the non-initiated listener who wants a stimulating approach to understanding the better-known Italian operatic works. Open to all students. 3 Cr. DEMAND.

229. Blues and Jazz History. A study of the music, musicians and society that created them with special emphasis on their relationship to rock and the jazz/rock fusion. 4 Cr. F, W, S, SUM.

242. Diction. Basics of French, Italian, German, and Latin diction for vocalists and choral directors. 2 Cr. S.

301. Eighteenth Century Counterpoint. An examination of contrapuntal practices of the eighteenth century. Prereq.: MUSM 204. 2 Cr. S ALT.

302. Sixteenth Century Counterpoint. An examination of contrapuntal practices of the sixteenth century as exemplified by Palestrina. Prereq.: MUSM 204. 2 Cr. S ALT.

303. Form and Analysis. A study of organization and structure of selected musical works. Prereq.: MUSM 204. 2 Cr. F ALT.

304. Analysis of Twentieth Century Music. An analysis of twentieth century musical forms. Prereq.: MUSM 204. 2 Cr. F ALT.

305. Instrumental Arranging. Band and orchestra instruments: register and tone quality.

142 / Music (MUSE, MUSM, MUSP)

Experience in writing arrangements for all types of groups from the small ensemble to the large instrumental organization. Prereq.: MUSM 103. 2 Cr. F.

306. Choral Arranging. Arranging for choruses of all types and degrees of development. Prereq.: MUSM 103. 2 Cr. W.

321. Contemporary Music. Trends in European and American music from about 1910 to the present day. Particular emphasis placed on music since 1920. Prereq.: MUSM 222 and MUSM 223. 2 Cr. F ALT.

421. Symphonic Literature. Orchestral music from its beginning. The Mannheim composers, the Viennese classics, the Romantics, the National schools, and the late European and American developments. Prereq.: MUSM 222 or MUSM 223. 2 Cr. S ALT.

423. Chamber Music Literature. Literature of chamber music quartet, trio, quintet, etc., in various instrumental combinations. The literature will be presented through the analysis of formal structure and evaluation of their aesthetic values. Prereq.: MUSM 222 and MUSM 223. 2 Cr. S ALT.

441. Major Instrument Pedagogy. Basic pedagogical problems and techniques of the instrument. Methods and materials for teaching. 2 Cr. DEMAND.

PERFORMANCE (MUSP) COURSE DESCRIPTIONS

101. Class Piano. Class instruction in piano for students who have had no previous experience at the piano, or up to one year of lessons. Fundamentals of music and practical application of piano techniques. 1 Cr. F, W, S, SUM.

102. Class Piano. Class instruction in piano for students who have had one quarter of class piano, or up to 2 years of previous non-university lessons. Prereq.: Ability to read treble and bass clefs, ability to play simple pieces with both hands together or MUSP 101. 1 Cr. F, W, S, SUM.

103. Class Voice. Class instruction in voice for beginning students. Fundamentals and practical application of vocal techniques. 1 Cr. F, W, S, SUM.

104. Class Voice. Class instruction in voice for beginning students. Fundamentals and practical application of vocal techniques. (A max. of 2 cr. may be applied to music major or minor.) Prereq.: 103. 1 Cr. F, W, S, SUM.

105. Class Cello/String Bass. Class of 3 to 6 beginners on cello or string bass. For students who are not yet proficient enough to study at the MUSP 120 level. Permission of the instructor. 1 Cr. F, W.

106. Classical Guitar. Guitar techniques including the use of the right hand fingers, reading of notes in the first five frets, and chords played as arpeggios. 1 Cr. F, W, S.

110-410. Private Lessons: Piano. 1 Cr.* F, W, S, SUM.

111-411. Private Lessons: Piano. 3 Cr.** F, W, S, SUM.

112-412. Private Lessons: Organ. 1 Cr.* F, W, S, SUM.

113-413. Private Lessons: Organ. 3 Cr.** F, W, S, SUM.

114-414. Private Lessons: Harpsichord. 1 Cr.* F, W, S, SUM.

115-415. Private Lessons: Harpsichord. 3 Cr.** F, W, S, SUM.

116-416. Private Lessons: Voice. 1 Cr.* F, W, S, SUM.

117-417. Private Lessons: Voice. 3 Cr.** F, W, S, SUM.

118-418. Private Lessons: Percussion. 1 Cr.* F, W, S, SUM.

120-420. Private Lessons: Violin. 1 Cr.* F, W, S, SUM.

121-421. Private Lessons: Violin. 3 Cr.** F, W, S, SUM.

122-422. Private Lessons: Viola. 1 Cr.* F, W, S, SUM.

123-423. Private Lessons: Viola. 3 Cr.** F, W, S, SUM.

124-424. Private Lessons: Cello. 1 Cr.* F, W, S, SUM.

125-425. Private Lessons: Cello. 3 Cr.** F, W, S, SUM.

126-426. Private Lessons: Bass. 1 Cr.* F, W, S, SUM.

127-427. Private Lessons: Bass. 3 Cr.** F, W, S, SUM.

128-428. Private Lessons: Guitar. 1 Cr.* F, W, S, SUM.

130-430. Private Lessons: Trumpet. 1 Cr.* F, W, S, SUM.

131-431. Private Lessons: Trumpet. 3 Cr.** F, W, S, SUM.

132-432. Private Lessons: French Horn. 1 Cr.* F, W, S, SUM.

133-433. Private Lessons: French Horn 3 Cr.** F, W, S, SUM.

- 134-434. Private Lessons: Trombone-Baritone.** 1 Cr.* F, W, S, SUM.
- 135-435. Private Lessons: Trombone-Baritone.** 3 Cr.** F, W, S, SUM.
- 138-438. Private Lessons: Tuba.** 1 Cr.* F, W, S, SUM.
- 139-439. Private Lessons: Tuba.** 3 Cr.** F, W, S, SUM.
- 140-440. Private Lessons: Flute-Piccolo.** 1 Cr.* F, W, S, SUM.
- 141-441. Private Lessons: Flute-Piccolo.** 3 Cr.** F, W, S, SUM.
- 142-442. Private Lessons: Oboe-English Horn.** 1 Cr.* F, W, S, SUM.
- 143-443. Private Lessons: Oboe-English Horn.** 3 Cr.** F, W, S, SUM.
- 144-444. Private Lessons: Clarinet—Bass Clarinet.** 1 Cr.* F, W, S, SUM.
- 145-445. Private Lessons: Clarinet—Bass Clarinet.** 3 Cr.** F, W, S, SUM.
- 146-446. Private Lessons: Saxophone.** 1 Cr.* F, W, S, SUM.
- 147-447. Private Lessons: Saxophone.** 3 Cr.** F, W, S, SUM.
- 148-448. Private Lessons: Bassoon.** 1 Cr.* F, W, S, SUM.
- 149-449. Private Lessons: Bassoon.** 3 Cr.** F, W, S, SUM.
- 151. Vocal Ensemble.** Prereq.: Permission of the instructor. Two rehearsals per week. 1 Cr. May be repeated for credit. F, W, S.
- 152. String Ensemble.** Prereq.: Permission of the instructor. Two rehearsals per week. 1 Cr. May be repeated for credit. F, W, S.
- 153. Brass Ensemble.** Prereq.: Permission of the instructor. Two rehearsals per week. 1 Cr. May be repeated for credit. F, W, S.
- 154. Woodwind Ensemble.** Prereq.: Permission of the instructor. Two rehearsals per week. 1 Cr. May be repeated for credit. F, W, S.
- 155. Percussion Ensemble.** Prereq.: Permission of the instructor. Two rehearsals per week. 1 Cr. May be repeated for credit. F, W, S.
- 156. Chamber Ensemble.** Study and performance of chamber music. Prereq.: Consent of adviser. 1 Cr. May be repeated. Max., 2 Cr. F, W, S.
- 157. Jazz Ensemble.** Prereq.: Permission of the instructor. Two rehearsals per week. 1 Cr. May be repeated for credit. F, W, S.
- 160. University Chorus.** 1 Cr. May be repeated for credit. F, W, S.
- 162. Concert Choir.** 1 Cr. May be repeated for credit. F, W, S.
- 164. University Bands.** 1 Cr. May be repeated for credit. F, W, S.
- 167. University Orchestra.** 1 Cr. May be repeated for credit. F, W, S.
- 169. Opera Theatre.** The techniques of the musical theatre including musical and dramatic study of operatic roles and actual performance. Audition required. 1 Cr. May be repeated to a maximum of 4 credits. F, W, S.
- 202. Functional Piano.** Developing keyboard skills for the music major in preparation for the piano proficiency examination. Includes scales, chords, arpeggios, score reading, harmonization and transposition. Prereq.: Ability to play music on the piano using treble and bass clefs simultaneously. By permission only. May be taken twice. 1 Cr. F, W, S, SUM.
- 258. Chamber Choir.** Study and performance of chamber choral literature from the Renaissance to the present. Audition required. May be repeated for maximum of 12 credits. 1 Cr. (per qtr.) F, W, S.
- 270. Conducting.** Basic conducting principles in choral and instrumental music. Rehearsal techniques and examination of vocal and instrumental literature. Prereq.: MUSM 102. 2 Cr. F.
- 271. Conducting.** Continuation of MUSP 270. Prereq.: MUSP 270. 2 Cr. W.
- 283. Practicum in American Musical Theatre.** Procedures used in directing and producing a musical. The study of artistic and technical components of musical theatre--from auditions to final performance and striking. 2 Cr. Permission required. F, W, S.
- 370. Instrumental Conducting and Repertoire.** Qualities of a conductor, use of baton, rehearsal routine; problems of organizing and developing orchestras and bands in schools; orchestral and band literature. Prereq.: MUSP 271. 2 Cr. F.
- 371. Instrumental Conducting and Repertoire.** Continuation of MUSP 370. Prereq.: MUSP 370. 2 Cr. W.
- 372. Choral Conducting and Repertoire.** Development of conducting skills in the vocal field at the junior and senior high school levels. Extensive materials. Prereq.: MUSP 271. 4 Cr. S.
- 396. Junior Recital.** Presentation of one-half or full recital. 1 Cr. F, W, S.
- 496. Senior Recital.** Presentation of a full recital. 2 Cr. F, W, S.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS (MUSM)

402-502. Composition I. The utilization of harmonic and contrapuntal techniques in developing original composition in various forms. Prereq.: MUSM 204. 2 Cr. W. ALT.

403-503. Composition II. A continuation of MUSM 402-502. Prereq.: MUSM 402-502. 2 Cr. S. ALT.

404-504. Electronic Music. The utilization of electronic sounds in the organization of contemporary music. 2 Cr. S.

405-505. Electronic Music Composition. The study of techniques and procedures utilized in electronic music composition. 2 Cr. S.

406-506. Acoustics of Music. Nature of sound and its application in music; characteristics of sound waves; vibratory sources of music sounds; physical basis of harmony and scales. Prereq.: MUSM 204. 3 Undgr. Cr., 2 Gr. Cr. DEMAND.

422-522. Choral Literature. A survey of choral forms, style and literature, both sacred and secular, from the Renaissance to the present. Includes criteria for selection of choral music and methods of choral analysis. Prereq.: MUSM 222 and 223 or permission of instructor. 2 Cr. S. ALT.

425-525. Piano Literature. Historical and stylistic presentation suitable for the concert hall, from the Baroque to the present. 3 Cr. W.

430-530. Piano Pedagogy: Elementary Level. Basic problems and techniques in teaching piano to the beginner. Survey of materials and procedures. 2 Cr. F.

431-531. Piano Pedagogy: Intermediate Level. Basic problems and techniques in teaching piano to the intermediate student. Survey of materials and procedures. 2 Cr. W.

432-532. Piano Pedagogy: Advanced Level. Basic problems and techniques in teaching piano to the advanced student. Survey of materials and procedures. 2 Cr. S.

442-542. Voice Pedagogy. Basic problems and techniques in the teaching of voice and chorus. Survey of procedures and materials. 2 Cr. W.

445-545. Musical Instrument Repair. Consideration of instrument care, upkeep, and minor repair. 2 Cr. DEMAND.

446-546. Double Reed Construction. The construction of reeds for oboe, bassoon, and English horn, with attention to varying shapes and facings, intonation problems, tone procurement and adjustment of reeds to fit the individual and instrument. 4 Cr. DEMAND.

465-565. Keyboard Accompanying. Insight into the art of piano accompaniment through discussion and actual performance of representative works. Permission of instructor. 2 Cr. S.

481-581. Workshop: Brass Instrument Literature. The study and performance of brass instrument literature, intended for use by school and private teachers and performers. 2 Cr., SUM.

482-582. Workshop: Choral Development. Problems and techniques related to building and maintaining a successful choral program. Areas of vocal technique, diction, rehearsal technique, choir organization, and conducting will be studied. 2 Cr., SUM.

483-583. Workshop: Clarinet Pedagogy. Designed for public school music teachers whose major instrument is not the clarinet. Also open to clarinet majors. Tone quality, refinement of technique and pedagogical materials will be emphasized. 1 Cr. SUM.

484-584. Workshop: Flute Pedagogy. Intended primarily for public school music teachers whose major performing instrument is not flute. Deals with principles of tone production, the systematic expansion of technique to the complete practical range of the flute, and methods and literature. 2 Cr., SUM.

485-585. Workshop: The Singing Voice: Technique and Development. Study of the singing voice. Anatomy and function with emphasis on basic development of breathing and tone. Vocal problems and their correction. For choir directors, voice teachers, advanced students, and individuals interested in vocal development. 2 Cr. SUM.

486-586. Workshop: Woodwind Pedagogy. Intended for public school instrumental music teachers who feel a need to improve their teaching knowledge of the woodwinds. Instrument(s) to be emphasized will be determined according to the needs of class participants. All participants will be expected to learn by performing on the instrument(s) to be studied. 1 Cr., SUM.

487-587. Bassoon Pedagogy. Examination of pedagogical and reed adjustment principles and materials for the bassoon. Establishment of selection criteria for instruments and accessories.

*B.S. candidates: One 1/2 hour lesson plus studio class for 1 Cr. May be repeated to a maximum of 4 credits. Permission of instructor.

**B.M. candidates: Two 1/2 hour lessons studio class plus 1/2 hour recital coaching session for 3 Cr. May be repeated to a maximum of 9 credits. Permission of instructor.

Designed for upper level instrumental music majors and teachers of instrumental music in schools or private studios. 2 Cr. W.

489-589. Workshop: Music Education in Minnesota. Participation in clinic and workshop sessions at Minnesota Music Educators Association Mid-Winter Clinic. May be repeated. Maximum 3 credits toward a degree program. 1 Cr. W.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS (MUSP)

473-573. Score Preparation. Score preparation for secondary music education performance. 3 Cr. DEMAND.

Nuclear Medical Technology

273 MATHEMATICS AND SCIENCE CENTER/255-3130

An Allied Health program. *Also see individual program descriptions in this Bulletin for Medical Technology and Physical Therapy.*

Also see College of Liberal Arts and Sciences description and requirements.

Coordinator Judith Torrence

This four-year program is a variation of medical technology with the internship including lectures and laboratory experience in the areas of nuclear physics, instrumentation, radioisotope measurements, radiation protection, radiobiology and radio pharmaceuticals, clinical application of radioisotopes, technical evaluation of nuclear medicine procedures, and clinical nuclear medicine practicum.

BACHELOR OF SCIENCE

BIOL 201, 203, 303, 332, 344, 405, 446, 447, 464, 465; CHEM 215, 216, 251, 252, 353, 412, 413; PHYS 211, 212; MATH 132. Electives 14 Cr. Internship 48 Cr.

The selection of interns is competitive and will be made by Hennepin County Medical Center's School of Nuclear Medical Technology.

Philosophy (PHIL)

123 BROWN HALL/255-2234

Also see College of Liberal Arts and Sciences description and requirements.

Chairperson George E. Yoos. **Faculty** M.G. Anderson, Arnold, Bahde, Boyer, Corliss, Dienhart, Erickson-Davis, Fischmann, Harlow, A. Phillips, J. Phillips, White, Yoos.

The Department of Philosophy has three main functions; first, to provide all students with an introduction to the ideas, problems, and methods of philosophers; second, to give courses serving the particular needs of students who are majoring or minoring in other fields; third, to offer major and minor programs for those with special interests in one or more areas of philosophy, such as philosophy of science, social philosophy, ethics, philosophy of religion, and logic.

BACHELOR OF ARTS

Major (48)

PHIL 220, 280, 281, 282.

Two courses from: 225, 325, 333, 344, 345, 431, 442.

Two courses from: 320, 321, 332, 334, 433, 444, 446, 447.

Two courses from 410-429, 434, 435, 440, 445.

Electives: 8 credits in above 100 level courses.

146 / Philosophy (PHIL)

Major (36)

PHIL 220, 280, 281, 282.

Two courses from either of two groups: (1) 225, 325, 333, 344, 345, 431, 442; (2) 320, 321, 332, 334, 433, 444, 446, 447.

Two courses from: 410-429, 434, 435, 440, 445.

Electives: 4 credits in above 100 level courses.

Minor (24)

PHIL 220, 280, 281, 282.

Electives: 8 credits in above 200 level courses.

BACHELOR OF ELECTIVE STUDIES

Major (48)

Completion of any 48 credits in philosophy.

Minor (36)

Completion of any 36 credits in philosophy.

COURSE DESCRIPTIONS

101. Philosophical Explorations in the Humanities. A critical and comparative examination of philosophical problems, concepts, and theories found in the humanities. From preclassical times to early Christianity. 4 Cr. F, W, S.

102. Philosophical Explorations in the Humanities. A critical and comparative examination of philosophical problems, concepts, and theories found in the humanities. From the Middle Ages to the 18th Century. 4 Cr. F, W, S.

103. Philosophical Explorations in the Humanities. A critical and comparative examination of philosophical problems, concepts, and theories found in the humanities. From the 18th Century to the present. 4 Cr. F, W, S.

120. Introduction to Logic. The principles of accurate reasoning, emphasizing topics in informal logic and rhetoric. Definition, fallacies, explanation, and induction. 4 Cr. F, W, S, SUM.

122. Introduction to Ethics. Factors, issues, or controversies involved in reaching moral decisions. 4 Cr. F, W, S, SUM.

140. Elements of Religion. What is religion? What is the nature of religious faith or religious beliefs? A study of some of the elements important to religious interpretations of life. 4 Cr. F.

160. Introduction to Philosophy. Basic issues in such areas as the theory of knowledge, the mind-body problem, morality, politics and religion. 4 Cr. F, W, S, SUM.

205. Philosophy of Human Nature. Philosophical issues in human evolution, action, and potential. Ethical, political, and epistemological problems in defining human nature. 4 Cr. S.

220. Introduction to Symbolic Logic. A basic course in the propositional and predicate calculi. Special emphasis on learning how to construct proofs of formulae. 4 Cr. F, S.

225. Ethics: Classical Theories. Plato, Aristotle, Epicurus, the Stoics, Hobbes, Butler, Hume, Kant and the Utilitarians. 4 Cr. F.

240. Religions of South Asia. Hinduism, Buddhism, and Zoroastrianism. 4 Cr. W ALT.

250. Philosophy in Literature. Issues raised by selected works of literature. A wide range of sources and viewpoints is considered and active discussion encouraged. 4 Cr. W.

270. Existentialism. Marcel, Sartre, Kierkegaard, Buber, Heidegger. 4 Cr. F.

280. History of Philosophy Survey: Classical and Early Christian. Pre-socratics, Socrates, Plato, Aristotle, Hellenistic and Roman philosophers, Neoplatonism and early church fathers. 4 Cr. F.

281. History of Philosophy Survey: Late Medieval through Enlightenment. Scholasticism, Renaissance, Reformation, rise of science, Cartesian influence, continental rationalism, British empiricism, and the Kantian revolution. 4 Cr. W.

282. History of Philosophy Survey: 19th and 20th Centuries. Post-Kantian and Hegelian philosophy, positivism, utilitarianism, dialectical materialism, pragmatism, phenomenology, existentialism, and analytic philosophy. 4 Cr. S.

301. Twentieth Century Religious Thought. A study of theological and philosophical movements that have significantly influenced Judaic-Christian thought in the Twentieth Century. 4 Cr. S.

- 320. Formal Logic I.** An introductory study of some of the properties of formal systems: consistency, completeness, and decidability. Also, elementary semantics and set theory. Prereq.: 220 or consent of instructor. 4 Cr. DEMAND.
- 321. Formal Logic II.** Non-standard systems of logic: intuitionist, multi-valued, deontic, modal, and/or tense logic. Prereq.: 320 or consent of instructor. 4 Cr. DEMAND.
- 325. Ethics: Contemporary Theories.** 20th Century metaethical theories and problems, particularly ethical naturalism, ethical intuitionism and varieties of noncognitivism. 4 Cr. W.
- 332. Philosophy of Science.** Analysis of the fundamental concepts used in the physical and social sciences, such as law, theory confirmation, explanation, and probability. 4 Cr. F.
- 333. Social and Political Philosophy: Classical Theories.** Political philosophy of Plato, Aristotle, Augustine, Aquinas, Machiavelli, Locke, Rousseau, Hegel, and Marx. 4 Cr. S.
- 334. Philosophy of Behavioral Science.** The epistemological and metaphysical foundations and methodology of the behavioral sciences. 4 Cr. W ALT.
- 340. Religions of China and Japan.** Confucianism, Taoism, later forms of Buddhism, ancient and modern forms of folk religion in Japan. 4 Cr. F ALT.
- 344. Philosophy of Law and Punishment.** Classical and contemporary theories of law and punishment. 4 Cr. F, W, S.
- 345. Philosophy of Religion.** Proofs of the existence of God, the nature of religious beliefs, and the place of reason and evidence in religion. 4 Cr. F ALT.
- 348. Philosophy of Marxism.** Critical analysis of concepts and theories central to philosophy of Marxism. 4 Cr. W.
- 434. History of Philosophy Seminar.** Seminar for intensive study of one philosopher, or of one period of controversy in the history of philosophy. 4 Cr. W ALT.
- 435. Metaphysics.** The nature of reality, existence, time, change, mind, matter, and other fundamental topics. 4 Cr. F ALT.
- 440. Theory of Knowledge.** Nature and justification of knowledge and belief; problems of sense-perception, memory, truth, and meaning. 4 Cr. S ALT.
- 445. Value Theory.** Nature, types, criteria, and justification of values, intrinsic and instrumental values, and relation of values to facts. 4 Cr. F ALT.
- 446. Analytic Philosophy.** Readings from Moore, Schlick, Carnap, Hempel, Ryle, Reichenbach, Feigl, and others of the contemporary movement. 4 Cr. S ALT.
- 447. Philosophy of Language.** The sentence-statement-proposition distinction. Quine's attack upon analyticity and translation, the nature of speech acts and their relevance for an analysis of meaning, and the implications of Chomsky's work. 4 Cr. S ALT.
- 448. Philosophy of Mind.** Analyses of intentions, intensions, volitions, emotions, and mental states generally and our knowledge of our minds. The debate between dualists, behavioralists, identity theorists, and criterialists. 4 Cr. W ALT.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

- 410-429, 510-529. Special Studies.** Seminar for intensive study of a particular philosopher or of the philosophical problems in a special discipline, such as history, biology, or behavioral sciences. Prereq.: Consent of instructor. 2-4 Cr. DEMAND.
- 431-531. Philosophy of Art.** A general introduction to philosophical questions relating to the fine arts. 4 Cr. W ALT.
- 432-532. Film Aesthetics.** Motion pictures as an artform. Critical examination of various theories of film. Special attention to Russian theories of montage, the Auteur theory, and the realist thesis. 4 Cr. S.
- 433-533. Philosophy of History.** The nature of historical explanation, historicism, objectivity, and meaning of history. 4 Cr. W ALT.
- 442-542. History of American Philosophical Thought.** The course of development of American philosophy from its beginnings: Puritanism, Transcendentalism, Idealism, Pragmatism, Realism, and Contemporary Analysis. 4 Cr. W ALT.

Physical Education (PE)

208 HALENBECK HALL/255-3150

A program of the Department of Health, Physical Education and Recreation.
Also see College of Education description and requirements.

Coordinator Frances Bleick.

Students enrolling in swimming classes must furnish their own suits.

All Associate in Arts and baccalaureate degree students are required to earn two credits in physical education activity courses.

BACHELOR OF ARTS

Major (48)

PE 110, 206, 248, 261, 304, 348, 408, 347, or 349 plus 6 credits of activities from physical education major/minor classes. Select 19-20 credits of electives with adviser's consent.

Performing Dance Minor (36)

Music 100, PE 111, 211, 219, 248, 311, 348, 435, 490. Select 13 credits of electives with adviser's consent from art, music, philosophy, physical education or theatre. No more than 6 credits from any one department.

BACHELOR OF ELECTIVE STUDIES

Physical Education Major (48) (non-teaching)

Completion of 48 credits with approval of department.

Athletic Training Minor (36) (non-teaching)

Completion of 36 credits with approval of department.

Performing Dance Minor (36) (non-teaching)

Completion of 36 credits with approval of department.

BACHELOR OF SCIENCE

Major (63)

PE 103, 109, 110, 112, or 151, 206, 248, 261, 348, 349, 357, 411, 449, 451, 452, 453; HLTH 215. Select 2 courses from: PE 332, 358, 375, 378. Must have W.S.I. or take swimming course.

Select 3 credits from following areas with adviser's consent: dance, fitness, individual and dual sports, team sports. Select 10 credits from one of the following areas or 10 credits of electives with adviser's consent: adapted, aquatics, athletics, dance, elementary, recreational sports.

PE Minor (36)

PE 206, 248, 348, 411, 451, 452, 453.

Select 2 courses from: 332, 358, 375, 378.

Electives: Select 10 credits with consent of adviser. Must have W.S.I. or take swimming course.

Athletic Training Minor (36)

HLTH 210, 215; PE 206, 248, 304, 313, 314, 315, 348, 349, 404, 449, 451. Plus 900 hour work experience under supervision of athletic trainer.

Dance Education Minor (36)

Music 100, PE 111, 133, 211, 261, 248, 332, 348, 435, 490. Select 11 credits of electives with adviser's consent from art, music, philosophy, physical education and theatre with no more than 6 credits from any one discipline.

Elementary Education Emphasis (24)

PE 131, 133, 206, 357, 411*.

Electives: Select a minimum of 12 credits from the following: PE 103, 109, 110, 120, 136, 138, 160, 213, 248, 348, 349, 449, 451; REC 212. A maximum of one of the following may be included among the electives: PE 251, 252, 255, 256, 257, 258, 301, 303, 354.

Athletic Coaching License for Women (25)

Select 23 or 24 credits from the following: PE 206, 248, 304, 312, 339, 348, 349, 355, 358, or 378, 268 or 368. Select 1 or 2 credits from: PE 101, 103, 109, 112, 231, 236, 258, 272, 301, 302, 303, 357, 449.

Athletic Coaching License for Men (29)

PE 206, 248, 304, 305, 348, 349, 408, 456.

Select 6 credits from: PE 221, 251, 252, 253, 254, 255, 256, 257.

COURSE DESCRIPTIONS—PHYSICAL EDUCATION

103. Softball, Track and Field. Techniques of fundamental skills and methods of teaching. Physical Education majors only. 3 Cr. S.

109. Fall-Winter Team Activities. Techniques of fundamental skills in hockey, soccer, volleyball, and basketball. Physical Education majors only. 3 Cr. F.

110. Professional Perspectives in Physical Education. Orientation for physical education majors at St. Cloud State University. Includes brief history, philosophy, qualifications, and opportunities in the profession. 2 Cr. W, S.

111. Modern Dance I. Fundamental skills in modern dance technique, improvisation, and composition. 2 Cr. W, S.

112. Gymnastics for Women. Techniques of fundamental skills. 2 Cr. F, W.

119. Trapshooting. Fundamentals and skills. Furnish own guns. Fee assessed for ammunition and targets. 1 Cr. F, S.

120. Aerobics. Aerobic concepts of physical fitness. Adjustments for age groups and sex. Written evidence of recent physical examination is mandatory. 2 Cr. DEMAND.

121. Wrestling. Skills in performing fundamental positions, holds and breaks, taking opponent to mat; riding opponent, offense, and defense. 1 Cr. F, W.

122. Beginning Marksmanship. Techniques, history and safety factors. Line firing. Special fee covers cost of firearms. 1 Cr. DEMAND.

123. Weight Training. Skills and knowledge associated with dynamic and static conditioning. Course designed to assist in developing strength and learning the basic concepts of the three Olympic lifts. 1 Cr. F, W, S, SUM.

125. Ballroom Dance Rhythms. Fundamentals of Waltz, Foxtrot, and Lindy emphasized. Rhumba, Samba, Tango, and ChaCha included. 1 Cr. DEMAND.

126. Gymnastic Stunts. Skills in balancing in both single and double stunts. 1 Cr. W.

130. Skating. Skills involved in beginning figure skating. Some recreational and speed skating. Student must furnish figure skates. 1 Cr. W.

131. Stunts and Games for the Elementary School Child. Stunts, games, achievement, and efficiency tests for elementary level. 2 Cr. S.

132. Individual and Recreational Games. Aerial badminton, paddle tennis, aerial darts, table tennis, and volleyball. 1 Cr. DEMAND.

133. Creative & Traditional Dance for the Elementary School. Simple folk dances, singing games, and free rhythms suitable for all elementary grade levels. 2 Cr. F, W, S.

136. Beginning Swimming. For students who cannot swim in deep water. Elementary strokes and diving. 1 Cr. F, W, S, SUM.

138. Intermediate Swimming. Intermediate level swimming with emphasis on side, back, and crawl strokes. Prereq.: 136 or equivalent. 1 Cr. F, W, S, SUM.

139. Advanced Swimming. Advanced strokes and diving. Prereq.: 138 or equivalent. 1 Cr. DEMAND.

140. Self Defense for Women. Fundamental skills and techniques of fall, rolling, throwing and breaking holds. Specific emergency techniques of self defense and specific safety skills. 2 Cr. DEMAND.

144. Volleyball. Volleyball skills and techniques. 1 Cr. DEMAND.

*PE 411 is to be taken in lieu of PE 392 in the elementary education major.

145. **Basketball for Women.** Basketball skills and techniques. 1 Cr. DEMAND.
150. **Beginning Gymnastics for Women.** Beginning skills and techniques in gymnastics developed through tumbling, and various pieces of apparatus. 1 Cr. W.
151. **Men's Gymnastics.** Fundamental skills involved in doing exercises in tumbling and on apparatus. Progression in difficulty. 2 Cr. F, W, S, SUM.
152. **Physical Fitness.** Physical fitness tests, calisthenics, running, fitness, activities, leadership techniques. 1 Cr. F, W, S, SUM.
159. **Team Handball.** Terminology, fundamentals, techniques, strategy and skills. 2 Cr. DEMAND.
160. **Slow Pitch Softball.** Techniques, skills and strategy. 2 Cr. F, S, SUM.
163. **Sports Education.** Skills and methods involved in soccer, volleyball and speedball. Training in directing conditioning exercises, games of low organization and lead up games. 2 Cr. F, S.
180. **Ice Hockey.** Basic techniques and knowledge used in playing. Student must furnish skates. Prereq.: 130. 1 Cr. W.
190. **Water Skiing.** Basic and intermediate water skiing. Equipment furnished. Special fees for gas and insurance. 1 Cr. SUM.
194. **Basic Elements of First Aid.** American Red Cross standard multimedia system. 1 Cr. DEMAND.
200. **Beginning Skiing.** Basic techniques and knowledge. Students furnish own ski boots. 1 Cr. W.
201. **Intermediate Skiing.** Techniques geared to those with some skiing experience. Students should have mastered beginning skills including snowplow turns, right and left, braking and stopping, rising and falling. 1 Cr. W.
202. **Cross Country Skiing.** Beginning and intermediate work in ski touring. Physical conditioning emphasis, waxing technique and practice in overland skiing. Students furnish own equipment. 2 Cr. W.
203. **Snowshoeing.** Basic techniques and knowledge. For beginners only. Snowshoes furnished. 1 Cr. W.
206. **Standard First Aid and Personal Safety.** Standard and advanced skills and knowledge necessary to give first aid to victims of accidents or sudden illness. 3 Cr. F, W, S, SUM.
207. **Standard First Aid and Personal Safety Instruction.** Qualifies students to teach standard first aid and personal safety and issue American Red Cross certificates. Prereq.: instructor permission. 2 Cr. S.
210. **Karate I.** Terminology, fundamentals, basic techniques of blocking, punching, kicking, and the strategies of basic attack and defense. 1 Cr. F, W, S.
211. **Dance Composition.** Fundamental composition elements used in different dance techniques with emphasis on modern dance. Prereq.: 111. 2 Cr. W.
212. **Karate II.** Continuation of fundamentals for the advanced performer. Some sparring. Kata is introduced. 1 Cr. DEMAND.
213. **Bicycling.** Intermediate level bicycling. Includes self-conditioning, bicycling maintenance, safety considerations, tours and skill activities. Student furnishes own bicycle. 2 Cr. F, S, SUM.
219. **Basic Ballet.** Basic skills and knowledge of classical ballet. Technique for the beginning student. 2 Cr. F, S.
221. **Coaching of Wrestling.** Theory and practice of coaching wrestling. Prereq.: 121. 3 Cr. W.
222. **Beginning Bowling.** Basic techniques and knowledges. Charge is made for equipment and lane fee. 1 Cr. F, W, S, SUM.
223. **Intermediate Bowling.** Improve overall bowling proficiency by providing the student with more technical knowledge of the sport than can be practically presented in PE 222. 1 Cr. F, W, S.
225. **Modern Jazz Dancing.** Fundamentals, techniques and compositions. 2 Cr. DEMAND.
226. **Beginning Tap Dancing.** Fundamentals, basic steps and knowledges. 2 Cr. DEMAND.
230. **Beginning Tennis.** Court positions, footwork, and rules. Fundamental skills of serving, forehand, and backhand. Student must furnish racquet and balls. 1 Cr. F, S, SUM.
231. **Intermediate Tennis.** Strategy, singles, and doubles. Techniques used in advanced tennis tournaments. Student must furnish racquet and balls. 1 Cr. DEMAND.
232. **Badminton.** Terminology, fundamentals, techniques, grip, footwork, service stroking, strategy, and etiquette. Singles and doubles game. 1 Cr. F, W, S.
234. **Modern Dance II.** Skills in modern dance technique improvisation and composition from Modern Dance I. Prereq.: P.E. 111. 2 Cr. DEMAND.
235. **Folk and Square Dance.** American square dance and other rhythms in areas of folk dance. 2 Cr. DEMAND.

