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**ST. CLOUD**

**STATE**

**COLLEGE**

**General Bulletin 1969-70**





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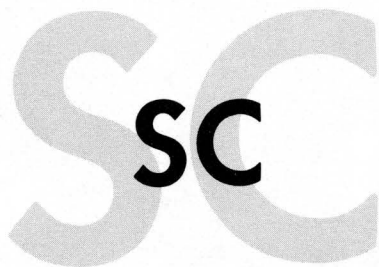
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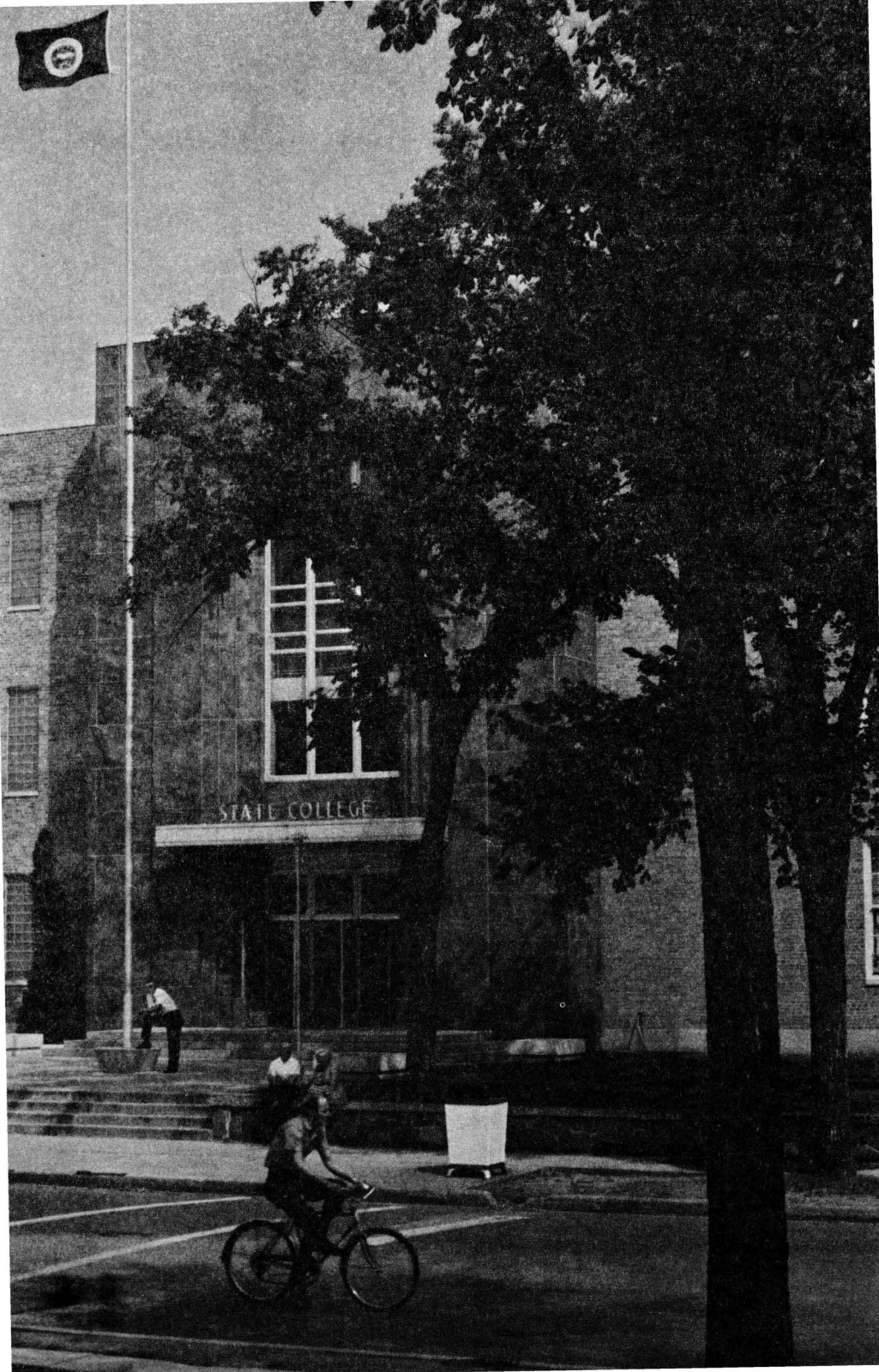
SCHOOL OF ARTS AND SCIENCES

SCHOOL OF BUSINESS

SCHOOL OF EDUCATION

INSTITUTE OF INDUSTRIAL EDUCATION  
AND TECHNOLOGY

St. Cloud, Minnesota 56301



STATE COLLEGE

# St. Cloud State College

The institution which is now St. Cloud State College first opened its doors as the Third State Normal School in September, 1869. The first building was the old Stearns House, a hotel which was purchased by the State Legislature for \$3,000 and was remodeled for use as a school. Classrooms for the Normal School were on the first floor, classrooms for the "Model School" were on the second floor, and a girls' dormitory was on the third. The original faculty consisted of Principal Ira Moore and four assistants; the student body included 42 young women and 11 young men. In the years since this modest beginning, the school has developed into a college of established reputation with a physical plant valued roughly at \$30 million and a faculty in excess of 500 members.

This development from normal school to college follows closely the pattern of development of similar state institutions throughout the country. Until 1898 the St. Cloud Normal School was essentially a secondary school with a few students of college grade. From 1898 on, the Normal School began offering a full junior college curriculum, and in 1914 the high school phase of the program was dropped. In 1921 the college was authorized by the State Legislature to adopt the name of St. Cloud State Teachers College, and in 1925 it was authorized to grant the four-year degree, Bachelor of Education. The name of the degree was changed to Bachelor of Science in 1940. The 1953 State Legislature authorized the College to grant master's degrees for graduate work.

The college is not primarily a teacher preparation institution today. Authorization was given in 1946 to grant the Bachelor of Arts degree to students completing a four-year general education course. Following the same pattern, a two-year Associate in Arts degree in general or pre-professional education was authorized in 1948.

Today the college is a multi-purpose institution offering undergraduate and graduate programs of study in the School of Arts and Sciences, School of Business, School of Education, Institute of Industrial Education and Technology and the Graduate School.

## PURPOSE

A democratic society depends upon citizens who are alert, tolerant, and responsible, leaders who are intelligent, educated, and committed to the public good, and institutions designed to develop such citizens and leaders.

This college provides a setting where each student can improve his talents, become more concerned about his obligations to his fellow men, and recognize that knowledge serves to identify man's past achievements as well as provide the basis for further progress. This college helps the student develop a respect and enthusiasm for learning, an appreciation for both continuity and change, and the recognition that the result of thought is frequently action. It is anticipated that this learning and recognition will culminate in the development of knowledge, skills, and a philosophy suitable for living in an age of accelerating change.

In keeping with these purposes, St. Cloud State College strives to provide an environment challenging to capable, well-prepared, strongly motivated students and faculty, and to prepare graduates who will:

- (a) continue to learn because they have experienced the excitement of discovery and creativity,
- (b) have an accurate sense of the heritage of Western and non-Western peoples,
- (c) critically appraise their values and the values of society,
- (d) have a personal commitment to serve society,
- (e) be aware of the rapidly changing nature of our world and the need to participate in the decisions required, and,
- (f) be capable of adjusting to changing vocational demands.

In addition, St. Cloud State College strives to serve the region by promoting cosmopolitan contacts with foreign students and faculty, by providing a program of study of other cultures, and by sharing the resources of the college and the community to meet the varying needs of the area and further enrich its cultural life.

# Programs of Study

St. Cloud State College offers (1) BACHELOR OF SCIENCE degree programs leading to professional and technical preparation, (2) BACHELOR OF ARTS degree for students pursuing other four-year programs, (3) MASTER OF SCIENCE, (4) MASTER OF ARTS, (5) MASTER OF BUSINESS ADMINISTRATION degrees, (6) a two-year program leading to an ASSOCIATE IN ARTS degree for students who do not wish to work toward a four-year degree, and (7) PRE-PROFESSIONAL PROGRAMS which cover one and two year curriculums leading to further study in the professional fields at other colleges and universities.

## ACCREDITATION

St. Cloud State College is a member of the American Council on Education, of the North Central Association of Colleges and Secondary Schools, and of the American Association of Colleges for Teacher Education. It is accredited by the North Central Association of Colleges and Secondary Schools and the National Council for Accreditation of Teacher Education.

## GENERAL EDUCATION

All students working toward either the Bachelor of Arts or Bachelor of Science degrees must meet all of the requirements of the General Education program as listed below:

Speech 161 (4)  
 English 162; 263, or 264 (8)  
 Philosophy 215 (4)  
 Social Science 104 (4)  
 Health Education 115 (2)  
 Physical Education (4)

Women: 4 one-cr. activity courses.  
 Men: P.E. 100 and 3 one-cr. activity courses.

Three of the following:  
 Geography 171 (4)  
 History 101 (4)  
 Industrial 192 (4)  
 Psychology 121 (4)

Four of the following:  
 Biology 101 (4)  
 Biology 104 (4)  
 Chemistry 102 (4)  
 Mathematics 121 (4)  
 Physics 103 (4)  
 Science 206 (4)  
 Science 207 (4)

Two of the following:

Art 121 (4)  
 English 124 (4)  
 Music 123 (4)  
 Speech 140 (4)

or

12 hours of a foreign language on the 100 or 200 level.

or

American Studies 101, 102 (if student does not elect American Studies major).

Senior Year:

Social Science 401 (4)  
 Current Issues 432 (2)

## BACHELOR OF SCIENCE DEGREES

### BACHELOR OF SCIENCE DEGREE IN BUSINESS ADMINISTRATION

The Bachelor of Science in Business Administration Degree is awarded to students who successfully complete a professional four-year program in the School of Business. To meet the requirements of any program in the School of Business a student must satisfactorily complete a minimum of 192 quarter hours, which includes (1) General Education requirement, (2) General Business Core, (3) Major and Minor Program requirements. The course requirements for each of the above are listed under School of Business.

### BACHELOR OF SCIENCE DEGREE IN TEACHER EDUCATION

The Bachelor of Science degree is awarded to students who successfully complete professional or technical four-year programs.

### Elementary Education

To meet the requirements of this program a student must satisfactorily complete 192 quarter hours, which includes (1) General Education requirements, (2) Elementary Education Major, (3) Professional Education Core, (4) Related Minor, and (5) one minor field of 24 or 36 quarter hours.

The course requirements of the Elementary Major are listed in the offerings of the Elementary Education Department.

Minor fields of study which can be applied to the Elementary program are listed in their respective department offerings.

Students majoring in elementary education may concentrate in the following fields:

Kindergarten—Primary	Library Science
Elementary—Junior High	Mentally Retarded
	Orthopedically Handicapped

The courses required in each of these fields listed are presented in detail in the School of Education section of this bulletin.

### Secondary Education

To meet the requirements of this degree a student must satisfactorily complete 192 quarter hours, which includes the (1) General Education requirements, (2) the Professional Education Core; and (3) one of the following combinations:

1. A field of study of 84 quarter hours.
2. A major field of 60 quarter hours and a minor field of 24 quarter hours.
3. A major field of 48 quarter hours and a minor field (or fields) up to 36 quarter hours.

### OTHER PROFESSIONAL OR TECHNICAL BACHELOR OF SCIENCE PROGRAMS

In addition to these programs, professional or technical programs are offered by the Institute of Industrial Education and Technology. There are also some Inter-school Programs. Specific information about these programs can be obtained by locating them by use of the index.

### BACHELOR OF ARTS DEGREES

The Bachelor of Arts degree programs are designed to meet the needs of students who desire collegiate preparation in the liberal arts tradition.

#### FIELDS OF CONCENTRATION

A Bachelor of Arts degree is conferred upon the satisfactory completion of a minimum of 192 quarter hours, which includes the General Education requirements and the requirements in "fields of concentration."

A field of concentration may be a departmental major such as English, History, Biology or, it may be a broader inter-departmental major such as Natural Science, Language (English and Foreign) and Speech, or Social Studies; or, it may be an area type program of studies drawn from several different departments.

The hours required for the major-minor and/or foreign language will be no less than 60 hours. This may be accomplished by an inter-departmental major of no less than 60 hours, a major of no less than 48 hours and a foreign language, a major of no less than 36 hours and a minor of no less than 24 hours.

No less than 60 percent of the credits in the major shall be at the 300-400 level. No less than 50 percent of the credits in the minor shall be at the 300-400 level.

Professional courses intended specifically for the teacher education program may not be counted toward the degree.

Details of the Bachelor of Arts programs can be found listed in the department offerings.

### ASSOCIATE IN ARTS

The Associate in Arts degree will be conferred upon those students who plan to terminate their college education at the end of two years and who have successfully completed 96 quarter hours of approved courses either in general education or in certain terminal education fields, or who have successfully completed 96 quarter hours in the preprofessional areas leading to advanced study in a professional school.

Professional courses intended specifically for the teacher education program may not be counted toward the Associate in Arts degree.

## 6 PROGRAMS OF STUDY

### 1. GENERAL—(96)

Speech 161 (4)

English 162 (4)

English 263 or 264 (4)

Health Education 115 (2)

Humanities (8) or Foreign Language (12)

Mathematics (4)

Physical Education—P.E. 100 or 101 and 2 one-hour activity courses (3)

Science (10-13)

Social Studies (8)

Electives (40-46)

These electives may be selected from subjects of special interest to the student, such as secretarial science, art, music, industrial arts, journalism, literature, etc. Credits required for the Bachelor of Science degree in Teacher Education cannot apply on the Associate of Arts degree.

In addition to the Associate in Arts in general education, a student may pursue a two-year program in the area of Secretarial Science or Engineering Technology. Students interested in these specific programs should refer to the respective department offerings.

### PRE-PROFESSIONAL PROGRAMS

The pre-professional curriculums have been approved by the University of Minnesota as being comparable to those offered at the University. Students may enroll in any one of these areas with the assurance that they may transfer later without loss of credit. The curriculums are not to be regarded as inflexible. They may be adjusted to meet the requirements in special professional curriculums and may be subject to change. Programs of study may also be adapted for certain other areas.

Students must check with the adviser for an outline of the requirements for a specific program.

#### PRE-AGRICULTURE

Adviser - Partch

#### PRE-DENTISTRY

Adviser - Goehring

#### PRE-ENGINEERING

Adviser - Vandell

#### PRE-FORESTRY

Adviser - Partch

#### PRE-HOME ECONOMICS

Adviser - Goehring

#### PRE-LAW

Adviser - Becker

#### PRE-MEDICINE

Adviser - Grether

#### PRE-MORTUARY SCIENCE

Adviser - D. G. Peterson

#### PRE-NURSING

Adviser - Goehring

#### PRE-PHARMACY

Adviser - Serdula

#### PRE-SOCIAL WORK

Adviser - Stach

#### PRE-VETERINARY MEDICINE

Adviser - Grether

#### PRE-X-RAY TECHNOLOGY

Adviser - Goehring

### GRADUATE STUDIES

#### GENERAL PURPOSES

Courses at the graduate level assume, for each student, a high level of maturity and great breadth and depth of intellectual interests. Consequently, much 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 at this college are:

- To develop to the optimum degree the ability of professional people to augment their professional and cultural understandings and skills.
- To develop appreciations, attitudes, and understandings characteristic of educated persons.
- To provide 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 professional preparation at the undergraduate level will be admitted unconditionally. Other students may be admitted conditionally with the approval of the Graduate Council.



Application for admission should be made to the School of Graduate Studies. 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 ask the registrar of that college to forward two official copies of his undergraduate transcript to the School of Graduate Studies at the time that application is made.

#### GENERAL REQUIREMENTS FOR GRADUATION

Admission to graduate study does not imply admission to candidacy for the master's degree. Such candidacy will be determined after the student has completed part of his work and on the basis of information submitted.

A candidate for the Master's degree must earn a minimum of 45 quarter hours of credit at the graduate level. A minimum mark average of "B" is required.

A student may be permitted to transfer not more than nine quarter hours of graduate credit from an accredited institution and/or extension credit earned at this college.

All credits presented in fulfillment of the requirements for the master's degree must have been earned within seven years of the date of the awarding of the degree.

#### EVENING CLASSES

St. Cloud State College offers a number of graduate courses on campus in the evenings during the regular school year. These courses may be used to satisfy master's degree requirements. For additional information about these courses, write to the School of Graduate Studies.

#### COURSE NUMBERING SYSTEM

Courses numbered from 500-699 may be used to satisfy the requirements of graduate degrees. Many courses carry double numbers e.g. 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.

### MASTER'S DEGREES

#### MASTER OF ARTS

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, psychology, and speech and dramatic art.

#### MASTER OF BUSINESS ADMINISTRATION

The Master of Business Administration is available with functional concentrations in marketing, accounting, management and finance, and insurance and real estate. It is expected that applicants will have some background in business administration course work, although a major is not required.

#### 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, physical science, broad science, social science, and speech and dramatic art. In addition, there are programs available in the following special fields: junior high school education, elementary school administration, secondary school administration, reading specialist, speech and hearing therapists, special education, information media, supervisors of art, music and physical education, and school counseling. Successful completion of these programs culminates in the Master of Science in Education degree.

The Master of Science degree is awarded for successful completion of the programs in Employment Counseling and Rehabilitation Counseling.

### FIFTH YEAR PROGRAM

Requirements for completion of the Fifth Year Program are included in the **Graduate Bulletin**. Additional information about this program may be obtained from the Dean, School of Graduate Studies.

#### FOR ADDITIONAL INFORMATION

More complete information about the graduate program will be found in the **Graduate Bulletin**. Requests for this bulletin and all inquiries regarding graduate study should be addressed to School of Graduate Studies.