- 236. Intermediate Badminton.** Strategy, advanced techniques and skills, singles and doubles play. Prereq.: 232 or equivalent. 1 Cr. DEMAND.
- 238. Beginning Archery.** History, basic techniques for target shooting. Terms, roles and etiquette. 1 Cr. F, W, S, SUM.
- 240. Intermediate Archery.** Adaptation and variation, clout and tournament shooting. 1 Cr. DEMAND.
- 241. Elementary Equestrian I.** Basic skills involved in horsebackriding. Offered through College of St. Benedict. Fee assessed for use of horses and equipment. 1 Cr. DEMAND.
- 242. Elementary Equestrian II.** Skills and knowledge associated with advanced elementary horsemanship. Five rein aid circles at the canter, cavellette. Offered through College of St. Benedict. Fee assessed for use of horses and equipment. Prereq.: 241 or equivalent. 1 Cr. DEMAND.
- 243. Intermediate Equestrian I.** Skills associated with intermediate horsemanship. Independent seat, jump low fences, jumping without iron. Offered through College of St. Benedict. Fee assessed for use of horses and equipment. Prereq.: 242 or equivalent. 1 Cr. DEMAND.
- 244. Intermediate Equestrian II.** Skills associated with advanced intermediate horsemanship. Aids for basic figures, execute simple low hunt course, fence jumping. Offered through College of St. Benedict. Fee assessed for use of horses and equipment. Prereq.: 243 or equivalent. 1 Cr. DEMAND.
- 245. Beginning Western I.** Basic skills involved in western horsemanship. Offered through College of St. Benedict. Fee assessed for use of horses and equipment. 1 Cr. DEMAND.
- 246. Intermediate Western II.** Skills and knowledge associated with western horsemanship of an intermediate level. Modified trail class, gymkhana events, roll backs, pivots. Offered through College of St. Benedict. Fee assessed for use of horses and equipment. Prereq.: 245 or equivalent. 1 Cr. DEMAND.
- 247. Horse Dressage and Jumping.** Dressage and its use on the horse. Abnormal striding, angling fences, tighter courses. Offered through College of St. Benedict. Fee assessed for use of horses and equipment. 1 Cr. DEMAND.
- 248. Anatomy.** An introduction to gross human anatomy. A study of the structure of the organs and organ systems of the human. Lab.: T, R; Lec.: M. 4 Cr. F, W, S, SUM.
- 250. Fly and Bait Casting.** Dry and wet fly and artificial bait casting. Student must furnish fly and bait casting equipment. 1 Cr. F, S, SUM.
- 251. Coaching Basketball.** Theory and practice of coaching basketball. 3 Cr. F.
- 252. Coaching Gymnastics.** Theory and practice of coaching gymnastics and tumbling. 3 Cr. W.
- 253. Coaching of Swimming and Diving.** Theory and practice of coaching swimming. 3 Cr. W or S.
- 254. Coaching Hockey.** Theory and practice of coaching hockey. 3 Cr. W.
- 255. Coaching Football.** Theory and practice of coaching football. 3 Cr. F, W.
- 256. Coaching of Baseball.** Theory and practice of coaching baseball. 3 Cr. F, SUM.
- 257. Coaching of Track.** Theory and practice of coaching track and field events. 3 Cr. S.
- 258. Coaching Volleyball.** Theory and practice of coaching volleyball. 3 Cr. F.
- 261. Dancing and Rhythms.** Folk and square dance skills and beginning teaching methods for teaching dance in the secondary school. Before student teaching. 2 Cr. F, W, S.
- 264. Water Polo.** Terminology, fundamentals, techniques, strategy and skills. 2 Cr. DEMAND.
- 266. Advanced Livesaving.** Theory and practice of methods used in Red Cross Life Saving and Water Safety. 2 Cr. DEMAND.
- 268. Basic Swimming Instructor.** Methods and techniques of teaching; training of water front safety instructors. 2 Cr. DEMAND.
- 269. Synchronized Swimming.** Skills and technical aspects of swimming productions. Prereq.: 139 or equivalent. 1 Cr. DEMAND.
- 270. Foil Fencing.** Basic techniques and knowledge in the use of the foil. 1 Cr. DEMAND.
- 271. Skin and Scuba Diving.** Techniques, knowledge and practices of skin and scuba diving (self-contained underwater breathing apparatus). Emphasis on safety factors. Prereq.: Special ear-sinus examination by Health Service. Charge for equipment. 2 Cr. F, W, S.
- 272. Diving.** Techniques and knowledge of springboard diving. Prereq.: 138 or equivalent. 1 Cr. DEMAND.
- 273. Canoeing.** Principles of safety and self-rescue plus basic strokes of canoeing. Prereq.: Intermediate level of swimming ability or approval of instructor. 1 Cr. F, W, S, SUM.
- 274. Advanced Foil Fencing.** Advanced skills and strategies of foil fencing. Prereq.: 270 or equivalent. 1 Cr. DEMAND.

152 / Physical Education (PE)

- 275. Golf.** Fundamental strokes, rules, terms, etiquette. Each student must furnish own equipment. 1 Cr. F, S, SUM.
- 276. Intermediate Golf.** Intermediate skills, strategies of golf. Must furnish own equipment. Prereq.: 275 or equivalent. 1 Cr. DEMAND.
- 277. Golf for the Duffer and the Expert.** Instruction designed to improve one's game on all skill levels. Indoor instruction and practice and outside golf course experiences. Must furnish own equipment. 2 Cr. S.
- 290. Basketball for Men.** Basic skills and knowledge used in playing. 1 Cr. DEMAND.
- 301. Advanced Track and Field Techniques.** Methods and materials of track and field for women physical education majors. Prereq.: 103. 2 Cr. S.
- 303. Advanced Gymnastics Techniques.** To develop advanced skills and techniques in specific gymnastics events. Prereq.: 112. 2 Cr. W.
- 304. Principles of Care and Prevention of Athletic Injuries.** Care and prevention of athletic injuries including practical experience in taking care of these injuries. Student is expected to purchase supplies for class. Prereq.: 248. 3 Cr. F, W, S, SUM.
- 305. Sports Officiating for Men.** Techniques of officiating high school football and basketball. Rules governing these sports. May be repeated to 4 credits maximum. 2 Cr. DEMAND.
- 306. Officiating Men's Basketball.** Techniques and rules involved in officiating men's high school basketball. 2 Cr. DEMAND.
- 307. Advanced Skiing.** Advanced skiing techniques. Prereq.: PE 200, 201 or equivalent. Special fee for equipment and towing at Powder Ridge. 1 Cr. W.
- 308. Ski Racing.** For students of advanced ability. Techniques of competition. Prereq.: PE 200, 201, 307 or equivalent. Fee charged for equipment and towing at Powder Ridge. 1 Cr. W.
- 311. Dance Production.** Fundamentals in the production aspects of dance performances. Lab. Prereq.: 111 and 211. 2 Cr. S.
- 312. Sports Officiating for Women—Softball, Basketball or Volleyball.** Techniques, rules, problems, procedures in officiating volleyball, basketball, softball. DGWS ratings possible. Acquaintance with officiating techniques in selected individual sports. May be repeated to 6 credits maximum. 2 Cr. F, W.
- 313. Athletic Training Techniques.** Fall sports. Practical approach from a seasonal outlook. 2 Cr. F.
- 314. Athletic Training Techniques.** Winter sports. Practical approach from a seasonal outlook. 2 Cr. W.
- 315. Athletic Training Techniques.** Spring sports. Practical approach from a seasonal outlook. 2 Cr. S.
- 332. Techniques for Teaching Dance in Elementary and Secondary Schools.** Methods of teaching different dance forms. Prereq.: 261. 2 Cr. F.
- 338. Practicum in Elementary Physical Education.** Student practicum experience in a teaching situation prior to student teaching. Prereq.: Completion of an appropriate physical education course and permission of instructor. 1 Cr. F, W, S, SUM.
- 339. Women's Coaching Practicum.** Student coaching practicum experience designed to fulfill requirements for licensure. 1 Cr. F, W, S.
- 347. Physiology for Coaches.** Physiology as it relates to coaching and athletics. 2 Cr. DEMAND.
- 348. Kinesiology.** The study and analysis of human motion based in anatomical physiological, and mechanical principles, with particular reference to physical education skills. Prereq.: 248. 3 Cr. F, W, S, SUM.
- 349. Human Physiology.** Study of the basic systems of the human body and the mechanisms influencing these systems. Lab. Prereq.: 248. 3 Cr. F, W, S, SUM.
- 355. Competitive Sports for Women.** Critical analysis of interscholastic and intercollegiate programs for girls and women. 3 Cr. F, W, S.
- 357. Motor Learning.** Knowledge of the learning process as utilized in the learning of motor skills. Pertinent to physical education activities. 2 Cr. F, W, S.
- 358. Team Sports Teaching Techniques.** Techniques of advanced skills, methods of teaching. Prereq.: 103 and 109. Before student teaching. 2 Cr. F.
- 368. Water Safety Instruction.** Methods and techniques of teaching swimming and lifesaving skills for certification in water safety instruction. Prereq.: Current Advanced Lifesaving Certificate and a Red Cross Swimmer Certificate or the ability to perform the Red Cross Swimmer course skills. 3 Cr. F, W, S.
- 369. Adapted Aquatics.** Techniques and methods of swimming instruction designed specifically for use with handicapped individuals. 2 Cr. DEMAND.

375. Methods for Teaching Elementary and Secondary School Physical Education. Organization and conducting of classwork and use of teaching aids on both elementary and secondary levels. Must be completed before student teaching. 2 Cr. F, W, S.

378. Individual and Dual Sports Teaching Techniques. Techniques of advanced skills, methods of teaching individual and dual sports. Prereq.: PE 230, 232, 238, 275, or pass skill-knowledge competency tests. Complete before student teaching. 2 Cr. W, S.

392. Elementary School Physical Education. Materials, programming, and procedures. Open only to elementary education majors. 2 Cr. F, W, S, SUM.

404. Theory, Legal and Medical Aspects of Athletic Training. Advanced course in athletic training leading to certification. Prereq.: 304. 2 Cr. W, S.

438. Practicum in Secondary Physical Education. Student practicum experience in a teaching situation prior to student teaching. Prereq.: Completion of an appropriate physical education course and permission of instructor. 1 Cr. F, W, S, SUM.

449. Physiology of Exercise. A study of the physiological effects which exercise has upon the human organism. Lab. Prereq.: PE 349. 3 Cr. F, W, S.

452. Tests and Measurements in Physical Education. Evaluative tools and techniques unique to physical education activities. Laboratory exercises in selected tests and evaluative procedures. Prereq.: 349. 3 Cr. F, W, S.

453. Organization and Administration of Secondary Level Physical Education. Methods of presentation and adaptation of materials on secondary level for instructional, intramural, and special events programs. Complete immediately before student teaching. 3 Cr. F, S.

454. Activities for the Physically and Mentally Disabled in Elementary and Secondary Schools. The adaptation and modification of the physical education curriculum in order to meet the needs of the handicapped. Prereq.: PE 451 or SPED 401. 3 Cr. F, W, S.

490. Individual Research in Physical Education. Directed study in an approved emphasis area of the physical education major program. 1-3 Cr. F, W, S, SUM.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

408-508. Principles and Philosophy of Physical Education and Athletics. Biological, sociological, and psychological interpretations of physical education/athletics. Philosophical concepts from ancient Roman and Greek cultures to present. 3 Cr. F, W, S, SUM.

411-511. Organization and Development of Physical Education in Elementary School. Principles, problems, and procedures. Before student teaching. 3 Cr. F, W, S, SUM.

412-512. History of Physical Education & Athletics. Role of physical education in the life of primitive man and ancient societies to the present. Impact of programs in foreign countries on the program in this country. 3 Cr. DEMAND.

435-535. Theory of Dance. History, theory, and philosophy underlying dance from primitive times to the present. Prereq.: Permission of instructor. 3 Cr. DEMAND.

450-550. Secondary Curriculum and Administration of Physical Education. Organization and administration of secondary programs in physical education. Must be completed before student teaching. 4 Cr. F, W, S.

451-551. Adapted Physical Education for Elementary and Secondary Schools. Common disabling conditions of exceptional children and the organization and administration of the physical education program in order to meet their needs. 3 Cr. F, W, S.

456-556. Administration of Interscholastic Athletics. History and objectives of high school athletics, local organizations, state and national control over high school athletics, safety and sanitation in athletics. 3 Cr. F, W, S, SUM.

Physical Therapy

226 MATHEMATICS AND SCIENCE CENTER/255-3035

An Allied Health program. Also see individual program descriptions in this Bulletin for Medical Technology and Nuclear Medical Technology.

Also see College of Liberal Arts and Sciences description and requirements.

154 / Physics and Astronomy (PHYS)

Coordinator David Mork.

The physical therapy curriculum leading to the Bachelor of Science degree covers approximately five years of academic, technical and professional preparation. The preprofessional phase, the first three years, covering course work in general education, basic and behavioral sciences can be completed at St. Cloud State University. The professional phase of the program will be completed in a 15- to 22-month course of study at an accredited school of physical therapy. Accreditation is granted by the Council of Medical Education of the American Medical Association in collaboration with the American Physical Therapy Association. Students who have completed the course requirements may make application to the physical therapy school during their junior year. Acceptance into a professional program is on a competitive basis with grade point average being a major factor. Students who are accepted to and satisfactorily complete the professional phase of the program will receive 48 quarter hours toward graduation.

BACHELOR OF SCIENCE

BIOL 201, 203, 303, 344, 464, 465 (PE 248 & 349 can be substituted for BIOL 464 & 465); CHEM 215 & 216 or 213 or 201, 202, 203; PHYS 211, 212, 213; HLTH 215; PE 348; PSY 121, 262, 475. Electives 20 Cr. Internship 48 Cr. (Total exceeds 192 credits.)

A student may complete a B.A. degree in biology and then complete the Physical Therapy Certificate course at a number of other institutions offering the program.

For prerequisites for the Physical Therapy program at the University of Minnesota, see Pre-Physical Therapy Program.

Physics and Astronomy (PHYS)

324 MATHEMATICS AND SCIENCE CENTER/255-2011

Also see College of Liberal Arts and Sciences description and requirements.

Chairperson Bruce Ellis. **Faculty** Eckroth, Ellis, Garrity, Jerde, Lesikar, McWilliams, Moore, W. Pou, Trummel, Youngner.

Physics is a human activity dedicated to observing nature and to organizing these observations in the form of fundamental concepts. These concepts form the foundation upon which the important principles of the other sciences are based. Consequently some physics is required in many of the preprofessional programs and other science programs. To accommodate the various backgrounds and needs of students in these various programs the physics department offers a wide variety of introductory courses ranging from courses which use only elementary high school algebra and up through courses which require calculus.

MATH 130 and 134 are required for students majoring or minoring in physics who have not completed high school algebra (or equivalent) and high school trigonometry (or equivalent).

BACHELOR OF ARTS

Physics Major (61)

PHYS 234, 235, 236, 328, 329, 332, 334, 341, 430, 437; CHEM 215, 216; MATH 241, 242, 243. (MATH 241, 242, 243 should be taken concurrently with PHYS 234, 235, 236.)

Physics Comprehensive Major (84)

Students may elect an 84-hour comprehensive physics major with an emphasis in some area by fulfilling the requirements of the 61 credit major described above and by selecting 23 additional credits from one of the tracks described below:

Professional Physics Track: PHYS 333, 335, 431, 432, 438, 446; MATH 244, 334, 345, 463, 464. At least 3 courses must be PHYS.

Electronics Track: PHYS 251, 252, 333, 335, 438; MATH 244, 334; CSCI 271. At least 4 courses must be PHYS.

Mathematics Physics Track: PHYS 431, 432, 438, 446; MATH 244, 254, 334, 345, 354, 356, 457, 463, 464. At least 2 courses must be PHYS.

Systems Analysis Track: MATH 254, 437, 438, 439, 470; CSCI 270, 271, 371, 480.

Chemical Physics Track: CHEM 214, 291, 292, 325, 393, 425, 426, 427, 428, 429, 434.

Biophysics Track: PHYS 440, 441, 442; BIOL 303, 332. Select at least one course from PHYS 333, 335. Select at least one course from CHEM 251, 252, 325. Select at least one course from BIOL 201, 366, 405, 464, 465.

Self Selection Track: 24 credits selected by the student under the supervision of a physics adviser.

Physics Minor (48)

PHYS 234, 235, 236, 328, 329, 332, 430; MATH 241, 242, 243; Physics electives (6).

BACHELOR OF SCIENCE

Comprehensive Physics Major (84)

PHYS 234, 235, 236, 328, 329, 332, 333, 430, 456, 459; MATH 241, 242, 243; CHEM 215, 216 or 213; BIOL 201. Electives in science (22).

NOTE: For science teacher licensure in Minnesota in the physical sciences for grades 7-12, after July 1, 1979, the candidate must have 12 credits minimum in earth science and 12 credits minimum in life science in addition to a total of 54 credits minimum in physical science.

Physics Major (60)

PHYS 234, 235, 236, 238, 329, 332, 333, 430, 456, 459; MATH 241, 242, 243; PHYS electives (10).

Physics Minor (48)

PHYS 234, 235, 236, 328, 329, 332, 430, 459; MATH 241, 242, 243; PHYS electives (4).

Physics Minor (40)

PHYS 234, 235, 236, 328, 329; MATH 241, 242, 243; PHYS electives (5).

NOTE: For science teacher licensure based upon a minor preparation in physics in Minnesota after July 1, 1979, the candidate must have 12 credits minimum in earth science, 12 credits minimum in life science, and 8 credits minimum in chemistry, in addition to a total of 27 credits minimum in physics.

BACHELOR OF ELECTIVE STUDIES

Major (48)

Completion of 48 credits with approval of the department.

Minor (36)

Completion of 36 credits with approval of the department.

COURSE DESCRIPTIONS

103. Concepts in Physics. Natural forces controlling the universe; energy sources and forms; important principles of mechanics, electricity, radiation, atomic and nuclear physics. Lab. Not open to majors or minors. 4 Cr. F, W, S, SUM.

106. Planetarium Astronomy. The night sky as it appears at different seasons and at various latitudes, constellations, planetary motions, measurements in astronomy, various kinds of stars and their characteristics, cosmology. 4 Cr. F, W, S, SUM.

107. Life in the Universe. Development with historical perspective of methods of obtaining knowledge about the universe, evolution of the stars and of the universe as a whole, the galactic red shift, cosmological theories. 4 Cr. DEMAND.

207. Concepts in Modern Science. Contemporary theories in science, their development from a historical point of view, and their effect upon human thought and culture. The methods and central ideas of science are emphasized. 4 Cr. DEMAND.

208. Energy and Environment. Energy types and conversion processes. Energy in primitive and industrial societies. Environmental problems associated with processing, transmission, and use of energy. Future energy sources. 4 Cr. DEMAND.

211. General Physics I. Image formation, introduction to motion, forces, energy and momentum, fluid statics, thermometry, calorimetry, kinetic theory. Lab. Prereq.: MATH 130 or high school algebra. 4 Cr. F, W, S.

212. General Physics II. Electrostatics, D.C. circuits such as bridge and potentiometer, magnetism, inductance and capacitance, acoustics, interference, polarization. Lab. Prereq.: 211. 4 Cr. F, W, S.

213. General Physics III. Vector principles of statics and dynamics, rigid body mechanics, A.C. circuits, electronics, thermodynamics, fluid dynamics, atomic and nuclear physics. Lab. Prereq.: 212. 4 Cr. F, W, S.

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234. Classical Physics I. This is the first quarter of the sequence for physics majors and minors and for pre-engineering students. Topics from mechanics, light, sound and waves. Lab. Concurrent enrollment required in MATH 242. 5 Cr. F, W, S.

235. Classical Physics II. A continuation of Physics 234. Topics from mechanics, electricity, and thermodynamics. Mathematical treatment will include differential calculus. Lab. Concurrent enrollment required in MATH 242. 5 Cr. F, W, S.

236. Classical Physics III. A continuation of Physics 234 and 235. Topics from mechanics, electricity and magnetism. Mathematical treatment will include integral calculus. Lab. Concurrent enrollment required in MATH 243. 5 Cr. F, W, S.

238. Calculus Base Physics Topics. Topics in physics utilizing calculus for students who completed a non-calculus physics course and want the equivalent of a calculus base physics course analogous to PHYS 234, 235, 236. Prereq.: A three quarter non-calculus physics sequence and MATH 243. 3 Cr. DEMAND.

241. Statics. Vector algebra. Principles of statics. Applications of the equations of equilibrium to the analysis of simple structures and machines. Statics of beams and cables. Nature and influence of friction. Prereq.: PHYS 234, MATH 242. 4 Cr. S.

251. Circuit Analysis I. D.C. circuits. Kirchoff's laws, mesh analysis, nodal analysis, source transformations, superposition, Thevenin's and Norton's theorems, transient circuits, R.L.C. circuits, damping. Lab. Prereq.: 235, MATH 242. 4 Cr. F.

252. Circuit Analysis II. A.C. circuits. Sinusoidal forcing function, phasors, sinusoidal steady-state response, power, complex frequency and response, magnetically coupled circuits, two-port networks. Lab. Prereq.: 251. 4 Cr. W.

311. The Solar System. Solar system configurations and energy relations, planetary atmospheres, planetary models and structure, formation of surface features. Prereq.: 211. 4 Cr. DEMAND.

312. The Stellar System. Distance and motion of stars, constellations, multiple star systems, variable stars, evolution of stars, galaxies. Prereq.: 311. 4 Cr. DEMAND.

313. Experimental Astronomy. Space and time, astronomical instruments and their use, photographic techniques, planetary observation, identification and observation of Messier Objects. Prereq.: 312. 2 Cr. DEMAND.

328. Modern Physics I. Kinetic theory of matter, photon dynamics, Bohr-Rutherford picture of the atom, the wave-particle duality, the Schroedinger equation in one dimension, hydrogen atom wave functions. Prereq.: 236, MATH 243. 4 Cr. W.

329. Modern Physics II. The vector model of the atom, electron spin, many electron atomic systems, introduction to the solid state, molecular bonding, nuclear structure, radioactivity, nuclear reactions. Prereq.: 328. 4 Cr. S.

332. Electronics. D.C. and A.C. circuit theorems and analysis, rectifiers, power supplies, semiconductors, transistor amplifier design and analysis, feedback, oscillators, digital logic circuits. Lab. Prereq.: 213 or 235. 4 Cr. F.

333. Optics. Refraction, diffraction, interference, polarization, optical instruments, spectra and other aspects of physical optics. Prereq.: 1 year of college physics and MATH 243. 4 Cr. W.

334. Thermodynamics. Measurement of temperature and thermal energy, heat transfer, radiation, change of phase, equations of state, real gases, laws of thermodynamics, thermodynamic cycles, entropy. Prereq.: 236, MATH 243. 3 Cr. F.

335. Electrical Measurements. Precision measurement of resistance, capacitance, inductance, potential differences, and currents. Design and analysis of operational amplifier and functional circuits. Lab. Prereq.: 251 or 332, MATH 243. 3 Cr. W.

340. Atmospheric Physics. Atmospheric structure and processes analyzed in terms of existing physical relationships. Prereq.: 211 or 234. 4 Cr. DEMAND.

341. Dynamics. Review of particle dynamics, mechanics and kinematics of rigid bodies. Prereq.: PHYS 236, MATH 243. 4 Cr. S.

352. Microprocessor Electronics. Fundamentals of microprocessors and micro-computing. Binary operations, codes, memories, processing, input/output systems, applications. Lab. Prereq.: 332 or consent of instructor. 4 Cr. W.

415. Undergraduate Research. Independent experimental or theoretical research under staff supervision. Recommended to all undergraduate physics majors. Prereq.: Admission to major and consent of department. 2-4 Cr. DEMAND.

425. Fundamentals of Astrophysics. Aspects of the celestial sphere, the solar system, Roche's limit, instability limits, basic stellar characteristics, structure and content of our galaxy, the universe. Prereq.: 312, MATH 243. 3 Cr. DEMAND.

427. Elements of Cosmology. Astrophysical theories, cosmological theories and models, origins, life in the universe, observational evidence and implications. Prereq.: 312, MATH 243. 3 Cr. DEMAND.

429. Geophysics. The basic concepts of physics applied to the global earth and to the geologic processes at work in the earth. Prereq.: 213 or 236, MATH 243, ESCI 284. 4 Cr. DEMAND.

431. Introduction to Quantum Mechanics I. The Schrodinger wave equation and solutions for some simple cases, potential barrier problems, the harmonic oscillator, the hydrogen atom, expectation values. Prereq.: 329. 4 Cr. F.

432. Introduction to Quantum Mechanics II. A continuation of PHYS 431 in which the concepts of quantum mechanics are extended and some applications of quantum mechanics are discussed. Prereq.: 431. 4 Cr. W.

433. Modern Physics. Energy bands in solids; theories of the electrical and magnetic properties of solids; semiconductors. Prereq.: 432. 3 Cr. S.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

420-520. Seminar. Lectures, readings, discussion on selected topics. May be repeated. 1-4 Cr. DEMAND.

430-530. Advanced Physics Laboratory. Advanced experiments relating to topics studied in senior college physics courses. Prereq.: 328 or concurrent registration in 328. May be repeated. 3 Cr. W, S.

437-537. Intermediate Electricity. Electric field and potential, dielectric theory and electric displacement, Poisson's and Laplace's equations. Prereq.: 236, MATH 243. 4 Cr. W.

438-538. Theoretical Physics—Electricity and Magnetism. Magnetic fields and potentials, materials, time dependence, Maxwell's equations, electromagnetic waves, transmission lines. Prereq.: 437-537. 4 Cr. DEMAND.

440-540. Biophysics-Instrumentation and Material Properties. Mechanical, electrical and optical properties of biological material. Prereq.: 213; CHEM 211, 212; concurrent enrollment in BIOL 303. 3 Cr. DEMAND.

441-541. Biophysics-Neurophysics and Bioelectricity. Electroneurophysiology, signal analysis, sensory and motor transduction. Prereq.: 213; CHEM 211, 212; concurrent enrollment in BIOL 303. 3 Cr. DEMAND.

446-546. Methods of Theoretical Physics. Lagrangian and Hamiltonian mechanics, tensor and vector calculus methods applied to classical mechanics and electrodynamics. Prereq.: 236; MATH 334. 4 Cr. DEMAND.

456-556. Methods for Teaching Junior High School Science. Modern approaches to teaching sciences in junior high schools. Not open to BA majors. Lab. 2 Cr. W, S.

459-559. Methods and Materials for Teaching Physics. Modern approaches to teaching of high school physics and classroom and laboratory, including materials of Physical Science Study Committee. Lab. 2 Cr. W.

476-576. Workshop: Solar Energy. The course consists of a general overview of the energy problem, the use of solar energy to help solve this problem, and theoretical background for the design and construction of a solar energy system. 2 Cr. S.

485-585. Observational Astronomy Workshop. Stars, constellations, planets and their motions, meteors, comets, and galaxies will be observed using the Mathematics and Science Center Planetarium and Observatory. 1 Cr. F, S.

486-586. Holography Workshop. A laboratory oriented course in holography. The course includes (1) an introduction to some of the basic principles of holograph and (2) an opportunity for students to construct a few simple holographs in the photo-lab. 1 Cr. F, W, S.

Political Science (POL)

315 BROWN HALL/255-2162

Also see College of Liberal Arts and Sciences description and requirements.

Chairperson Evan Jones. **Faculty** R. Becker, Frank, E. Jones, Kairouz, Kilkelly, Merrick, O. Schmidt, Williamson.

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Individuals interested in the Public Administration program should consult the individual program description in this bulletin.

BACHELOR OF ARTS

Political Science Major (48)

POL 211, 429

Two of the following: 201, 215, 251 or 282.

Two courses in American government at 300 or 400 level.

One course in comparative government at 300 level.

One course in political theory at 300 or 400 level.

One course in international relations at 300 or 400 level.

Electives: 12 credits.

Any POL course not used to meet the above requirements may be used with the following exceptions: POL 217 may not be used; a maximum of 8 credits from POL 444 may be counted as elective credits toward the major and 36 credits must be taken at 300 level or above. A maximum of 8 credits may be counted from non-departmental offerings including ECON 445, 460, 461, 474, 483; SOC 370, 445; and, other courses with the approval of the Department of Political Science.

Political Science Minor (36)

POL 211, 429

Two of the following: 201, 215, 251, 282.

Two courses in American government (300 or 400 level).

One course in comparative government (300 level).

One course in political theory (300 or 400 level).

One course in international relations (300 or 400 level).

Political Science Minor (24)

POL 211, 251, 282

One course in American government at 300 or 400 level.

One course in comparative government at 300 level.

One course in political theory at 300 or 400 level.

BACHELOR OF ELECTIVE STUDIES

Political Science Major (48)

Students may present a self-selected pattern of courses to the designated departmental advisers for approval.

Political Science Minor (36)

Students may present a self-selected pattern of courses to the designated departmental advisers for approval.

BACHELOR OF SCIENCE

Major

(Students who desire to complete a major program in political science in preparation for teaching should examine the Social Studies Major: Political Science Emphasis. That major is an 84 credit program, with 36 credits in political science.)

New licensure requirements for social studies teachers with an emphasis on political science were approved in Minnesota effective July 1, 1979. A new program is being developed to meet those requirements; it is imperative that students who complete their degrees and seek licensure after that date become informed of the new requirements.

Secondary Education Minor (28)*

POL 211, 251, 282.

Electives: 12 credits.

Any POL course not used to meet the above requirements, with two exceptions: POL 201 may not be used, and a maximum of 4 credits from 444 may be counted towards the minor. Social Studies 353 (4).

*Additional course work in other social science areas is required to obtain Minnesota licensure to teach in the secondary schools. Consult your political science adviser.

Elementary Education Minor (36)

POL 211, 282.

POL electives (28).

Elementary Education Minor (24)

POL 211, 282.

POL electives (16).

COURSE DESCRIPTIONS

201. Political Ideas and Institutions. A comparative analysis of the major philosophies, institutions, and processes of government. 4 Cr. F, W, S, SUM.

202. Utopian Political Thought. Survey of the political theory of proposed and experimental utopias. 4 Cr. W.

211. National Government. Functions of three branches of national government of the U.S. Emphasis on participation of the people in democratic processes of government. Prereq. to all other American courses in political science. 4 Cr. F, W, S, SUM.

215. Issues in U.S. Foreign Policy. Investigation of major foreign policy issues the U.S. has faced since 1945. Investigation of options available to U.S. decision makers and possible ramifications of these options. 4 Cr. DEMAND.

217. Politics. Introduction to concepts, theory and methods utilized in the analysis of political phenomena. Fulfills political science requirements for social studies teaching certification. 4 Cr. DEMAND.

251. Introduction to World Politics. The nation-state; national power; restraints on national power such as international law and organization. 4 Cr. F, W, S, SUM.

282. State and Local Government. Places subnational politics in its social, ideological and federal setting. Concerns both formal structure and political process. Focus on the individual role. Prereq.: 211. 4 Cr. F, W, S, SUM.

311. Minnesota Politics. Examination of Minnesota politics including formal structures, citizen participation, and major decision-making bodies. Some attention to local government. Prereq.: 282 or consent of instructor. 4 Cr. DEMAND.

313. Metropolitan Area Government. Examines government forms and political activities in large urban areas. Shows relationship between politics and such problems as transportation, crime, race, metro reform. Prereq.: 211. 4 Cr. F, W.

315. U.S. Foreign Policy. Evaluation of the processes involved in the formulation of U.S. foreign policy. Further examination of trends in foreign policy and the effect these decisions have on domestic politics. Prereq.: 211. 4 Cr. DEMAND.

331. Governments of Western Europe. Comparison of governmental organization and processes in nations of Western Europe. Emphasis on United Kingdom, France, West Germany and Italy. 4 Cr. DEMAND.

332. Governments of the U.S.S.R. and Eastern Europe. Emphasis on ideology and organization of the Communist Party, governmental institutions, patterns of administration and diplomatic relations. 4 Cr. DEMAND.

333. Latin American Government and Politics. Political behavior and institutions in countries of Latin America with emphasis on Argentina, Brazil, Chile, Mexico and Cuba. 4 Cr. DEMAND.

334. Middle East Government and Politics. Political behavior and institutions in countries of the Middle East. 4 Cr. DEMAND.

335. African Government and Politics. Political behavior and institutions in independent African nations. Emphasis on problems caused by transition from colonialism to independence. 4 Cr. DEMAND.

336. Asian Government and Politics. Political behavior and institutions in countries of East and South Asia with emphasis on Communist China, Japan and India. 4 Cr. DEMAND.

361. Western Political Thought. Evolution of western political thought with a particular emphasis on the modern liberal-conservative mainstream and on the attacks on this mainstream from the left and right extremes. 4 Cr. DEMAND.

380. Public Administration. Introduction to administrative processes with special emphasis on the political role and setting of public agencies. Prereq.: 211. 4 Cr. F, S.

444. Internship. Supervised research or training opportunities provided by government agencies or political groups. Maximum of 8 credits toward major and 4 credits toward minor. Prereq.: junior or senior status. 1-12 Cr. F, W, S, SUM.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

411-511. The Presidency. Analysis of the American Presidency, its leadership role, legislative involvement, relations with the media and the American public and internal relationships between members of the Executive Branch. Prereq.: 211. 4 Cr. DEMAND.

412-512. Legislative Process. Problems faced by democratic legislatures such as the influence of committees, political party influence, pressure groups. Prereq.: 211 4 Cr. DEMAND.

413-513. Judicial Process. An examination of the structure, process and personnel of American courts with particular emphasis on the role of the United States Supreme Court in American political system. Prereq.: 211. 4 Cr. F, S.

429-529. Seminar. Discussion, readings, research under faculty guidance and supervision. Specific topic selected each time offered. Prereq.: Permission of instructor. May be repeated. 4 Cr. F, S.

451-551. International Law. Survey of development and contemporary application of rules and principles of international law: maritime laws, ocean resources, space, and peaceful settlement of disputes between states. Prereq.: 251. 4 Cr. DEMAND.

452-552. United Nations and Regional Organization. Organization, authority, achievements and problems of the United Nations and its auxiliary components. Prereq.: 251. 4 Cr. DEMAND.

463-563. American Political Thought. Study of the philosophy and theories which underlie the American system of democratic government which have contributed to the formation of this system of government. Prereq.: 211. 4 Cr. DEMAND.

465-565. Modern Ideologies. A study of the ideologies of Fascism, Communism and ideas which have contributed to Democratic thought. 4 Cr. S.

471-571. Political Parties and Elections. The structure and activities of American political parties and their impact on individual and group political behavior. Prereq.: 211. 4 Cr. DEMAND.

481-581. Administering Public Policy. Studies of the initiation, content, administration and impact of selected contemporary domestic government policies: transportation, consumerism, environment, poverty. Prereq.: 211. 4 Cr. DEMAND.

483-583. Managing Local Governments. Practical problems of local administration including grant applications, personnel, budgeting, public works and local renewal. Prereq.: 282 or 313 or consent of instructor. 4 Cr. DEMAND.

485-585. Administrative Law. Legal problems arising from use of administrative agencies; administrative procedure; judicial relief against administrative action. Prereq.: 211. 4 Cr. W.

491-591. Constitutional Law. A study of Supreme Court decisions which interpret the federal system; powers of the legislative, executive, and judicial branches, the commerce clause; federal taxation powers. Prereq.: 211. 4 Cr. W.

492-592. The Courts and Civil Rights. Supreme Court decisions concerning discrimination, speech, religion, search and seizure, counsel and other individual rights. Prereq.: 211. 4 Cr. F, S.

Psychology (PSY)

A216 EDUCATION BUILDING/255-4157

Also see College of Education description and requirements.

Chairperson Terrance L. Peterson. **Faculty** D. Anderson, C. Boltuck, M. Boltuck, Bryan, Buhl, M. Craik, Dwyer, Hark, Hemmer, Jazwinski, Knutson, A. Krueger, Kukuk, Lamwers, Lesar, Mason, Mertens, R. Murphy, Nunes, E. Perkins, M. Petersen, Petrangelo, Prochnow, Redding, Rosenthal, Wollin.

The Department of Psychology offers students the opportunity to develop combinations of courses in particular areas of psychology in order to meet special academic or career needs.

Students may select courses related to theory and research in the sub-fields of cognitive, developmental, educational, experimental, or social psychology or courses leading to occupations or graduate work in the area of behavioral analysis; or courses leading to occupations which include providing psychological services in various human service settings.

Also, students may plan their own unique course of study beyond the basic departmental core requirements. In any case, it is important that students consult with departmental advisers early in their college careers.

NOTICE: This program is in the process of revision. Please contact the Psychology department (EB A-216) for current requirements.