SUMMARY OF UNDERGRADUATE PROGRAMS

**Four-Year Degree**

**BACHELOR OF ARTS**

American Studies  
 Anthropology  
 Art  
 Biology  
 Chemistry  
 Computer Science  
 Earth Science  
 Economics  
 English  
 French  
 Geography  
 German  
 History  
 Journalism  
 Latin American Studies  
 Mathematics  
 Philosophy  
 Physics  
 Political Science  
 Psychology  
 Radio and Television  
 Social Science  
 Sociology  
 Spanish  
 Speech  
 Speech Science, Pathology and  
 Audiology  
 Theatre

**Four-Year Degree**

**BACHELOR OF SCIENCE**

Accounting, Private/Industrial; Public  
 Computer Science  
 Engineering Technology  
 Finance  
 General Business  
 Industrial Engineering  
 Insurance and Real Estate  
 Management  
 Marketing  
 Medical Technology  
 Photographic Engineering Technology  
 Physical Therapy  
 Secretarial Administration  
 Teacher Education  
 Elementary  
 Junior High School  
 Library & Audiovisual Education  
 Special Education  
 Secondary  
 American Studies; Art; Biology;  
 Business Education; Chemistry;  
 English; Earth Science; French;  
 Geography; German; History;  
 Industrial Arts Education;  
 Journalism; Mathematics; Music;  
 Physical Ed. and Health;  
 Physical Science; Physics;  
 Radio and Television;  
 Social Science; Social Studies;  
 Spanish; Speech; Speech Science,  
 Pathology & Audiology;  
 Theatre.

**Two Year Programs**

**ASSOCIATE IN ARTS**

General Education  
 Computer Technology  
 Electronics Engineering Technology  
 Engineering Technology  
 Mechanical Engineering Technology  
 Photographic Engineering Technology  
 Secretarial Science  
 Technical Illustration Technology

**PRE-PROFESSIONAL PROGRAMS**

Agriculture  
 Dentistry  
 Engineering  
 Forestry  
 Home Economics  
 Law  
 Medicine  
 Mortuary Science  
 Nursing  
 Pharmacy  
 Social Work  
 Veterinary Medicine  
 X-Ray Technology

# Academic Information

## ADMISSION AND REGISTRATION

### ADMISSION OF HIGH SCHOOL STUDENTS

Graduates of accredited high schools must submit through their high school the Minnesota College Admission Form, an official transcript of high school credits, the scores of the American College Testing Program examination (ACT), and the \$10 application fee (check or money order; not refundable).

Minnesota residents who are in the upper 50% of their high school graduating class or who have a composite standard score of 18 or above on the ACT examination shall be eligible for admission to St. Cloud State College.

Students who are not residents of the State of Minnesota shall be eligible for admission if they rank in the 60 percentile or higher of their graduating class, or have a composite standard score of 20 or above on the ACT examination.

To encourage early planning for college, St. Cloud State College will grant provisional admission to eligible seniors in accredited high schools. The application materials should be submitted by the student and high school during the student's senior year, containing all the available information on the student to date. After graduation of the student, the high school must submit supplementary information relevant to the student's final performance and certification of his graduation. Registration of applicants will await official graduation from high school.

### HIGH SCHOOL EQUIVALENCE ADMISSION

Adults over the age of 21 may be admitted to St. Cloud State College upon successful completion of examinations administered by the College.

### ADMISSION OF TRANSFER STUDENTS

Transfer students need to submit an Application for Admission with Advanced Standing obtained from the Office of Admissions and Records, a \$10 application fee (check or money order, not refundable), and provide official transcripts from all institutions previously attended. The transfer student must have a "C" average and must be eligible to return to the last attended college.

Credits averaging a grade of "C" or better and earned in accredited institutions of higher learning are accepted toward graduation so far as they fit into the curriculum which the student selects. Credits earned in unaccredited institutions of higher learning may be accepted when the student has completed one year's work in residence with at least a "C" average. Students transferring from the General College of the University of Minnesota with an honor point ratio no lower than C.6 will be admitted to the college on a conditional basis. The student must earn a "C" average during his first quarter at St. Cloud State College or face academic dismissal. Only grades of "C" or better will be transferred for a student under General College status.

If a prospective student has been refused readmittance for any reason by the institution he previously attended, he is ineligible for admission to this institution, except as follows: He may make application in writing to the Admissions Committee and be prepared to present his case on its individual merits; he may be either granted or denied admission as a result thereof. Terms of admission will be stipulated.

A student who is admitted with less than a "C" average will be required to make up that honor point deficiency.

### DEADLINES FOR APPLICATIONS

Applications for admission will be accepted until August 15 for the Fall Quarter; December 1 for admission Winter Quarter; and March 1 for admission Spring Quarter. No deadline dates are established for Summer Sessions; however, sufficient records must be submitted before registration.

## 10 ACADEMIC INFORMATION

### EARLY REGISTRATION

St. Cloud State College encourages all students, both new and former, to take advantage of the opportunities offered for early registration. Early registration is the process of arranging a program of classes in advance of the quarter for which the student wishes to be enrolled. A former student may register for a particular quarter by contacting the Office of Admissions and Records for an appointment. Dates for registration for new students are enclosed with the physical examination form and the acceptance to the college.

### REGULAR REGISTRATION

The regular registration period for each quarter is indicated in the College Calendar (usually one or two days before the beginning of the quarter). Students who have not registered should report to the Office of Admissions and Records for instructions. The regular registration period should only be considered if it is absolutely impossible for the student to take advantage of the early registration.

### LATE REGISTRATION

Any registration which is completed after the beginning of classes is considered late, and thereby penalized by the addition of \$5 the first class day, accumulative at the rate of \$2 for each of the succeeding four class days of a regular quarter and three class days for summer sessions. Registration through the tenth class day of a regular quarter may be permitted in exceptional cases by clearing with the Office of Admissions and Records. These registrations would be subject to the late registration fee accumulating at the rate of \$2 a day.

### EVENING AND OFF-CAMPUS REGISTRATION

Evening and Off-Campus registration instructions are found in the class schedule available in the Office for Academic Affairs.

### CLASS RANKING

For admission to sophomore standing a student must have completed the freshman entrance requirements of the college, earned a minimum of 48 or more quarter hours or their equivalent, and attained a minimum cumulative honor point ratio of 2.0.

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

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

### COURSE NUMBERING SYSTEM

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

Courses numbered 600 to 699 - Courses are exclusively for graduate students.

## SCHOLARSHIP STANDARDS

### MARKING SYSTEM

The academic achievement of students is recorded by the following system of marks: **A**, excellent; **B**, very good; **C**, average; **D**, passing; and **E**, failing. The mark of **X** is given during the early quarter or quarters of a course which must be taken in a series of more than one quarter or sessions before any credit is earned. **S** means satisfactory performance in courses for which no more precise mark is generally available. **U** means unsatisfactory. For auditing the mark recorded will be "V". "W" means withdrawn.

After the final drop date (as indicated in the college calendar), any withdrawal will be recorded as an "E." If extenuating circumstances warrant other consideration, an appeal may be made through the Office for Academic Affairs. Students who register for a course but do not attend the class and/or 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 control, to complete all course requirements during the term, he 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).

### HONOR POINTS

The following system of honor points is used in all courses and curriculums; 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.

A student's honor point ratio is figured only on work taken at St. Cloud State College. Transfer credits carry no honor points.

### 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 completes 16 quarter hours credit with 16 hours of C has earned 32 points. His 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. His honor point ratio is  $24 \div 16 = 1.5$ .

Credits earned in courses in which the mark of "S" is given are not included in the computation of honor point ratio.

Only courses taken at St. Cloud State College are used in computing honor point ratio. When a course is repeated, the average of the marks is used in the calculation of the honor point ratio.

A transferred course cannot be used to remove an academic deficiency in a course taken at this college.

Marks of "I," (Incomplete); "X," (In Progress); "V," (Auditor); "W," (Withdrawn); 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.

### ACADEMIC DEFICIENCIES AND SELECTIVE RETENTION

When a student fails to maintain a "C" average for any given quarter, his academic work for that quarter is unsatisfactory. Whenever a student's cumulative honor point ratio is less than 2.0 ("C" average) he is scholastically unsatisfactory.

A student whose academic record is not satisfactory at the end of a quarter is placed on academic probation in the following quarter. Specific requirements and procedures of the trial quarter and the selective retention program are given in the Academic Handbook.

### CONDITIONS OF A TRIAL QUARTER

- a. Earn a "C" average for this trial quarter.
- b. Continue through to completion all courses for which originally enrolled unless approval is given by the Director of Academic Services (Academic Affairs Office).
- c. Carry fourteen or more credits during this trial quarter. Physical education activity courses will not be included in figuring honor point ratio for this trial quarter.

### DISMISSAL

The College 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 College 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 he has made up the failure. Prerequisites for a course, as stated in this **Bulletin**, must be met before the course is taken unless written permission to omit the prerequisites is obtained from the department chairman concerned and approved by the School or Institute Dean.

## STUDENT LOAD

The normal quarterly load for students is 16-18 hours. Permission to carry more than this amount of load shall be granted by the Vice-President for Academic Affairs only in exceptional cases, or to those students whose cumulative honor point ratio is 3.0 (B average) or better. A student shall not be allowed to carry in excess of 20 quarter hours during any one quarter. During the summer session, the normal load is 8 or 9 quarter hours. A student shall not be allowed to carry in excess of 10 quarter hours in any one summer session. A student's load is figured on the total of all courses carried, including correspondence, extension, or other college's courses taken concurrently with those at St. Cloud State College.

## CLASS ATTENDANCE

The College 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 his instructor, if possible, in advance, the reason for his absence. Members of the faculty will report to the Student Affairs Office the name of any student whose repeated absence is impairing his work.

## AUDITING OF COURSES

A student who wishes to audit courses must obtain permission of the instructor of the class which he wishes to audit and from the Dean of the school or institute offering the course. 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. Courses audited cannot be counted toward meeting graduation requirements. Courses audited are counted as part of the student load.

## REPEATING COURSES

A student will normally be allowed to repeat a course once if his original grade was D or E. However, a person with an over-all "C" average (2.0) may be granted special permission to repeat a course a second time by the Director of Academic Services (Academic Affairs Office) upon special application by the student with the recommendation of the student's adviser and the Dean of the appropriate school.

## CHANGE OF CLASS

A student is not permitted to change subjects or to add subjects to his class schedule after the fifth day of a quarter during the school year or after the fourth day of classes during a summer session. A failing mark will be given for courses dropped after the deadline shown in the College 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.

## RESIDENCE REQUIREMENT

Residence credit is credit earned on the campus of St. Cloud State College. To be eligible for graduation from this college 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 at this college in residence during his last two college years. Eight of these credits must be earned in residence during the quarter immediately preceding graduation. The Vice-President for Academic Affairs is authorized to permit a student who lacks four or less credits for graduation, and who has a good scholastic record, to complete his 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 hours in their minor fields in residence unless waived by the department. A student transferring from a junior college must take a minimum of 96 quarter hours in addition to credits earned at the junior college.

Any student must be enrolled for credit in the college during the quarter in which he completes the requirements for graduation.

**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 accredited 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**

All students who expect to become candidates for the bachelor's degree must, when their completed credits equal or exceed 32 quarter hours, 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 this college. Applications for admission to a major program must be initiated as follows:

<u>For majors offered by the Department of:</u>	<u>Contact the Office of:</u>
Art Biology Chemistry Economics English Foreign Languages Geography History Journalism	Mathematics Music Philosophy Physics Political Science Social Science Sociology & Anthropology Speech & Dramatic Art Speech Sci., Pathology & Audiology
} Dean, School of Arts and Sciences	
-----	
Accounting Business Education & Office Administration Management & Finance Marketing & General Business	}
} Dean, School of Business	
-----	
Elementary Education Library & Audiovisual Education Health, Physical Education, & Recreation Psychology Secondary Education Special Education	}
} Dean, School of Education	
-----	
Industrial Education Technology	}
} Dean, Institute of Ind. Ed. & Technology	
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Students interested in American Studies, Earth Science, Latin American Studies, Medical Technology, Sciences, and Social Studies must contact the Dean, School of Arts and Sciences to apply for admission to a major program; those interested in Physical Therapy must contact the Dean, School of Education.

Students interested in the Associate in Arts program in Secretarial Science must contact the Dean, School of Business; those interested in the General Education program must contact the Director of Admissions and Records; those interested in the Technology two-year programs must contact the Dean, Institute of Industrial Education and Technology.

## 14 ACADEMIC INFORMATION

Transfer students who transfer more than 48 quarter hours must make application after completing 12 quarter hours of credit; other transfer students must make application when their total credits equal or exceed 32.

Transfer students may enroll in 300 or 400 courses their first two registrations without being admitted to a Major Program of Study if the courses are necessary at this time.

### ADMISSION TO TEACHER EDUCATION

All students preparing to teach must make application for admission to Teacher Education in the Office of the School of Education. Admission to Teacher Education is a prerequisite for student teaching. It is advisable for students to apply for admission to Teacher Education as soon as they become eligible.

Students on the BS program in Teacher Education are eligible to apply for admission to Teacher Education when they have met the following requirements:

1. Admission to major-minor program of study.
2. Completion of 96 quarter hours. For transfer students, completion of at least 14 quarter hours at St. Cloud State College.
3. Completion of Psychology 262, with grade of "C" or better. If this course is transferred in, at least one course in Professional Education must be earned at St. Cloud State College, with a grade of "C" or better. No grades of less than "C" in Professional Education will be accepted.
4. Completion of the required communications sequence with a minimum grade point average of 2.00.
5. Grade point average of 2.25 in their major(s).
6. Grade point average of 2.00 in their minor(s). For Elementary, this means a grade point average of 2.00 in the related minor, Library Science minor, and Special Education minor. For Secondary students, this means a grade point average in all minors.

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

### ADMISSION TO STUDENT TEACHING

A student must submit his application to the Director of Student Teaching by the end of the first week of the quarter, two quarters preceding the quarter he plans to student teach. His application will be approved if he meets the basic requirements of general fitness for teaching and the following requirements of scholarship:

1. General Scholarship—2.00.
2. Communication courses — 2.00; the required sequence must have been completed.
3. Major field — 2.25.
4. Minor field — 2.00.
5. Professional Education Core — no grade of less than "C".
6. Health Examination.
7. Admission to Teacher Education.

The college reserves the right to deny student teaching to a student whose personal qualities, general health, scholastic achievement, conduct, or other standards are such that student teaching would not be in the best interests of the college and the student.

### WITHDRAWAL FROM COLLEGE

Students withdrawing officially from the College should report to the Office for Student Affairs for instructions on procedure. Withdrawal without proper application during a quarter will result in failing grades.

### GRADUATION

Under the authority of the State College Board, St. Cloud State College awards the degree of Master of Science in Education, Master of Arts, Master of Business Administration, Bachelor of Science, Bachelor of Arts, and Associate in Arts. A total of 192 quarter hours of credit is required for any four-year degree.

Candidates for a Bachelor of Science degree in education must meet the following academic standards in order to qualify for graduation:

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

Candidates for a Bachelor of Science in a non-teaching field, Bachelor of Arts, or Associate in Arts degree must meet the following academic standards to qualify for graduation:

1. General scholarship — 2.00.
2. Communication courses — 2.00.
3. Major and Minor field — 2.00.

Application for graduation forms are obtained in the Registrar's Office. Check the College Calendar for the due date in any specific quarter.

Each student who completes a degree curriculum with an honor point ratio of at least 3.00 but less than 3.50 is graduated with "Scholastic Honors." Each student with an honor point ratio of at least 3.50 is graduated with "High Scholastic Honors."

### HONORS PROGRAM

The Honors Program at St. Cloud State College 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 within which the student may develop into a liberally educated scholar, capable of intellectual independence, critical thought, and self-enlightenment. The aim is not acceleration, although some will naturally occur. Rather, the college attempts to confront the superior student with all kinds of ideas; it desires to deepen his intellectual experience, awaken his sensitivities, and stimulate his love for learning. In the process, the student is encouraged to carry on dialogue of intellectual discovery with his colleagues and his 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 College Honors. The first is granted to those who satisfactorily complete only the requirements in the Liberal Studies Honors curriculum; the second to those who complete honors requirements only in a major field; and the third to those who complete honors requirements in both.

For more detailed information concerning the Honors Program see the description of Honors in this catalog and the brochure, *Honors at Saint Cloud*, available in the Academic Affairs Office. For information concerning admission to Honors contact the Assistant Vice-President for Academic Affairs.

### INDIVIDUALIZED STUDY OPPORTUNITIES

The college offers several opportunities for highly qualified students to individualize their academic programs and, thus, to progress at a rate commensurate with their preparation and ability. These opportunities include college credit for high school students, placement examination, exemption or substitution for students who have proficiency in a general education course, independent study, and credit by examination. The credit by examination program is designed to encourage students to study independently for a course and then to take an examination over the material. A total of forty-eight quarter hours of credit may be earned in this manner. For details concerning all aspects of the individualized study program, consult the Assistant Vice-President for Academic Affairs.



# Financial Information

## TUITION

Following is the schedule of tuition charges for the Minnesota State Colleges:

### ON CAMPUS COURSES

Fall, Winter, or Spring Quarters

Undergraduate:

Residents ..... \$ 6.75 per credit hour  
Non-residents ..... \$15.00 per credit hour

Graduate:

Residents ..... \$ 9.00 per credit hour  
Non-residents ..... \$19.00 per credit hour

Summer Sessions:

Undergraduate:

Residents ..... \$ 6.75 per credit hour  
Non-residents ..... \$15.00 per credit hour

Graduate:

Residents ..... \$ 9.00 per credit hour  
Non-residents ..... \$19.00 per credit hour

### OFF CAMPUS COURSES:

All students—graduate or undergraduate, resident or non-resident, regular school year or summer sessions ..... \$13.00 per credit hour  
Minimum tuition of any credit-granting course of instruction ..... \$15.00

### LATE REGISTRATION

Any registration which is completed after the beginning of classes is considered late, and thereby penalized by the addition of \$5 the first day accumulative at the rate of \$2 for each of the succeeding four class days of a regular quarter, or three class days of a summer session. Registration through the tenth class day of a quarter may be permitted in exceptional cases by clearing with the Registrar. Such registrations would be subject to the late registration fee accumulating at the rate of \$2 per day.

## FEES

The Student Activity Fee is \$15 per quarter and \$7.50 for each summer session. This covers tickets of admission to lectures, concerts, plays, and athletic contests. The fee is also used to pay for health service, the college paper, and all college social and recreational activities. Part of the expense of the college year-book is also covered by this fee.