BACHELOR OF ARTS

Major (48)

PSY 250*, 251, 259

Electives (36)

Minor (36)

PSY 250*, 251, 259

Electives (24)

Minor (24)

PSY 250*, 251, 259

Electives (12)

BACHELOR OF SCIENCE

Elementary and Secondary Education Minor (36)

PSY 250*, 251, 259

Electives (12)

Minor (24)

PSY 250*, 251, 259

Electives (12)

BACHELOR OF ELECTIVE STUDIES

Major (48) Completion of any 48 credits in PSY.

Minor (36) Completion of any 36 credits in PSY.

COURSE DESCRIPTIONS

100. Introduction to Behavior Analysis. Systematic formulation of topics based upon Skinnerian analysis. Introduction to experimental analysis of behavior. Open only to participants in Summer Institute of Experimental Analysis of Behavior. Coreq.: 101, 102, 103. 3 Cr. SUM.

101. Laboratory Experiments in Operant Behavior. Introduction to quantitative and experimental techniques. Operant behavior experiments. Open only to participants in Summer Institute of Experimental Analysis of Behavior. Coreq.: 100, 102, 103. 2 Cr. SUM.

102. Introduction to Designing and Evaluating Research. Experiment, design and evaluation; data analysis techniques. Open only to participants in Summer Institute of Experimental Analysis of Behavior. Coreq.: 100, 101, 103. 3 Cr. SUM.

103. Behavior Analysis Practicum. Supervised experience in applying behavior analysis techniques to human behavior: identifying causes of behavior disruptions, recording and graphing. Open only to participants in Summer Institute of Experimental Analysis of Behavior. Coreq.: 100, 101, 102. 2 Cr. SUM.

111. Career Planning Seminar. A highly individualized course intended to help students consider careers in light of their own interests and value structure. 1-4 Cr. F, W, S.

121. General Psychology. Scientific study of human behavior; implications for the general conduct of life. 4 Cr. F, W, S, SUM.

222. Survey of Industrial Psychology. Scientific study of the relationships between people and the world of work. Contents and methods of industrial psychology. 4 Cr. F, W.

240. Introduction to Psychopharmacology. Effects of drugs on behavior. Impact of pharmacology and behavioral factors on effects of drugs. Prereq.: 121. 4 Cr. DEMAND.

250. Principles of Behavior. A presentation of psychology as a science of behavior with emphasis on the experimental analysis and the applied analysis of behavior. 4 Cr. F, W, S, SUM.

*PSY 250, 251, 259 are a prerequisite to all other psychology courses for majors and minors.

251. Introduction to Cognitive, Motivational and Social Processes. Theories and research on reasoning, creative thinking, concept formation, memory drives, human motives, incentives, cognitive dissonance, aggression, altruism, conformity and obedience. 4 Cr. F, W, S, SUM.

259. Experimental Design and Statistical Analysis. Emphasis on the design aspects of research. Consideration of the selection and interpretations resulting from statistical analysis procedures; computer facilities utilized. 4 Cr. F, W, S, SUM.

262. Human Growth and Development. From prenatal period through adolescence, (some sections cover life span) significance of physical, intellectual, emotional and social phases as related to total growth. 4 Cr. F, W, S, SUM.

270. Psychology of Women. A survey of psychological theory, research, history, and current issues important to women in American society, with emphasis on mythical and real differences between men and women. 4 Cr. F, W, S, SUM.

271. Psychology of Small Group Process. Principles of group dynamics including management and facilitation of groups in psychological settings, problem solving, purposes, advantages and disadvantages of groups for psychological purposes, recent psychological research findings. Students taking this course as part of Human Service Emphasis must take PSY 320 as prerequisite. 4 Cr. F, W, S.

281. Sensation and Perception. Processes of sight, hearing, smell, taste and touch. Both classical psychophysics and signal detection, theory, methods and data are included. 4 Cr. F, W, S.

315. Psychology of Social Processes. Theories, methods, and empirical findings of experimental social psychology. Includes affiliation, attribution theory, aggression, attraction, conformity. Prereq.: 121 or 251 or consent of instructor. 4 Cr. F, SUM.

320. Introduction to Human Services. Introduces students to the needs, resources and organizations within the human service delivery system and to the awareness of roles played by workers trained in psychology and to the psychological skills demanded by the field. 4 Cr. F, W, S.

330. Interviewing Skills I: Theories and Procedures. Focuses on psychological needs of clients, develops theoretical basis for empathic interviewing, stresses psychological skills necessary for work with individuals and groups within the many human service areas. Students taking this course as part of Human Service Emphasis must take PSY 320 as prerequisite. 4 Cr. F, W, S.

340. Interviewing Skills II: Practicum. Integrates underlying psychological principles and theories of individual interviewing and group processes with the knowledge of clients and human service situations through observation, role playing and coached clients. Prereq.: 271, 330. 4 Cr. F, W, S.

360. Experimental Psychology I. Experimental psychology of learning; selected experiments performed by students; classical conditioning, operant conditioning, multiple response. Lectures and lab. 4 Cr. Prereq.: 259. DEMAND.

362. Educational Measurement and Test Construction. Principles of measurement, interpretation of standardized tests, construction of teacher made achievement test, evaluating and grading outcomes of learning. Prereq.: 262. 4 Cr. F, W, S.

380. Psychology of Aging, Dying and Death. A study of the personal and situational aspects of the aging process with the basic emphasis on the psychology of the helping relationship in life stages of later maturity. A core course for the gerontology minor. 4 Cr. F, W, S, SUM.

383. Environmental Psychology. Issues of the environment as it relates to human beings, including the optimum design of buildings, homes and institutions as well as the effect of humans on the natural environment. 4 Cr. F, W, S.

390. Differential Psychology. The nature, extent, and causes of individual and group differences; the methodological problems of measuring human differences. 4 Cr. DEMAND.

401. Field Work. Special Arrangement with supervising professor, department chairperson, deans and field institution supervisor. 1-4 Cr. DEMAND.

411. Physiological Psychology. Survey of research establishing the physiological and biochemical correlates of such phenomena as arousal, emotion, motivation, learning and memory. Prereq.: BIOL 104 or equivalent course. 4 Cr. DEMAND.

420. Instrumentation I: Laboratory Equipment. Use of psychological laboratory equipment including electromechanical and solid state control, interface, environmental and data-recording devices. Prereq.: 250. 4 Cr. F, W, S.

421. Psychology Teaching Practicum. Supervised training and practical experience in applying instructional techniques in educational settings. 2-4 credits per quarter; practical experience of course may be repeated once for two additional credits. Instructor permission required. F, W, S, SUM.

422. Personnel Psychology. Psychological methods, procedures, and principles in personnel work; technical aids, psychological testing, vocational guidance, worker efficiency and morale. Prereq.: 222. 4 Cr. DEMAND.

433. Applied Behavior Analysis I. Introduction to the principles and techniques of behavior analysis in applied settings with particular emphasis on the design, implementation, measurement and evaluation of behavior analysis procedures. 4 Cr. Prereq.: 250. F, S.

434. Applied Behavior Analysis II. Advanced applied behavior analysis techniques. Emphasis on design, assessment and evaluation of behavior change procedures. Current issues. Prereq.: 250, 433. 4 Cr. F, W, S.

435. Experimental Analysis of Behavior. An experimental analysis of complex behavioral repertoires based upon the principles of behavior analysis. Analysis of complex sequences of behavior, conditioned reinforcement, concurrent operants, stimulus control, avoidance behavior and punishment. Prereq.: 250. 4 Cr. F, W, S.

436. Experimental Analysis of Behavior I. Advanced consideration of following topics as well as others: classical conditioning, autoshaping, response independent reinforcement, behavioral pharmacology, behavioral contrast, matching to sample, schedules of reinforcement. Prereq.: 250, 435. 4 Cr. W.

437. Behavior Contracting Service. Supervised, on-campus experience with research within the area of applied behavior analysis. Using performance contracting students assist other students with performance problems. Prereq.: 433. 2 Cr. DEMAND.

438. Behavioral Studies. A behavior analysis of selected topic areas within psychology. May be repeated with different topic area. 1-4 Cr. DEMAND.

441. Psychology of Childhood. Early, middle, and later childhood; principles and philosophy of growth. Prereq.: 262. 4 Cr. DEMAND.

443. Psychology of Adolescence. An investigation of selected topics and issues concerning adolescent development based on original research sources. 4 Cr. DEMAND.

444. Internship. Arranged by contract with field supervisor, college supervisor and student. Should be established quarter previous to experience. Credits awarded are determined by clock hours involved. 8 Cr., 12 Cr., 16 Cr. DEMAND.

451. Cognitive Processes. An examination of topics in cognition including attention, memory development, concept formation, problem solving, decision making, and thinking. Prereq.: 251. 4 Cr. DEMAND.

463. Application of the Principles of Learning. Basic theories of learning and their application to classroom instruction; emphasis on motivation, concept formation, retention, transfer and problem solving. Prereq.: 262. 4 Cr. F, W, S, SUM.

480. Beginning Manual Communications. Beginning skills in communication with deaf and hearing impaired persons using finger spelling and signed symbols. Not applicable to a major or minor in psychology. 2 Cr. F, W.

481. Advanced Manual Communications. Advanced skills in communication with deaf and hearing impaired persons using finger spelling and signed symbols. Not applicable to a major or minor in psychology. Prereq.: 480. 2 Cr. DEMAND.

490. Advanced Theoretical Psychology. Critical examination of modern views and theoretical issues in the field of psychology. Limited to majors in psychology. 4 Cr. DEMAND.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

430-530. Seminar. (Selected topic in special areas in psychology.) May be repeated. 1-4 Cr. DEMAND.

445-545. Play in Childhood. Spontaneous, developmental play during childhood years. Relation of play and playfulness to personality development. Historical and current theories and concepts. Review of research and data collection procedures. 4 Cr. DEMAND.

447-547. Psychodynamics of the Family. Psychological interrelationships during developmental stages of life. Selected theories of personality and counseling. Prereq.: 320, 330 or permission of instructor. 4 Undgr. Cr., 3 Gr. Cr. SUM. DEMAND.

464-564. Guidance Principles. Philosophy of guidance, individual appraisal, counseling services, informational services, placement organization; group guidance activities, staff service and contribution, and program organization and administration. 4 Undgr. Cr., 3 Gr. Cr. SUM.

466-566. Guidance for the Handicapped. Special problems. Counseling with children and parents. Psychological aptitude, achievement tests. 4 Undgr. Cr., 3 Gr. Cr. F, W, S.

469-569. Individual Appraisal. Methods of individual appraisal; psychological measurement of

individuals; instruments used to appraise intellectual efficiency, aptitude and achievement, sensory capacities and efficiency, sensory-motor coordination, group status, personal history; synthesizing data and report writing. 4 Undgr. Cr., 3 Gr. Cr. F.

470-570. Positive Behavioral Discipline. Use of the principles of behavior analysis in facilitating student academic and social performance in the classroom. 4 Undgr. Cr., 3 Gr. Cr. DEMAND.

471-571. Mental Hygiene. Characteristics of wholesome personality, methods and aims of mental hygiene; personal development and techniques of effective adjustments. Prereq.: 262. 4 Undgr. Cr., 3 Gr. Cr. F, SUM.

472-572. Psychology of Exceptional Children. Clinical observation of children who have special problems of growth and development, physical and mental handicaps; mentally gifted; behavior disorders. 4 Undgr. Cr., 3 Gr. Cr. F, S, SUM.

473-573. Psychology of Mental Retardation. Etiology, characteristic, classification, diagnosis, assessment. Social control. Role of family, school, community agencies. 4 Undgr. Cr., 3 Gr. Cr. F, W, S.

474-574. Interpersonal Dynamics. Survey of research and theory of relationship between individuals, interpersonal communication, influence, conflict resolution, game analysis, self-actualization. 4 Undgr. Cr., 3 Gr. Cr. F, S, SUM.

475-575. Abnormal Psychology. Functional and organic deviations for understanding normal behavior of human personality with greater clarity and precision. 4 Undgr. Cr., 3 Gr. Cr. F, W, S, SUM.

476-576. Introduction to Clinical Psychology. Overview of the clinical approach to assessment of individuals and techniques for behavioral change as used in clinical, educational, and industrial settings. Prereq.: 475-575. 4 Undgr. Cr., 3 Gr. Cr. DEMAND.

477-577. Research on Psychology of Women. Selected topics in current psychological research dealing with women and women's issues. Prereq.: 270 or instructor permission. 4 Undgr. Cr., 3 Gr. Cr. DEMAND.

482-582. Motivation. Theory and research in animal and human motivation; physiological, social and personal aspects of motivation; basic, deficit, derived, growth motivation. 4 Undgr. Cr., 3 Gr. Cr. DEMAND.

483-583. History and Schools. Systems, experiments, personalities in the development of modern psychology; comparative study and analysis of study systems; contributions of outstanding persons. 4 Undgr. Cr., 3 Gr. Cr. DEMAND.

485-585. Theory of Personality. Basic theoretical concepts, factors of vital relationships within the individual personality, interpersonal relationships, individual and field frames of reference as they relate to mental health. 4 Undgr. Cr., 3 Gr. Cr. SUM.

Public Administration

311 BROWN HALL/255-4128

A program of the Department of Political Science. *Also see College of Liberal Arts and Sciences description and requirements.*

Faculty Committee: **Coordinator** Homer E. Williamson. **Members** Addicott, Baer, Frank, Krueger, Lofgreen, Merrick, Wentworth.

Advisory Committee: William Bridges (Administrative Assistant to Chief of Staff, V.A. Hospital, St. Cloud), Norman Dybdahl (Assistant Commissioner, Minnesota Department of Finance), Gary Gohman (Minnesota Department of Employment Services, St. Cloud), Larry Granger (Minnesota Counties Research Foundation), Kent Bailey (Area Manager, U.S. Office of Personnel Management), Marge Maki (District Director, Bureau of Customs), Elmer Malinen (City Administrator, St. Cloud), Ronald McGinley (Executive Secretary, Anoka County), Otto Schmid (Executive Director, 7-W Regional Development Commission), and Stanley Peskar (General Counsel, League of Minnesota Cities).

The B.A. Program in Public Administration is primarily intended to prepare generalists in U.S. administration. It does orient the student toward a particular profession by combining course work in business administration and political science. The business administration courses should give the student a desirable competence in the techniques of management. The political science sequence introduces the student to the unique political environment experienced by government personnel. At the same time, the program preserves a liberal arts orientation by

encouraging the student to take supporting course work in a variety of academic fields. Finally, a required internship with local, state and national agencies gives the student the practical experience necessary to do well in future government work.

BACHELOR OF ARTS

Public Administration Major (76)

Required Core (40 credits)

POL 211, 282, 380, 485, 429¹; ECON 460 or 461²; QMIS 140, 250; MGMF 361, 477. Internship of 12 credits (POL 444.)

Electives: 24 credits may be selected from the following:

General: POL 400, 411, 481, 491; SOC 445³; COMM 487.

Local Administration: POL 313, 483; GEOG 394, 454; SOC 370³.

Financial Administration: ECON 460 or 461¹ (whichever is not used for the core); ACCT 291, 385; MGMF 371; QMIS 351.

Personnel Administration: POL 492; MGMF 362, 375, 461; ECON 473⁴, 479⁴; PSY 222, 422.

Management Analysis: QMIS 141; MGMF 370, 467; BEOA 309; SOC 379³, 456³.

Students may concentrate on courses in one or two of the public administration areas under the electives or they may choose any combination of 24 credits desired that will achieve a balanced knowledge necessary for an understanding of public administration. Students must consult with the program adviser before drawing up a final program.

Public Administration Minor (36)

Required Core: POL 211, 380, 485; ECON 460 or 461; MGMF 361, 477.

Electives: 12 credits may be selected from:

POL 282, 313, 411, 429¹, 481, 483, 491; MGMF 362, 371, 467; QMIS 140, 250; ACCT 291; ECON 460 or 461 (whichever is not used for core requirement); SOC 370, 445, 456; GEOG 394; PSY 222; COMM 487. Students must select electives that will provide exposure to three of the following context areas: political, legal, social-cultural, financial, and organizational. A student who counts a course that is listed for the public administration minor towards a major field may not use that course to fulfill minor requirements. A substitute course from a discipline other than the student's major should be selected from the electives.

The student must consult the public administration adviser before filing a minor program.

¹Student must consult the program advisor before taking a seminar.

²P.A. majors need consent of the instructor, not ECON 273/274 as prerequisite.

³Prerequisite SOC 260.

⁴Prerequisite ECON 273, 274.

Quantitative Methods and Information Systems (QMIS)

210 BUSINESS BUILDING/255-2174

Also see College of Business description and requirements.

Chairperson Ming-te Lu. **Faculty** Guimaraes, Heath, Heaton, D. Krueger, M. Lu, Song.

The Quantitative Methods and Information Systems program is designed to prepare students for careers in management science and data processing areas. Quantitative methods and information systems are generally regarded as two separate bodies of knowledge. On the other hand, they are very closely related both in theory and in practice. Required courses in the major program should provide students with a broad understanding of the systems approach to problems in today's complex business environment. The major emphasis of quantitative methods is on the application of mathematical and statistical techniques to the managerial decision-making process. Information systems is the area of study which deals with the analysis, design, and implementation of an effective computer-based system to meet the information needs of the day-to-day operations and the corollary planning and control processes in the business firm.

Business majors and computer science majors are encouraged to choose QMIS as a minor.

BACHELOR OF SCIENCE

MAJORS (100-124)

A major in Quantitative Methods and Information Systems includes the Business Core (60 cr.) plus the following program:

Major (44)

MATH 231*, 232*, 257; QMIS 141, 351, 440, 441, 451.

At least 12 credits from the following: CSCI 271, 371; QMIS 251, 442, 444, 445, 450, 452, 453, 454, 455, 456.

*May substitute MATH 241 and 242, or equivalent.

Minor (36)

Select 20 credits from: CSCI 271, 371; QMIS 351, 440, 441, 442, 445, 450, 451, 452, 453, 454, 455, 456.

Select one course from: ACCT 488; MGMT 362, 363; MKGB 426.

Select 12 credits from: MATH 231, 232, 257, 329, 437 or equivalents.

COURSE DESCRIPTIONS

140. Business Statistics I. Collection, presentation and analysis of business data. Introduction to probability theory and classical statistical inference. It is recommended that the student complete MATH 131 before taking this course. 4 Cr. F, W, S, SUM.

141. Business Statistics II. Continuation of 140. Introduction to Bayesian statistical inference, analysis of variance, regression and correlation analysis and forecasting techniques. Prereq.: 140. 4 Cr. F, W, S, SUM.

250. Data Processing for Business. Role of the computer in information processing; components of a computerized business information center; manipulating, storing and transmitting computerized information; tools for analyzing and planning computer programs; introduction to procedure-oriented languages; and programming projects. 4 Cr. F, W, S, SUM.

251. Intermediate Cobol Programming. Intermediate and advanced features of the COBOL programming language as applied to business. Prereq.: 250 or consent of instructor. 4 Cr. F, W, S.

Only students admitted to a university major program and who have completed 96 quarter credits (junior standing) may enroll in 300 and 400 level courses.

351. Introduction to Management Information Systems. Introduction to systems theory, information theory and the concept of management information; concepts of management information systems; analysis and design of information systems; tools for design and analysis; files in information systems; system's hardware and software; systems projects. Prereq.: 250. 4 Cr. F, W, S.

441. Operations Research I. Deterministic model salesman such as assignment problems, transportation problems, problems of traveling sales representatives, linear-programming, dynamic programming, and inventory models. Prereq.: 141 or consent of instructor. 4 Cr. F, W, S.

442. Operations Research II. Probabilistic models such as inventory problems, replacement, Markov processes, PERT/CPM, and introduction to decision theory. Prereq.: 441. 4 Cr. S.

498. Small Business Institute Case Analysis. Application of relevant theories to actual practice in business. Interdisciplinary teams of students majoring in business work with area businesses to help solve actual business problems in finance, marketing, management and accounting. 4 Cr. DEMAND.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

440-540. Business Statistics III. Review of statistical inference, analysis of variance with two or more variables of classification, multiple regression and correlation, analysis of covariance and non-parametric methods. Prereq.: 141. 4 Cr. W.

445-545. Advanced Programming Projects. Planning, coding, testing and documenting computer programs for selected business applications using a business-oriented programming language. Prereq.: 251. 4 Cr. S.

450-550. Administration and Control of Management Information Systems. Organizational structure of a management information system; information systems management; personnel selection, training, motivation and evaluation; acquisition, analysis, administration and control of hardware and software; managerial control of management information systems; computer's impact on administration and control of management information systems. Prereq.: 351. 4 Cr. S.

451-551. Computer Simulation for Business. Rationale for computer simulation, techniques for random number generation, generation of stochastic variates for simulation, simulation of inventory systems, simulation of queuing systems, simulation of large-scale systems, simulation languages and the verification of simulation results. Prereq.: 141, 250, or consent of instructor. 4 Cr. W.

452-552. Advanced Topics in Management Information Systems. Recent developments in concepts, theory, practices in the analysis and design of management information systems. Prereq.: 351. 4 Cr. W.

453-553. Database Management System. Corporate data bases, data basics, flexibility and independence, schemas and subschemas, data definition language, data manipulation language, data dictionaries, security and privacy, data base administration. Prereq.: 251, 351. 4 Cr. W.

454-554. Business Decision Theory. Principles used in decision making, the assumptions behind utility and application of utility, decision making under uncertainty, Bayes strategies and their applications in business. Prereq.: 141. 4 Cr. S ALT.

455-555. Business Research. Fundamentals of research methodology including planning, organizing, and executing a research project; sampling techniques; basic concepts and techniques in the design of experiments; interpretation of data; art and strategy of presenting findings. Prereq.: 440-540. 4 Cr. S ALT.

456-556. Linear Programming. Formulation of linear programming problems, simplex methods, dual simplex, postoptimality analysis and parametric linear programming. Introduction to integer linear programming, cutting plane algorithm, branch and bound algorithms and their applications. Prereq.: 441 or consent of instructor. 4 Cr. S.

Recreation (REC)

223 HALENBECK HALL/255-2229

A program of the Department of Health, Physical Education and Recreation. *Also see College of Education description and requirements.*

Coordinator Yutaka Morohoshi.

BACHELOR OF SCIENCE (NON-TEACHING)

Major (60-96)

REC 133, 135, 212, 233, 235, 333, 335, 339, 415, 433, 441, 444; PE 206. Select 6 credits from any physical education major/minor activity courses. Select 8 credits from any academic area outside of physical education and recreation.

Activity and Coaching Emphasis (36)

PE 248, 304, 348, 305 or 358, 375 or 378. Select 3 courses from: PE 221, 251, 252, 253, 254, 255, 265, 267, 301, 303, 339. Select elective courses with consent of adviser to bring Emphasis to a total of 36 credits.

Minor (36)

PE 206; REC 133, 135, 212, 233, 235, 333, 335; SOC 260. Select 14 credits from the following skill areas with consent of adviser—maximum of 10 credits may be taken in any skill area: arts, crafts, music, nature activities, physical education, speech and dramatic art.

Therapeutic Recreation Minor (36)

PE 248, 349, BIOL 307, HLTH 301, BIOL 312, SOC 375. Select 16 credits of electives with adviser's consent.

Outdoor Education Minor (36)

REC 213, 441, BIOL 475, GEOG 372, 279 or 379 plus 2 credits of physical education or recreation courses. Select 16 credits of practical or field experience courses with adviser's consent.

BACHELOR OF ELECTIVE STUDIES

Recreation Major (48) (non-teaching)

Contact adviser for courses.

Recreation Minor (36) (non-teaching)

Contact adviser for courses.

Therapeutic Recreation Minor (36) (non-teaching)

Contact adviser for courses.

COURSE DESCRIPTIONS

The description (*) designates major-minor courses.

133. Introduction to Recreation. Introduction to the field of recreation. Includes history, professional opportunities, organized recreation settings and professional and service organizations. 2 Cr. (*) F, W, S, SUM.

135. Practicum I in Recreation. Observation of recreation activities sponsored by the St. Cloud community and St. Cloud State University. Taken concurrently with REC 133. 1 Cr. (*) F, W, S, SUM.

212. Camping Education. Types of camps, underlying philosophies, trends, camp standards, program planning, cabin counseling, and camp craft skills. 4 Cr. F, S, SUM.

213. Wilderness Survival Techniques. Methods used to meet emergencies in the wilderness and how to survive with the least amount of physical and mental pain. 3 Cr. DEMAND.

233. Recreation Program Planning and Leadership Theory. Designed for recreation leader with guidelines for programming of activities and professional leadership to implement their programs. 3 Cr. (*) F, W, S, SUM.

235. Practicum II in Recreation. The observation and analysis of the administrative and leadership structures and programming of varied community organizations. Taken concurrently with REC 233. 1 Cr. (*) F, W, S.

333. Facilities in Recreation. A look into the planning and area management of recreation facilities. 3 Cr. (*) F, W, S.

335. Practicum III in Recreation. Observation and analysis of a particular recreational facility. Taken concurrently with REC 333. 1 Cr. (*) F, W, S.

339. Therapeutic Recreation. Provides a theoretical rationale for the development of therapeutic recreation services for the physically disabled, mentally ill, mentally retarded, socially deviant or dependent aging persons. 3 Cr. DEMAND.

433. Seminar: Recreation Administration and Leadership Theory. Analysis of organizational and administration practices used in recreation programs and a discussion of the issues and problems encountered in internship. 3 Cr. (*) DEMAND.

444. Senior Internship. Practical on-the-job work experience involving the student in the operation and administration of agencies providing recreation programs and services. 16 Cr. (*) F, W, S, SUM.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

415-515. Organization and Administration of Recreational Activities. Methods and materials of the recreational sports program in public schools. Content of program, and methods of organizing competition. 3 Cr. DEMAND.

441-541. Outdoor Education. Developments in outdoor education. Instructional principles of outing activities and outdoor education program materials and methods. 3 Cr. DEMAND.

Religious Studies

34 LAWRENCE HALL/255-4144

Also see College of Liberal Arts and Sciences description and requirements.

Director James B. Anderson. **Assistant Director** Alauddin Samarrai. **Faculty Committee** Beck, Corliss, Farrah, Fuller, Goodrich, Lahren, Lieberman.

An understanding of religious beliefs, practices, and organization is essential to understanding both Western and Eastern civilizations and their development. Religion has played a significant role both as an important part of culture and a mode of criticizing culture. The purpose of the Religious Studies program is to study this dual function of religion and to study the various aspects of religion. Students may enter the program when their completed credits equal or exceed 32 credits in all colleges and at least 12 credits in residence at St. Cloud State University. Minimum scholarship requirement for admission is an honor point ratio of 2.0 in work taken at St. Cloud State University.

BACHELOR OF ARTS

Minor (36)

ART 431; ENGL 292; PHIL 140, 345; SOC 380.

Electives: Choose 16 elective credits (maximum of 8 from any one department). ANTH 463 (Seminar--Anthropology of Religion); ART 320, 430, 432, 433; ENGL 227, 370, 440, 441, 447 (Seminar in Literary Themes--Religious Literature); HIST 200, 323, 324, 326; MUSE 221; PHIL 240, 245, 270, 280, 281, 340, 342; POL 202, 361. Note: Students may transfer 8 credits of elective course credit from other institutions.

Sciences (SCI)

363 MATHEMATICS AND SCIENCE CENTER/255-2020

Also see College of Liberal Arts and Sciences description and requirements.

Science Education Committee: Chairperson Douglas Magnus. **Members** G. Anderson, Carpenter, Coulter, Ellis, Ezell, P. Johnson, Kelsey, Kennedy, Kramer, D.G. Peterson, R. Schmidt, Tension.

BACHELOR OF SCIENCE

Comprehensive General Science Major (84)

BIOL 201, 202, 203, 456; CHEM 215, 216, 251; PHYS 211, 212, 213, 311; ESCI 250, 284, 340. Select one: BIOL 457; CHEM 458; PHYS 459; ESCI 460.

Electives (32) selected to bring the total in each of the three areas (life sciences, physical sciences and earth sciences) to at least 26 credits.

The above major meets the State of Minnesota general science licensure requirements to teach general science in grades 5-9.

Comprehensive Physical Science Major (84)

CHEM 215, 216, 217, 251, 252, 325, 456; PHYS 234, 235, 236, 328, 329, 332; CHEM or PHYS 459; BIOL 201, 202, 203; ESCI 284, 308, 340; MATH 241, 242, 243.

The above major meets the State of Minnesota physical science licensure requirements to teach physical science in grades 5-12. This includes high school chemistry and physics. Students planning to become licensed to teach science should contact an adviser at the earliest opportunity for specific program requirements for licensure in science majors and minors.

COURSE DESCRIPTIONS

110. An Introduction to the Metric System. Activities stressing the development of the metric system; its prefixes, its history to English system relationships and its effects on industry and social life. 2 Cr. DEMAND.

425-525. Science in Music and Art. Physical aspects of sound and light, the ear and eye, design of musical instruments, harmony, art forms of the future. 2 Cr. DEMAND.

460-469, 560-569. Non-sequence courses designed for intensive study of a special topic. Topic will be announced in class schedule. 1-4 Cr. DEMAND.

Secondary Education

See Teacher Development section.

Social Science (SSCI)

205 STEWART HALL/255-2248

A program of the Department of Interdisciplinary Studies. Also see College of Liberal Arts and Sciences description and requirements.

Most problems confronting us may fruitfully be examined from many points of view. An understanding of the problem of poverty, for example, cannot be achieved without some attention to the economic, geographical, historical, political, psychological and sociological dimensions, not to mention other areas, including those outside the social sciences. Thus, the program's commitment in social science is an interdisciplinary one. Students interested in a multidisciplinary approach to social science should consider programs offered below or those listed in the section on Social Studies. Students should also see programs offered in American Studies, Anthropology, East Asian Studies, Economics, Environmental Studies, Geography, Gerontology, History, Latin American Studies, Local and Urban Affairs, Political Science, and Sociology. Students seeking admission to a major or minor program in social science must have at least a 2.0 honor point ratio in all courses taken in anthropology, economics, geography, history, political science, psychology, social science, and sociology.

Transfer credits carrying a grade less than "C" are not usable in a major or minor.

Students who combine a major or minor in social science with a major or minor in economics, political science, or sociology/ anthropology may not use the same course to satisfy requirements in both areas.

BACHELOR OF ARTS

Social Science Major (48)

ECON 273, 274; POL 211, 282; SOC 260; ANTH 267 or SOC 465; SSCI 421.

One 3 or 4 credit elective from each of the following areas: ECON; GEOG or HIST; POL; SOC. Electives in ANTH, ECON, POL, SOC, SSCI.

Social Science Minor (36)

ECON 273, 274; POL 211, 282; SOC 260; ANTH 267 or SOC 465; SSCI 421.

Electives in ANTH, ECON, POL, SOC, SSCI.

BACHELOR OF SCIENCE

Social Science Major (36)

This major is designed as an interdisciplinary program for students seeking social studies licensure. It is to be completed in conjunction with the competency based licensing program described below.*

ANTH 267; ECON 273, ECON 274 or 471; POL 211, 282; SOC 262, 465; SSCI 460 or 470. Elective in the Dept. of Interdisciplinary Studies (300-level or above).

Social Science Major—Behavioral Emphasis (36)

This major is designed as an interdisciplinary program for students seeking social studies licensure. It is to be completed in conjunction with the competency based licensing program described below.*

ANTH 267, 471; ECON 273; POL 471 or SOC 445; PSY 250, 438; SOC 465; SSCI 460 or 470. Elective (300-level or above) from a program within the Dept. of Interdisciplinary Studies: 4 Cr. Electives (300-level or above) as needed.

Social Science Minor (36)

(Social Studies licensure in Minnesota cannot be obtained solely on the basis of this minor.)
ECON 273, 274; POL 211, 282; SOC 260; ANTH 267 or SOC 465; SSCI 421; SST 353.
One 4 credit course in GEOG or HIST.

Elementary Education Minor (36)

ECON 273, 274; POL 211, 282; SOC 260; ANTH 267 or SOC 465; SSCI 421.
Electives in ANTH, ECON, POL, SOC, SSCI.

BACHELOR OF ELECTIVE STUDIES

**Social Science Major (48) and
Social Science Minor (36)**

Students may choose from several tracks established by the department. Each track provides for self-selection of courses within departmental guidelines in consultation with an adviser.

Applicants for secondary social studies licensure in Minnesota must fulfill the requirements of a competency based regulation. Students who plan to seek such licensure should consult the social studies coordinator as soon as possible to determine how the social science competencies are to be developed and demonstrated. The University's approved program for the development and demonstration of the required social science competencies is as follows: SSCI 104, ANTH 250, ECON 259, GEOG 253, HIST 285, POL 217, PSY 264, SOC 260, SSCI 421, SST 353.

COURSE DESCRIPTION

104. General Social Science. Economic, political, and sociological factors which affect the person in contemporary American society. Designed to lead to understanding of complexities and responsibilities of day-by-day living in the modern world. Specific topics to be listed in the class schedule each quarter. 4 Cr. F, W, S, SUM.

204. Themes in the Social Sciences. Selected interdisciplinary social scientific tools will be applied to a special interest area such as "Death and Dying," "Poverty," "The Scientific Revolution," "The New American Indian." 4 Cr. F, W, S, SUM.

208. Concepts and Issues in Aging: An Introduction to Gerontology. An exploration of the processes of aging; introduction to the issues of aging in contemporary society. A core course for the gerontology minor. 4 Cr. F, S.

301. Futuristics. An examination of the forces creating the rapid social changes which students will have to anticipate in adapting to their future life styles. 4 Cr. F, S.

311. Images of the Future. Relationship between individual and group images of future and decision making. Prereq.: Strongly recommend 104 and PHIL general education requirement. 4 Cr. W.

320. Elements of Social Science. Concepts in social science appropriate for elementary school. Open to students not majoring in elementary education, but only as a general elective. Not open to secondary majors or minors in any of the social sciences. 3 Cr. F, W, S, SUM.

370. Orientation to Denmark. Intended primarily for students who will take part in the Study Center in Denmark, this course is designed to help them understand the people of Denmark and their social system. 2 Cr. S.

401. Concepts in Social Science. Application of economic, political, and sociological concepts to issues in contemporary societies. Specific titles to be listed in the class schedule each quarter. 4 Cr. F, S.

421. Integrated Social Science. Training in the modes of thought, the language, and the basic models common to the social science disciplines; practice in the application of social science to a number of typical policy decisions. Prereq.: One course in each of the following areas: ECON; POL; SOC or ANTH. 4 Cr. F, W.

444. Internship. 1-16 Cr.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

460-560. Social Science Seminar. Analysis of issues or problems of an interdisciplinary social science nature. A specific topic will be selected each time the course is offered. May be repeated. 1-4 Cr. F, W, S, SUM.

470-570. Area Studies Seminar. Analysis of contemporary social, political and economic conditions of an area. A specific country or region will be selected each time the course is offered. May be repeated. 1-4 Cr. F, W, S, SUM.

476-576. Black and American: Contemporary Afro-American Thought. An exploration of contemporary Afro-American responses to their condition in American society utilizing concepts and materials from the social sciences. 4 Cr. W ALT.

Social Studies (SST)

205 STEWART HALL/255-2248

A program of the Department of Interdisciplinary Studies. *Also see College of Liberal Arts and Sciences description and requirements.*

Students interested in a comprehensive multidisciplinary approach to social studies should consider programs offered below or those listed in the section on Social Science. Students should also see programs offered in American Studies, Anthropology, East Asian Studies, Economics, Environmental Studies, Geography, Gerontology, History, Latin American Studies, Local and Urban Affairs, Political Science, and Sociology.

BACHELOR OF SCIENCE

Social Studies Major

Economics Emphasis

This program is currently being revised. Consult the Economics Department chairperson for details.