The Student Union Fee is a quarterly fee of \$5 and a fee of \$2.50 for each summer session.

Undergraduate students who take 9 or more quarter hours during a quarter or 5 or more during a summer session are required to pay the full amount for Student Activity and Student Union fees. Graduate students who take 7 or more quarter hours during a quarter or 5 or more during a summer session are required to pay the full amount for Student Activity and Student Union fees.

Undergraduate and graduate students enrolled on campus on a part-time basis are required to pay half of the Student Activity and Student Union fees.

### SUMMARY OF EXPENSES

Board and room per quarter, Residence Halls .....	\$275
Tuition per quarter (16 credit hours, resident) .....	108
Student Activity Fee, per quarter .....	15
Student Union Fee, per quarter .....	5
Total (average student) .....	<u>\$403</u>

**Special Fees**

*Lessons: Orchestral Instruments, per quarter .....	\$ 15
Lessons: Organ, per quarter .....	20
*Lessons: Piano, per quarter .....	15
*Lessons: Voice, per quarter .....	15
Towel service for Physical Education courses .....	1

All tuition and fees must be paid in person at the Business Office. Payment of fees by mail, with the exception of off-campus classes, will not be accepted.

\*No fees charged music majors and minors for required credits.

**REFUND ON TUITION AND FEES**

**On-Campus Classes:** No partial refunds will be made for courses dropped by a student unless he withdraws officially from the whole of his course work. If complete withdrawal and check-out is carried out with the knowledge and consent of the Student Affairs Office during the first week of classes of the fall, winter, or spring quarter, 80 per cent of the fees will be returned. During the second week of classes, 60 per cent; third week, 40 per cent; fourth week, 20 per cent; thereafter, no refund will be made. In the summer sessions, a 60 per cent refund will be made upon withdrawal in good order during the first five days of classes; 20 per cent during the second five days of classes; thereafter no refund of fees will be made.

**Off-Campus Classes:** In the case of off-campus and evening classes there will be a refund from the first through the completion of the fourth class session of 50 per cent. Following the fourth class session, no refund will be made.

**RECEIPTED FEE STATEMENT**

After paying his fees, each student should carry with him the receipted fee statement for the entire quarter. It is needed for identification, for library use, showing completed registrations, admission to college events and in transactions concerning locker and towel services.



# Student Affairs

The Vice-President of Student Affairs, two Assistant Deans of Students, Director of Student Activities, Director and Assistant Director of Student Housing, Director of Financial Aids, Financial Aids Assistant and Director of the Atwood Memorial College Center administer a number of programs in the interest of student welfare. The following are the co-curricular activities: loans, scholarships, and part-time employment; supervision and training of upperclass student counselors; maintenance of student personnel records; selective service and veterans affairs; orientation of new students; concerts and lectures; and counseling with students concerning many kinds of problems.

## COUNSELING AND RELATED SERVICES

The Counseling and Related Services Center is operated primarily to serve four needs. The first is to diagnose psychological and educational difficulties of elementary and high school children in the area and to suggest remedial programs to be followed. The second is to furnish a laboratory situation for students engaged in learning diagnostic and remedial procedures in reading, counseling, speech, hearing, and other areas. The third is to engage in correcting difficulties that elementary, high school, and college students are found to have in reading, personality, speech, hearing, and other areas.

The fourth purpose of the Center is to assist college students in making educational, vocational, personal, or social adjustments through individual interviews or counseling services. 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 in the counseling process. An educational, vocational, and personal information library is also provided.

## FINANCIAL AID PROGRAM

A variety of sources are available from which a student may draw to finance his education at St. Cloud State College. Interested students should refer to the Financial Aid Brochure or see the Financial Aid Officer in 115 Stewart Hall.

(1) **FAMILY RESOURCES.** The student's family will be expected to give financial aid to the full extent of its ability. (2) **STUDENT SAVINGS.** The student will be expected to have savings which can be used to defray school expenses. (3) **EMERGENCY LOANS** are granted to students who are financially needy, have a C average, have a record of personal and financial responsibility, and have been in residence at this college for at least one quarter. (4) **FEDERALLY INSURED LOANS** are made to students by local lending institutions through the college. (5) **NATIONAL DEFENSE STUDENT LOANS** are made to needy students on a long-term basis at 3% interest with possible cancellation for teaching service. (6) **EDUCATIONAL OPPORTUNITY GRANTS** give the new needy student no more than half the amount of his need. (7) **SCHOLARSHIPS** in limited number are available to qualified students. (8) **VETERANS BENEFITS** are available for training of students under the following: Public Law 894 - Rehabilitation of Veterans, Public Law 634 - War Orphans' Bill, Public Law 358 - G.I. Bill. To become eligible for either of the first two, the student should see his nearest veterans' office to initiate action. The veteran may obtain an application form for the G.I. Bill from the school or from any veterans' office. (9) **WORK-STUDY** permits students from low income families to help defray college costs by working no more than fifteen hours a week while enrolled in school or forty hours a week during vacations and summers. (10) **PART-TIME EMPLOYMENT.** Applications should be made to the Financial Aid Officer.

A student may apply for all forms of financial assistance for which he is eligible. He should apply for the full academic year if he anticipates that he will need aid for any part of the year. To apply for aid from St. Cloud State College he must:

(1) **Be enrolled at or accepted for admission at the college.** A prospective student will be sent information on financial aids and directions about applying as soon as he is admitted to the college.

(2) Complete the Parents' confidential (financial) Statement if applying for scholarship, National Defense Student Loan, Work-Study or Educational Opportunity Grant and forward it to the College Scholarship Service.

(3) Complete the application for financial aid and return to the college.

## HEALTH SERVICE

Each entering student is required to have a physical examination by a physician, and the report of the examination must be submitted on the standard form used by the college. A completed examination form must be received by the college prior to the opening of the student's first quarter in residence. An examination taken more than six months prior to the opening of the first quarter will not be accepted. Failure to comply with this regulation will result in withholding registration.

The Health Service provides many services. For a detailed description of these services consult the Student Handbook or contact the Health Service.

A Blue Cross and MII group hospital and medical plan is available to all students enrolled for nine or more credits. The policy goes into effect October 1 for a 12-month period. Enrollment dates are at the beginning of each quarter.

## HOUSING

All students will be required to live in College Residence Halls up to the capacity of the on-campus Residence Halls. Residents of college housing pay in advance by the quarter for room and board and sign a contract for the academic year. Complete details regarding on-campus housing are included in the pamphlet "Residence Hall Handbook and Terms and Conditions of Occupancy."

### HOW TO APPLY FOR COLLEGE HOUSING

(1) Students enrolling at St. Cloud State College for the first time complete and submit the housing application materials which they receive after their notification of acceptance to St. Cloud State College.

(2) Room assignments are made by the latter part of July and notices are mailed shortly thereafter. Should a student wish to cancel his room assignment, notice must be given the College 60 days prior to the opening of the Fall Quarter, and 45 days prior to the opening of all other terms.

### RESIDENCE HALLS

The residence halls are designed to provide the greatest possible experience in group living, self-discipline, and the development of good taste and social manners. The major goal of the residence hall program is to provide an atmosphere in which the work required of students to succeed in college can be accomplished.

Each residence hall has a full-time director who is responsible for the administration and supervision of the hall. Each floor or house is guided by an undergraduate Resident Assistant who is selected for outstanding leadership qualities and ability to work effectively with students. Each hall has a general council which aids in the government of the hall. The hall programs include the following: Scholastic Program, Athletic Program, Activities Program, Social Program, Hall Council and Judicial Board.

### BUILDINGS FURNISHINGS AND SERVICES

The designation given each hall as to male or female occupancy is on a year-to-year basis. Residence Halls for women presently include Hill Hall, Lawrence Hall, Mitchell Hall, Shoemaker Hall North, Holes Hall, and Sherburne Hall.

Residence Halls for men include Shoemaker Hall East and West, Case Hall, and Stearns Hall.

Benton Hall provides an apartment type living opportunity for selected Junior and Senior men and women.

Men and women students residing in Hill-Case and Shoemaker share recreational and main lounge facilities.

Each residence hall furnishes lounges, recreation rooms, laundry facilities, kitchenettes, and sewing rooms. The College furnishes the sheets, pillow slip, and the pillow. Towels, bedspreads, and blankets are to be furnished by the student.

## 20 STUDENT ACTIVITIES AND ORGANIZATIONS

### RATES AND AGREEMENTS

Room and board fees in residence halls are \$275 per quarter for a double room, to be paid in advance of the quarter. Students may also pay on a monthly basis if necessary. Information about payment dates is included with each contract. Late payment incurs a \$1 per day fee until payment is made.

All residence hall contracts for room and meals are for the full school year. The halls will be closed and no meals will be served during the days between quarters and during college holidays as listed in the General Bulletin. The reservation fee also serves as a damage deposit fee and is refunded when the student properly checks out of a residence hall. The damage deposit fee must be kept at \$25 while a student is in residence. The \$25 deposit will be refunded when the student leaves at any time during the quarter only under the following conditions: (1) sickness; (2) asked to leave by the College; (3) unable to obtain required courses.