Geography Emphasis

This program is currently being revised. Consult the Geography Department chairperson for details.

History Emphasis

This program is currently being revised. Consult the History Department chairperson for details.

Political Science Emphasis

This program is currently being revised. Consult the Political Science Department chairperson for details.

Multidisciplinary Emphasis (36)

(Admission requirements are the same as for social science majors.)

This major is designed as an interdisciplinary program for students seeking social studies licensure. It is to be completed in conjunction with the competency based licensing program described below.*

- SSCI 460 or 470 (selected with help of adviser); elective (4 Cr. at 300-level or above) from a program within the Department of Interdisciplinary Studies.
- Selection of two fields within the social sciences (anthropology, economics, geography, history, political science, psychology, sociology) for 20-28 Cr. This must have a thematic and/or chronological pattern which the candidate can defend to the major adviser.
- Electives (0-10 Cr.) in other related social science or humanities programs which the candidate must defend to the major adviser.

Elementary Education

Social Studies Minor (36)

(Admission requirements are the same as for Social Science majors.)

ECON 273; GEOG 271 or 273; HIST any 200-level course; POL 211; SOC 260; SSCI 421. One elective in each of three of the above fields (12).

*Applicants for secondary social studies licensure in Minnesota must fulfill the requirements of a competency based regulation. Students who plan to seek such licensure should consult the Social Studies Coordinator as soon as possible to determine how the social science competencies are to be developed and demonstrated. The University's approved program for the development and demonstration of the required social science competencies is as follows: SSCI 104, ANTH 250, ECON 259, GEOG 253, HIST 285, POL 217, PSY 264, SOC 260, SSCI 421, SST 353.

BACHELOR OF ELECTIVE STUDIES (non-teaching)

Major (48)

Completion of 48 credits with approval of department.

COURSE DESCRIPTION

353. Teaching Social Studies in Secondary School. Philosophy, methods, and materials in the teaching of social studies in the secondary school. (It is recommended that this course be taken in the quarter immediately preceding student teaching.) 4 Cr. F, W.

Social Work (SW)

334 Stewart Hall/255-3139

A program of the Department of Sociology, Anthropology and Social Work. Also see *College of Liberal Arts and Sciences description and requirements*.

Approved in 1973 by the Minnesota Higher Education Coordinating Committee, the Social Work Program has as its primary objective the education of social work majors for entry level professional positions in the social welfare delivery system or entry into graduate school.

The Social Work Program combines theoretical and applied courses in sociology and anthropology with an intensive core of social work classes and field practice experience. Students integrate theoretical knowledge, value exploration and skill development in helping people in their social systems. Strong emphasis is placed on a balance of class material and social work field practice throughout the program. This includes a one quarter internship. Students have the opportunity to explore various areas of practice such as aging, families and children, women and minorities, mental health, education, alcohol and drug abuse, and community issues.

Students are encouraged to major or minor in complementary fields such as psychology, criminal justice or sociology.

BACHELOR OF ARTS

Social Work Major (68)

ANTH 267; SOC 260, 278, 379, 465; SW 211, 220, 310, 311, 312, 360, 444.

SOC electives (To be selected within an area of concentration with faculty adviser). (8)

COURSE DESCRIPTIONS

211. Introduction to Social Work. Survey of the development of the values, theories, and methods of the profession of social work in the United States. Introduction to social work practice. Prereq.: SOC 260. 4 Cr. F, W, S, SUM.

213. Adolescent Problems. Adolescence as a stage of life involving physical, emotional and social changes. Specific focus on problems that lend themselves to social work interventions and on social work techniques. 4 Cr. DEMAND.

220. Introduction to Field Practice. Structured field experience. Variety of social work settings. Prereq.: 211. 4 Cr. F, W, S.

310. Social Work Methods I. (SW 310-312 must be taken in sequence.) Introduction to, and practice in basic helping skills; communication, observation, recording, and interviewing. Prereq.: 210, 211; SOC 260. 4 Cr. F.

311. Social Work Methods II. (SW 310-312 must be taken in sequence.) Development of generalist social work skills/methods. Understanding and use of effective worker-consumer relationships. Prereq.: 210, 211; SOC 260. 4 Cr. W.

312. Social Work Methods III. (SW 310-312 must be taken in sequence.) Application and integration of field experience with course work in working with communities. Prereq.: 210, 211; SOC 260. Recommended SOC 278, 379. 4 Cr. S.

320. Child Welfare. In-depth preparation for child welfare work. Study of child protection services, juvenile court procedures, day care services, the rights of children, foster homes and adoption. Prereq.: 210, 211; SOC 260. 4 Cr. DEMAND.

360. Social Welfare as a Social Institution. An analysis of the social welfare institution, its relationships with other social institutions. Issues, particularly poverty issues in the social welfare system of the United States. Prereq.: SOC 260. 4 Cr. F, W, S, SUM.

174 / Sociology (SOC), Anthropology (ANTH) and Social Work (SW)

415. Clients Rights and Social Work Advocacy. Legal and moral rights of social service recipients. Role of social worker as advocate for clients who encounter resistive service systems. Emphasis on development of advocate research and practice skills. Prereq.: 211 and 360 or permission of instructor. 4 Cr. DEMAND.

420. Seminar in Social Work. Reading and discussion, skill exercises, or field experience related to social work theory, research, or practice. A specific topic selected each time offered. Prereq.: 310-312. 4 Cr. DEMAND.

444. Internship in Social Work. Extensive educationally directed social work field placement in approved social agency. Internships must be arranged with the internship instructor one quarter prior to the actual placement. Prereq.: 310-312. 16 Cr. DEMAND.

475. Field Work. Supervised field experience in a social service agency, correctional institution, or other approved facility. Admission by department approval. 4 Cr. DEMAND.

Sociology (SOC), Anthropology (ANTH) and Social Work (SW)

334 STEWART HALL/255-3139

Also see College of Liberal Arts and Sciences description and requirements.

Chairperson Claude F. Del Zoppo. **Faculty** (Anthropology) Lane, Lavenda, Schwerdtfeger. (Social Work) Brennan, Herbison, Present, Twiname-Dungan. (Sociology) Baer, Brunkhorst, J. Craik, Davis, Deininger, Del Zoppo, Goodrich, Harper, Havir, Paschall, Sherohman.

The undergraduate program provides courses in Anthropology, Social Work and Sociology as a means of promoting a liberal arts education. Areas of concentration are obtainable in anthropology, social work, and sociology. Undergraduate majors who are primarily interested in career preparation should plan their programs in joint consultation with the sociology adviser and an adviser representing the career into which entrance is sought. Students interested in Social Science or Social Studies programs should refer to the course offerings in this bulletin.

Individuals interested in Anthropology or Social Work should consult the individual program descriptions in this bulletin.

BACHELOR OF ARTS

Sociology Major (48)

SOC 260, 278, 283, 379, 465, 485; ANTH 267.

SOC Electives: 20 Cr. 16 or more of which must be on the 300-400 levels.

Sociology Minor (36)

SOC 260, 278, 283, 379, 465; ANTH 267.

SOC Electives: 12 Cr. 8 or more of which must be on the 300-400 level.

Related Fields Minor (35-36)

For Sociology Majors Only

ECON 273, 274

PHIL 333

POL 211

PSY 250

Select one course from each of four of the five groups below (15-16)

GEOG 372, 490

PHIL 240, 245, 332

POL 282, 492

PSY 390, 475

SSCI 460 and/or 470.

BACHELOR OF ELECTIVE STUDIES

Sociology Major (48)

Completion of any 48 Cr. in SOC.

BACHELOR OF SCIENCE

Sociology Major (40-48)

SOC 261, 268, 366, 465, 485.

Electives: 20-28 Cr. 4 must be in ANTH and 12-16 Cr. must be at the 300 or 400 levels.

Students who take SOC 260 and ANTH 250 as general education courses *before* acceptance into their major may take the 48 Cr. major by substituting two other sociology courses.

For teacher licensure in social science with an emphasis in Sociology see Interdisciplinary Studies in this bulletin for the required *core courses*. Students should also check with their advisers for any new requirements.

Sociology Minor (28-36)

SOC 261, 268, 465.

Electives: 16-24 Cr. 4 must be in ANTH; 8-12 must be at the 300-400 levels.

Students who take SOC 260 and ANTH 250 as general education courses *before* acceptance into their major may take the 36 Cr. minor by substituting two other sociology courses.

Elementary Education Minor (20-24) or (32-36)

SOC 465; ANTH 267.

SOC Electives:

for 24-Cr. minor (12-16).

for 36-Cr. minor (24-28).

Students who take SOC 260 as a general education course before acceptance into their major may take the 24 or 36 Cr. Elementary Education sociology minor by substituting another sociology course.

COURSE DESCRIPTIONS—SOCIOLOGY (SOC)

260. Principles of Sociology. Human relations, including culture, group, group and personality, group interaction; community, social institutions, cultural change, social disorganization. 4 Cr. F, W, S, SUM.

261. Social Problems. Nature, origins, and types of social problems of contemporary society. Societal efforts to eliminate or alleviate these problems. Not open to juniors or seniors majoring in Sociology. 4 Cr. F, W, S.

262. Social Change. A theoretical and empirical investigation of ever-present change in interpersonal relationships and in societal institutions. Prereq.: 260. 4 Cr. DEMAND.

264. School and Society. Community structure and institutions. Relationship between school and personality growth. School and society relationships; the community school; youth and community surveys. Prereq.: 260. 4 Cr. DEMAND.

268. Minority Group Relations. Problems of ethnic and racial differentiation. Causes and consequences of prejudice and discrimination. Action programs to reduce ethnic and race conflict. Prereq.: 260. 4 Cr. DEMAND.

271. Minnesota Ethnic Groups. Identification, location, institutional patterns, social interaction, characteristics and culture of major ethnic groups in Minnesota. 4 Cr. DEMAND.

273. Sociology of Sex Roles. Examination of the social factors and/or forces affecting the definition, acquisition, maintenance, and change of sex roles in the U.S. 4 Cr. F, W, S.

277. Modern Courtship and Marriage. Dating, mate selection, marriage and divorce regulations, marital roles, marital adjustment, parenthood. 4 Cr. F, W, S.

278. Social Statistics I. Statistical tools for problems in sociological research; types of measurement; classification and presentation of quantitative data; univariate and bivariate descriptive techniques. Prereq.: 260. 4 Cr. F, W, S.

281. Class, Status, and Power. Nature, functions, criteria, and significance of social stratification systems; trends and factors in social mobility. Prereq.: 260. 4 Cr. DEMAND.

283. Development of Sociology. Sociological thought from folklore to social science; principle stages, central ideas, and major approaches with reference to social and cultural contents. Prereq.: 260. 4 Cr. F, S.

289. Wealth and Power in America. An examination of the interrelations and consequences of wealth, business, and politics in the United States. Prereq.: 260. 4 Cr. DEMAND.

293. Social Deviance. Theoretical and applied approaches to general social deviance. Includes deviant acts, attributes and beliefs. Emphasis on societal reaction and interaction process. Prereq.: 260. 4 Cr. DEMAND.

310. Social Interaction. Nature and forms in small groups and larger collectivities. Examination

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of intimacy, bargaining, power, conflict, and coalition formation. Prereq.: 260 or consent of instructor. 4 Cr. DEMAND.

340. Mass Media and Society. Analysis of structure, functions, (ideal and actual), content, and other institutional aspects of the mass media. Prereq.: 260. 4 Cr. F.

347. Principles of Population. Factors and processes determining population size, composition, and distribution; relations of population to social organization and human welfare; recent trends in population. Prereq.: 260. 4 Cr. DEMAND.

350. Sociology of Age and Aging. A study of age statuses in the U.S. with concentration on the social status and role of the elderly. A core course for the gerontology minor. Prereq.: 260. 4 Cr. DEMAND.

364. Social Dynamics of Law. Sociological aspects and origins of law and legal institutions; analysis of the effects of law upon society; of legal procedures on civil, criminal and family law. Prereq.: 260. 4 Cr. DEMAND.

366. Juvenile Delinquency. Problems of definition, extent and distribution, theoretical interpretations of causality and methods of treatment of juvenile delinquency. Prereq.: 260. 4 Cr. F, W, S, SUM.

367. Criminology. Problems of definition, extent and distribution, theoretical interpretations of causality, and methods of treatment of criminal behavior. Prereq.: 260. 4 Cr. F, W, S, SUM.

370. Urban Sociology. History and functions of the city; urban social relations, ecology and institutions; social change and problems of urban life. Prereq.: 260. 4 Cr. F.

372. Sociology of the Family. The family as a dynamic institution; relations to other institutions; research based variations and trends in family life. Prereq.: 260. 4 Cr. F.

375. Medical Sociology. Study of sociocultural aspects of illness, disease, treatment and health care administration. Social organization of medical institutions, current issues and special problem areas. Prereq.: 260 or consent of instructor. 4 Cr. DEMAND.

379. Research Methods. Conceptual clarification, design, data gathering, data analysis, derivation of conclusions, writing of reports. Prereq.: 260, 278 or consent of instructor. 4 Cr. F, W, S.

380. Sociology of Religion. Relation of religion to society. Various forms of religion and their relation to other institutions. Prereq.: 260 or consent of instructor. 4 Cr. S.

400. Special Problems in Sociology. A seminar or conference course for advanced students wishing to work out a special problem in sociology. 1-4 Cr. DEMAND.

444. Internship. A maximum of 8 credits may be used toward a major; 4 credits used toward a minor, remainder will be used in general electives. 1-16 Cr.

454. Collective Behavior. Unstable collectivities with changing social structures. Nature, causes, and consequences of collective behavior in mobs, crowds, publics, etc. Prereq.: 260. 4 Cr. DEMAND.

461. Sociology of Knowledge. Analysis of environmental and social correlates of a variety of belief systems as well as a study of the genesis, development, and decline of these belief systems. Prereq.: 260. 4 Cr. DEMAND.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

440-540. Public Opinion and Propaganda. Nature, function, formations and measurement of public opinion; attempts to influence public opinion; propaganda. Prereq.: 260. 4 Cr. DEMAND.

442-542. Social Movements. Analysis of social movements, their origin in discontent; role of ideas, personal relationships, organizational factors in their development. Some contemporary social movements. Prereq.: 260. 4 Cr. DEMAND.

445-545. Political Sociology. An analysis of structural and ideological factors influencing the development and legitimization of political institutions, and the sociological conditions influencing the political processes. Prereq.: 260. 4 Cr. DEMAND.

447-547. World Population Problems. World population trends and pressures; their causes and consequences; war; international relations; standards of living; technological change; and cultural contacts. Prereq.: 260. 4 Cr. DEMAND.

462-562. Seminar. Discussion, readings, evaluation of sociological theory, social issues, or contemporary events. A specific topic selected each time offered. May be repeated. 1-4 Cr. DEMAND.

465-565. Social Psychology. Influence of human relations and culture on development of personality. Cultural approaches to the development of attitudes, prejudices, roles, and groups. Prereq.: 260. 4 Cr. F, W, S, SUM.

470-570. Minority Group Cultures and Contributions. Minority group cultures and contribu-

tions and the position of minority groups in American society. Different groups will be focused upon in the course. 4 Cr. DEMAND.

485-585. Contemporary Sociological Theory. Systematic organization of concepts and principles of the explanation of social phenomena as a guide to contemporary sociological research. Prereq.: 260. 4 Cr. F, W, S, SUM.

Special Education (SPED)

A211 EDUCATION BUILDING/255-2041

Also see College of Education description and requirements.

Chairperson Stanley Knox. **Faculty** Ayers, Bigler, Donohue, Gadberry, R. Johnson, J. Lewis, Lovelace, F. Reese, S. Reese, Robley, Scribner, Timmers, Wellik.

The Department of Special Education offers undergraduate programs which lead to licensure to teach educable mentally retarded, trainable mentally retarded, and orthopedically handicapped children. Teachers can also be licensed in special learning disabilities at the graduate level.

The comprehensive major in special education consists of a sequence of experiences which culminate in an internship during the entire senior year. This is designed to provide the student with a range of practical experiences designated as resident teaching. The student must plan a program in such a manner so that he/she will be able to be off-campus for this year. Completion of the program leads to licensure to teach the educable mentally retarded, but by planning carefully the student can also be licensed to teach trainable mentally retarded children. Students should consult their adviser for further information.

Students transferring at the beginning of the junior year or later should not plan on completing the endorsement to teach trainable mentally retarded. The addition of these courses to the requirements of the major causes severe scheduling problems.

Because of limited resources, a large number of interested students, and the desire to maintain a program of high quality, it is necessary to limit enrollment in the undergraduate program. All applicants who meet minimal standards will be admitted to the major program. However, assignment to resident teaching will be determined from major programs on file in the department office at 4:00 p.m. Friday of the first week of winter quarter preceding the resident teaching year. Honor point ratios will be computed on all credits (including transfer credits) which have been graded A, B, C, D, E. Students with an honor point ratio of 3.0 or above will be given highest priority for a resident teaching assignment. All remaining positions will be filled based on honor point ratio in descending order from 3.0 to the maximum number of students. Notification of acceptance or rejection will be mailed during the third week of winter quarter. Students not receiving an assignment who believe they should receive special consideration may utilize the departmental appeal process.

Students anticipating an assignment to resident teaching must meet all of the requirements for admission to student teaching, including no grade of less than "C" in the major courses, the supportive core, or any required courses on endorsements.

BACHELOR OF SCIENCE

Comprehensive Special Education Major (70)

Major: SPED 401*, 405*, 423, 424, 425, 426, 427, 451*, 455, 456, 457; PSY 466*, 473*. Supportive Core: ED 371*; HLTH 405; MATH 250*; IM 468*; PSY 262*, 362*, 463*. Endorsement for Trainable Mentally Retarded: SPED 420*, 421*, 406*; SSPA 380*.

*Must be completed before resident teaching.

COURSE DESCRIPTIONS

401. Introduction to Exceptional Children. Recognition, needs, and guidance of children who deviate in physical, mental, emotional, or social characteristics; implications for education. 4 Cr. F, W, S, SUM.

402. Introduction to Education of the Hearing Impaired. Background and history, etiology, and achievement, relationship to intelligence, socio-emotional development. Parent consultation. Integration into school program. Adult adjustment. 3 Cr. F.

451. Junior Practicum in Special Education. Laboratory experience with handicapped children. 2 Cr. W, S.

452. Senior Seminar in Special Education. Individual projects, observations, and discussions related to experience while student teaching. Prereq.: Student teaching in special education. 2 Cr. DEMAND.

455. Resident Teaching in Special Education I. Field internship with emphasis on community resources, program alternatives, and community activities. Taken first quarter of senior year concurrently with 423 and 425. 8 Cr. F.

456. Resident Teaching in Special Education II. Field internship. Individual and small group instruction with handicapped and non-handicapped children. Taken second quarter of the senior year concurrently with 424 and 426. 8 Cr. W.

457. Resident Teaching in Special Education III. Field internship in a special education program. Diagnosis and programming for educational problems of handicapped children. To be taken last quarter of senior year. 16 Cr. S.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

404-504. Cultural Diversity and Education. Problems of cognitive, linguistic, social, and emotional development. Pre-school, elementary and secondary school programs. Role of supportive agencies. 4 Undgr. Cr., 3 Gr. Cr. F, S, SUM.

405-505. Behavior Problems in the School. Introduction to the assessment and management of behavior problems in the classroom. Prereq.: 401. 4 Undgr. Cr., 3 Gr. Cr. F, W, S, SUM.

406-506. Orthopedic Handicaps in the School. Characteristics, etiology, treatment, and prognosis of the various types of orthopedic handicaps. Role of the auxiliary services and other professions. 2 Cr. F, W, S.

407-507. Education of Children with Learning Disabilities. Introduction to learning disabilities. Survey of approaches to instruction. Laws and regulations governing disability programs. 4 Undgr. Cr., 3 Gr. Cr. DEMAND.

408-508. Developmental Screening and Assessment of Young Children. Philosophy, procedures and methodologies used to conduct developmental screening. Prereq.: Permission of instructor. 4 Undgr. Cr., 3 Gr. Cr. DEMAND.

420-520. Education of Severely and Profoundly Retarded. Evaluation and planning for the severely and profoundly retarded in public school programs, institutions, and community based residential facilities. Analysis of materials and methods. Prereq.: 421-521 or concurrent registration. 4 Undgr. Cr., 3 Gr. Cr. F, W.

421-521. Education of Moderately Mentally Retarded Children. Evaluation and planning for moderately mentally retarded. Analysis of materials and methods. Observation and participation. Prereq.: 401. 3 Cr. W, S.

422-522. Education of the Gifted. Identification, characteristics, instructional programs and educational problems. 4 Undgr. Cr., 3 Gr. Cr. S.

423-523. Methods and Materials in Special Education I. Selection of children and organization of school programs for mentally retarded and orthopedically handicapped. Curriculum adjustment, teaching methodologies. Prereq.: 401. 4 Undgr. Cr., 3 Gr. Cr. F.

424-524. Methods and Materials in Special Education II. Analysis of curricular materials for mentally retarded and orthopedically handicapped. Observation and participation. Prereq.: 423-523. 4 Undgr. Cr., 3 Gr. Cr. W.

425-525. Special Learning Disabilities I. Techniques of identification and evaluation of children with learning difficulties associated with language, emotional, neurological, and perceptual problems. Prereq.: 401. 4 Undgr. Cr., 3 Gr. Cr., F, W, SUM.

426-526. Special Learning Disabilities II. Instructional methodology and treatment for children with learning disabilities. Prereq.: 425-525. 4 Undgr. Cr., 3 Gr. Cr. W, S, SUM.

427-527. Teaching Basic Skills to Handicapped Learners. Principles of teaching basic skills and their application to the development of skills in handicapped learners diagnostic procedures. Prereq.: 401 and background in developmental reading and developmental mathematics. 4 Undgr. Cr., 3 Gr. Cr. F, W, S, SUM.

428-528. Learning Problems in the Classroom I. Characteristics and needs of special education students in the regular classroom. Survey of special programs. Open to regular classroom teachers, administrators, and aides. 3 Cr. DEMAND.

429-529. Learning Problems in the Classroom II. Curricular adaptations and instructional methods for working with handicapped students in the regular classroom. Survey of materials. Prereq.: 428-528. 3 Cr. DEMAND.

430-530. Learning Problems in the Classroom III. Planning and implementation of individual instructional programs designed to meet specific needs of students with learning problems. Prereq.: 429-529. 3 Cr. DEMAND.

431-531. Career and Vocational Planning for the Special Needs Student. Initiation and maintenance of vocational education programs for the special needs students. Educational models, job analysis, employer-school relations, laws and regulations are covered. 4 Undgr. Cr., 3 Gr. Cr. DEMAND.

Speech Communication (SPC)

209 PERFORMING ARTS CENTER/255-2216

Also see College of Liberal Arts and Sciences description and requirements.

Chairperson Arthur Grachek. **Faculty** Arnett, A. Grachek, Kendall, Meyers, Park-Fuller, Sikkink, Stocker, C. F. Vick, Vicker, E. Vora.

Extending the knowledge, appreciation and techniques that contribute to the full understanding and practice of effective communication is the goal of the Department of Speech Communication. The rhetorical tradition of speech has long been considered central to a liberal education. People must use speech effectively to function well in education, business, politics, government, the community and the family. In addition to offering a variety of major and minor programs, **the speech communication curriculum is open to all students** and is designed to complement and integrate most programs of study.

BACHELOR OF ARTS

Speech Major (36)

Select three: SPC 220, 324, 325, 331, 350.

Select two: SPC 415, 420, 430.

Electives in Speech (16).

Speech-Interdepartmental Major (60) (No Minor)

Select two: SPC 220, 324, 325, 331, 350.

Select two: SPC 415, 420, 430.

Electives in Speech (14).

Interdepartmental Electives (30).

Speech Minor (24)

Select two: SPC 220, 331, 350.

Select two: SPC 415, 420, 430.

Electives in Speech (8).

BACHELOR OF SCIENCE

Speech Major (48)

SPC 220, 331, 415, 452.

SPC 324 or 325.

SPC 420 or 430.

Participation in one forensic activity. Registration for credit is optional.

Select one: COMM 220, 371, 376.

Select one: SSPA 220, 230, 324.

Electives in Speech Communication courses to reach a total for the major of 48 credits.

Speech Minor (24-32)

SPC 220, 331, 452.

SPC 324 or 325.

SPC 415 or 430.

Participation in one forensic activity. Registration for credit is optional.

Select one of these six courses: COMM 220, 371, 376. SSPA 220, 230, 324.

BACHELOR OF ELECTIVE STUDIES

Major (48)

Completion of any 48 credits in speech communication.

Minor (36)

Completion of any 36 credits in speech communication.

COURSE DESCRIPTIONS

161. Introduction to Speech Communication. Person to person and small group communication, oral reading and public speaking. Theory and experience to relate meaningfully, think critically, organize clearly and speak and listen effectively. 4 Cr. F, W, S, SUM.

220. Public Speaking. Theory and practice of public speaking. Includes an introduction to rhetorical criticism. Prereq.: 161. 4 Cr. F, W, S, SUM.

222. Parliamentary Procedure. Instruction and practice in applying parliamentary rules of order to group meetings and in planning conferences. 4 Cr. W.

223. Effective Listening. Instruction and practice in discriminative, appreciative, and critical listening. 4 Cr. F, W, S.

225. Nonverbal Communication. Includes appearance variables, body language, vocal characteristics, touch, and space. 4 cr. W. ALT SUM.

226. Dynamics of Interpersonal Communication. Study of the dynamic interactional elements of communication in a one-to-one relationship through experiential exercises and selected readings. 4 Cr. F, W, S, SUM.

227. Speech Activities. Credit is earned by participation in speech activities. One credit per section per quarter. May be repeated up to a maximum of 6 Cr. F, W, S.

230. Contemporary Problems in Speech. Undergraduate seminar on a selected rhetorical problem, such as black rhetoric, school administration rhetoric, classroom dialogue, etc. May be repeated to a maximum of 12 credits. 4 Cr. DEMAND.

250. Voice and Diction. Theory and practice in developing maximum control of vocal technique (quality, volume, expressiveness, articulation), word choice, and pronunciation. 4 Cr. F, W, S.

270. Communication and Conflict. Introduction to theories and methods of dealing with communication and conflict, which emphasize confrontational skills in a caring context. 4 Cr. DEMAND.

275. Intercultural Communication. Exploration of cultural differences from a communication perspective, for purpose of reducing polarization between cultures in our society. 4 Cr. DEMAND.

280. Ethics and Free Speech. Inquiry into the philosophical and legal foundations of free speech, and exploration of the communicator's ethical responsibilities. 4 Cr. DEMAND.

321. Significant Speeches. A critical study of selected significant speeches, debates and discussions, from ancient to contemporary times, in historical perspective. Recommended to follow 220. 4 Cr. DEMAND.

324. Argumentation and Debate. Theory and practice in argumentative speaking and debate. Prereq.: 220 or permission of instructor. 4 Cr. F.

325. Small Group Communication. Study of task oriented groups through involvement in intra- and inter-group communication. Lab. 4 Cr. W.

326. Interpersonal Communication for Business and Professions. Study of and skill development in the interpersonal communication behavior with business and professional relationships. 4 Cr. DEMAND.

331. Oral Interpretation. Introduction to performance of literature. Theory and experience in literary analysis, presentational modes and techniques, and performance criticism. 4 Cr. F, W, S.

350. Laboratory in Small Group Process. Laboratory experience in small group process enabling the student to become more aware of human interaction and to gain greater insight into the dynamics of small groups. 4 Cr. F, W, S.

427. Undergraduate Assistantship. Assisting in a 100-200 level course in Speech. Prereq.: B average or above for all courses in Speech. Approval of instructor and chairperson one quarter in advance of registration. May be repeated to a maximum of 9 credits. 3 Cr. F, W, S, SUM.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

415-515. Rhetorical Criticism. Concepts, terminology, methods and literature of rhetorical criticism. Prereq.: 220 or permission of instructor. 4 Cr. F.

420-520. Theories of Persuasion. The elements of persuasion, including psychological and sociological theories, communication concepts and models, and analysis of communication situations and systems. Speaking and criticism. 4 Cr. S.

421-521. American Public Address. Major speakers in American history studied from a rhetorical perspective. Prereq.: 415 or instructor consent. 4 Cr. DEMAND.

426-526. Communication in Intimate Relationships. Study of communication patterns between persons involved in an affectionate relationship. Experiential exercises and selected readings. Prereq.: 226 or instructor consent. 4 Cr. DEMAND.

430-530. Modern Theories of Communication. Introduction to theories of human communication including theories of the neurophysiological, perceptual and semantic foundations of communication and theories and models of human interaction. 4 Cr. W.

431-531. Contemporary Approaches to Oral Interpretation. Performance analysis, and discussion of selected literary genres, selected performance styles or performance criticism. Specific topics will be announced. May be repeated. Prereq.: 331. 4 Cr. DEMAND.

435-535. Theories of Small Group Process. Introduction to theories of small group process, particularly as they relate to communication within and between small groups. 4 Cr. DEMAND.

440-540. Advanced Public Speaking. Exploration in depth of speech principles through speech making and selected readings. 4 Cr. DEMAND.

452-552. Teaching of Speech. Materials and methods for curricular and co-curricular teaching of speech in the secondary schools. Must precede student teaching. Prereq.: 15 credits of speech. 4 Cr. F.

480-580. Seminar in Speech Communication. Discussions and readings in advanced speech topics. A specific topic will be listed each time offered. May be repeated. Prereq.: Senior/graduate standing or permission of instructor. 4 Cr. DEMAND.

Speech Science, Pathology and Audiology (SSPA)

A216 EDUCATION BUILDING/255-2092

Also see College of Liberal Arts and Sciences description and requirements.

Chairperson Martin Kammermeier. **Faculty** Davenport, Jacobson, Kammermeier, LaVoi, Powers, M. Weise.

Two avenues of study are available to the student major in this field, the Bachelor of Science and the Bachelor of Arts degree. The student must select one or the other in conference with a departmental faculty member. Admission to the major program requires an interview with a departmental faculty member. A student must be admitted to the major before enrolling for practicum.

Students wanting a Minnesota Teaching License in Speech Pathology must be accepted in the major program before September 1, 1979. Students applying after that date will need to complete a master's degree to be recommended for a teaching license.

BACHELOR OF ARTS

Major (73)

SSPA 220, 230, 324, 331, 334, 341, 342, 422, 432, 443, 445, 450, 451, 455, 456, 459, 460, 461. Required for State Teaching License: HLTH 125, 405; HURL 496, 497.

BACHELOR OF SCIENCE

Major (118)

SSPA 220, 230, 324, 331, 334, 341, 342, 422, 432, 443, 445, 450, 451, 455, 456, 459, 460, 461; ED 371; SPED 401; IM 468; PSY 262.

Select 6 Cr. from: ED 220, 372, 442; SPED 402.

Select 8 Cr. from: SPED 404, 405, 407.

Required for State Teaching License: HLTH 125, 405; HURL 496, 497.

Student Teaching: 16 Cr.

Minor in Speech Pathology (33)

SSPA 220, 230, 324, 334, 341, 445, 459, 460, 461.

Minor in Speech and Hearing Sciences (25)

SSPA 220, 324, 341, 420, 443, 459, 460.

BACHELOR OF ELECTIVE STUDIES

Major (48)

Completion of 48 credits with the approval of the department.

Minor (36)

Completion of 36 credits with the approval of the department.

COURSE DESCRIPTIONS

220. Phonetics. Speech sounds from a sociological, physiological and acoustical point of view. Instruction and training in the use of the International Phonetic Alphabet. 3 Cr. F, S.

230. Introduction to Speech Pathology and Audiology. Verbal communication disorders in children and adults; their incidence and effect on the individual and community; treatment; speech pathology as a profession. 4 Cr. F, S.

324. Speech and Hearing Science. Phenomena and processes underlying speech and hearing in normal speakers and listeners. 5 Cr. W.

331. Voice. Voice disorders (pitch, loudness, quality) as related to hyperfunction of the processes of respiration, phonation, and resonance, their symptomatology, etiology, diagnosis, and treatment. 3 Cr. S.

334. Articulation. Research and theory of the nature, etiology, and treatment of functional articulation problems. Clinical observation required. Prereq.: 230. 3 Cr. W.

341. Hearing Disorders. Symptoms and pathology of hearing disorders, their medical, surgical and audiological management; amplification; educational and psychological management. 3 Cr. W.

342. Speech Reading and Auditory Training. Importance and role of speech reading and auditory training in auditory rehabilitation. History, theories, and methods of teaching speech reading and auditory training. 4 Cr. F, S.

380. Language Remediation for the Mentally Retarded and Language Handicapped Child. Language development; tests of language; methods and materials. Not open to majors in speech pathology. 4 Cr. F, W, S.

384. Speech and Hearing Problems in Children. Characteristics, causes and management principles of speech and hearing problems in children. Emphasis on management by classroom teacher. Not open to majors in speech pathology. 4 Cr. DEMAND.

422. Speech Physiology. Gross anatomy and physiology of the structures related to respiration, phonation, articulation, and audition. 3 Cr. F.

432. Stuttering. Research in stuttering from the 1930's to the present. Emphasis placed upon describing stuttering behaviors and formulation of a remedial program for an individual who stutters. 3 Cr. W.

443. Hearing Measurement. Hearing conversation; air and bone conduction audiometry; speech audiometry and the testing of hearing aids; tests for site of lesion, recruitment and functional losses. 3 Cr. F.

450. Introduction to Practicum. Facilities and equipment; directed, critical observation of speech and language behavior; report writing, planning, therapy for the types of disorders. 2 Cr. F, W.

451. Practicum. Supervised training in speech and hearing therapy techniques. Prereq.: 334, 450 and staff approval. (3 cr. required for SSPA Major. May be repeated to 6 cr.) 1-3 Cr. F, W, S.

456. The Speech and Hearing Clinician in the Public School. Philosophy, responsibility, and operating procedures of the professional worker in the public schools. Prereq.: 230. 3 Cr. W.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

420-520. Experimental Phonetics. Relationship between the acoustic features of speech sounds and perception of speech. 3 Cr. S.

445-545. Clinical Management of the Aurally Handicapped Child, 0-21. Language growth in hearing-impaired children: family and community as potential contributors to language for the hearing impaired, and systems approaches to the educational management of hearing impaired. Prereq: 341. 3 Cr. S.

455-555. Behavioral Management of Speech and Language Problems. Study of behavior modification principles. The application of behavioral procedures to problems in speech and language pathology. 4 Undgr. Cr., 3 Gr. Cr. S.

459-559. Introduction to Language. A survey of basic concepts, theories, and terminology underlying current literature concerned with language development, assessment and intervention. Intended for SSPA majors only. 4 Undgr. Cr., 3 Gr. Cr. F.

460-560. Language Development. Normal development of speech and language. Development of the major aspects of speech and language-phonological, syntactic, and semantic; and current explanation of language acquisition. 4 Undgr. Cr., 3 Gr. Cr. W.

461-561. Language Appraisal and Intervention. Strategies for assessing linguistic knowledge and usage. Training procedures for the remediation of language disorders. 4 Undgr. Cr., 3 Gr. Cr. S.

468-568. Introduction to Children's Language. Language development from birth through adolescence emphasizing content and process. Recognition of language differences and deficits and suggestions for teaching language skills to the preschool and elementary child. Not open to SSPA majors. 4 Undgr. Cr., 3 Gr. Cr. DEMAND.

Teacher Development (ED)

A132 EDUCATION BUILDING/255-3007

Chairperson: Kenneth W. Kelsey.

Coordinator of Elementary Education: Russell Schmidt.

Coordinator of Secondary Education: Eugene Bjorklun.

Coordinator of Student Teaching: Floyd Perry.

Faculty F. Anderson, Bavery, Bjorklun, Char, Farrell, Grimstad, Grunerud, Hagen, P. Johnson, Kelsey, Minier, M. Montgomery, V. Mork, Mortenson, G. Mortrude, L. Mortrude, Park, Perry, Purdom, Putbrese, Roehl, Rouch, R. Schmidt, Sentz, Sprinthall, Steeves, Ziwiisky.

The Teacher Development department is a newly formed unit which has combined the former Elementary Education (ELED), Secondary Education (SEED), and Student Teaching (EDT) departments. The changes have no effect on program requirements which are described below.

- Elementary Education major
- Reading Instruction major
- Reading Instruction minor
- Kindergarten endorsement
- B.S. majors and minors in Secondary Education
- Secondary School Reading licensure
- Student teaching

Courses which formerly had ED, ELED, SEED, EDT prefixes will all have ED prefixes and new numbers after September 1, 1980. Former prefixes and numbers are indicated in parentheses in the course description.

ELEMENTARY EDUCATION PROGRAM

BACHELOR OF SCIENCE

The elementary education major is designed to provide students with opportunities:

1. To develop a rich philosophy of the educative process and to become sensitive to the needs of the students who fill elementary school classrooms.
2. To develop scholarship in various disciplines which are related to the programs found in elementary schools.
3. To develop understandings of child growth and development characteristics and the implementation of such knowledge in classroom teaching responsibilities.
4. To explore various theories of teaching and learning.

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5. To understand the purposes and philosophical considerations which underlie elementary school programs.
6. To become aware of the best of present practice and recommended programs for elementary schools.
7. To explore materials and methodology of classroom instruction related to present day problems.

Students who complete this curriculum are recommended to receive a license qualifying them to teach in the elementary school. Qualification in this field requires completion of the following courses for the elementary education major. In addition, students must complete the General Education requirements and required content courses.

Elementary Education Major (91)

ED 220, 323, 340, 346, 371, 372, 441, 442, 443, 445; PSY 262, 362, 463; MUSE 211, 221; ART 296; PE 392; IM 468; Student Teaching (16 Cr.)

Required content courses: MATH 250; SSCI 320; IND 321; BIOL 326; CHEM 327; HIST 346 or GEOG 376.

Special requirements for licensure in Minnesota: HURL 496, 497; HLTH 405, 498.

CONCENTRATIONS FOR ELEMENTARY EDUCATION MAJORS

Reading Instruction Major (41)

The reading instruction major is designed to be a second major for undergraduate students currently enrolled in programs leading to teacher licensure. It is intended to give students a comprehensive overview of a total school reading program in the areas of literature for children, materials for instruction, reading disability and working with children displaying learning problems.

With the addition of two graduate courses (ED 671 and 672), two licenses are available after two years teaching experience—elementary school remedial reading teacher licensure and secondary school remedial reading teacher licensure.

The following courses are included in the 41 credit reading instruction major. In addition to the required 41 credits, four of the sixteen hours of student teaching required of teaching majors will be devoted to the area of reading.

ED 374 or ED 473, 371, 372, 373, 375, 376, 471; SPED 401, 405; PSY 469; ED 467, 472.

Reading Instruction Minor (26)

The reading instruction minor for elementary, secondary, or special education majors has a three-fold purpose. First, it gives the education major an overview of the total reading program for pupils as they progress through their elementary and secondary school experiences. It also gives an overview of literature for all ages. Finally, it gives the education major a background in working with children who have reading problems.

The reading instruction minor is designed to help the prospective teacher become a more proficient teacher of reading at both the elementary and secondary levels. Licensure at the secondary level as a developmental reading teacher can be obtained through this minor after two years of teaching experience.

Elementary Education Majors

ENGL 353; ED 376, 471, 472; SPED 401; 7 Cr. electives.

Secondary and Special Education Majors

ED 371, 372, 376, 471, 472; ENGL 353; SPED 401.

Elementary or Secondary Remedial Reading License

To be recommended for an elementary or secondary remedial license the student must: (a) present an elementary or secondary teacher's license based on a Bachelor of Science degree; (b) prove two years of successful teaching experience; and (c) complete one course in each of the following areas which may be a part of or beyond the bachelor's degree requirements.

Developmental Reading: ED 371 or 372; ED 472-572 (Secondary only); Diagnosis and correction of reading difficulties: ED 471-571, 671, 672 or 469-569.

Kindergarten Endorsement (4)

Qualification in this field requires completion of the elementary education major, ED 351, and a minimum of 4 credits in kindergarten student teaching.

Information Media—see Library and Audiovisual Education listing.

Special Education—see departmental listing.

Elementary Education Electives

An academic minor for elementary education students is not required. Students may choose to complete their programs by pursuing a selection of courses designed to enrich their professional development. This option must be approved by the adviser in advance.

SECONDARY EDUCATION PROGRAM

BACHELOR OF SCIENCE MAJORS AND MINORS

The requirements of major and minor fields of study appropriate for the Bachelor of Science degree in secondary education are described by the following departments in the bulletin:

- American Studies
- Art
- Biological Sciences
- Business Education
- Chemistry
- English
- Foreign Languages
- Geography
- Health, Physical Education and Recreation
- History
- Industrial Education
- Interdisciplinary Studies
- Library and Audiovisual Education
- Mass Communications
- Mathematics
- Music
- Physics and Astronomy
- Political Science
- Psychology
- Sociology, Anthropology and Social Work
- Special Education
- Speech Communications
- Theatre

Students must have an adviser in their subject area and also in the Department of Teacher Development.

Secondary Professional Education Sequence

As sophomore or early junior (including transfer students): ED 221/PSY 262 block. (Application for Admission to Teacher Education is made near the end of the sophomore year. See Teacher Education Programs section in this bulletin.)

As junior or early senior: ED 447; PSY 362, 463; IM 468; Special Methods course(s) in your major or minor (if any) or CATE. Application for admission to student teaching is made at least two quarters before assignment.

As senior: Student Teaching (16 Cr.); ED 421.

Cooperative Approach to Teacher Education (CATE) Program

The CATE Program is principally on-site instruction. It combines three to five courses and corresponding credit, depending on the student's needs. Highly individualized work is stressed. Students are expected to be capable of considerable independent study and willing to give full mornings five days a week. Admission is by permission of the co-directors, Professors L. Mortrude and P. Johnson. The 221/262 Block, Admission to Teacher Education, and Admission to Major Program are prerequisites.

READING LICENSURE

Secondary School Reading Licensure. Qualification for secondary remedial reading licensure requires (1) an elementary or secondary teacher's license based on a bachelor's degree, (2) two years of successful teaching experience, and (3) one course in each of the following areas, which can be a part of or beyond the bachelor's degree requirements.

Remedial Reading Licensure

ED 371 or 372, ED 472-572, ED 471-571, 671, 672; PSY 686, 687 or 469-569

Developmental Reading Licensure

ED 371 or 372, ED 472-572, ED 471-571; ENGL 353

STUDENT TEACHING

The student teaching experience takes place in off-campus public schools. This experience is typically provided during the third quarter of the first or second quarter of the senior year.

All student teachers are encouraged to live in the community, participate in community activities, and study community life. It is the responsibility of the student teachers to make their own housing arrangements and bear the expense involved during off-campus student teaching assignments.

Prospective student teachers need to make long-range plans for their total university program at an early date if they are to receive maximum benefits from the student teaching experience.

Application for student teaching assignments for the following academic year should be completed and on file in office A132 Education Building, by the end of the first week of the spring quarter. The application process includes the following:

1. Certification of Readiness for Student Teaching.
 - a. Admission to Teacher Education.
 - b. An honor point ratio of 2.25 or more in the major(s).
 - c. An honor point ratio of 2.0 or more in the minor(s) and in total number of credits completed at the time of application.
 - d. No grade less than 'C' in professional education courses.
2. Clearance by University Health Service.
3. Information requested on the Personal Data Form.
4. Course sequence requirements.
 - a. Secondary student teachers must have PSY 362 and 463, ED 221, 447 and IM 468 completed before student teaching. The communication sequence (SPC 161; ENGL 162, 163) must be completed at the time of application. Check with your advisers to determine the required pre-student teaching courses in major and minor fields.
 - b. Elementary student teachers must have completed PSY 262, 362, 463; ED 220, 371, 372, 441, 442, 443, 445; ART 296; MUSE 211, 221; PE 392; and HLTH 498 before student teaching. The communication sequence (SPC 161; ENGL 162, 163) must be completed at the time of application.
 - c. Students with majors in art, music, or physical education must have student teaching experiences at both the elementary and secondary level to meet licensure regulations. Sixteen credits in student teaching are required. If licensure is desired in another teaching major or minor, additional student teaching credits may be required during a subsequent quarter.

EDUCATION (ED)

COURSE DESCRIPTIONS

103. Community Experiences. Opportunity for supervised experiences with children and adults prior to professional laboratory experiences. Boy and girl scout work, playground supervision, church classes, field trips, and excursions. 1 to 4 Cr. F, W, S.

207. The Future and Education. In-depth study of education and tomorrow's world. Emphasis on role of the learner, the institution, alternatives in educational processes and environments. 3 Cr. DEMAND.

220 (ELED 200). Introduction to Elementary Education. Topics considered are development of education, objectives of the American public school system, nature of the pupil population, etc. Includes three week field experience. 3 Cr. F, W, S.

221 (SEED 201). Introduction to Secondary Education. The professional and personal characteristics of teachers, philosophies of teaching, school organization classroom management, professional obligations, and ethical practices of teachers, and planning for a career in teaching. To be taken concurrently with PSY 262. 2 Cr. F, W, S.

323 (ELED 402). Departmental Seminar in Elementary Education. Designed to provide opportunities for students and staff to explore various problems and issues related to elementary education. 2 Cr. F, W, S.

324 (SEED 370). Junior High School Education. Philosophy, developments, status, function, curriculum, organization, management. 4 Cr. F, W, S, SUM.

340 (ELED 290). Literature for Children. An evaluative study of good books that may foster an active interest in wide reading and continuing appreciation of fine literature, prose, poetry, drama. 3 Cr. F, W, S.

346 (ELED 459). Elementary School Curriculum. Organization and curriculum in the elementary school. Classroom organization and management, appraisal and promotional policies, and curriculum organization. 3 Cr. F, W, S.

351 (ELED 351). Kindergarten Education. Aims, methods, philosophy, continuity of growth problems in kindergarten education. Required for students specializing in kindergarten education. 4 Cr. F, W, S.

371 (ELED 312). Reading I: Basic Skills. Basic techniques for reading instruction. Elementary education majors are to take this course concurrently with ED 372 and two quarters before student teaching unless in reading major or reading minor. 4 Cr. F, W, S.

372 (ELED 412). Reading II: Basic Skills Practicum. Practicum in reading instruction. Basic testing techniques are discussed and used with an emphasis on diagnostic teaching. Elementary education majors are to take this course concurrently with ED 371 and two quarters before student teaching unless in reading major or minor. 3 Cr. F, W, S.

373 (ELED 311). Reading: Early Skills. Examines foundations of language and the communication process as it affects early reading behaviors. Development of prereading skills and methods for stimulating verbal expression. Prereq.: 371 or 371, 372. 4 Cr. W, S.

374 (ELED 310). Reading in a Pluralistic Society: Using Children's Books. Examines the crisis of identity, adaptation in living with others, appreciation of cultural differences, and coping with change as reflected in literature for children. 2 Cr. W, S.

375 (ELED 413). Reading: Materials for Classroom Use. An intensive study of materials used in teaching beginning reading. All age groups are considered. Prereq.: 371 or 371, 372. 4 Cr. F, W.

376 (ELED 358). Reading: Current Research. An investigation of current research and its implications for teaching techniques and procedures in reading instruction. Prereq.: 371 or 371, 372. 4 Cr. F, S.

403 (ED 436). History and Philosophy of American Education. Nature, aim, and objectives of education in society which have evolved in the United State. Emphasis on development of educational philosophies. 4 Cr. F, W, S.

421 (SEED 448). The Secondary School in American Society. Nature of school, curricular and instructional problems, related responsibilities of the secondary school teacher. Prereq.: 447. 3 Cr. F, W, S, SUM.

441 (ELED 455). Elementary School Science Methods. Methods and materials in teaching science. Prereq.: PHYS 327 or CHEM 327 and BIOL 326. Must be taken the quarter preceding student teaching and concurrently with 441, 442, 445. 3 Cr. F, W, S.

442 (ELED 456). Elementary School Language Arts. Methods and materials in teaching language arts. Must be taken the quarter immediately preceding student teaching. Prereq.: 340. 3 Cr. F, W, S.

443 (ELED 457). Elementary School Social Studies. Methods and materials used in teaching social studies. Must be taken the quarter preceding student teaching. Prereq.: SSCI 320; GEOG 376 or HIST 346. 4 Cr. F, W, S.

445 (ELED 458). Elementary School Mathematics. Methods and materials used in teaching mathematics. Prereq.: MATH 250. Must be taken the quarter immediately preceding student teaching. 3 Cr. F, W, S.

447 (SEED 447). Curriculum and Instruction in the Secondary School. History, philosophy, curriculum, instructional practices; responsibilities of secondary school teacher. Prereq.: PSY 262, ED 221. Must be taken before student teaching. 4 Cr. F, W, S.

460 (EDT 401). Early Childhood Teaching. Supervised teaching in headstart programs, home training programs, nursery schools, hospital programs and other settings. Required for licensure in Early Childhood Education. Prereq.: ECFS 421, 422, 423. 12 Cr. S.

461 (EDT 402). Kindergarten Teaching. Supervised teaching in the kindergarten. Required for elementary majors with kindergarten endorsement. Prereq.: 351 (See 4-b above). 4-8 Cr. F, W, S.

462 (EDT 404). Elementary School Teaching. Supervised teaching during first summer session. Teaching done during second or third morning period; conferences held during second afternoon period. Prereq.: Teaching experience and 4 or more credits in elementary student teaching. 5 Cr. F, W, S.

463 (EDT 405). Elementary School Teaching. Supervised teaching in the elementary school for students on elementary school curriculum. Prereq.: (See 4-b above). 12-16 Cr. F, W, S.

464 (EDT 406). Elementary School Teaching. Supervised teaching in the elementary school. Required for elementary majors licensed in any of the following areas: kindergarten, mentally retarded and cerebral palsied or orthopedically handicapped. Prereq.: (See 4-b above). 8 Cr. F, W, S.

465 (EDT 410). Junior High School Teaching. Supervised teaching in the junior high school. Required for elementary majors with junior high endorsement. 8 Cr. F, W, S.

466 (EDT 412). Secondary School Teaching. Supervised teaching in the secondary school for students on secondary school curriculum. Prereq.: (See 4-a above). 8-16 Cr. F, W, S.

467 (EDT 414). Special Area Teaching. Supervised teaching for students with majors in fine arts, music, industrial arts, health and physical education, speech science, pathology, audiology, and reading or a minor in library science. Prereq.: (See 4-a and 4-b above). 4, 8, or 16 Cr. F, W, S.

468 (EDT 417). Elective Teaching. Supervised teaching available to student desiring additional teaching in Psychological Services Center or special area in which major or minor is taken. Prereq.: PSY 362. 4-8 Cr. F, W, S.

469 (EDT 415). Teaching the Mentally Retarded. Supervised teaching of the mentally retarded. Prereq.: SPED 424, 483 and completion of student teaching in major(s). (See 4-a and 4-b above). 8 Cr. F, W, S.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

437-537. Workshop: Teaching Reading to Non-Reading Adults. A 12-hour workshop to prepare teachers/tutors to work with adult non-readers using the Laubach literacy approach. Method employs one-to-one instruction in basic skills of reading, writing, spelling, and language. 1 Cr. F, W, S.

439-539. Education of the Emerging Adolescent. Needs, nature and characteristics of the emerging adolescent. Organization and instructional procedures of the school necessary to accommodate the needs and characteristics of students in the middle grades (ages 10-14). 3 Cr. DEMAND.

450-550. Nonverbal Communication and Education. The role of nonverbal communication in human interaction. Includes analysis of environmental factors, physical appearance, body language, touching behavior, and paralanguage. 3 Cr. DEMAND.

451-551. School Discipline. Behavior in the classroom environment. Development of school environments which promote effective functioning. 3 Cr. DEMAND.

452-552 (ED 438-538). Workshop: Education of the Gifted and Talented. Definition of giftedness, identification of gifted, characteristics of gifted, development and organization of curriculum for high potential students. 3 Cr. DEMAND.

453-553. The Adult Education Act in Perspective. Complete overview of Adult Education; historical, legislative, and current movement toward a lifetime learning society. Emphasis on Adult Basic and Secondary Education programs in Minnesota and the nation. 3 Cr. F, S.

454-554. Identifying the Undereducated Adult Learner. Overview of learning for adults; special emphasis given to adult learner in basic education; learning patterns of ABE-GED students, their characteristics as identified; the physical, psychological, and social factors which influence their learning and motivation. 3 Cr. F, W, S, SUM.

456-556. Formats in ABE-GED Learning. Instructional approaches and methodologies for teaching basic academic and life skills to adult learners. Includes content areas, program planning, instructional materials, diagnosis and placement, evaluation procedures. 3 Cr. S, SUM.

471-571 (ELED 421-521). Reading: Analysis and Correction of Disabilities in the Classroom. Causes of reading difficulties and procedures to diagnose and correct them. Prereq.: a developmental reading course, 371 or 371, 372. 4 Cr. Undgr., 3 Cr. Gr. F, S.

472-572 (ED 417-517). Reading in the Secondary School: Developmental Programs. Nature of high school reading program, development of reading techniques and skills, development of vocabulary, reading interests, and reading ability in content fields, appraisal of reading abilities, diagnosis and remediation. 4 Cr. Undgr., 3 Cr. Gr. F, W.

473-573 (ED 435-535). Reading and Children's Literature: Current Issues. An issues approach to examination of contemporary literature, its relationship to development of comprehension and critical thinking. 4 Cr. DEMAND.

496-596. Workshop: Middle School Organizational Procedures. An awareness workshop designed to acquaint participants with philosophy, organizational procedures and other essential components of effective middle schools; credits will be 1 to 3 depending upon background and needs of participants. F, W, S, SUM.

Technology and Industrial Engineering/(TECH)

106 HEADLEY HALL/255-2107

Also see College of Industry description and requirements.

Chairperson Robert Ryan. **Faculty** Colomy, Gammell, Goke, Hockert, Lafler, Mattick, Ryan, Stinson, Torborg, Zackoski.

The Department of Technology and Industrial Engineering prepares individuals for professional and semi-professional positions in industry. Excellent opportunities exist in industrial administration, supervision, personnel training, research, development, production, distribution and sales. The curricula are based upon recommendations by industrialists, the American Society for Engineering Education, National Association of Industrial Technology, and universities having similar programs.

Students, other than Industrial Engineering and Photographic Science and Instrumentation majors, who have not had a full year of physics in high school must take Physics 211. Students who have not had high school higher algebra must take Mathematics 130.

Courses in a specific area should be taken in sequence.

BACHELOR OF SCIENCE

Industrial Engineering Major (121)

TECH 114, 155, 170, 175, 220, 271, 272, 317, 326, 327, 329, 345, 497; ACCT 291, 294; CHEM 215, 216; MKGB 235, 320; MGMT 361, 362, 363, 465; MATH 241, 242, 243, 244, 329; PHYS 234, 235, 236.

Photographic Science and Instrumentation Major (122)

TECH 165, 166, 170, 265, 266, 267, 271, 272, 317, 326, 345, 361, 362, 373, 461, 497; CHEM 215, 216, 217, 251, 252, 325; MATH 241, 242, 243, 244, 329; PHYS 234, 235, 236, 333.

Technology Core—Engineering Technology and Photographic Engineering Technology Majors (55)

TECH 151, 152, 170, 175, 271, 272, 317, 326, 345, 373, 497; ACCT 291, 294; MKGB 320; MGMT 361

Photographic Engineering Technology Major (122)

Technology Core (55)

TECH 165, 166, 265, 266, 267, 361, 362, 364, 461, 464; CHEM 215, 216; MGMT/MKGB Electives (12); Electives (12): TECH 220, 329, 346, 363, 445, 447, 462, 472, 498 (No more than 4 credits of 498 will be allowed), IND 225.

Engineering Technology Major (112-118)

Technology Core (55)

Select one:

Engineering Technology Emphasis (57): TECH 114, 155, 220, 327, 329; IND 346; MGMT 362, 363, 465; MGMT/MKGB Electives (12); TECH Electives (12) selected from: 305, 306, 346, 374, 445, 447, 498 (No more than 4 credits of 498 will be allowed).

Engineering Safety Emphasis (63): TECH 114, 155, 220, 327, 329, 346, 445, 447; IND 346; MGMT 375, 378, 475, 476; MGMT/MKGB Electives (8); DTS 392, 393; TECH Electives (8) selected from: 305, 306, 374, 472, 498 (No more than 4 credits of 498 will be allowed).

Aviation Emphasis (59): TECH 101, 102, 201, 203; ESCI 340, 440; IND 186; MGMT 362, 371, 462; MKGB 235; TECH/MGMT/MKGB/PHYS/MATH/CSCI Electives (16).

Aviation Technology Minor (36)

TECH core requirements: 101, 201, 203.

Select one:

Air Science Emphasis: IND 186; ESCI 340, 440; Electives (12).

Flight Emphasis: TECH 102, 202, 204; Electives (15).

Management Emphasis: MGMT 361; MKGB 320; MGMT/MKGB Electives (8); Electives (8).

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Photographic Engineering Technology Minor (36)

TECH 151, 165, 166, 170, 265, 266, 361, 362; Select 4 credits from: TECH 267, 271, 272, 326, 345, 363.

BACHELOR OF ELECTIVE STUDIES

Minor (36)

Program and credits to be determined by department.

ASSOCIATE IN SCIENCE

Electronics Engineering Technology (60)

TECH 114, 151, 152, 170, 175, 271, 272, 317, 326, 373, 374, 471, 472. Two of the following: TECH 155, 260, 327, 329, 345.

Mechanical Engineering Technology (60)

TECH 114, 151, 155, 170, 175, 220, 271, 272, 317, 326, 327, 329, 345; IND 244, 245, 340, 346.

Photographic Engineering Technology (59)

TECH 151, 165, 166, 170, 175, 265, 266, 267, 271, 272, 317, 361, 362; CHEM 215; IND 225.

COURSE DESCRIPTIONS

101. Aeronautics I. Principles of flight, weather, navigation, aircraft and engine operation, flight instrument, flight computer, communications, flight planning and Federal Aviation Regulations. 4 Cr. F, W, S.

102. Private Pilot Flight. Registration, airworthiness, documents, radio, navigation, and pre-flight check. Preparation for FAA private pilot flight test. All fees paid by student. Prereq.: 101. Not open to students with over 20 hours of dual instruction. 3 Cr. F, W, S, SUM.

114. Engineering Graphics. Working drawings, dimensioning, geometric tolerancing, descriptive geometry and nomography. 4 Cr. W, S.

151. Technical Mathematics I. Algebra, plane and solid geometry, basic trigonometry, logarithms. Applications to technical situations. Prereq.: High school higher algebra or equivalent. 4 Cr. F, W.

152. Technical Mathematics II. Exponential functions, curve sketching, non-linear empirical equations, analytical trigonometry, introduction to calculus, handbook, applications. Prereq.: 151. 3 Cr. W, S.

155. Fluid Energy Systems. Hydraulics, pneumatics and fluidics. 3 Cr. F, S.

165. Photo Technology I. History of photography. Camera types, systems and applications. Composition, filters. Basic darkroom techniques. 4 Cr. F, W, S, SUM.

166. Photographic Technology II. Introduction to color photography. Color theory in subtractive color printing. Basic color chemistry and color darkroom procedures. 4 Cr. F, W, S.

167. Photographic Technology III. Basic understanding of color positive systems, including E-6 film processing, type "R", and Cibachrome printing. Infrared and high speed special application films. Medium and large format processes. 4 Cr. F, W, S, SUM.

170. Electronics Technology I. Atomic structure, charges and fields, conductors, semiconductors, insulators, resistance, capacitance, inductance, direct and alternating current circuit theory. 4 Cr. F, W, S.

175. Computers in Industry. Survey of computer applications, present and future impact on industry and society; introduction to computer hardware and programming with emphasis on characteristics and limitations of modern computer systems. 4 Cr. F, S.

201. Aeronautics II. Advanced aviation fundamentals and aerodynamics, aircraft systems. Flight computer, navigation and communication. Federal Aviation Regulations and physiology of flight. Prereq.: 101. 4 Cr. W.

202. Commercial Pilot Flight. Gliding spirals; eight-on-pylons; lazy eights; chandelles, instrument flight. Preparation for FAA commercial pilot flight test. All fees paid by student. Prereq.: 201. 3 Cr. F, W, S, SUM.

203. Instrument Pilot Ground School. Instruments and systems, weather, IFR procedures. Federal Aviation Regulation, attitude instrument flying, cross-country procedures and instrument approaches. 4 Cr. S.

204. Instrument Pilot Flight. Supervised instrument flight instruction for the FAA instrument

flight test. Prereq.: 203. All fees to be paid by student. 3 Cr. F, W, S, SUM.

220. Industrial Materials and Processes. Theory, application and new developments. 4 Cr. F, W, S.

265. Photographic Sensitometry I. Measurement, evaluation and controlled exposure on black and white photographic sensitized materials. Operation of sensitometers and densitometers. Prereq.: 165. 4 Cr. F, W.

266. Photographic Chemistry I. Chemical reactions of black and white developer solutions. Equilibrium and catalysis on an intermediate level. Laboratory procedures and operation of densitometers. Prereq.: 265. 5 Cr. W, S.

267. Photographic Sensitometry II. Study of color photographic sensitized materials. Advanced measurement and evaluation of controlled exposure on color film and paper. Prereq.: 266. 3 Cr. W, S.

271. Electronics Technology II. Impedance, resonance, filters, vacuum tubes, semiconductory theory, diode rectifiers, power supplies, transistors, transistor amplifiers, bias and stability, oscillators, manufacture and testing of transistors. Prereq.: 170. 4 Cr. W, S.

272. Electronics Technology III. Multistage amplifiers, radio transmitters and receivers, basic television, field effect transistors, introduction to digital and linear integrated circuits. Prereq.: 271. 4 Cr. F, S.

305. Technology and the Future. The impact of technologies of the future on society by examining current technological innovation, future technologies with high probability of becoming reality, future problematic areas—the cause and exploration of prevention or solution. 4 Cr. F, W.

306. Technology Assessment. To develop rational thought processes necessary to critically analyze the current technological era in order to maximize the public good while minimizing the public risks. 4 Cr. S.

317. Technical Writing. Writing situations, methods of investigation; specifications; function of and techniques of technical report writing. 4 Cr. W, S.

322. Manufacturing Technology III. Materials handling, inventory control, product flow, materials flow, waste elimination, economics of lot size, power requirements, energy consumption and conservation and safety. Prereq.: 220 or consent of instructor. 4 Cr. DEMAND.

326. Quality Assurance. Quality control measures; frequency distributions, control charts, sampling procedures and continuing analysis. Quality control statistics. 3 Cr. W, SUM.

327. Testing of Products and Materials. Destructive and non-destructive testing of industrial products. Characteristics of materials. Applications. 4 Cr. W, S.

329. Mechanisms. Modification and transmission of motion. 4 Cr. F, W.

345. Introduction to Occupational Safety. Humanitarian, economic and legal aspects. Occupational Safety and Health Act. Workers' Compensation. Common hazards. 4 Cr. F, W, SUM.

346. Introduction to Industrial Hygiene. Recognition, evaluation and control of chemical, physical, biological and environmental factors. Prereq.: 345. 4 Cr. S.

361. Photographic Processing Mechanisms. Mechanisms of photofinishing equipment. Nomenclature, functions and design requirements of various machines and component parts. Photographic exposure, interrelation of light. Prereq.: 266. 4 Cr. F, W.

362. Photographic Process. Quality assurance procedures for various automated processing systems, including black and white negative and paper, color negative and paper, and color transparency. Actual quality assurance techniques. Using automatic processing equipment. Prereq.: 361. 4 Cr. W, S.

363. Advanced Color Printing Theory. The study and use of subtractive and additive color printing methods as they apply to professional photofinishing. Methods of color negative analysis, and automated enlarging equipment. Prereq.: 362. 4 Cr. F, W.

364. Photofinishing Management. Managerial experience in an actual photofinishing environment. Responsibilities in print quality, processing, chemistry quality assurance, pollution control, and customer service. Prereq.: 362. 3-9 Cr. F, W, S.

373. Industrial Instrumentation and Control Circuits. SCR's, triacs, bridge circuits, selection and use of instruments, measuring temperature, pressure, humidity, light, calibration techniques, counters, photo-electric control, alarm circuits. 4 Cr. F.

374. Electric Motors and Generators. Major characteristics of typical motors and generators—A.C. and D.C.A.C. power distribution in single and three-phase. 4 Cr. DEMAND.

405. Appropriate Technologies. Study of technology and its impact upon developed and developing societies with emphasis on appropriate technologies for the future. 4 Cr. S.

411. Seminar: (Topical). Reading and research on a selected topic. Limited to seniors. 1-4

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credits. May be repeated with different topics. Maximum 8 credits. DEMAND.

414. Practicum (Topical). A study of the physical, chemical, mechanical and other forces as related to the materials, processes, machines and tools of industry and the resulting impacts on society and the environment. May be repeated with different topic. 5 Cr. DEMAND.

425. Industrial Safety. Current safety practices as implemented by selected businesses/industry. Prereq.: 345. 2 Cr. S.

445. Industrial Safety II. Industrial Hygiene. Accident prevention. Application of OSHA and Workers' Compensation. Prereq.: 345. 2 Cr. S.

447. Product Liability. Costs, terminology and legal principles. Product safety programs, hazard analysis and safety achievement. Case histories. Prereq.: 345. 4 Cr. W.

461. Unconventional Photographic Systems. Holography, diazotype processes, deformable films, electro-photographic processes, dry silver systems, and other new systems. 2 Cr. W, S.

462. Photographic Seminar. New photographic processes and processing mechanisms used in photographic industries. Approval of the instructor. 2 Cr. DEMAND.

464. Photofinishing Administration. To acquaint the photographic engineering technology student of the problems, systems, procedures, policies and evaluations used daily in a photofinishing plant in both amateur and professional finishing. 2 Cr. F, W.

497. Senior Seminar. Professional role of engineer in a technological society. Field trips to selected industries. Prereq.: Senior standing. 1 Cr. F, W, S.

498. Internship. Offered only to students approved for internships with industrial organizations. Senior standing. May be repeated once. 8 Cr. F, W, S, SUM.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

465-565. Workshop: Photographic Educators. Current aspects of exposure, processing and printing of black and white and color photography. Familiarization with photography, its uses in business and industry, and career opportunities. 6 Cr. SUM.

471-571. Consumer Electronics. A study of the circuits and systems employed in popular home entertainment devices such as radio, T.V., and hi-fi. Emphasis will be placed on the set-up, maintenance and troubleshooting of these devices. 4 Cr. DEMAND.

472-572. Advanced Semiconductor Devices and Applications. In-depth study of digital and linear integrated circuits, compound semiconductors, photo-diodes, LED's, semiconductor laser, liquid crystal, and other state of the art topics. 4 Cr. DEMAND.

Theatre (TH)

202 PERFORMING ARTS CENTER/255-3229

Also see College of Fine Arts description and requirements.

Chairperson Ronald Perrier. **Faculty** Baschky, Cermele, Jurik, Longtin, Speers, Swanson.

The theatre is a medium of art and communication that is continually altering as it reflects the age in which it exists. Therefore, it is the aim of the Department of Theatre to provide a curriculum that is not only rooted in the traditional fundamentals of theatre art, but also incorporates the latest theoretical and practical discoveries and developments of our time.

The educational objective of the department is to train students in the arts of the theatre. To achieve this objective it is the intent of the Department of Theatre to provide each student with a comprehensive academic background that encompasses all of the major aspects of theatre as well as certain allied fields, and to interrelate academic theory with practical application through student participation in the various aspects of theatrical production.

The department provides management and artistic direction for Theatre L'Homme Dieu, a resident, professional summer theatre near Alexandria, Minnesota, a popular resort area. Outstanding students have an opportunity to work with professionals on and off stage during the ten-week season from June to August.

BACHELOR OF ARTS

Major (60)

TH 234, 235, 236, 244, 250, 253, 349, 481, 482, 491, 492, 493.
Theatre and Inter-Department Electives (12).

Minor (36)

TH 234, 235, 491, 492 or 493.

Theatre Electives: (20).

Major (48)

TH 234, 235, 236, 244, 250, 253, 349, 491, 492 or 493.

Theatre Electives (12).

BACHELOR OF SCIENCE

Major (48)

TH 234, 235, 236, 244, 250 or 331, 253, 260, 349, 430, 491.

Theatre Electives (8).

Minor (36)

TH 234, 235, 236, 244, 253, 349, 491.

Theatre electives: (8).

Elementary Education Minor (24)

TH 234, 235, 236 or 244, 331 or 349, 350, 351.

BACHELOR OF ELECTIVE STUDIES

Major (48)

Completion of 48 credits with the approval of the department.

Minor (36)

Completion of 36 credits with the approval of the department.

COURSE DESCRIPTIONS

140. Introduction to the Theatre and Film. Designed for students who desire a greater appreciation of theatre and film as artistic, cultural and social forces. Lectures, demonstrations and films. Not open to majors and minors. 4 Cr. F, W, S, SUM.

234. Theatre Arts I. Artistic requirements and technical components of the theatre from its origins to 1800. For the theatre major/minor; prereq. to all other theatre courses for theatre majors and minors. Lab. 4 Cr. F.

235. Theatre Arts II. Artistic requirements and technical components of the theatre from 1800 to the present day. For the theatre major/minor; prereq. to all other theatre courses for theatre majors and minors. Lab. 4 Cr. W.

236. Theatre Arts III. The fundamentals of scenic design and the construction of stage scenery. For the theatre major/minor; prereq. to all other theatre courses for theatre majors and minors. Lab. 4 Cr. S.

237. Technical Production Methods. An examination of the more complex problems involved in the construction and rigging of stage scenery. Lab. Prereq.: 236. 4 Cr. S.

240. Stage Make-up. Theory and practice of make-up techniques. (Prereq. 235 waived for this course.) 4 Cr. F, S.

244. What People Wore. Historical study of clothing specifically designed to illustrate and delineate the evolution of the garment from classical time to the present. (Prereq. 235 waived for this course.) 4 Cr. F.

245. Costume Design. The theatrical art of researching, analyzing, and designing clothing for the characters created and portrayed by the actor. Lab. 4 Cr. S.

246. Costume Construction. The theatrical art of analyzing and interpreting the costume designer's sketch and reproducing the design in the form of an actual garment. Lab. 4 Cr. W.

250. Voice Production for the Actor. Training and development of the voice for theatrical performance. Study includes breathing/vocal exercises and International Phonetic Alphabet; diction and performance evaluations. 4 Cr. F, W, S.

253. Acting I. Development of basic acting skills and inner resources through exercises,

improvisations, and emphasis on scenes from plays. 4 Cr. F, W, S.

260. Art of the Cinema. Film as an art form with emphasis on the study of technique--especially film language. 4 Cr. F, W, S.

261. Development of the American Cinema. The development of the film medium, its possibilities for expressiveness and the ways it has been used by film makers in America from 1895-1950 in the process of shaping a film idea. 4 Cr. W.

262. Development of the Non-American Cinema. The development of the film medium, its possibilities for expressiveness and the ways it has been used by film makers in Europe and Asia from 1895-1950 in the process of shaping a film idea. 4 Cr. S.