Room and board charges are subject to change by the action of the State College Board. No discount is made for absences. A student withdrawing from the college during the quarter receives a refund of board charges but is not refunded his room rent. Such a student must pay for board through the Friday following the date of departure. Room without board is available for Summer Session Students at \$40 per session when two share a room and \$60 for a single room. Meals may be obtained a la carte at one of the food service centers and at the College Center.

### OFF-CAMPUS HOUSING

Unmarried students must live in parental homes, college residence halls, or if the residence halls are filled, in homes approved by the College. Those who wish to live with friends or relatives other than parents must secure permission from the Director of Housing. The following are exempted from this policy: (1) part-time students; (2) students who have received a baccalaureate degree; and (3) students 21 years of age or older. For the purpose of this policy, a student's age on the first day of the quarter shall be considered to be his age for the entire quarter. Such exemption may be revoked in the event of irresponsible conduct or violation of college regulations. College regulations governing student conduct apply to all students regardless of whether they live in approved or non-approved housing.

Lists of college approved off-campus facilities are available for student use in the Student Affairs Office. Rooms in private homes are rented for the full quarter. Students are not permitted to change rooming or boarding places during the quarter without the permission of the Director of Housing. Students residing in off-campus housing have the privilege of eating their meals in college dining halls at the same rate as campus students. Arrangements are made with the Director of Housing.

### MARRIED STUDENT'S HOUSING

The College at the present time is unable to provide housing for married students. It is suggested that married students visit St. Cloud during the quarter preceding attendance to obtain housing.

## STUDENT ACTIVITIES AND ORGANIZATIONS

St. Cloud State College offers a variety of social activities designed to complement the academic experience of the student. The Social Activities program is geared toward the social, personal, emotional, spiritual, physical and intellectual development of the student.

A comprehensive program is planned by a committee comprised of students and faculty, with the planning and organization of events carried out by committees of interested students. Participation provides an opportunity for leadership, as well as an outlet for individual talent and ability.

The summer school student may enjoy a variety of on-campus social and cultural activities, in addition to which transportation and admission to Theatre L'Homme Dieu is available without charge.

## CONCERTS AND LECTURE SERIES

Recent programs have included James Farmer, Henry Steele Commager and Justice Arthur Goldberg; notable concerts have been presented by the Minnesota State Orchestra with Mischa Dichter, and the Winnipeg National Ballet; visiting professors covering subjects such as the inner city and the Minnesota Indian have complemented the curricular program of the college.

## STUDENT GOVERNMENT

**The Student Senate** represents the entire college community. The purposes of the Senate are to effect a centralized student government, to promote faculty-student cooperation, to provide a training opportunity in democracy and democratic procedure, to develop leadership, and to promote good citizenship.

**The Associated Women Students** is an organization representing all women on St. Cloud State College campus. It is designed to promote the spirit of unity and loyalty among the women of the campus; to encourage and maintain high standards of living and scholarship; to co-operate with the college in establishing and maintaining policies and standards of conduct and housing. Its membership in the Inter-Collegiate Association of Women Students provide a training opportunity in democracy and democratic procedure, to develop leadership in a national group.

**The Inter-Religious Council** furthers the interest in spiritual life of the college students. It acts as a referendum and coordinating agency to carry out the religious activities in which all of the various religious groups participate as a unit. The Council assists in making preparations for Religion-in-Life week.

**The Pan-Hellenic Council** considers matters of common interest to all of the sororities. It acts as an authorized body to consider inter-society policies and activities, to effect a cooperative and harmonious relationship among the sororities on campus, to aid in the satisfactory orientation of new women students, and to promote social and cultural interests of women students on the campus.

**The Inter-Fraternity Council** is similar in function to the Pan-Hellenic Council and consists of representatives from each of the men's fraternities.

## INTERCOLLEGIATE ATHLETICS

Athletics is under the general supervision of the Intercollegiate Athletic Committee and under the immediate supervision of the Director of Athletics. The college is a member of the Northern Intercollegiate Conference and the National Association of Intercollegiate Athletics. It is committed to tolerate only clean and wholesome activities and to promote good sportsmanship among contestants and spectators. The college is represented by inter-collegiate teams in football, basketball, wrestling, hockey, swimming, gymnastics, track, baseball, tennis and golf. Over a period of years it has made an excellent record in intercollegiate competition. Large squads are encouraged so that a maximum number of students may enjoy the benefits from intercollegiate competition. In addition to the varsity squad, freshman squads are maintained and trained in major sports.

## ATWOOD MEMORIAL COLLEGE CENTER

Fall quarter, 1966, marked the opening of the Atwood Memorial College Center. The center provides a snack bar, conference rooms, music listening lounge, college newspaper and yearbook offices, student senate office, alumni office, general lounge areas and the games and recreation area, including eight bowling lanes and billiard tables.

## STUDENT PUBLICATIONS

**The College Chronicle**, the student newspaper, is distributed every Tuesday and Friday. In recent years the Chronicle has won both All-American rating from the Associated Collegiate Press and the Medalist rating from the Columbia Scholastic Press Association. The Chronicle has a program of honorariums for those in key editorial positions.

**The Talahi** is the college yearbook published by the students. Its purpose is to record the activities of each college year and to give training to students interested in the production of yearbooks. The Talahi has a program of honorariums for those in key editorial positions.

**The Student Handbook** presents basic information about the college — its history, organization, academic and conduct regulations, student services, and student activities.

## 22 STUDENT ACTIVITIES AND ORGANIZATIONS

The **College Directory** is a publication including the names, home towns, college addresses, and telephone numbers of students. Office numbers, extension numbers, and home addresses and phone numbers are given for all members of the college faculty and staff.

### INTRAMURAL SPORTS

The aim of the Intramural Program is to offer every student and faculty member opportunity to participate in some wholesome leisure-time athletic activity. Participation in intramural sports is entirely voluntary. It provides opportunities for students to increase their skills in activities with the fun of friendly competition, provides social contact with other students, and develops the spirit of cooperation and fair play.

### STUDENT ORGANIZATIONS

Students are encouraged to take an intelligent and active part in a reasonable number of co-curricular activities. Each organization established on the campus has a constitution on file with the Student Senate and the Faculty Senate.

The opportunities for participation cover a large area of interests. A well-balanced student program chosen to supplement the academic training and to broaden the cultural experiences is invaluable. Such training and enjoyment increases the value of the individual's worth in any community.

**Arts and Letters:** Forensics Association, Music Club, Radio Guild, Theatre Guild, Art Club.

**Business:** Accounting Society, Business Club, Society for the Advancement of Management, Business Education and Office Administration Club.

**Health and Physical Education:** Lettermen's Club, Women's Recreation Association, Synchronettes Swim Club, Physical Education Majors and Minors.

**Religious Organizations:** Baptist Student Fellowship, Christian Science Organization, Gamma Delta, Inter-Varsity Christian Fellowship, Inter-Religious Council, Lutheran Student Organization, Newman Club, United Campus Christian Fellowship, Wesley Foundation, Covenant Club.

**Scholarship and Education:** Association of Childhood Education, Chi Sigma Chi (Industrial Arts honorary), Student National Education Association, Sigma Alpha Eta (Speech), Kappa Delta Pi (Education honorary), Kappa Pi (Art honorary), Pi Omega Pi (Business honorary), Tau Kappa Alpha (Forensic honorary), International Relations Club, Industrial Education Club, College Hosts.

**Science:** Academy of Science, Aeronautics.

**Social Science:** Young Democrats, Young Republicans, SPAN, Economics Club, SHARE, History Club, Geography Club, Cosmopolitan Club.

**Social Fraternities:** Phi Sigma Epsilon, Phi Kappa Tau, Sigma Tau Gamma, Tau Kappa Epsilon, Theta Chi.

**Social Sororities:** Alpha Phi, Alpha Xi Delta, Delta Zeta, Sigma Sigma Sigma.

**Service Organizations:** Men - Alpha Phi Omega; Women - Gamma Sigma Sigma.

**Special Interest Groups:** Cheerleaders, Ski Club, German Club, French Club, Spanish Club.





# All College Courses

## CURRENT ISSUES

- 432 **General Education Current Issues.** Significant problems and important issues that face man. An interdisciplinary, interdivisional course designed to provide the senior student an opportunity for integrating learning experiences. 2 credits.

## EDUCATIONAL TOURS

- 410-510 **Educational Tours. (Name of Department).** Tours taken under supervision of the College. Exact nature of course will be defined by the department involved and approved by the administration. Considered residence credit. 1 to 8 credits.

## GREAT ISSUES

- 401-501, 402-502, 403-503 **Great Issues.** Organized around a different theme each year. Emphasis on interdisciplinary approach to significant problems and important issues. Offered jointly by St. Cloud State College, St. John's University, and the College of St. Benedict. Open to students by invitation. 2 credits per quarter for three consecutive quarters for a total of 6 credits.

## HONORS PROGRAM

**Liberal Studies Curriculum.** Students selected into the Honors Program are enrolled in the Liberal Studies Curriculum rather than the college general education courses. This curriculum includes the following course of study. The content of the various seminars may vary from year to year. Information concerning seminar content in a specific quarter is available in the office of the Assistant Vice President for Academic Affairs.