263. Studies in Cinema. Examination of a selected subject in cinema, such as film as propaganda, the female image in film, the gangster film, censorship and pornography, etc. May be repeated to a maximum of 16 credits. 4 Cr. F, W, S.

265. Stage Movement I. Exploration of the performer's movement potential; creative movement improvisations; expansion of sensory awareness; development of body control through exercises and movement combinations. 4 Cr. DEMAND.

283. Practicum in American Musical Theatre. Procedures used in directing and producing a musical; artistic and technical components of musical theatre from auditions to final performance and striking. 2 Cr. Permission of instructor required. DEMAND.

331. Oral Interpretation. Theory and practice in reading aloud with emphasis on selection, study, and presentation of literature suited for oral interpretation. 4 Cr. DEMAND.

333. Playwriting. Emphasis given to the conditions of theatre production. A one-act play required of each student. Special permission of instructor required. Enrollment limited to 15. 4 Cr. DEMAND.

334. Stage Properties. Design, materials, and construction methods utilized in set and hand properties for theatre production. Lab. 4 Cr. DEMAND.

346. Scenic Design I. Theory and practice of designing stage scenery. Lab. Prereq.: 236. 4 Cr. S.

349. Directing I. Selecting, analyzing, casting and rehearsing plays for production. Permission of instructor required. Prereq.: 253. 4 Cr. F.

350. Creative Dramatics. Principles of creativity as used in improvisation and dramatization. Methods of relating these to children's experiences and literature through supervised activity with elementary students. 4 Cr. W.

351. Children's Theatre. Selection (critical evaluation of scripts), production and direction of plays for children's audiences. 4 Cr. S.

370-378. Creative Projects. Creative projects in all areas of theatre. Departmental approval required. Theatre majors only. 1-12 Cr. per area. F, W, S, SUM.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

430-530. Teaching Theatre. Materials and methods for curricular and co-curricular teaching in the secondary school, approached through informal seminars and direct observation of and teaching experience in various schools. 4 Cr. DEMAND.

442-542. Theory and Practice of Stage Lighting. Basic requirements of lighting for the stage. Lab. 4 Cr. F.

444-544. Internship in Theatre. In-residence training with a cooperating professional theatre. Admission by departmental approval only. A maximum of 8 credits may be used toward major; none toward minor. 4-16 Cr. F, W, S.

446-546. Advanced Theatre Practicum. Lab. course for advanced theatre majors allowing implementation of creative problems in acting, directing, design and other theatre areas. Permission of staff. 1 Cr. F, W, S.

447-547. Scenic Design II. Continuation of Scenic Design I. Lab. Prereq.: 346. 4 Cr. DEMAND.

448-548. Acting II. Analyzing and creating a stage character. Prereq.: 253. Permission of instructor. 4 Cr. W.

449-549. Directing II. Advanced directing techniques. Prereq.: 349. Permission of instructor. 4 Cr. W.

458-558. Acting III. Concentration on period styles. Permission of instructor. 4 Cr. S.

459-559. Directing III. Continuation of Directing II. Permission of instructor. 4 Cr. S.

460-560. Theatre Promotion and Business Management. Principles and methods of management in educational, community and professional theatres. Emphasis on promotion, ticket office procedures and theatre administration. 4 Cr. S.

481-581. Theatre History I. A chronological survey of the various arts and crafts of the theatre from the earliest origins to the mid-nineteenth century. 4 Cr. W.

482-582. Theatre History II. A chronological survey of the various arts and crafts of the theatre from the mid-nineteenth century to the present day. Prereq.: 481. 4 Cr. S.

491-591. Drama I. World drama; its origins to early English Renaissance. 4 Cr. F.

492-592. Drama II. World drama; from English Renaissance to early twentieth century. Prereq.: 491. 4 Cr. W.

493-593. Drama III. World drama; twentieth century. Prereq.: 491. 4 Cr. S.

496-596. Summer Theatre. Theatre production for advanced students. Experience in acting, directing, costuming, construction, promotion, lighting and other disciplines during the summer season. Registration by application only. 1-8 Cr. SUM.

Women's Studies (WS)

16 LAWRENCE HALL/255-4140

Also see College of Liberal Arts and Sciences description and requirements.

Director Marcia A. Summers. **Faculty Committee** Andrzejewski, Brennan, Chester, M. Craik, Goemer, D. Halberg, Jazwinski, McCormick, Medler, Merrick, Paschal, Savage, Shenk, E. Vora.

Women's Studies is a multidisciplinary program which integrates course work from the humanities, social and natural sciences, and the College of Education. The program is designed to enhance the student's understanding of women as a distinct group with its own history, experience, needs, and achievements. The courses are, therefore, of value to any student interested in broadening her/his knowledge of society and the world. For women students, the program also offers an opportunity for increased self-understanding. Persons majoring in the liberal arts, education, social work, public service, business, or in pre-professional programs such as law or medicine find Women's Studies of particular value. Flexibility and opportunities for independent study are notable aspects of the program.

The 24-credit minor is designed as a short or second minor; the 36-credit minor provides for those wishing more extensive study. Both minors are available to persons in all degree programs.

BACHELOR OF ARTS AND BACHELOR OF SCIENCE

Minor (36)

WS 201, 401, four additional courses from Group A; electives from Group A or B.

Group A: AMST 490; ENGL 451; HIST 356; PSY 270, 477; SOC 273; WS 201, 401.

Group B: ANTH 471; BIOL 411; CJS 201; POL 492; SOC 277, 372, 465; WS 199-499*, 400*.

*Or other departmental designation approved by adviser.

Additional electives chosen in consultation with the program adviser.

Minor (24)

Four courses from Group A; electives from Groups A or B.

BACHELOR OF ELECTIVE STUDIES

Minor (36)

Same requirements as B.A. and B.S. minors.

COURSE DESCRIPTIONS

201. Introduction to Women's Studies. Introduction to the nature of multidisciplinary study and to concepts, issues, and bibliography basic to Women's Studies. 4 Cr. W, S.

401. Senior Seminar. Multidisciplinary research aimed at integrating the diverse data gained from specialized courses in the program. Prereq.: 201 or consent of the instructor. 2 Cr. S.

ADMINISTRATIVE AND SERVICE OFFICERS

Charles J. Graham, President

Darryl Ahnemann, Director, Development

Kenneth Ames, Dean, College of Education

Sandra Barnhouse, Publications Editor

Gary Bartlett, Director, Atwood Memorial Center

Robert Becker, Special Assistant to the President

Marlene Beecroft, Campus Drug Coordinator

John Berling, Dean, Learning Resources Services

Sanford Bettcher, University Business Manager

William Bunch, Dean, College of Fine Arts

Jeffery Davis, Recreation Director, Atwood Memorial Center

Raymond Davis, Director, Minority Cultural Center

David Ellens, Admissions Counselor

Darwin Erickson, Director, Printing Services

Robert Frost, Director, International Programs

Curt Ghylin, Director, Administrative Computer Services

Lowell Gillett, Dean, School of Graduate Studies

Calvin Gower, Director, Central Minnesota Historical Center

Barbara Grachek, Assistant to the Vice President for Academic Affairs

Michael Gregg, Medical Director, Health Services

Alan Greig, Assistant Director, High School and Community College Relations

Diane Guse, Director, Recreational Sports

John Gust, Associate Director, Financial Aids

Ann Guthmiller, Admissions Representative, High School and Community College Relations

Delaine Halberg, Director of Evening Programs and Coordinator for Non-Traditional Students

Jessie Harper, Assistant Vice President for Academic Affairs

Michael Hayman, Director, Residential Life

Linda Hieronymus, Assistant Director, Financial Aids

David Johnson, Vice President for Academic Affairs

Douglas Johnson, Principal, Campus Laboratory School

Louise Johnson, Dean, College of Liberal Arts and Sciences

Milford Johnson, Assistant Director, Financial Aids

Jack Jones, Director, Professional Field Experiences

Willard Kalash, Director, Counseling Services

Randy Kolb, Director, Academic Computer Services

Patricia Krueger, Program Director, Atwood Memorial Center

Walter Larson, Director, Career Planning and Placement

Jonathan Lawson, Associate Dean, College of Liberal Arts and Sciences

Alfred Lease, Dean, College of Industry

Wayne Little, Associate Dean, College of Business

Frank Loncorich, Director, Financial Aids

Vernon Ludeman, Director, Summer Session; Associate Dean, School of Graduate Studies

Ian Thomas Macgillivray, Director, Alumni Services

Terrence MacTaggart, Associate Dean, Continuing Studies

William Marczewski, Student Legal Adviser

James Marmas, Dean, College of Business

Terrence Montgomery, Vice President for University Relations; Assistant to the President

Edward Myers, Assistant Vice President for Student Life and Development

Robert Olesen, Higher Education Supervisor, State Reformatory

Robert Olson, Director, Sports Information

Patricia Potter, Associate Dean of Students

William Radovich, Vice President for Administrative Affairs

Keith Rauch, Director, Admissions and Records

Sherwood Reid, Director, High School and Community College Relations

Lora Robinson, Director, Institutional Studies and Research

Ray Rowland, Director, Information Services

Ronald Schmid, University Photographer

Joseph Schwartz, Assistant Director, Institutional Studies and Research

Dorothy Simpson, Director of Outreach and Educational Conferences

David Sprague, Vice President for Student Life and Development

Thomas Stein, Assistant Director, Admissions and Records

Erwin Templin, Associate Director, Financial Aids

William Tschida, Director, Personnel
Adelaide Turkowski, Assistant Director, Residential Life
Janice Turner, News Editor
Myron Umerski, Registrar
Thomas Weaver, University Physician
Howard Weise, Director, Extension and Community Education
Ramona Yunger, Administrative Director, Student Health Services

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Mankato

Garry D. Hays, Chancellor
State University System
St. Paul

FACULTY*

Abartis, Caesarea E. (1977)

Assistant Professor of English
A.B. 1967, Duquesne University; M.A. 1969,
Ph.D. 1977, Southern Illinois University

Abbott, Thomas D. (1966)

Instructor in Music
B. Mus. 1949, Cincinnati Conservatory of
Music; M.Mus. 1952, Chicago Musical
College

Addicott, James T. (1968)

Assistant Professor of Geography
B.S. 1959, North Dakota State University; B.S.
1966, Moorhead State University; M.A.
1968, University of Kentucky

Ahnemann, Darryl O. (1976)

Director, Development
B.A. 1963, Wartburg College

Aichele, Jean R. (1977)

Instructor, Learning Resources and Library
and Audiovisual Education
B.S. 1948, M.S. 1954, University of Minnesota;
M.A. 1978, San Jose State University

Aiken, Joseph G. (1969)

Associate Professor of Art
B.A. 1963, M.F.A. 1968, University of J
Washington

Albin, Peter W. (1979)

Instructor in Industrial Education
B.A. 1969, Concordia College; B.S. 1977, St.
Cloud State University; M.S. 1978, Texas A
& M University

Alhelm, Frank A. (1966)

Professor of Art
B.A. 1949, M.A. 1963, University of Northern
Iowa; Ed.D. 1973, University of New
Mexico

Allen, Thomas O. (1966)

Instructor in Music
B. Mus. 1962, M. Mus. 1966, University of
Colorado

Ames, Kenneth A. (1974)

Professor; Dean, College of Education
B.S. 1953, University of Wisconsin—River
Falls; M.A. 1961, University of Minnesota;
Ed.D. 1965, University of Wyoming

Anderson, Alan C. (1965)

Assistant Professor of Earth Sciences
B.S. 1963, St. Cloud State University; M.S.
1965, Colorado State University

Anderson, Arlynn L. (1966)

Instructor in Health, Physical Education and
Recreation
B.S. 1961, Wisconsin State University; B.S.
1962, University of Minnesota—Duluth;
M.S. 1963, Bemidji State University

Anderson, Derwyn L. (1968)

Associate Professor of Psychology
B.A. 1965, North Park College; M.A. 1967,
Ph.D. 1968, University of North Dakota

Anderson, Florence M. (1969)

Associate Professor; Teacher Development
B.S. 1956, St. Cloud State University; M.A.
1965, Ed.D. 1975, University of Minnesota

Anderson, Garry G. (1971)

Professor of Earth Sciences; Chairperson
B.A. 1962, University of Northern Iowa; M.A.T.
1967, M.A. 1969, Ph.D. 1971, Indiana
University

Anderson, James B. (1966)

Associate Professor of English; Director, Reli-
gious Studies
B.A. 1958, M.A. 1961, Southern Illinois Univer-
sity; Ph.D. 1977, University of Iowa

Anderson, James W. (1966)

Professor; Educational Administration and
Leadership; Director
B.S. 1953, St. Cloud State University; M.A.
1955, Specialist in School Administration
1963, Ph.D. 1967, University of Minnesota

Anderson, Myron G. (1965)

Professor of Philosophy
B.A. 1951, M.A. 1954, University of Minnesota;
Ph.D. 1959, Brown University

Andrzejewski, Julie R. (1971)

Assistant Professor; Educational Change; Co-
ordinator, Human Relations
B.A. 1969, M.A. 1971, University of Washing-
ton; Ed.D. 1978, University of Northern
Colorado

Anfenson, Rodney E. (1959-1962, 1965)

Assistant Professor of Health, Physical Educa-
tion and Recreation
B.S. 1954, Bemidji State University; M.S. 1959,
St. Cloud State University

Arndts, Russell T. (1959-1963, 1968)

Professor of Chemistry
B.S. 1957, Bemidji State University; M.S. 1960,
North Dakota State University; Ph.D. 1969,
Louisiana State University

Arnett, Ronald C. (1977)

Assistant Professor of Speech Communication
B.S. 1974, Manchester College; M.A. 1975,
Ph.D. 1978, Ohio University

Arnold, N. Scott (1979)

Assistant Professor of Philosophy
B.A. 1973, University of Pennsylvania; M.A.
1977, Ph.D. 1979, University of Massachu-
setts

*All full-time and/or tenured faculty and admin-
istrative personnel, including those on tempo-
rary leaves of absence or sabbatical leaves,
as of Fall 1979.

Ayers, Floyd W. (1969)

Professor of Special Education
B.A. 1955, Cornell University; M.A. 1956, Syracuse University; Ph.D. 1968, University of Minnesota

Baer, Roger K. (1972)

Associate Professor of Sociology, Anthropology and Social Work
B.S. 1951, American University; M.A. 1956, Catholic University; Ph.D. 1970, University of Chicago

Bahauddin, Mohammed (1970)

Professor of Mathematics and Computer Science
B.S. 1953, Osmania University (India); M.S. 1957, Karachi University (Pakistan); M.S. 1965, University of Minnesota; Ph.D. 1969, New Mexico State University

Bahde, John E. (1969)

Assistant Professor of Philosophy
B.A. 1964, University of Colorado; M.A. 1967, Cornell University

Barker, S. Hugh (1946)

Professor of Biological Sciences
B.Ed. 1938, Wisconsin State University—Whitewater; Ph.M. 1940, Ph.D. 1942, University of Wisconsin

Barrett, Roger L. (1949)

Professor of Music
B.M.E. 1948, M.M. 1949, Drake University; Ph.D. 1961, University of Iowa

Bartlett, Gary E. (1973)

Director, Atwood Memorial Center
B.S. 1966, Central Washington State College; M.A. 1968, University of Iowa

Basch, Charles J. (1968)

Instructor in Health, Physical Education and Recreation
B.S. 1950, Concordia College; M.S. 1965, St. Cloud State University

Baschky, Richard (1958-1960, 1969)

Assistant Professor of Theatre
B.A. 1954, San Diego State University; M.F.A. 1958, State University of Iowa

Batdorf, Leland C. (1966)

Assistant Professor of Management and Finance
B.S. 1946, U.S. Coast Guard Academy; M.B.A. 1957, Harvard Business School

Bates, William B. (1972)

Associate Professor; Counseling Services
B.S. 1963, College of Steubenville; M.Ed. 1964, University of Virginia; Ph.D. 1974, Kent State University

Bavery, Edgar A. (1968)

Professor; Teacher Development
B.S. 1953, M.S. 1954, Western Illinois State University; Ed.D. 1968, University of Northern Colorado

Bayne, Robert D. (1971)

Associate Professor; Counseling Services
B.S. 1963, M.A. 1967, Eastern Michigan University; Ph.D. 1971, Kent State University

Beck, Catherine A. (1964)

Assistant Professor of Art
B.A. 1946, M.A. 1948, University of Minnesota

Becker, Robert W. (1963)

Associate Professor of Political Science; Special Assistant to the President
B.A. 1959, Hamline University; M.A. 1963, Michigan State University; J.D. 1975, William Mitchell College of Law

Beecroft, Marlene A. (1979)

Campus Drug Coordinator
B.A. 1972, University of Wisconsin—Stout; M.S. 1974, University of Wisconsin—Milwaukee

Benson, Joanne E. (1973)

Instructor; Campus Laboratory School
B.S. 1970, St. Cloud State University

Benson, Robert G. (1958)

Professor of Marketing and General Business
B.S. 1951, M.A. 1956, St. Cloud State University; Ph.D. 1966, University of Iowa

Benson, Virginia K. (1977)

Instructor; Research, Development and Community Services
B.S. 1977, St. Cloud State University

Bergstrom, Phillip G. (1969)

Professor of Industrial Education
B.A. 1960, M.A. 1963, Central Washington State College; Ed.D. 1969, Washington State University

Berling, John G. (1968-1969, 1975)

Associate Professor; Dean, Learning Resources; Director, Library and Audiovisual Education
B.S. 1957, St. Cloud State University; M.S. 1967, Wayne State University; Ph.D. 1975, University of Nebraska

Bernard, John R. (1977)

Instructor in Speech Communication
A.B. 1968, Stanford University; M.A. 1972, University of New Mexico

Bigler, Joan K. (1978)

Assistant Professor of Special Education
B.S. 1963, M.A. 1967, University of Minnesota; Ph.D. 1979, University of Illinois

Bird, Howard A. (1966)

Professor of Mathematics and Computer Science; Chairperson
B.S. 1959, Minot State College; M.S. 1965, University of North Dakota; Ph.D. 1974, Kansas State University

Birr, Shirley J. (1968)

Assistant Professor; Campus Lab. School
B.S. 1962, M.S. 1968, St. Cloud State University

Bjorklun, Eugene C. (1967)

Professor; Teacher Development; Coordinator, Secondary Education
B.S. 1956, M.A. 1963, Ed.D. 1967, University of Nebraska

 Bjorklund, Lorimer R. (1969)

Assistant Professor of Industrial Education
B.A. 1959, University of Northern Iowa; M.S. 1967, Mankato State University; Ph.D. 1979, The Ohio State University

 Blaske, Virginia (1971)

Assistant Professor; Learning Resources and Library and Audiovisual Education
B.S. 1948, University of Detroit; M.L.S. 1969, University of Maryland; M.A. 1976, University of Minnesota

 Bleick, Frances A. (1958)

Professor of Health, Physical Education and Recreation
B.S. 1945, University of Nebraska; M.A. 1948, New York University; D.P.E. 1959, Indiana University

 Bloomer, Barbara J. (1964)

Assistant Professor of Foreign Languages and Literature
B.A. 1956, St. Olaf College; M.A. 1964, University of Illinois

 Boltuck, Charles J. (1966)

Professor of Psychology
B.A. 1947, Sir George Williams University; Ph.D. 1955, Indiana University

 Boltuck, Mary A. (1964)

Assistant Professor of Psychology; Co-Director, Gerontology
B.A. 1946, Miami University; M.A. 1948, State University of Iowa

 Bovee, John R. (1966)

Professor of English
B.S. 1954, M.S. 1961, Bemidji State University; Ph.D. 1968, Washington State University

 Boyer, David L. (1976)

Assistant Professor of Philosophy
B.A. 1968, Yale University; M.A. 1970, Pacific Lutheran University; Ph.D. 1976, Boston University

 Braun, Thomas R. (1969)

Assistant Professor of Industrial Education
B.S. 1953, M.S. 1958, St. Cloud State University

 Brennan, Nancy J. (1978)

Assistant Professor of Sociology, Anthropology and Social Work
B.A. 1965, M.S.W. 1967, Ph.D. 1976, University of Minnesota

 Bresser, Patricia J. (1979)

Instructor in Health, Physical Education and Recreation
B.S. 1979, University of Connecticut

 Brink, Allen L. (1959)

Professor of Mathematics and Computer Science
B.A. 1952, Concordia College; M.Ed. 1956, University of North Dakota; M.S. 1959, University of Illinois; Ed.D. 1969, University of Northern Colorado

 Brink, Carol (1972)

Instructor in Health, Physical Education and Recreation
B.S. 1961, M.A. 1965, University of Minnesota

 Brown, David R. (1965)

Professor of Art
B.A. 1957, M.F.A. 1959, Indiana University

 Brunckhorst, Jeannette I. (1966)

Assistant Professor of English
B.S. 1940, University of Wisconsin; M.A. 1964, Northwestern University

 Brunckhorst, Louis A. (1966)

Professor of Sociology, Anthropology and Social Work
B.A. 1950, Central College; M.A. 1958, Drake University; L.L.B. 1942, J.D. 1968, Marquette University

 Bruton, Charles W. (1957)

Professor of Biological Sciences
B.S. 1950, M.S. 1952, Oklahoma State University; Ph.D. 1969, University of North Dakota

 Bryan, Anne J. (1978)

Assistant Professor of Psychology
B.A. 1973, Oklahoma City University; M.A. 1975, Ph.D. 1978, West Virginia University

 Bryce, E. Scott (1964)

Assistant Professor of Mass Communications
A.B. 1952, Oberlin College; M.A. 1963, Indiana University

 Buchanan, Mark A. (1978)

Assistant Professor of Marketing and General Business
B.A. 1975, College of St. Thomas; J.D. 1978, University of Nebraska

 Buckley, Chester W. (1966)

Professor of Health, Physical Education and Recreation
B.S. 1953, South Dakota State University; M.S. 1956, University of Northern Colorado; D.P.E. 1968, Springfield College

 Buhl, Anthony J. (1979)

Assistant Professor of Psychology
B.S. 1963, M.S. 1967, St. Cloud State University; Ph.D. 1970, Oregon State University

 Bunch, William F. (1977)

Dean, College of Fine Arts
B.M. 1958, M.A. 1961, Ph.D. 1969, University of Iowa

Burnes, Bruce B. (1967)

Professor of Management and Finance
B.B.A. 1950, M.B.A. 1953, Ph.D. 1972, University of Minnesota

Busse, Lawrence R. (1968)

Assistant Professor; Learning Resources and Library and Audiovisual Education
B.S. 1963, Mayville State College; M.Ed. 1968, University of North Dakota

Calhoun, Robert J. (1970)

Associate Professor of Marketing and General Business
B.A. 1967, St. Cloud State University; J.D. 1970, University of Minnesota

Campbell, Charles E. (1963)

Assistant Professor; Learning Resources and Library and Audiovisual Education
B.S. 1950, Northeastern (Oklahoma) State College; M.S. 1955, Oklahoma State University

Carlson, Kent F. (1962-1964, 1967)

Professor of Mathematics and Computer Science
B.S. 1960, University of North Dakota; M.A. 1962, Washington State University; Ph.D. 1967, Montana State University

Carlson, Ronald (1973)

Professor of Accounting
B.S. 1964, Augustana College; M.B.A. 1966, Ph.D. 1973, University of Wisconsin

Carpenter, John H. (1968)

Professor of Chemistry; Chairperson
B.A. 1951, Macalester College; M.S. 1953, Ph.D. 1955, Purdue University

Carr, Ralph W. (1977)

Assistant Professor of Mathematics and Computer Science
B.A. 1968, Carleton College; Ph.D. 1977, University of Wisconsin

Carter, P. John (1970)

Associate Professor of Industrial Education
B.S. 1958, Winona State University; M.A. 1965, Western Michigan University; Ed.D. 1970, University of Northern Colorado

Cassidy, Michael F. (1975)

Instructor; Learning Resources and Library and Audiovisual Education
B.A. 1972, Manhattan College; B.F.A. 1974, California Institute of Arts; M.L.S. 1975, University of Southern California

Cermele, D. J. (1968)

Professor of Theatre
B.A. 1957, Antioch College; M.F.A. 1959, Boston University; Ph.D. 1977, University of Minnesota

Char, Lynette Y. (1970)

Professor; Teacher Development
B.Ed. 1954, M.Ed. 1960, University of Hawaii; Ph.D. 1968, University of Minnesota

Chester, Barbara (1978)

Assistant Professor of Criminal Justice
B.A. 1971, State University of New York—Stony Brook; Ph.D. 1976, University of Minnesota

Christiansen, Rolf O. (1978)

Associate Professor of Management and Finance
B.S. 1957, Tri-State College; M.B.A. 1969, University of Delaware; Ph.D. 1976, University of Georgia

Clapp, Thomas W. (1967)

Associate Professor of Biological Sciences
B.S. 1962, Murray State University; M.S. 1964, North Dakota State University; Ph.D. 1968, Texas A&M University

Clarke, Norman F. (1974)

Assistant Professor; Learning Resources and Library and Audiovisual Education
B.A. 1950, Indiana University; M.S. 1955, M.A. 1955, University of Minnesota

Coard, Robert L. (1960)

Professor of English
B.A. 1943, Quincy College; M.A. 1946, Ph.D. 1952, University of Illinois

Coen, Rena N. (1969)

Professor of Art
B.A. 1946, Barnard College; M.A. 1948, Yale University; Ph.D. 1969, University of Minnesota

Collins, D. Ray (1979)

Associate Professor of Health, Physical Education and Recreation; Chairperson
B.S. 1965, Tusculum College; M.S. 1967, University of Tennessee; Ed.D. 1972, Louisiana State University

Colomy, John R. (1973)

Instructor in Technology and Industrial Engineering
B.A. 1973, M.S. 1978, St. Cloud State University

Coppock, Henry A. (1972)

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B.S. 1964, St. Cloud State University; M.A. 1966, Ph.D. 1970, Michigan State University

Corliss, Richard L. (1966)

Professor of Philosophy
B.A. 1954, Taylor University; B.D. 1957, Northern Baptist Seminary; M.A. 1959, Ph.D. 1968, University of Illinois

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B.S. 1971, University of Wisconsin—Whitewater; M.S. 1974, University of Wisconsin—LaCrosse

Coulter, John C. (1967)

Professor of Biological Sciences
B.S. 1951, St. Cloud State University; M.A.
1960, Ph.D. 1965, University of Minnesota

Coyle, Larry D. (1976)

Instructor in Mass Communications
B.A. 1972, University of Minnesota; M.S. 1974,
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Craik, James A. (1968)

Instructor in Sociology, Anthropology and So-
cial Work
B.G.E. 1963, University of Nebraska—Omaha;
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Craik, Mary B. (1968)

Professor of Psychology
B.A. 1960, M.E. 1963, University of Texas—El
Paso; Ph.D. 1968, University of Iowa

Cronn, John C. (1976)

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B.S. 1963, Iowa State University of Science
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Cutler, Jerry L. (1977)

Instructor in Art
B.S. 1968, University of Wisconsin—Stevens
Point; M.A. 1978, St. Cloud State University

Davenport, Richard W. (1977)

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thology and Audiology
B.A. 1967, Kearney State College; M.S. 1969,
Colorado State University; Ph.D. 1977,
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Davis, Jeffery C. (1979)

Recreation Director, Atwood Memorial Center
B.A. 1970, Western Washington State College

Davis, Leland E. (1966)

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ogy and Social Work
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1962, New Mexico Highlands University

Deininger, Marian M. (1968)

Professor of Sociology, Anthropology and So-
cial Work
B.A. 1949, M.A. 1952, Ph.D. 1958, University
of Minnesota

DeZoppo, Claude F. (1957)

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cial Work; Chairperson
B.S. 1954, M.S. 1954, St. Cloud State Univer-
sity; Ph.D. 1969, University of Iowa

Dendinger, Richard D. (1965)

Professor of Chemistry
B.S. 1958, Minot State College; M.S. 1966,
North Dakota State University; Ph.D. 1974,
South Dakota State University

DeSanto, R. John (1972)

Professor of Mass Communications; Chairper-
son
B.S. 1957, M.A. 1959, University of Minneso-
ta—Duluth; Ed.D. 1971, University of
Northern Colorado

Dienhart, John W. (1979)

Assistant Professor of Philosophy
B.A. 1972, Roosevelt University; A.M. 1976,
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Dillman, Richard H. (1978)

Assistant Professor of English
B.A. 1965, University of Connecticut; M.A.
1972, Southern Connecticut State College;
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Dobey, Rodney G. (1973)

Assistant Professor of Driver Education and
Safety
B.S. 1971, M.S. 1972, Southern Illinois Univer-
sity

Dockendorff, Thomas P. (1966)

Assistant Professor of Geography
B.A. 1960, St. Mary's College; M.A. 1965, Chi-
cago State University

Donohue, Janet S. (1976)

Instructor in Special Education
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Downes, Alan J. (1969)

Professor of Interdisciplinary Studies
B.A. 1953, M.A. 1955, Florida State University;
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Dull, Allyn N. (1956)

Professor of Mathematics and Computer
Science
B.S. 1949, St. Cloud State University; M.Ed.
1953, Ed.D. 1969, University of South
Dakota

Dwyer, Mary A. (1974)

Professor of Psychology
B.S. 1942, Trenton State College; M.Ed. 1958,
Rutgers University; Ed.D. 1972, Teachers
College, Columbia University

Earles, Gail A. (1969)

Assistant Professor of Mathematics and Com-
puter Science
B.S.Ed. 1961, M.S. 1963, Illinois State Univer-
sity; B.S. 1968, Rutgers State University

Earles, Robert W. (1969)

Professor of Mathematics and Computer Sci-
ence; Director, Honors Program
B.S. 1960, M.S. 1963, Illinois State University;
M.S. 1968, Rutgers University; Ed.D. 1969,
University of Northern Colorado

Echols, Charles L. (1972)

Associate Professor of Music
B.M. 1959, B.A. 1959, Belhaven College; M.M.
1961, University of Texas; D.M.A. 1969,
University of Southern California

Eckroth, Charles A. (1969)

Professor of Physics and Astronomy
B.A. 1956, St. John's University; Ph.D. 1966,
Iowa State University

Ellens, David H. (1965)

Instructor; Admissions Counselor
B.S. 1959, M.S. 1967, St. Cloud State Univer-
sity

Ellingson, William J. (1963)

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B.F.A. 1960, Minneapolis School of Art; M.F.A.
1963, State University of Iowa

Ellis, Bruce W. (1964)

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B.A. 1961, Jamestown College; M.S. 1962,
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Erickson, George B. (1966)

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sity

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sity

Erickson, John M. (1960)

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South Dakota State University; Ph.D. 1956,
Iowa State University

Erickson, Linda (1976)

Instructor in Philosophy
B.A. 1963, University of Minnesota; M.A. 1966,
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Ernest, David J. (1963)

Professor of Music
B.M. 1951, Chicago Musical College; M.S.
1955, University of Illinois; Sorbonne,
1958-1959, University of Paris; Ed.D. 1961,
University of Colorado

Ernst, Charles I. (1962-1966, 1968)

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B.S. 1956, St. Cloud State University; M.A.
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1968, Ohio State University

Escalas-Caimary, Jaime (1968)

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B.A. 1950, College of LaSalle; M.A. 1955, Uni-
versity of Barcelona; M.A. 1971, University
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Etheridge, Stephen (1979)

Instructor; Administrative Assistant to Associ-
ate Dean, College of Business
B.A. 1970, University of Minnesota—Duluth;
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Evanoff, Douglas D. (1978)

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Eveslage, Thomas E. (1969)

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Ezell, Wayland L. (1970)

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Faith, Andrew D. (1979)

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Falk, Ardis J. (1973)

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versity of Minnesota; M.A. 1965, University
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Farrah, George A. (1968)

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Farrell, Kathleen M. (1965)

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Gamber, Gerald K. (1964)

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Gambill, Edward L. (1966)

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Gammell, John R. (1977)

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B.S. 1975, St. Cloud State University

Garrity, Michael K. (1967)

Professor of Physics and Astronomy
B.S. 1964, St. John's University; M.S. 1965, Ph.D. 1968, Arizona State University

Gerber, Quentin N. (1965)

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Gerdt, Kathleen L. (1973)

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Ghirardo, Raymond B. (1978)

Instructor in Art
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Gilbert, Paul L. (1970)

Instructor; International Studies
A.B. 1953, Lambuth College; M.Th. 1958, Garrett Theological Seminary

Gillett, Lowell R. (1963)

Professor; Dean, School of Graduate Studies
B.A. 1947, Gustavus Adolphus College; M.A. 1954, University of Minnesota; Ed.D. 1965, University of North Dakota

Gleisner, Richard F. (1968)

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Glowatzke, Dianne Kay (1977)

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Goemer, June M. (1957)

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B.S. 1944, M.Ed. 1957, University of Minnesota

Goke, James B. (1972)

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B.S. 1969, M.S. 1970, Winona State University

Goodrich, Herbert (1964)

Professor of Sociology, Anthropology and Social Work
B.S. 1948, City University of New York; M.A. 1950, Pennsylvania State University; Ph.D. 1964, University of Illinois

Gottshall, James K. (1972)

Professor of English; Chairperson
A.B. 1948, Oberlin College; M.A. 1949, University of Pennsylvania; Ph.D. 1958, University of Cincinnati

Gower, Calvin W. (1957)

Professor of History; Director, Central Minnesota Historical Center
B.A. 1949, Western State College; M.A. 1950, University of South Dakota; Ph.D. 1959, University of Kansas

Grachek, Arthur F. (1962)

Professor of Speech Communication; Chairperson
B.S. 1962, M.S. 1964, St. Cloud State University; Ph.D. 1974, Wayne State University

Grachek, Barbara A. (1962-1968, 1971)

Assistant to Vice President for Academic Affairs

B.S. 1962, M.S. 1963, St. Cloud State University; Ph.D. 1978, University of Minnesota

Graham, Charles J. (1971)

Professor; President

A.B. 1950, M.A. 1951, Ph.D. 1955, University of Illinois

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Medical Director, Student Health Services
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Greig, Alan M. (1968)

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Grether, David F. (1952-1953, 1955)

Associate Professor of Biological Sciences
Ph.B. 1947, M.S. 1949, University of Wisconsin

Grewe, Alfred H. (1965)

Professor of Biological Sciences

B.A. 1950, St. Cloud State University; M.A. 1954, University of Minnesota; Ph.D. 1966, University of South Dakota

Grimstad, Donald (1964)

Instructor, Teacher Development

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Grover, Larry L. (1976)

Assistant Professor of Mathematics and Computer Science

B.S.E.E. 1963, M.S.E.E. 1969, Michigan Technological University; Ph.D. 1976, Michigan State University

Grunerud, James A. (1959)

Professor; Teacher Development

B.S.Ed. 1949, B.A. 1950, University of Saskatchewan; M.A. 1954, University of Minnesota; Ph.D. 1959, University of California—Berkeley

Gruver, Calvin D. (1967)

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Guimares, Nestor (1979)

Instructor in Quantitative Methods and Information Systems

B.S. 1973, M.B.A. 1974, California State University—Los Angeles

Gundersen, Ralph W. (1964)

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B.S. 1959, Hamline University; M.S. 1962, Ph.D. 1967, University of Minnesota

Guse, Diane L. (1979)

Director, Recreational Sports

B.A. 1974, Elmhurst College; M.S. 1977, Illinois State University

Gust, John J. (1969)

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B.A. 1969, St. Cloud State University

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Admissions Representative, High School and Community College Relations

B.A. 1978, St. Cloud State University

Gutteter, Lee J. (1967)

Professor of Art

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Gyllstrom, Mabeth (1968)

Professor of Music

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Habte, Amde M. (1977)

Assistant Professor of Mass Communications

B.A. 1959, University College of Addis Ababa; M.A. 1962, University of California at Los Angeles; Ph.D. 1976, University of Minnesota

Hagen, Owen A. (1959-1961, 1964)

Professor; Teacher Development

B.S. 1957, Moorhead State University; M.S. 1961, St. Cloud State University; Ed.D. 1966, Columbia University

Halberg, Delaine J. (1975)

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B.A. 1957, State University of Iowa; M.A. 1976, St. Cloud State University

Halberg, Laurie L. (1963)

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B.S. 1957, University of Wisconsin; M.F.A. 1965, State University of Iowa

Hall, Robert R. (1958)

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B.S. 1950, St. Cloud State University; M.A. 1955, University of Northern Colorado

Hanafy, Abdalla A. (1968)

Professor of Marketing and General Business

B. Com. 1952, Ein Sham University, Cairo; M.S. 1967, Ph.D. 1970, University of Illinois

Haniff, Ghulam Mohammed (1965)

Professor of Interdisciplinary Studies

B.A. 1957, M.A. 1960, University of Minnesota; Ph.D. 1975, Case Western Reserve University

Hansen, Theodore A. (1966)

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B.A. 1950, Loyola University; M.A. 1958, University of Notre Dame

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Instructor in Philosophy
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Harper, Carmen W. (1963)

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Harper, Jessie G. (1963)

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B.S. 1963, M.S. 1967, St. Cloud State University; Ph.D. 1976, University of Nebraska

Havr, Linda M. (1972)

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Hayman, Michael (1972)

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Heath, Richard D. (1973)

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B.A. 1969, University of Minnesota; M.S. 1972, University of Illinois

Hein, B. Roy (1974)

Instructor; Director, Internship Program in Business
B.A. 1939, Ohio Wesleyan University

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B.S. 1964, Northern State College; M.S. 1969, St. Cloud State University

Hellwig, David J. (1966)

Professor of Interdisciplinary Studies
B.A. 1959, University of New Mexico; M.S. 1961, University of Wisconsin; Ph.D. 1973, Syracuse University

Hemmer, Joan D. (1976)

Assistant Professor of Psychology
B.A. 1954, University of Minnesota; M.A. 1967, Ph.D. 1972, University of Colorado

Hendricks, Robert H. (1979)

Assistant Professor; Director, Center for Economic Education
B.S. 1956, University of Montana; M.S.T. 1971, Ph.D. 1976, University of Missouri

Herbison, Priscilla (1974)

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B.A. 1965, College of St. Catherine; M.S.W. 1969, University of Illinois

Hibbard, Jack H. (1978)

Instructor in English
B.A. 1969, South Dakota State University; M.A. 1973, Miami State University; Ph.D. 1979, Purdue University

Hieronymus, Linda K. (1979)

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B.S. 1975, Manhattan Christian College; M.S. 1977, Kansas State University

Hill, Fred E. (1977)

Assistant Professor; Learning Resources and Library and Audiovisual Education
B.S. 1973, M.Ed. 1974, Utah State University; Ed.D. 1977, Indiana University

Hluch, Kevin A. (1979)

Assistant Professor of Art
B.S. 1973, M.F.A. 1978, Kent State University

Hnatko, Alan J. (1979)

Instructor; Higher Education Counselor, State Reformatory
B.A. 1975, University of Minnesota—Duluth; M.S. 1977, St. Cloud State University

Hockert, Robert A. (1975)

Instructor in Technology and Industrial Engineering
B.S. 1975, St. Cloud State University

Hoffman, Janet (1977)

Residence Hall Director
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Hoffman, Patricia A. (1966)

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B.A. 1945, Carleton College; M.S. 1964, St. Cloud State University

Holden, Donald M. (1975)

Professor; Educational Administration and Leadership
B.S. 1948, Bemidji State University; M.A. 1957, Ed.D. 1969, University of Wyoming

Holmgren, Marvin E. (1949)

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B.S. 1940, St. Cloud State University; M.A. 1946, Ph.D. 1949, University of Minnesota

Hopkins, Harold H. (1957)

Professor of Biological Sciences

B.A. 1940, M.S. 1941, Fort Hays Kansas State College; Ph.D. 1950, University of Nebraska

Hopwood, Alfred (1962)

Professor of Biological Sciences

B.S. 1956, Ph.D. 1967, Colorado State University

Hortis, Theophanis C. (1975)

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B.A. 1960, Macalester College; M.P.H. 1971, Ph.D. 1978, University of Minnesota

Hott, Leland E. (1967)

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B.A. 1940, M.A. 1947, University of Iowa

Jacobson, Joan (1962)

Professor of Speech Science, Pathology and Audiology

B.A. 1944, Morningside College; M.A. 1948, Ph.D. 1958, Syracuse University

James, Richard E. (1966)

Associate Professor of Chemistry

B.S. 1957, Mayville State Teachers College; M.A. 1966, University of Northern Iowa; M.S. 1974, Ph.D. 1975, Kansas State University

Jazwinski, Christine H. (1978)

Assistant Professor of Psychology

M.S. 1973, Warsaw University; Ph.D. 1977, Purdue University

Jensen, Harlan J. (1970)

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B.S. 1965, M.S. 1970, Ed.S. 1977, St. Cloud State University

Jerde, David A. (1969)

Associate Professor of Physics and Astronomy

B.S. 1955, St. Cloud State University; M.A. 1958, University of Minnesota

Johnson, David C. (1976)

Professor; Vice President for Academic Affairs

B.A. 1954, Gustavus Adolphus College; M.A. 1956, Ph.D. 1959, University of Iowa

Johnson, Douglas H. (1969-1970, 1971)

Director, Campus Laboratory School

B.S. 1962, M.S. 1968, St. Cloud State University; Ed.D. 1974, Western Michigan University

Johnson, James C. (1976)

Associate Professor of Marketing and General Business

B.S.B.A. 1966, M.A. 1967, University of Arizona; Ph.D. 1970, University of Minnesota

Johnson, James L. (1979)

Assistant Professor of English

B.A. 1966, University of California—Santa Barbara; M.A. 1969, California State University—Fresno; M.A. 1975, Ph.D. 1978, University of Oregon

Johnson, James R. (1965)

Professor of Music

B.A. 1953, St. Olaf College; M.M.Ed. 1958, University of Montana; Ed.D. 1969, University of Illinois

Johnson, James W. (1967)

Professor of Mathematics and Computer Science

B.S. 1963, St. Cloud State University; M.A. 1967, Louisiana State University; Ph.D. 1973, University of Northern Colorado

Johnson, Louise H. (1963)

Professor; Dean, College of Liberal Arts and Sciences

B.A. 1949, Augsburg College; M.A. 1963, University of Illinois; M.A. 1961, Ed.D. 1971, University of Northern Colorado

Johnson, Milford P. (1968)

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B.A. 1937, M.A. 1938, Hamline University

Johnson, Monte J. (1967)

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B.S. 1961, Black Hills State College; M.A. 1966, University of South Dakota

Johnson, Peter J. (1968)

Professor; Teacher Development

B.S. 1949, St. John's University; M.Ed. 1964, Ed.D. 1971, University of North Dakota

Johnson, Richard A. (1976)

Associate Professor of Special Education

B.S. 1958, Moorhead State University; M.A. 1965, Ed.D. 1971, University of Minnesota

Johnson, Robert W. (1974)

Associate Professor of Mathematics and Computer Science

A.B. 1962, Columbia College; M.S. 1965, Ph.D. 1969, City University of New York

Johnson, Vincent A. (1967)

Professor of Biological Sciences

B.S. 1952, M.S. 1955, Ph.D. 1964, University of Nebraska

Jones, Evan M. (1968)

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B.A. 1960, Hamline University; M.A. 1969, University of North Dakota; Ph.D. 1976, University of Nebraska

Jones, Jack R. (1955)

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B.A. 1951, Tulane University; M.Ed. 1955, Wichita State University; Ed.D. 1964, University of Kansas

Josephson, Richard J. (1977)

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B.A. 1973, Southwest State College; M.S. 1973, Murray State University

Jurik, Harvey P. (1973)

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B.F.A. 1954, Carnegie-Mellon University; M.A. 1964, University of Denver

Kairouz, Akl A. (1969)

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Kalash, Willard L. (1968)

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Kalm, Kent K. (1974)

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Kammermeier, Martin A. (1962-1965, 1968)

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B.S. 1958, M.S. 1963, St. Cloud State University; Ph.D. 1969, University of Minnesota

Kasper, John D. (1949)

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B.S. 1965, M.S. 1972, St. Cloud State University

Keith, Philip M. (1977)

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Kelley, James (1972)

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B.S. 1964, Oregon State University; M.A. 1966, Ph.D. 1970, University of Denver

Kelly, John M. (1969)

Professor of Health, Physical Education and Recreation

B.S. 1957, Slippery Rock State College; M.S. 1959, University of Oregon; D.P.E. 1969, Springfield College

Kelsey, Kenneth W. (1970)

Professor; Teacher Development; Chairperson

B.S. 1962, Mankato State University; M.A. 1966, Ph.D. 1974, University of Minnesota

Kemp, William H. (1967)

Professor of Industrial Education

B.S. 1954, St. Cloud State University; M.A. 1958, University of Minnesota; Ed.D. 1966, University of Northern Colorado

Kendall, Robert D. (1971)

Associate Professor of Speech Communication

B.A. 1954, University of Denver; M.Div. 1957, Drew University; M.A. 1968, Ph.D. 1973, University of Minnesota

Kennedy, Keith A. (1964)

Professor of Chemistry

A.B. 1961, M.A. 1964, University of Northern Colorado; Ph.D. 1974, University of Iowa

Kiese, Jorn R. (1969)

Assistant Professor of Foreign Languages and Literature

B.A. 1966, Brigham Young University; M.A. 1968, University of Minnesota

Kilkelly, John C. (1966-1968, 1969)

Assistant Professor of Political Science

B.A. 1961, St. Cloud State University; M.S.S. 1962, University of Mississippi; D.A. 1979, University of Mississippi

Kittel, Norman G. (1979)

Associate Professor of Criminal Justice

B.A. 1954, Middlebury College; J.D. 1957, University of Connecticut; M.A. 1965, Indiana University

Knox, Stanley C. (1962)

Professor of Special Education; Chairperson

B.A. 1952, M.S. 1960, Ph.D. 1966, University of Minnesota

Knutson, Jack M. (1971)

Professor of Psychology

B.A. 1954, Harvard University; Ph.D. 1967, Stanford University

Knutson, Keith M. (1966-1967, 1970)

Professor of Biological Sciences

B.S. 1965, M.A. 1967, St. Cloud State University; Ph.D. 1970, North Dakota State University

Korte, Gerald J. (1961)

Professor of Art

B.S. 1952, M.S. 1955, St. Cloud State University; Ed.D. 1969, University of Kansas

Kramer, David C. (1971)

Professor of Biological Sciences
B.S. 1965, Indiana University; M.S. 1968,
Ed.D. 1971, Ball State University

Krause, Terrance B. (1971)

Instructor; Campus Laboratory School
B.S. 1955, St. Cloud State University

Krueger, Albert H. (1956)

Professor of Psychology
B.S. 1942, University of Wisconsin; M.Ed.
1951, Marquette University; Ph.D. 1956,
University of Wisconsin

Krueger, David D. (1969)

Associate Professor of Quantitative Methods
and Information Systems
B.S. 1965, Wisconsin State University; M.S.
1967, Ph.D. 1969, Kansas State University

Krueger, Patricia A. (1967)

Program Director, Atwood Memorial Center
B.A. 1966, University of Iowa

Kukuk, William D. (1968)

Associate Professor of Psychology
B.S. 1958, Carroll College; M.A. 1960, Michi-
gan State University; Ph.D. 1967, Brigham
Young University

Lacroix, Phyllis, (1976-1977, 1978)

Instructor; Learning Resources and Library
and Audiovisual Education
B.S. 1963, M.S. 1976, St. Cloud State Univer-
sity

Lacroix, William J. (1966-1969, 1971)

Professor of Industrial Education; Chairperson
B.S. 1963, M.S. 1967, St. Cloud State Univer-
sity; Ph.D. 1971, Iowa State University

Laffer, Lawrence R. (1969)

Assistant Professor of Technology and Indus-
trial Engineering
B.S. 1964, M.S. 1965, Michigan State Univer-
sity

Lahren, David R. (1966)

Professor of Mathematics and Computer Sci-
ence
B.A. 1958, Concordia College; B.D. 1963, Lu-
ther Seminary; M.S. 1966, North Dakota
State University; D.A. 1971, University of
Northern Colorado

Lamwers, Linda L. (1976)

Assistant Professor of Psychology
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Ph.D. 1976, Rutgers University

Lane, James A. (1977)

Assistant Professor of Business Education and
Office Administration
B.G.E. 1965, University of Nebraska; M.A.T.
1972, Ed.D., 1977, Oklahoma State Univer-
sity

Lane, Richard B. (1968)

Assistant Professor of Sociology, Anthropol-
ogy and Social Work
B.A. 1963, University of New Mexico; M.A.
1967, University of California—Berkeley

Lange, Mark D. (1979)

Assistant Professor of Economics
B.S. 1972, M.S. 1973, Indiana State University;
Ph.D. 1979, Iowa State University

Langen, William G. (1969)

Associate Professor of Foreign Languages
and Literature
B.A. 1965, Ph.D. 1976, University of Arizona

Larsen, Allen F. (1966)

Associate Professor of Economics
B.A. 1962, Augustana College; M.A. 1964, In-
diana University

Larsen, Virginia M. (1966)

Associate Professor; Counseling Services
B.A. 1943, Millikin University; M.S. 1965,
Ed.Spec. 1967, Indiana University

Larson, Walter G. (1960-1965, 1967)

Director, Career Planning and Placement
B.A. 1953, St. Olaf College; M.A. 1959, Univer-
sity of Northern Iowa

Lassila, Dennis R. (1978)

Assistant Professor of Accounting
B.A. 1970, College of Great Falls; M.B.A. 1972,
Washington State University

Lavenda, Robert H. (1979)

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ogy and Social Work
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Ph.D. 1977, Indiana University

LaVoi, Gerald W. (1979)

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thology and Audiology
B.S. 1963, University of Minnesota; M.S. 1969,
University of North Dakota

Lawson, Andrew P. (1979)

Assistant Professor; Educational Change
B.S. 1968, Portland State University; M.Ed.
1971, University of Pennsylvania

Lawson, Jonathan N. (1970)

Professor of English; Associate Dean, College
of Liberal Arts and Sciences
B.F.A. 1964, M.A. 1966, Ph.D. 1970, Texas
Christian University

Lawson, Vija (1979)

Instructor in History
B.A. 1969, M.A. 1972, University of Minnesota

Layne, Richard D. (1972)

Professor of Music
B.S. 1961, Utah State University; M.M. 1964,
University of Redlands; Ph.D. 1974, Uni-
versity of Southern California

Lease, Alfred A. (1959)

Professor; Dean, College of Industry
B.S. 1950, M.S. 1958, St. Cloud State University; Ph.D. 1964, University of Minnesota

Lee, Dae Choon (1974)

Assistant Professor; Learning Resources and Library and Audiovisual Education
B.A. 1962, Keim yung Christian College (Korea); M.A. 1964, University of Korea; M.L.S. 1972, State University of New York—Geneseo

Leitch, Vernon D. (1965)

Professor of Mathematics and Computer Science
B.A. 1959, Moorhead State University; M.A. 1963, Bowling Green State University; Ed.D. 1972, University of Northern Colorado

Leja, Alfred E. (1968)

Professor of English
M.A. 1951, Columbia University; Ph.D. 1962, University of Texas

Lesar, David J. (1967)

Professor of Psychology
B.S. 1960, M.S. 1962, St. Cloud State University; Ed.D. 1967, Indiana University

Lesikar, Arnold V. (1966)

Professor of Physics and Astronomy
B.A. 1958, Rice University; Ph.D. 1965, California Institute of Technology

Leung, Leo K. (1968)

Associate Professor of Mathematics and Computer Science
M.S. 1965, University of Illinois; D.A. 1977, Idaho State University

Levilain, Guy (1967)

Assistant Professor of Foreign Languages and Literature
B.A. 1956, University of Bordeaux; M.A. 1961, E.S.C. Bordeaux (France)

Lewis, James F. (1969)

Professor of Special Education
B.S. 1964, M.Ed. 1967, Ed.D. 1969, University of Nebraska

Lewis, Richard D. (1976)

Assistant Professor of History
B.A. 1959, M.A. 1961, University of Kansas; Ph.D. 1971, University of California—Berkeley

Lewis, Standley E. (1968)

Professor of Biological Sciences
B.A. 1962, M.S. 1964, University of Nebraska—Omaha; Ph.D. 1968, Washington State University

Lieberman, Harold (1956)

Professor of Interdisciplinary Studies; Chairperson
B.A. 1947, University of Toledo; M.A. 1949, University of Chicago; D.S.S. 1957, Syracuse University

Lindstrom, Lester E. (1967)

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B.S. 1950, M.A. 1958, South Dakota State University; Ph.D. 1967, Kansas State University

Little, Wayne G. (1969)

Professor; Associate Dean, College of Business
B.A. 1954, Hamline University; B.S. 1957, M.A. 1961, Ph.D. 1971, University of Minnesota

Lofgreen, Harold A. (1972)

Professor of Economics; Chairperson
B.A. 1965, Simpson College; M.A. 1967, Ph.D. 1972, University of Iowa

Loncorich, Franklin E. (1976)

Director, Financial Aids
B.A. 1965, M.A. 1966, Mankato State University

Longtin, Russel L. (1978)

Instructor in Theatre
B.A. 1970, M.A. 1972, University of Maine—Orono

Lovelace, William E. (1963)

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B.S. 1950, Northwestern University; M.Ed. 1955, University of Colorado; M.A. 1961, University of South Dakota; Ed.D. 1971, University of North Dakota

Lu, Debra (1973)

Associate Professor of Accounting
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Lu, Ming-te (1970)

Professor of Quantitative Methods and Information Systems; Chairperson
B.S. 1960, Cheng Kung University; M.S. 1967, Ph.D. 1971, University of Minnesota

Ludeman, Vernon L. (1969)

Professor; Associate Dean, School of Graduate Studies; Director of Summer Session
B.S. 1950, Mankato State University; M.A. 1958, Ed.D. 1964, University of Northern Colorado

Luksetich, William A. (1972)

Associate Professor of Economics
B.S. 1962, M.A. 1970, DePaul University; Ph.D. 1973, Northern Illinois University

Lundquist, James C. (1967)

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Macgillivray, Ian Thomas (1977)

Director, Alumni Services
B.S. 1969, M.S. 1970, University of Wisconsin—LaCrosse

MacTaggart, Terrence J. (1979)

Associate Dean, Continuing Studies
B.A. 1967, Canisius College; M.S. 1970, Ph.D. 1976, St. Louis University

Madsen, Russell D. (1960)

Professor of Business Education and Office Administration
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Magnus, Douglas L. (1965)

Associate Professor of Chemistry; Chairperson, Science Education Committee
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Magnus, Karen L. (1978)

Instructor, Campus Laboratory School
B.S. 1960, M.S. 1969, St. Cloud State University

Marczewski, William R. (1976)

Student Legal Adviser
B.A. 1973, State University of New York—Oswego; J.D. 1976, Hamline University

Marderness, Jill W. (1977)

Instructor in Music
B.M. 1976, M.M. 1977, University of Michigan

Marmas, James G. (1962)

Professor; Dean, College of Business
B.S. 1951, St. Cloud State University; M.A. 1956, University of Minnesota; Ed.D. 1961, Stanford University

Martini, Mary M. (1968)

Instructor, Campus Laboratory School
B.S. 1967, St. Cloud State University

Masih, Nolin (1964)

Assistant Professor of Economics
A.B. 1950, Southwestern College; M.A. 1953, University of Kansas

Mason, John E. (1971-1972, 1973)

Associate Professor of Psychology; Coordinator, Counselor Education
B.S. 1967, M.A. 1968, Eastern Michigan University; Ph.D. 1971, Kent State University

Massmann, John C. (1963)

Professor of History
B.A. 1954, St. John's University; M.A. 1959, Ph.D. 1966, University of Minnesota

Matthias, Howard E. (1969)

Professor; Director, Driver Education and Safety
B.S. 1951, University of Wisconsin—River Falls; M.S. 1956, University of Wisconsin; Ph.D. 1971, Michigan State University

Mattick, Douglas M. (1977)

Instructor in Technology and Industrial Engineering
B.C.E. 1970, University of Minnesota; M.S.I.A. 1971, Purdue University

Mattick, Pamela S. (1976)

Associate Professor; Educational Change
B.S. 1966, Iowa State University; M.A. 1967, Ph.D. 1970, University of Minnesota

May, James D. (1979)

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B.S. 1970, Bowling Green State University; M.E. 1971, University of Toledo; M.L.S. 1979, Ph.D. 1979, Indiana University

Mayala, Jacob A. (1978)

Assistant Professor; Educational Change; Coordinator, Early Childhood and Family Studies
B.A. 1961, Augsburg College; M.A.T. 1972, Oakland University; Ph.D. 1978, University of Illinois

McClellan, Rebecca M. (1978)

Instructor in Health, Physical Education and Recreation
B.S. 1973, Southwest State University

McCormick, Margaret D. (1973-1974, 1975)

Instructor; Educational Change
B.S. 1973, M.S. 1974, St. Cloud State University

McCue, John F. (1967)

Professor of Biological Sciences
B.S. 1960, St. John's University; M.A. 1962, Ph.D. 1964, University of Notre Dame

McLean, Samuel J. (1966)

Assistant Professor of Accounting
B.S.B.A. 1963, M.S. 1966, University of North Dakota

McMenamin, Michael J. (1978)

Residence Hall Director
B.S. 1975, University of Wisconsin—Stevens Point

McMullen, James C. (1969)

Associate Professor of Chemistry
B.S. 1965, University of Wisconsin—Superior; Ph.D. 1969, University of South Dakota

McWilliams, Alexander S. (1962)

Professor of Physics and Astronomy
B.A. 1956, M.S. 1957, University of Connecticut; Ph.D. 1962, Ohio State University

Medler, Meredith A. (1968)

Assistant Professor of History
B.A. 1962, University of Wisconsin; M.A. 1965, University of Iowa

Meissner, William J. (1972)

Assistant Professor of English
B.S. 1970, University of Wisconsin; M.F.A. 1972, University of Massachusetts

Mellby, John R. (1979)

Assistant Professor of Mathematics and Computer Science
B.A. 1973, St. Olaf College

Melton, John L. (1968)

Professor of English
B.A. 1948, M.A. 1949, University of Utah; Ph.D.
1955, Johns Hopkins University

Merrick, Janna C. (1977)

Assistant Professor of Political Science
B.A. 1970, University of Puget Sound; M.A.
1972, Ph.D. 1977, University of Washing-
ton

Mertens, Gerald C. (1965)

Assistant Professor of Psychology
B.S. 1958, Wisconsin State University; M.A.
1961, University of Mississippi

Meyer, Roger G. (1966)

Instructor in Mathematics and Computer Sci-
ence
B.S. 1960, M.S. 1962, North Dakota State Uni-
versity

Meyers, Renee A. (1978)

Instructor in Speech Communication
B.A. 1976, University of Minnesota—Morris;
M.A. 1978, University of Nebraska

Miller, Donald P. (1966)

Professor of Mathematics and Computer Sci-
ence
B.S. 1958, Valley City State College; M.A.
1962, University of Northern Iowa; Ph.D.
1976, Florida State University

Miller, Joan D. (1969)

Instructor in Music
B.A. 1963, Cardinal Stritch College; M.A.
1969, Case Western Reserve University

Mills, Anita (1977)

Assistant Professor of Art
B.F.A. 1974, Texas Technical University;
M.F.A. 1977, University of Texas

Minier, Judith E. (1974)

Assistant Professor of Teacher Development
B.S. 1971, M.S. 1975, St. Cloud State Univer-
sity

Montesano, Robert E. (1978)

Instructor in Mass Communications
B.S. 1973, Bemidji State University; M.S. 1976,
St. Cloud State University

Montgomery, Terrence P. (1964)

Assistant Professor; Vice President for Univer-
sity Relations; Assistant to the President
B.S. 1962, St. Cloud State University; M.S.
1963, Columbia University

Moore, Albert (1971)

Instructor in Music
B.M.Ed. 1966, Texas Tech University; M.S.
1968, University of Illinois

Moore, Ben H. (1960)

Associate Professor; Planetarium Director
B.A. 1941, Park College; M.S. 1948, Kansas
State University

Morgan, William T. (1978)

Assistant Professor of Interdisciplinary Studies
B.A. 1955, Macalester College; M.A. 1962,
Ph.D. 1972, University of Minnesota

Mork, David P. (1968)

Professor of Biological Sciences
B.S. 1964, Moorhead State University; M.S.
1966, Ph.D. 1969, Purdue University

Mork, Vernon N. (1958)

Professor; Teacher Development
B.S. 1938, M.A. 1948, University of Minnesota;
Ed.D. 1954, University of North Dakota

Morohoshi, Yutaka (1977)

Assistant Professor of Health, Physical Educa-
tion and Recreation; Coordinator, Recrea-
tion
B.A. 1969, International Christian University;
M.R.Ed. 1971, Brigham Young University;
Ph.D. 1976, University of Utah

Mortenson, Jerene (1955-1957, 1972)

Instructor; Teacher Development
B.S. 1954, M.S. 1973, St. Cloud State Univer-
sity

Mortrude, Gordon E. (1960-1964, 1965)

Professor; Teacher Development
B.S. 1957, Moorhead State University; M.S.
1959, St. Cloud State University; Ed.D.
1969, University of North Dakota

Mortrude, Lowell A. (1961-1962, 1963)

Professor; Teacher Development
B.A. 1953, B.S. 1957, St. Cloud State Univer-
sity; M.Ed. 1960, Ed.D. 1969, University of
North Dakota

Muehlstedt, Lois M. (1977)

Instructor; Research, Development and Com-
munity Service
B.A. 1963, Gustavus Adolphus College

Murphy, Robert J. (1969)

Professor of Psychology; Director, Research
and Evaluation
B.S. 1964, Fordham University; Ph.D. 1970,
University of Tennessee

Myers, Edward M. (1977)

Assistant Vice President for Student Life and
Development
B.S. 1966, M.S. 1972, Iowa State University

Nakagawa, Gordon W. (1977)

Instructor in Speech Communication
B.S.C. 1973, M.A. 1976, Ohio University

Nappi, Andrew (1967)

Professor; Director, Research, Development
and Community Service
B.S. 1962, M.S. 1964, Central Connecticut
State College; M.A. 1967, Purdue Univer-
sity; Ph.D. 1971, Ohio University

Nayenga, Peter F. (1978)

Assistant Professor of History
B.A. 1968, University of East Africa; M.A. 1969,
Ph.D. 1976, University of Michigan

Nearing, Ruth J. (1970)

Instructor in Health, Physical Education and
Recreation
B.S. 1963, M.Ed. 1970, East Stroudsburg State
College

Nelson, Charles L. (1975)

Assistant Professor of Earth Sciences
B.A. 1968, Gustavus Adolphus College; M.S.
1973, Ph.D. 1974, University of Chicago

Nelson, J. Michael (1972)

Associate Professor of Learning Resources and
Library and Audiovisual Education
B.S. 1963, M.S. 1966, Ed.D. 1972, East Texas
State University

Nestel, Gerald E. (1969)

Associate Professor of Industrial Education
B.S. 1962, University of Wisconsin—Stout;
M.S. 1963, Southern Illinois University;
Ed.D. 1970, University of Arkansas

Nickles, William C. (1966)

Professor of Chemistry
B.Ch.E. 1954, University of Minnesota; M.S.
1962, University of Wisconsin; Ph.D. 1966,
North Dakota State University

Norlem, James B. (1976)

Instructor in Mass Communications
B.S. 1961, University of Nebraska—Omaha;
M.A. 1974, Ball State University

Nunes, Dennis L. (1975)

Assistant Professor of Psychology
B.A. 1968, Linfield College; M.R.E. 1970, North
American Baptist Seminary; Ph.D. 1976,
Utah State University

Nunn, William H. (1954)

Associate Professor of Interdisciplinary Stud-
ies; Coordinator, East Asian Studies
B.S. 1946, M.S. 1948, North Texas State Uni-
versity

Nystuen, Gregory (1979)

Instructor in Management and Finance
B.S. 1972, M.B.A. 1974, St. Cloud State Uni-
versity

Olesen, Robert E. (1966-1972, 1977)

Instructor; Higher Education Supervisor, State
Reformatory
B.S. 1962, Upper Iowa University

Olsberg, Michael D. (1967)

Assistant Professor of Accounting
B.S. 1962, Valley City State College; M.S.
1967, University of North Dakota

Olson, Harry (1958)

Professor of Business Education and Office
Administration
B.B.A. 1945, B.S. 1947, M.A. 1957, Ph.D.
1967, University of Minnesota

Olson, John C. (1979)

Residence Hall Director
B.A. 1979, Moorhead State University

Olson, Noel W. (1969)

Assistant Professor of Health, Physical Educa-
tion and Recreation; Director, Athletics
B.A. 1954, St. Olaf College; M.S. 1961, Univer-
sity of North Dakota

Olson, Robert K. (1978)

Director, Sports Information
B.E.S. 1978, St. Cloud State University

O'Neill, James E. (1964)

Assistant Professor of Foreign Languages and
Literature; Chairperson
B.A. 1957, M.Ed. 1963, College of St. Thomas

Osendorf, Frank P. (1967)

Professor of Health, Physical Education and
Recreation
B.S. 1963, M.S. 1966, St. Cloud State Univer-
sity; H.S.D. 1973, Indiana University

Otto, Don, H. (1969)

Professor of English
B.A. 1948, Quincy College; M.A. 1949, Drake
University; Ph.D. 1969, University of South-
ern California

Overy, David H. (1970)

Professor of History; Chairperson
A.B. 1955, Knox College; M.S. 1960, Ph.D.
1967, University of Wisconsin

Oxton, John R. (1967)

Instructor in Health, Physical Education and
Recreation
B.S. 1963, Dickinson State College; M.S. 1967,
University of North Dakota

Palmer, John W. (1976)

Instructor in Driver Education and Safety
B.S. 1970, Illinois State University; M.S. 1974,
College of Racine

Parham, Sidney F. (1979)

Assistant Professor of English
B.A. 1966, Washington-Lee University; M.A.
1969, University of Virginia; Ph.D. 1975,
Tufts University

Park, Thomas C. (1965)

Professor; Teacher Development
B.A. 1958, M.A. 1959, Ed.D. 1961, University
of Florida

Park-Fuller, Linda M. (1971)

Assistant Professor of Speech Communication
B.A. 1970, University of North Dakota; M.A.
1971, University of Missouri

Paschall, Billy L. (1964-1966, 1967)

Assistant Professor of Sociology, Anthropology and Social Work
B.A. 1954, M.A. 1962, University of Iowa

Peck, John H. (1968)

Associate Professor of Biological Sciences
B.A. 1964, Clark University; Ph.D. 1968, University of California—Berkeley

Pehler, James C. (1967)

Instructor; Learning Resources and Library and Audiovisual Education
B.S. 1965, M.A. 1967, St. Cloud State University

Perkins, Eugene R. (1958)

Professor of Psychology
B.S. 1947, St. Cloud State University; M.A. 1952, University of Minnesota; Ed.D. 1967, University of Northern Colorado

Perkins, Lorraine M. (1961)

Instructor in English
B.S. 1942, M.S. 1967, St. Cloud State University

Perrier, Ronald G. (1975)

Associate Professor of Theatre; Chairperson
B.S. 1962, University of Wisconsin—River Falls; M.A. 1968, Ph.D. 1972, University of Minnesota

Perry, Floyd P. (1953)

Professor; Teacher Development; Coordinator, Student Teaching
B.S. 1945, Eastern Oregon State College; M.S. 1950, Central Washington State College; Ed.D. 1952, University of Northern Colorado

Petersen, Mary L. (1949)

Assistant Professor of Psychology
B.S. 1947, University of Minnesota; M.Ed. 1952, University of Oregon

Peterson, Charles B. (1973)

Instructor in Music
B.M.E. 1962, Indiana University; M.A. 1973, Western Washington State College

Peterson, Dale W. (1966)

Associate Professor of History; Director, Latin American Studies
B.A. 1953, Macalester College; M.A. 1961, Ph.D. 1969, University of Minnesota

Peterson, Donald G. (1965)

Professor of Biological Sciences
B.S. 1946, M.A. 1949, Ph.D. 1968, University of Minnesota

Peterson, Terrance L. (1976)

Associate Professor of Psychology; Chairperson
B.S. 1965, University of Wisconsin—Eau Claire; M.S. 1968, Ph.D. 1970, University of Wisconsin

Petrangelo, George J. (1976)

Assistant Professor of Psychology
B.S. 1969, University of Wisconsin—River Falls; M.S. 1973, M.S. 1974, University of Wisconsin—Stout; Ed.D. 1976, University of Northern Colorado

Pflegler, Lawrence R. (1979)

Assistant Professor; Counseling Services
B.S. 1967, M.A. 1969, Ph.D. 1977, University of Wisconsin

Phillips, Alan M. (1966)

Professor of Philosophy
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Phillips, John N. (1962)

Professor of Philosophy; Director, Environmental Studies
B.S. 1946, Northwestern University; M.A. 1949, University of Southern California; Ph.D. 1955, University of North Carolina

Phillips, Mary H. (1964-1968, 1969)

Instructor; Campus Laboratory School
B.A. 1944, B.S. 1945, University of Minnesota; M.S. 1968, St. Cloud State University

Pietz, Reuel H. (1965)

Assistant Professor of Geography
B.A. 1959, Gustavus Adolphus College; M.A. 1965, East Carolina University

Pluth, Edward J. (1966)

Associate Professor of History; Director, Minority Studies
B.S. 1959, M.S. 1963, St. Cloud State University; Ph.D. 1970, Ball State University

Polesak, Fred G. (1964)

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B.S. 1961, St. Cloud State University; M.A. 1965, University of Northern Colorado

Potter, Patricia S. (1963)

Associate Dean of Students
B.S. 1949, M.S. 1963, University of Wisconsin

Pou, Carol R. (1969)

Associate Professor of Biological Sciences
B.A. 1964, Viterbo College; M.S. 1966, Ph.D. 1969, The Catholic University of America

Pou, Wendell M. (1966)

Associate Professor of Physics and Astronomy
B.S. 1959, Millsaps College; M.S. 1962, Ph.D. 1969, Vanderbilt University

Powers, Gerald L. (1974)

Professor of Speech Science, Pathology and Audiology
B.S. 1963, St. Cloud State University; M.A. 1969, Ph.D. 1971, University of Minnesota

Present, Richard D. (1976)

Assistant Professor of Sociology, Anthropology and Social Work
B.A. 1967, MacMurray College; M.S.W. 1969, State University of New York

Prochnow, Robert (1972)

Professor of Psychology
B.A. 1960, North Central College; M.A. 1967, University of Wisconsin; Ph.D. 1972, University of Texas

Prout, Robert S. (1972)

Professor; Director, Center for Studies in Criminal Justice
B.A. 1969, Muskingum College; LL.B. 1967, LaSalle Extension University; M.Ed. 1970, Ohio University; Ph.D. 1972, Ohio State University

Pruett, Wesley L. (1977)

Residence Hall Director
B.A. 1973, Concordia College; M.S. 1976, St. Cloud State University

Purdom, Boyd A. (1968)

Professor; Teacher Development
B.A. 1959, M.A. 1961, University of Kentucky; Ed.D. 1968, George Peabody College for Teachers

Purdom, Dixie (1977)

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B.A. 1958, M.A. 1961, University of Kentucky