### FRESHMAN YEAR, FALL QUARTER

- 100 **Honors English.** Emphasis upon advanced composition, creative writing, reading of selected literature and critical analysis. 4 credits.
- 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 credits.
- Foreign Language.** Two years proficiency (as determined by the Foreign Languages Department) in one modern language.

### FRESHMAN YEAR, WINTER QUARTER

- 102 **Honors English.** Study of various literary forms with additional emphasis on analytical and interpretative thinking and writing. 4 credits.
- 120 **Honors Physical Science.** The purpose of all science requirements is to acquaint the student with major problems of a general area and the different ways man has attempted and does attempt solutions. There is no attempt to survey one area. Rather, the student is expected to develop skills and tools helpful in comprehending and evaluating scientific thought. The seminars in physical and biological sciences may be interchanged. 4 credits.
- Foreign Language.**

### FRESHMAN YEAR, SPRING QUARTER

- 121 **Honors Biological Science.** See description under Physical Science. 4 credits.
- Foreign Language.**



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### SOPHOMORE YEAR, FALL QUARTER

- 200 Honors Philosophy.** Content will vary from year to year but is concerned with helping the student sharpen conceptual tools and critical techniques, encouraging him to develop a questioning intellectual attitude, and promoting within him the habit of original thought. 4 credits.

### SOPHOMORE YEAR, WINTER QUARTER

- 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 credits.

### SOPHOMORE YEAR, SPRING QUARTER

- 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 his powers of critical thought. 4 credits.

### JUNIOR YEAR, FALL QUARTER

- 310 Honors Social Science II.** A second seminar in social and behavioral science. 4 credits.

### JUNIOR YEAR, WINTER QUARTER

- 320 Honors Humanities II.** A second seminar in Humanities; see description above. 4 credits.

### SENIOR YEAR

- 402 Honors Interdisciplinary Colloquim.** Select one: Humanities, Social Science, or Natural Science. Senior honor students must take two interdisciplinary colloquia. One must be in the area above where his departmental major is and one must be another area. 4 credits.

- 403 Honors Interdisciplinary Colloquim.** See description above. 4 credits.

### Physical Education.

3 credits.

### ADVENTURES IN MEANING.

All honor students are involved in this extra-curricular 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 honor students; to further develop an appreciation for the liberal arts idea; and to help provide a sense of intellectual community. No grades or tests are given. It is assumed that honor students do not need to be required to participate in this kind of intellectual endeavor.

### DEPARTMENTAL HONORS.

With the exception of three common features each departmental program has its own individual characteristics. All have, however, opportunity for students to do independent work for credit. The course entitled Independent Honors Study is offered in every department and may carry from two to twelve hours credit. The departments have complete control over this opportunity and are free to use it as the number of honor students and the availability of faculty permit. The purpose is to give the student ample opportunity to pursue various readings or research topics not available to him 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 his field, and to express himself in a scholarly manner.

Finally, each senior honor student must stand a comprehensive examination in his 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 the student should contact the chairman.

## REQUIREMENTS FOR GRADUATION WITH HONORS

### IN LIBERAL STUDIES PROGRAM:

1. Completion of the Liberal Studies curriculum unless waivers are granted by the Honors Council.
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.
4. Approval of Honors Council in consultation with Liberal Studies faculty. Students should note that a minimum grade point average alone is not sufficient for honors. The college is more concerned with the other attributes of the honors outlook. It is possible, therefore, that a student might have a high grade point average but would not receive approval for honors.

### IN DEPARTMENTAL HONORS:

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.

### IN COLLEGE HONORS:

1. Completion of the 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 Honors Council.

### CONTINUATION IN HONORS PROGRAM.

Any time an honor student falls below a 3.0 average for all work taken he is permitted to continue for one quarter. If he is still below 3.0 at the end of the next quarter he will be asked to discuss his situation with the Honors Council and may be asked to withdraw from the program. Regardless of a student's average, the Honors Council may review a student's status at any time should it receive 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 Honors Council when a student has been dropped from the program for low grades or other reasons.

### PASS-FAIL COURSES.

An honor student may take one course per year without being graded. At the end of the quarter he will be given either a pass or a fail. Credits earned in this way will not be included in computing grade point averages. The purpose of this opportunity is to allow the superior student to learn more about an area where he has some interest but inadequate background to compete with advanced majors in the field.

### RELATED PROGRAMS.

A number of related academic programs are being developed for honors students. These include opportunities for credit by examination and individual study programs, off-campus study and travel, Tri-College Program in Great Issues, Senior Assistant Program, Honors Forum, etc. For specific information, consult the Assistant Vice President for Academic Affairs.

## ORIENTATION

**Orientation 101** (4 credits, Fall), **102** (3 credits, Winter), **103** (2 credits, Spring). This course is designed to help prepare minority students to relate to a total educational environment which rests on a cultural base not necessarily shared by members of a minority subculture. No prerequisite.

## READING

- 019 Reading and Study Skills.** Special emphasis on comprehension, study skills, and vocabulary improvement. Additional time for small group discussions optional. Open to all college students. 2 credits (not applicable on degree).
- 020 Reading Rate Improvement.** A course for college students who desire to improve their speed and flexibility in rate of reading.  
2 credits (not applicable on degree).

## TELEVISION

**488-588 (Name of the Department).** Exact nature of the course to be offered on television will be defined by the department involved and approved by the administration.

## WORKSHIPS

**495-595 Workshop.** (Name of the Department). Area limited and specific subjects selected before the opening of each term. 2-8 credits.



# School of Arts and Science

*Donald E. Sikkink, Ph.D., Dean*

## Departments

Art  
Biology  
Chemistry  
Economics  
English  
Foreign Languages  
Geography  
History  
Journalism  
Mathematics  
Music  
Philosophy  
Physics

Political Science  
Social Sciences  
Sociology and Anthropology  
Speech and Dramatic Art  
Speech Science, Pathology and  
Audiology  
Interdepartmental Fields  
American Studies  
Earth Science  
Latin American Studies  
Medical Technology  
Sciences  
Social Studies

The goal of the School of Arts and Sciences is the development of an individual who will have those insights and skills which will make him a person of aesthetic sensitivity, social responsibility, scientific understanding, and psychological maturity.

## AMERICAN STUDIES

*N. B. Thompson, Ph.D., Advisor*

### BACHELOR OF SCIENCE

#### Major (84) (For Certification in Social Studies)

The program shall be constructed at the time the student elects to major in American Studies and shall be prepared by the student in consultation with his major adviser. It shall be constructed from the list of Courses Available for American Studies Programs, (see adviser) and shall take the following form:

American History — 16-20 credits  
American Literature — 6-10 credits  
American Philosophy and the Fine  
Arts — 4-8 credits  
The American Society — 16-20 credits  
European Backgrounds to American  
Civilization — 16-20 credits

The American Studies Synthesis —  
14 credits  
Social Studies 353. Teaching Social  
Studies in Secondary Schools.  
4 credits.

The student is advised that he should elect Geography 171 Regional Human Geography (4 credits) in his General Education Program and 4 credits in History as part of his General Electives.

#### Minor (36)

American Studies 101, 102, 201, and 301. (12)

A program of 24 credits selected from the list of Courses Available for the American Studies Programs (see adviser) under the direction of an adviser in American Studies.

#### Elementary Education Minor (36)

American Studies 101, 102, 201, and 301. (12)

A program of 24 credits selected from the list of Courses Available to American Studies Programs (see adviser) under the direction of an adviser in American Studies.

### BACHELOR OF ARTS

#### Major (60)

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

American History — 8-10 credits  
 American Literature — 10-12 credits  
 American Philosophy and the  
 Fine Arts — 10-12 credits  
 The American Society — 10-12 credits

European Backgrounds to American  
 Civilization — 6-10 credits  
 The American Studies Synthesis —  
 14 credits

Recognizing that the study of a single culture can defeat an important attitudinal objective of the Program of American Studies, the faculty requires each student to be involved in a non-American educational experience.

Normally this requirement will be satisfied by the presentation by the student of 12 credits in a foreign language acceptable to the Faculty of American Studies or by the demonstration of his competence in such a language to that faculty.

#### Minor (36)

**American Studies 101, 102, 201, and 301. (12)**

A Program of 24 credits selected from the list of Courses Available for the American Studies Programs (see advisor) under the direction of an advisor in American Studies.

#### COURSE DESCRIPTIONS

- 101 American Civilization I.** The development of American character through the study of American literature and the American arts. Up to 1865. Open to selected students for general education. 4 credits.
- 102 American Civilization II.** A continuation of American Studies 101 from 1865 to the present. Open to selected students for general education. 4 credits.
- 201 Pro-Seminar in American Studies.** An introduction to research techniques and materials and to preparation of research papers in American Studies. Subject matter to be based on selected research topics appropriate to a synthesis of American civilization. Prerequisite: Sophomore standing and a declared major or minor in American Studies. 2 credits.
- 301 Seminar in American Studies I.** Selected problems in the development of a synthesis of American culture. Prerequisite: 201 and Junior standing or consent of the instructor. 2 credits.
- 302 Saturday Seminar.** Research on topics that leads to a synthesis of contemporary American culture. Always to meet on Saturday in order to provide a mobile capability for the class. May be repeated with the consent of the instructor. Prerequisite: 201 or consent of the instructor. 2 credits.
- 400 Special Problems in American Studies.** A seminar or conference course for advanced students wishing to work out a special problem in any area in American Studies. 1-4 credits.
- 401 Seminar in American Studies II.** Research on theme in 20th century American culture that results in a synthesis. Prerequisite: 301 and Senior standing or consent of the instructor. 2 credits.