Putbrese, Larry M. (1978)

Assistant Professor; Teacher Development
B.A. 1959, Buena Vista College; M.A. 1963, Northeast Missouri State College; Ed.D. 1971, University of South Dakota

Radovich, William (1966)

Assistant Professor; Vice President for Administrative Affairs
B.S. 1960, M.S. 1966, St. Cloud State University

Raine, Rex O. (1978)

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B.S. 1971, Mankato State University; M.S. 1977, Winona State University

Rauch, Keith J. (1965)

Director, Admissions and Records
B.S. 1961, M.S. 1966, St. Cloud State University

Rauch, Margaret M. (1974)

Assistant Professor; Director, Reading Program
B.S. 1961, M.S. 1967, St. Cloud State University

Redd, Kathleen M. (1974)

Associate Professor of Interdisciplinary Studies
A.B. 1966, M.A. 1970, Ph.D. 1974, University of Alabama

Redding, Arthur J. (1968)

Professor of Psychology
B.S. 1959, Mankato State University; M.A. 1962, University of Northern Colorado; Ed.D. 1968, University of North Dakota

Reese, Frederick D. (1976)

Associate Professor of Special Education
B.A. 1953, Ohio Wesleyan University; B.S. 1957, M.A. 1960, Ph.D. 1966, Ohio State University

Reese, Sandra C. (1976)

Associate Professor of Special Education
B.A. 1964, Ohio Wesleyan University; M.A. 1965, Ph.D. 1967, Ohio State University

Regnier, Robert E. (1966)

Assistant Professor of English
B.S. 1950, St. Cloud State University; M.A. 1960, University of Oregon

Reha, Rose K. (1968)

Professor of Business Education and Office Administration
B.S. 1965, Indiana State University; M.A. 1967, Ph.D. 1971, University of Minnesota

Rehwaldt, Charles A. (1965)

Professor of Biological Sciences
B.A. 1951, B.S. 1956, Mankato State University; M.S. 1953, University of Minnesota; Ph.D. 1965, State University of New York

Reid, Sherwood J. (1966)

Director, High School and Community College Relations
B.A. 1962, Hamline University; B.S. 1966, M.S. 1975, St. Cloud State University

Renz, Leland S. (1977)

Associate Professor; Educational Administration and Leadership
B.S. 1952, M.A. 1963, Ed.D. 1970, University of Minnesota

Retiz, Leonard (1977)

Assistant Professor of Foreign Languages
B.A. 1961, M.A. 1969, Ph.D. 1970, University of Texas

Richardson, Charles R. (1979)

Instructor in Technology and Industrial Engineering
B.S. 1979, Bemidji State University

Richason, Benjamin F. (1978)

Assistant Professor of Geography
B.S. 1970, Carroll College; M.A.T. 1972, Oregon College of Education; Ph.D. 1978, Michigan State University

Risberg, Douglas F. (1972)

Professor; Director, Center for Educational Change
B.S. 1960, Illinois State University; M.A. 1964, Northern Illinois University; Ph.D. 1972, University of Wisconsin

Risk, Harold F. (1979)

Instructor in Driver Education and Safety
B.S. 1974, M.S. 1975, Indiana State University

Robinson, Lora H. (1979)

Director, Institutional Studies and Research
B.A. 1963, M.A. 1964, University of Iowa;
Ph.D. 1972, University of California—Los Angeles

Robley, Quentin D. (1970)

Assistant Professor of Special Education
B.S. 1968, St. Cloud State University

Rodgers, William C. (1979)

Associate Professor of Marketing and General Business; Chairperson
B.A. 1964, St. Ambrose College; M.B.A. 1966, San Jose City College; Ph.D. 1977, University of Iowa

Roehl, Rosemary F. (1966)

Instructor; Teacher Development
B.S. 1962, M.A. 1966, University of Minnesota

Rosenthal, Eugene (1972)

Associate Professor of Psychology
B.A. 1967, University of Michigan; Ph.D. 1973, University of Minnesota

Roser, Sherman R. (1979)

Assistant Professor of Accounting
B.A. 1961, Ursinus College; M.B.A. 1973, Old Dominion University

Rouch, Roger L. (1967)

Professor; Teacher Development
B.S. 1957, Indiana Central College; M.S. 1961, Butler University; Ed.D. 1967, Ball State University

Rowe, Evan K. (1976)

Assistant Professor of Driver Education and Safety
B.S. 1970, Slippery Rock State College; M.A. 1974, Michigan State University

Rowland, H. Ray (1959)

Professor; Director, Information Services
B.J. 1950, University of Missouri; M.S. 1959, Southern Illinois University; Ph.D. 1969, Michigan State University

Roy, James P. (1964)

Professor of Art; Chairperson
B.A. 1952, Concordia College; M.A. 1957, University of Iowa; Ed.D. 1961, Pennsylvania State University

Russell, Mary F. (1961)

Assistant Professor; Campus Laboratory School
B.S. 1956, College of St. Scholastica; M.S. 1965, M.S. 1971, St. Cloud State University

Ryan, Robert D. (1962)

Professor of Technology and Industrial Engineering; Chairperson
B.A. 1955, Wayne State University; M.A. 1957, Ed.D. 1964, University of Northern Colorado

Rydborg, David G. (1966)

Professor; Learning Resources and Library and Audiovisual Education
B.S. 1963, M.S. 1965, St. Cloud State University; M.A. 1971, University of Minnesota; Ed.D. 1974, University of Arizona

Rylander, John D. (1965)

Assistant Professor of English
B.A. 1957, M.A. 1958, San Jose State College

Samarrai, Alauddin I. (1968)

Professor of History
B.A. 1956, M.S. 1959, Ph.D. 1966, University of Wisconsin

Samojeden, Elizabeth A. (1979)

Instructor, Academic Computer Services
B.S. 1978, Michigan Technological University

Savage, Carl C. (1968)

Professor; Learning Resources and Library and Audiovisual Education
B.A. 1957, Belmont College; M.R.E. 1959, Ed.D. 1966, New Orleans Baptist Seminary

Savage, Mary A. (1966)

Instructor in Foreign Languages and Literature
B.A. 1962, College of St. Catherine; M.A. 1966, University of Wisconsin

Schleiffers, Sandra M. (1979)

Instructor in Health, Physical Education and Recreation
B.S. 1978, California State Polytechnic University—Pomona; M.S. 1979, Washington State University

Schmid, Ronald M. (1978)

University Photographer, Information Services
B.A. 1973, University of Minnesota; M.A. 1977, Southern Illinois University—Carbondale

Schmidt, Orville H. (1967)

Professor of Political Science
B.A. 1956, University of Minnesota; M.A. 1962, George Washington University; Ph.D. 1967, University of West Virginia

Schmidt, Russell H. (1969)

Professor; Teacher Development; Coordinator, Elementary Education
B.S. 1955, Winona State University; M.S.E.E. 1965, University of Minnesota; Ed.D. 1968, University of Florida

Schneider, Kenneth C. (1974)

Associate Professor of Marketing and General Business
B.A. 1970, M.S. 1972, Ph.D. 1975, University of Minnesota

Schofield, R. Scott (1977)

Assistant Professor of Marketing and General Business

B.A. 1970, University of Minnesota—Duluth; J.S. 1976, M.B.A. 1978, University of Minnesota

Schoppe, Ervin R. (1976)

Instructor in Driver Education and Safety
B.S. 1973, Northern State College; M.S. 1976, Central Missouri State University

Schrader, Shirley L. (1967)

Professor of Music

B.A. 1952, B.Mus. 1952, University of Northern Colorado; M.A. 1956, University of Denver; Ph.D. 1968, University of Michigan

Schreiber, Francis B. (1979)

Assistant Professor of Criminal Justice
B.A. 1971, Hope College; M.A. 1974, Ph.D. 1977, University of Colorado

Schultz, David P. (1975)

Instructor in Driver Education and Safety
B.A. 1975, St. Cloud State University

Schulzetenberge, Anthony C. (1965)

Professor; Learning Resources and Library and Audiovisual Education

B.A. 1951, St. John's University; M.S. 1963, St. Cloud State University; M.A. 1969, University of Minnesota; Ed.D. 1970, University of North Dakota

Schwaller, Anthony E. (1978)

Assistant Professor of Industrial Education
B.S. 1967, M.S. 1968, University of Wisconsin—Stout; Ph.D. 1976, Indiana State University

Schwartz, Joseph J. (1970)

Assistant Director, Institutional Studies and Research
B.S. 1968, M.S. 1970, Mankato State University

Schwerdtfeger, Dale W. (1971)

Assistant Professor of Sociology, Anthropology and Social Work
B.A. 1966, McKendree College; M.A. 1972, Southern Illinois University

Schweiger, Bradley J. (1976)

Professor of Accounting
B.A. 1957, Mankato State University; M.B.A. 1960, D.B.A. 1970, Indiana University

Scribner, Richard S. (1974)

Assistant Professor of Special Education
B.S. 1958, Mississippi Southern College; M.S. 1966, Ph.D. 1973, University of Southern Mississippi

Sederstrom, Del Faye (1968)

Instructor; Campus Laboratory School
B.S. 1968, M.S. 1970, St. Cloud State University

Sentz, Erma I. (1964-1966, 1968)

Assistant Professor; Teacher Development
B.S. 1957, M.A. 1965, University of Minnesota

Serdula, George (1957)

Professor of Health, Physical Education and Recreation; Coordinator, Health Education
B.A. 1942, Muskingum College; M.A. 1949, Ohio State University; H.S.D. 1957, Indiana University

Shandalow, Keith A. (1979)

Instructor in English
B.A. 1974, State University of New York at Buffalo

Shaw, Paul J. (1977)

Instructor in Driver Education and Safety
B.S.E. 1976, M.S. 1977, Central Missouri State University

Shenk, Dena (1979)

Assistant Professor of Interdisciplinary Studies
B.A. 1973, State University of New York at Stony Brook; M.A. 1976, University of Massachusetts

Sherarts, Theodore R. (1966)

Associate Professor of Art
B.Ph. 1964, University of North Dakota; M.F.A. 1966, California College of Arts and Crafts

Sherohman, James L. (1978)

Assistant Professor of Sociology, Anthropology and Social Work
B.A. 1968, University of Minnesota; M.A. 1971, Ph.D. 1977, Southern Illinois University

Shurr, George W. (1967)

Associate Professor of Earth Sciences
B.A. 1965, University of South Dakota; M.S. 1967, Northwestern University; Ph.D. 1975, University of Montana

Sikkink, Donald E. (1963)

Professor of Speech Communication; Assistant Director, International Studies
B.A. 1949, M.A. 1951, Ph.D. 1954, University of Minnesota

Simons, Michael F. (1976)

Instructor; Learning Resources and Library and Audiovisual Education
B.S. 1970, Winona State University; M.S.L. 1974, Western Michigan University

Simpson, Dorothy J. (1975-1976, 1978)

Director, Outreach and Educational Conferences
B.A. 1960, St. Olaf College; M.S. 1977, St. Cloud State University

Simpson, Eleanor E. (1969)

Associate Professor of Interdisciplinary Studies; Director, American Studies
B.A. 1960, Park College; M.A. 1964, San Francisco State University; Ph.D. 1974, University of Minnesota

Simpson, Wayne F. (1972)

Instructor in Health, Physical Education and Recreation
B.A. 1959, St. Olaf College; M.S. 1964, University of North Dakota

Skalbeck, Bruce A. (1968-1971, 1977)

Associate Professor of Management and Finance
B.A. 1965, Mankato State University; M.B.A. 1967, University of Denver; Ph.D. 1975, University of Northern Colorado

Smelser, Lawrence B. (1969)

Professor; Learning Resources and Library and Audiovisual Education
B.S. 1955, Southwest Missouri State University; M.A. 1962, Washington University; Ed.D. 1969, University of Oklahoma

Song, Jae H. (1978)

Assistant Professor of Quantitative Methods and Information Systems
B.S. 1964, Seoul National University; M.S. 1970, London University; M.B.A. 1974, Ph.D. 1978, University of Minnesota

Sorensen, David T. (1964)

Professor of Chemistry
B.S. 1949, M.S. 1950, North Dakota State University; Ph.D. 1958, University of Kansas

Sorensen, Virginia P. (1977)

Instructor; Learning Resources and Library and Audiovisual Education
B.A. 1949, Principia College; A.M. 1960, Middlebury College; M.S. 1978, St. Cloud State University

Soroka, Leonard G. (1975-1976, 1977)

Assistant Professor of Earth Sciences
B.S. 1971, Temple University; M.Ed. 1972, West Chester State College; D.Ed. 1977, Pennsylvania State University

Speers, Susan D. (1979)

Instructor in Theatre
B.A. 1972, M.A. 1973, University of Houston

Sporleder, Victor E. (1970)

Instructor; Campus Laboratory School
B.S. 1970, St. Cloud State University

Sprague, David S. (1969)

Professor; Vice President for Student Life and Development
B.S. 1960, Dakota State College; M.Ed. 1963, South Dakota State University; Ed.D. 1969, University of South Dakota

Sprinthall, Lois T. (1975)

Associate Professor; Teacher Development
B.A. 1961, University of Iowa; M.A. 1973, University of Minnesota; Ed.D. 1974, University of Northern Colorado

Stachowski, Thomas S. (1970)

Instructor; Campus Laboratory School
B.S. 1970, M.A. 1978, St. Cloud State University

Stanek, James F. (1967)

Assistant Professor of Health, Physical Education and Recreation
B.S. 1951, St. Cloud State University; M.Ed. 1956, University of Minnesota

Steeves, LeRoy R. (1964-1969, 1970)

Assistant Professor; Teacher Development
B.S. 1961, M.S. 1966, St. Cloud State University

Stein, Thomas E. (1969)

Assistant Director, Admissions and Records
B.S. 1968, M.B.A. 1970, St. Cloud State University

Stennes, Ernest K. (1955)

Associate Professor of Mathematics and Computer Science
B.A. 1941, Concordia College; M.A. 1951, University of Wyoming

Stennes, Florence S. (1961-1962, 1963)

Associate Professor of Mathematics and Computer Science
B.A. 1940, M.A. 1941, University of Illinois

Stensland, Allen G. (1967)

Assistant Professor of Interdisciplinary Studies
B.A. 1959, Hamline University; M.S. 1965, Bemidji State University

Stinson, James S. (1975)

Assistant Professor of Technology
B.S. 1951, Jamestown College; M.S. 1966, University of North Dakota

Stinson, L. Marilyn (1975)

Associate Professor of Business Education and Office Administration; Chairperson
B.A. 1963, California State University—Sacramento; M.A. 1966, Ph.D. 1975, University of North Dakota

Stocker, Glenn M. (1978)

Associate Professor of Speech Communication
B.S. 1963, Winona State University; M.A. 1967, University of North Dakota; Ph.D. 1975, Wayne State University

Summers, Marcia A. (1969)

Professor of English; Director, Women's Studies
B.A. 1961, Geneva College; M.A. 1962, Ph.D. 1969, University of Illinois

Sundby, Lawrence C. (1967-1971, 1975)

Professor of Accounting; Chairperson
B.A. 1963, M.B.A. 1967, St. Cloud State University; Ph.D. 1975, University of Nebraska

Swanson, Dale L. (1966)

Assistant Professor of Theatre
B.S. 1951, Mankato State University; M.S.
1956, University of Wisconsin

Sween, Roger D. (1978)

Instructor; Learning Resources and Library
and Audiovisual Education
B.A. 1963, St. Olaf College; M.A.L.S. 1966,
University of Wisconsin

Sweeney, Connie E. (1968)

Instructor; Campus Laboratory School
B.S. 1960, M.S. 1968, St. Cloud State Univer-
sity

Swenson, Alf A. (1963)

Associate Professor of Management and Fi-
nance
B.A. 1938, St. Olaf College; M.S. 1963, Univer-
sity of Minnesota

Sykora, Merle H. (1965)

Assistant Professor of Art
B.S. 1960, Mankato State University; M.S.
1965, St. Cloud State University

Tallent, Dwaine R. (1979)

Associate Professor of Management and Fi-
nance
B.A. 1957, College of Emporia; M.S. 1964,
Kansas State University; Ph.D. 1970, Uni-
versity of Nebraska

Templin, Dorothy E. (1968)

Instructor in Health, Physical Education and
Recreation
B.S. 1945, Southwest Missouri State Univer-
sity; M.S. 1949, University of Wyoming

Templin, Erwin W. (1970)

Associate Director, Financial Aids
B.S. 1965, Northland College; M.B.A. 1970, St.
Cloud State University

Tennison, Philip C. (1967)

Instructor; Campus Laboratory School
B.S. 1964, M.S. 1969, St. Cloud State Univer-
sity

Terrill, Richard J. (1976)

Assistant Professor of Criminal Justice
B.A. 1969, Wayne State University; M.A. 1971,
Ph.D. 1976, Michigan State University

Terry, Paul E. (1978)

Instructor in Health, Physical Education and
Recreation
B.A. 1977, St. Cloud State University; M.S.
1978, Mankato State University

Tessendorf, Richard W. (1961)

Assistant Professor of Music
B.S. 1951, Bemidji State University; M.S. 1961,
Mankato State University

Thompson, Karen D. (1975)

Instructor in Health, Physical Education and
Recreation
B.A. 1969, Muskingum College; M.S. 1975, St.
Cloud State University

Thompson, Marvin O. (1956)

Professor of English
B.A. 1949, Macalester College; M.A. 1952,
Ph.D. 1956, University of Minnesota

Thompson, Ruth F. (1963)

Associate Professor of English
B.S. 1948, Mankato State University; M.S.
1964, St. Cloud State University; Ph.D.
1977, University of Minnesota

Tideman, Phillo L. (1957-1966, 1970)

Professor of Geography
B.A. 1949, University of Minnesota; B.S. 1951,
St. Cloud State University; M.A. 1953,
Ph.D. 1967, University of Nebraska

Timmers, Beverly A. (1966)

Instructor in Special Education
B.S. 1964, M.S. 1966, St. Cloud State Univer-
sity

Torborg, Francis G. (1968)

Associate Professor of Technology and Indus-
trial Engineering
B.M.E. 1961, University of Minnesota

Torrence, Judith L. (1976)

Associate Professor of Biological Sciences;
Coordinator, Medical Technology
B.S. 1964, University of Wisconsin; Ph.D.
1971, University of Minnesota

Tosh, L. Wayne (1969)

Professor of English
B.A. 1955, M.A. 1957, Ph.D. 1962, University
of Texas

Tridgell, Karen A. (1979)

Instructor; Campus Laboratory School
B.S. 1979, St. Cloud State University

Troyer, Beverly J. (1967)

Professor of Health, Physical Education and
Recreation
B.S. 1961, M.A. 1964, Ph.D. 1971, University of
Minnesota

Trummel, Donald R. (1960-1967, 1969)

Professor of Physics and Astronomy
B.S. 1955, M.S. 1956, Western Illinois Univer-
sity; Ph.D. 1974, Southern Illinois University

Turkowski, Adelaide H. (1974)

Assistant Director, Residential Life
B.S. 1972, Bemidji State University

Turner, Janice A. (1979)

News Editor, Information Services
B.S. 1977, University of Wisconsin—Oshkosh

Twine-Dungan, Margaret A. (1976)

Assistant Professor of Sociology, Anthropology and Social Work
B.A. 1969, Molloy College; M.S.W. 1973, University of Chicago

Umerski, Myron S. (1966)

Registrar
B.S. 1962, M.S. 1972, St. Cloud State University

Van Akin, Everett F. (1968)

Professor of Mathematics and Computer Science
B.A. 1955, M.A. 1959, State University of New York; Ph.D. 1972, University of Minnesota

Van Pelt, Elizabeth S. (1963)

Professor of English
B.A. 1943, M.A. 1952, Ph.D. 1962, University of Illinois

Van Pelt, Lyle E. (1963)

Assistant Professor of English
A.B. 1953, Bradley University; M.A. 1957, University of Illinois

Vaughter, Paul H. (1962)

Associate Professor of History
B.A. 1959, M.A. 1960, University of Tulsa; Ph.D. 1970, University of Kentucky

Vick, Charles F. (1971)

Professor of Speech Communication
B.A. 1963, Ph.D. 1967, University of Denver

Vicker, Lauren A. (1978)

Assistant Professor of Speech Communication
B.A. 1973, Pennsylvania State University; M.S. 1976, Ph.D. 1978, University of Pittsburgh

Vinje, John L. (1966)

Instructor in Health, Physical Education and Recreation
B.S. 1950, M.Ed. 1959, Bemidji State University

Viveiros, Debrah R. (1978)

Residence Hall Director
B.A. 1975, Stonehill College; M.Ed. 1976, Springfield College

Voelker, Francis H. (1959)

Assistant Professor of Mass Communications
B.A. 1953, St. John's University; M.S. 1959, St. Cloud State University

Voelker, Ludmila A. (1965)

Instructor in English
B.A. 1952, College of St. Benedict; M.A. 1968, St. Cloud State University

Vora, Erika (1978)

Assistant Professor of Speech Communication
M.A. 1972, M.S. 1973, University of Bridgeport; Ph.D. 1978, State University of New York—Buffalo

Vora, Jay A. (1978)

Associate Professor of Management and Finance
M.E. 1965, City College of New York; M.S. 1961, Ph.D. 1969, Rensselaer Polytechnic Institute

Wallin, Lee D. (1967)

Professor of Art
B.F.A. 1965, Kansas City Art Institute; M.F.A. 1967, University of Cincinnati

Walton, Brian L. (1978)

Associate Professor of Music
B.Mus. 1963, Oberlin College; M.Mus. 1965, University of Illinois; A.M.D. 1975, University of Cincinnati

Walton, Howard R. (1947-1948, 1955)

Associate Professor of Industrial Education
B.S. 1948, St. Cloud State University; M.A. 1955, University of Minnesota

Watkins, Ivan W. (1963)

Professor of Earth Sciences
B.S. 1955, M.S. 1957, University of Kansas; Ph.D. 1958, Texas A & M University

Waxlax, Robert G. (1970)

Professor of Health, Physical Education and Recreation
B.S. 1958, St. Cloud State University; M.S. 1960, Central Missouri State College; Ph.D. 1972, University of Minnesota

Weaver, Thomas G. (1978)

University Physician
B.A. 1969, Carleton College; M.D. 1974, University of Minnesota

Weise, Howard R. (1966)

Director, Extension and Community Education
B.S. 1959, St. Cloud State University; M.A. 1964, University of Northern Colorado

Weise, Mary S. (1976)

Instructor in Speech Science, Pathology and Audiology
B.S. 1963, University of Minnesota; M.S. 1971, St. Cloud State University

Weiskopf, Edward A. (1979)

Associate Professor of Chemistry
B.A. 1959, Albion College; Ph.D. 1963, Iowa State University

Weitenbeck, Anthony J. (1978)

Instructor in Physics and Astronomy
B.A. 1968, University of Wisconsin; M.S. 1971, Marquette University; Ph.D. 1976, Case Western Reserve University

Wellik, Jerry J. (1972-1973, 1974)

Assistant Professor of Special Education
B.S. 1967, University of Iowa; M.S. 1972, St. Cloud State University; Ph.D. 1979, University of North Dakota

Wentworth, Darrell F. (1969)

Professor of Management and Finance; Chairperson

B.S. 1950, University of Nebraska; M.S. 1964, University of Wyoming; Ph.D. 1971, University of Nebraska

Westby, Gerald L. (1969)

Associate Professor; Learning Resources and Library and Audiovisual Education

B.S. 1962, M.A. 1972, University of Minnesota; M.S. 1969, University of North Dakota

White, James E. (1964)

Professor of Philosophy

A.B. 1961, Dartmouth College; M.A. 1963, Ph.D. 1968, University of Colorado

White, Michael D. (1978)

Assistant Professor of Economics

B.A. 1972, Ph.D. 1978, Texas Tech University

Whitlock, Delores C. (1969)

Professor of Health, Physical Education and Recreation

B.S. 1954, Mankato State University; M.S. 1957, State University of Iowa; Ed.D. 1969, University of New Mexico

Wilhite, Carmen I. (1974)

Associate Professor of Music

B.M. 1965, M.Mus. 1968, Eastman School of Music; D.M.A. 1977, North Texas State University

Williams, Steven F. (1974)

Associate Professor of Biological Sciences

B.S. 1966, University of Washington; M.A. 1974, University of California—Los Angeles; Ph.D. 1974, Oregon State University

Williamson, Homer E. (1973)

Professor of Political Science; Coordinator, Public Administration

B.A. 1962, Carleton College; M.A. 1963, Northwestern University; Ph.D. 1971, University of Minnesota

Wink, Jack S. (1956)

Instructor in Health, Physical Education and Recreation

B.S. 1948, M.S. 1948, University of Wisconsin

Wixon, Lewis G. (1966)

Assistant Professor of Geography

B.A. 1963, University of Michigan; M.S. 1969, Ph.D. 1978, Indiana State University

Wolfer, Alton C. (1968)

Assistant Professor of Interdisciplinary Studies

B.S. 1964, North Dakota State University; M.S. 1968, Utah State University

Wollin, Dorothy D. (1973)

Assistant Professor of Psychology

B.A. 1968, University of Louisville; M.A. 1971, Ph.D. 1976, State University of New York

Yoos, George E. (1962)

Professor of Philosophy; Chairperson

B.A. 1948, M.A. 1950, Ph.D. 1971, University of Missouri

Young, Joseph M. (1976)

Instructor in English

B.A. 1970, M.A. 1972, California State University—Sacramento; M.A. 1975, University of Southern California

Youngner, Philip G. (1949)

Professor of Physics and Astronomy

B.S. 1944, St. Cloud State University; M.S. 1947, Ph.D. 1958, University of Wisconsin

Yunger, Ramona M. (1970)

Administrative Director, Student Health Services Diploma, Fairview School of Nursing

Zackoski, Judith A. (1978)

Instructor in Technology

B.S. 1973, St. Cloud State University

Ziemer, Gladys L. (1968)

Assistant Professor of Health, Physical Education and Recreation

B.S. 1963, Mankato State University; M.S. 1968, University of New Mexico

FACULTY EMERITI

Mary Adams

Speech Communication
1966-1978

Rowland C. Anderson

Mathematics
1933-1974

Josephine Banta

Foreign Languages
1946-1962

Dorothy E. Barker

Biological Sciences
1956-1976

Philip Behr

Geography
1961-1976

Albert F. Brainard

Health, Physical Education and Recreation
1930-1967

A. Wilbur Brewer

Secondary Education
1965-1978

Agnes Brohaugh

Education
1925-1950

Luther Brown

Learning Resources
1956-1977

Marcus Bruhn

Economics
1972-1978

L. Ruth Cadwell

Geography and Science
1924-1969

Paul Cairns

English
1957-1979

Edward Colletti

Health, Physical Education and Recreation
1933-1974

LaVerne Cox

Management and Finance
1967-1978

Audrey R. Crawford

Elementary Education
1949-1976

Clair Daggett

Marketing and General Business
1939-1974

Amy Dale

English
1931-1968

Martha Dallmann

Elementary Education
1969-1972

Alice English

Student Teaching
1959-1969

Carl Folkerts

Economics
1949-1972

Ruth Gant

Music
1946-1970

Floyd Gilbert

Psychology
1937-1970

Harry Goehring

Biology
1946-1971

Evelyn Hatcher

Sociology, Anthropology and Social Work
1968-1979

Louis R. Hird

Computer Services
1960-1975

Paul Ingwell

Institutional Research
1955-1979

Virgil Kroeger

Sociology and Anthropology
1961-1978

John Laakso

Chemistry
1948-1979

Victor Lohmann

Psychology
1948-1974

Albert Luker

Psychology
1956-1979

Lucille Maier

Counseling
1949-1974

Freda Martin

English
1957-1969

Lorene Marvel

Music
1945-1973

Eva McKee

Physical Education
1947-1964

Fred Menninga

Secondary Education
1948-1972

Marjorie Morse

History
1951-1974

Ruth Moshier

Library and Audiovisual Education
1958-1974

Sue Holcomb Moss

Library and Audiovisual Education
1953-1967

Frances Neale

Elementary Education
1931-1969

Arthur F. Nelson

Chemistry
1947-1969

Ruth M. Nelson

Interdisciplinary Studies
1963-1974

Grace Nugent

Elementary Education
1931-1968

Ruben Parson

Geography
1967-1973

Max A. Partch

Biological Sciences
1949-1979

Dale Patton

Student Affairs, 1963-1972
Counseling Services, 1972-1979

Eleanor Patton

Speech Science, Pathology and Audiology
1963-1978

Gandi Rajender

Management and Finance
1967-1979

Howard Russell

English
1963-1972

Mary Scharf

Psychology
1952-1975

Alvin H. Schelske

Education
1952-1979

Roland A. Vandell

Mathematics and Computer Science
1943-1976

M. E. Van Nostrand

Psychology
1949-1976

John Weismann

Dean of Men
1927-1969

Anna Larson West

Geography
1927-1956

Robert H. Wick

Distinguished Service Professor
1948-1978

Hannah Beatrice Williams

Education, Philosophy and Psychology
1926-1959

Virginia Williams

Business Education
1952-1971

MEDICAL TECHNOLOGY— ADJUNCT FACULTY

Bethesda Lutheran Hospital

Alvin W. Waters, M.D., Director
Bernadine Goyette, M.T. (ASCP), Education
Coordinator

Hennepin County General Hospital

LuAnn Peterson, M.D., Director
Mary Anne Smalley, M.T. (ASCP), Education
Coordinator

Midway Hospital

Benjamin Lyne, M.D., Director
Pat Solberg, M.T. (ASCP), Education Coordi-
nator

United Hospital Miller Division

Jesse Edwards, M.D., Director
Barbara Jones, M.T. (ASCP), Education Coordi-
nator

Northwestern Hospital

Frederick H. Lott, M.D., Director
Esther Ditmanson, M.T. (ASCP), Education
Coordinator

St. Cloud Hospital

Milosh Bozanich, M.D., Director
Jane Ceyner, M.S., M.T. (ASCP), Education
Coordinator

St. Joseph Hospital

Lowell Kuam, M.D., Director
Sister Roland, M.T. (ASCP), Education Coordi-
nator

St. Paul-Ramsey Hospital

Bertram F. Woolfrey, M.D., Director
Mary Kaye Ryan, M.T. (ASCP), Education
Coordinator

NUCLEAR MEDICAL TECHNOLOGY— ADJUNCT FACULTY

Hennepin County General Hospital

Robert L. Strom, M.D., Director
Mary Shaw, N.M. (ASCP), Education Coordi-
nator

BUILDINGS AND GROUNDS

The date after each building indicates the year the building was completed and occupied.

CLASSROOM BUILDINGS

Brown Hall (1959). Classrooms and faculty offices. Named for Joseph C. Brown, president, 1916-1927.

Business Building (1968). College of Business classrooms and offices, together with the Center for Economic Education and Office of Research, Development and Community Service.

Eastman Hall (1929). Facilities for physical education and recreation, including a swimming pool and gymnasium. Named for Alvah Eastman, former member of the State University Board.

Education Building (1971). Facilities for secondary, elementary and special education together with psychology, speech pathology and audiology, guidance and counseling and student teaching are located in this building.

Gray Campus Laboratory School (1958, 1962). Elementary school for approximately 250 students. A 200-seat auditorium, children's library and closed-circuit television. Named for Thomas J. Gray, president, 1881-1890.

Halenbeck Hall (1965). Health, physical education and recreation building with a main gymnasium seating 7,500, a swimming pool, diving pool and two small gyms. Named for Dr. Philip L. Halenbeck, a St. Cloud physician.

Headley Hall (1962). College of Industry building with shops, laboratories, classrooms and offices plus a lecture auditorium seating 150. Named for John W. Headley, president, 1947-1951.

Kiehle Visual Arts Center (1952-1974). Former library, remodeled for use by the Art Department. Named for David L. Kiehle, president, 1875-1881.

Mathematics and Science Center (1973). This four-story structure includes, in addition to classrooms and laboratories, a planetarium, museum, green house, observatory, aquarium, computer-calculator room and high energy linear accelerator for nuclear research. It is connected to Brown Hall by an enclosed elevated walkway.

Performing Arts Center (1968). Music, speech and theatre classrooms and offices, with a main theatre seating 450, a studio theatre/recital hall seating 300, rehearsal hall, private practice studios and television studio.

Riverview Building (1911). English Department classrooms and offices and foreign language laboratories.

Stewart Hall (1948). Classrooms, offices, bookstore and auditorium seating 1,200. Named for Warren H. Stewart, State University Board member, 1938-1948.

RESIDENCE HALLS

Benton Hall (1967, 1968). Apartment-type residence for men and women. 288 beds. Named for Benton County.

Case Hall (1964). Men's residence hall with 190 beds. Named for Marie E. Case, former faculty member.

Hill Hall (1962). Women's residence hall with 150 beds. Named for Helen Hill, former faculty member.

Holes Hall. (1965). First high-rise with nine stories, housing 399 men and women. Named for W. W. Holes, former member of the State University Board.

Mitchell Hall (1957, 1959). Women's residence hall with 418 beds. Named for W. B. Mitchell, former resident director.

Sherburne Hall (1969). Tallest building on campus, housing 504 men and women. Named for Sherburne County.

Shoemaker Hall (1915, 1960). Capacity for 505 students. Named for Waite A. Shoemaker, president, 1902-1916.

Stearns Hall (1966). Companion building to Holes Hall housing 399 men and women. Named for Stearns County.

OTHER PROPERTIES

Beaver Islands. A group of islands in the Mississippi River one-half mile south of the campus used for the study of plant and animal life. Named by Zebulon Pike, who explored the area in 1805.

George W. Friedrich Park. This 50-acre tract one mile east of the campus contains granite quarry ponds and extensive pine plantings used for nature study and recreation. Named for George W. Friedrich, former faculty member.

Minnesota Highway Safety Center. Designed by the Minnesota Department of Highways, this facility is used to teach emergency driving techniques and for vehicle testing and research. It is located on a portion of 655 acres of unimproved state land placed in the custody of the University in 1970. The remainder of the property, adjoining Highway 10 east of the St. Cloud Reformatory, is used by the University for environmental studies.

Selke Field. Varsity athletic field containing a baseball diamond, cinder track and football field, enclosed by a granite wall. Named for George A. Selke, president, 1927-1943.

Talahi Woods. This upper river terrace area is being preserved as an oak savannah and is to be retained in its natural condition for biological study.

SERVICE BUILDINGS

Administrative Services Building (1975). Offices for the president, administrative affairs, academic affairs, university relations and part of student life and development. Located at the west entrance to the campus.

Alumni House (1973). Former private residence, acquired by the University in 1973. The facilities are used to provide services for alumni and retired faculty.

Atwood Memorial Center (1966, 1972). Houses dining and recreation facilities and meeting rooms for students and faculty. Named for the Clarence L. Atwood family.

Carol Hall (1946). Originally a private home, then a women's residence hall, now an office building. Named for Carol Selke, wife of President George A. Selke.

Centennial Hall (1971). Houses the Learning Resources Center which includes all materials and services usually found in the library and

audiovisual services; a remote access information system; classrooms and laboratories for the Center for Library and Audiovisual Education; and Computer Services. Ground was broken during the University's Centennial year, 1969.

Garvey Commons (1962, 1965). Two dining rooms with cafeteria service seating 500 at one time. Named for Beth Porter Garvey, first dean of women.

Lawrence Hall (1905). Faculty office building. Oldest structure on campus. Named for Isabel Lawrence, president, 1915-1916.

Maintenance Building (1964). Provides shops, warehouse and vehicle storage for the campus. Attached to the heating plant.

Whitney House (1956). Former residence now used for offices. A gift to the University from the heirs of A. G. Whitney.

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Office of Admissions & Records
St. Cloud, Minnesota 56301

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