#### ART

*James P. Roy, Ed.D., Chairman*

Art is the expression of man's experience by which tolerance and understanding is improved. Maturity, discernment and poise characterize the individual who through alertness and intelligence develops an appreciation for the beautiful through creative efforts.

The purpose of the Art Department is two-fold; first, that of training art teachers and supervisors for the elementary, junior high and secondary levels of education, and second, that of providing preparation for the studio artist and the student seeking enriched experiences through art.

The department offers course work pursuant to either the Bachelor of Arts or Bachelor of Science degrees on the undergraduate level. On the graduate level, it offers course work leading to the degrees of Master of Arts in Studio, Master of Science in Education, and Elementary Art Supervision.

## BACHELOR OF SCIENCE

**Comprehensive Art Major (84)**

Art 101, 102, 110, 111, 222, 240, 243, 250, 260, 270, 275, 280, 301, 303, 315, 320, 370, 390, 391, 392, 490.

Art History Electives (12).

Industrial Arts 169.

Electives (11)

**Minor (36)**

Art 101, 102, 110, 222, 240, 250, 260, 270, 290, 320, 390, 396.

**Elementary Minor (24)**

Art 101, 102, 110, 111, 222, 243, 320, 391, 396.

**Major (48)**

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

## BACHELOR OF ARTS

**Comprehensive Art Major (84)**

Art 101, 102, 110, 111, 222, 240, 243, 250, 260, 270, 275, 280, 301, 303, 315, 320.

Art History Electives (12).

Industrial Arts 169.

Electives (26).

**Major (48)**

Art 101, 102, 110, 111, 222, 240, 250, 260, 270, 275, 280, 320.  
Electives (14).

**Minor (36)**

Art 101, 102, 110, 111, 222, 240, 250, 260, 270, 320.  
Electives (8).

## DEPARTMENTAL EVALUATION

Students seeking admission to an 84 or 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.

- 101 Design I.** Creative activities through which the principles and introductory elements of two-dimensional design are discovered and used. Permission of Department Chairman Required. 3 credits.
- 102 Design II.** Fundamentals of visual design. Study of basic elements of three-dimensional design and principles through original compositions. Permission of Department Chairman Required. Prerequisite: 101. 3 credits.
- 110 Drawing I.** Introductory experiences with varied drawing media. Permission of Department Chairman Required. 2 credits.
- 111 Drawing II.** Pictorial composition, problems in space division and three-dimensional representation. Permission of Department Chairman Required. Prerequisite: 110. 2 credits.
- 121 Humanities.** Man as revealed by his expression through the visual arts. Includes architecture, painting, sculpture, and the minor arts. Lectures, discussions, movies, exhibits. 4 credits.
- 210 Drawing III.** Practice in various techniques with different media such as charcoal, pen, pencil, and brush. Prerequisite: 102, 111. 2 credits.
- 222 Theory of Art.** Study of the 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. Permission of Department Chairman Required. 2 credits.
- 240 Oil Painting I.** Nature of the various paints, surfaces, and styles of painting. Prerequisite: 102, 111, 222. 3 credits.
- 243 Water Color Painting I.** Introduction to water color painting and various combined media. Prerequisite: 102, 111, 222. 2 credits.
- 250 Printmaking I.** Introduction to graphic processes. Prerequisite: 102, 111, 222. 3 credits.
- 260 Sculpture I.** Three-dimensional work in many materials, stone, wood, plaster, metal, etc., modeling, carving, and casting. Prerequisite: 111, 102, 222. 3 credits.
- 270 Ceramics I.** Creative experience in hand methods, glazing and firing. Prerequisite 102, 111, 222. 3 credits.
- 275 Weaving I.** Warping and weaving on floor and table looms. Reading of patterns. Prerequisite: 111, 102, 222. 3 credits.

- 280 **Jewelry I.** Creative experience in decorative and constructive processes in the use of silver or other metals and in enamelling. Prerequisite: 102, 111, 222. 3 credits.
- 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. Prerequisite: 12 credits in Art or permission of Department. Not open to Elementary Education Majors or B.A. Candidates. 3 credits.
- 296 **Principles of Art.** 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. Not open to majors or B.A. Candidates. 4 credits.
- 301 **Design III.** Prerequisite: 102. 3 credits.
- 302 **Interior Designs.** Emphasis on basic principles of good design in furnishing a home. Brief study of period furniture. Prerequisite: 102, 111, 222. 3 credits.
- 303 **Advertising Art and Lettering.** Lettering and calligraphy with experience with many tools and styles. Analysis of advertising layout in magazine, newspapers, television, and other visual media. Prerequisite: 102, 111, 222. 3 credits.
- 304 **Graphic Design.** Experience in illustrating and planning of brochures, pamphlets, advertisements, yearbooks, cards, showcards, posters, and displays. Prerequisite: 102, 111, 222, 203. 3 credits.
- 305 **Photography I.** Analysis of the qualities of a good photograph. Experimentation with various subjects and techniques. Prerequisite: 102. 2 credits.
- 315 **Life Drawing I.** Anatomy of the human body. Drawing and painting from models. Prerequisite: 102, 111, 222. 3-6 credits.
- 320 **Art History Survey.** A survey of the art of man 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 credits.
- 340 **Oil Painting II.** Oil painting and combined experimental media. Prerequisite: 240. 3-6 credits.
- 343 **Water Color Painting II.** Transparent water color painting, casein, tempera and combined media. Prerequisite: 243. 2 credits.
- 350 **Printmaking II.** Basic techniques in wood block printing, etching, and other processes. Prerequisite: 250. 3-6 credits.
- 360 **Sculpture II.** Continuation of Sculpture I. Prerequisite: 260. 3-6 credits.
- 370 **Ceramics II.** Work on potter, wheel, study of ceramic materials and kiln operation. Prerequisite: 270. 3-6 credits.
- 375 **Weaving II.** Emphasis on creative application of color, texture, and design in weaving. Prerequisite: 275. 3-6 credits.
- 380 **Jewelry II.** Advanced experience in jewelry and enamelling; developing previously learned techniques; introduction to casting processes. Prerequisite: 280. 3-6 credits.
- 390 **Art in the Secondary School.** Analysis and demonstration of methods and techniques which develop confidence and skill in creative art activity during adolescence. Not open to B.A. candidates. Must precede student teaching. Prerequisite: 290. 3 credits.
- 391 **Materials.** Experimentation with media suitable for elementary grades. Not open to B.A. Candidates. 2 credits.
- 392 **Functional Relationships in Crafts.** Relationships of material, design and purpose in crafts discussed by means of outstanding products of different materials, periods and cultures. Not open to Elementary Majors or B.A. Candidates. Prerequisite: 102, 111, 222. 3 credits.
- 396 **Introductory Crafts.** Experiences with various materials and techniques suitable for elementary and secondary schools. Not open to majors or B.A. Candidates. Prerequisite: 110, 101, 296. 4 credits.
- 400 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in Art. 1-4 credits.
- 405 **Photography II.** Advanced work in photography. Prerequisite: 305. 2 credits.

- 415 **Life Drawing II.** Advanced study of anatomy of the human body. Drawing and painting from models. Prerequisite: 315. 3 credits.
- 440 **Oil Painting III.** Continuation of Oil Painting II with emphasis on development of individual expression and teaching techniques. Prerequisite: 240. 3-9 credits.
- 443 **Watercolor Painting III.** Prerequisite: 343. 2 credits.
- 450 **Printmaking III.** Intaglio, serigraphy, or lithography. Prerequisite: 350. 3-9 credits.
- 460 **Sculpture III.** Wood, direct metal, stone; critical evaluation of student and professional sculpture. Prerequisite: 360. 3-9 credits.
- 470 **Ceramics III.** Advanced work on potters wheel, chemistry of glazes and firing. Prerequisite: 370. 3-9 credits.
- 473 **Ceramic Sculpture.** Prerequisite: 260, 270. 3 credits.
- 475 **Weaving III.** Design and completion of a major creative project in weaving, making use of the tapestry, rya, or other techniques. Prerequisite: 375. 3-9 credits.
- 480 **Jewelry III.** Advanced experience in centrifugal and steam casting and an introduction to basic silversmithing processes. Prerequisite: 380. 3-9 credits.
- 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. Prerequisite: 390. 4 credits.

#### 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. Prerequisite: 320. 4 credits.
- 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. Prerequisite: 320. 4 credits.
- 432-532 **Renaissance Art.** The art of the Italian Renaissance beginning with Giotto and including the masters of 15th and 16th century northern Europe. Prerequisite: 320. 4 credits.
- 433-533 **Baroque and Rococo Art.** European Art of the 7th and 18th centuries including ElGreco, Rembrandt, Bernini, etc. Prerequisite: 320. 4 credits.
- 434-534 **European 19th Century Art.** Neo-Classicism, Romanticism, Realism, Impressionism and Post Impressionism emphasized. Prerequisite: 320. 4 credits.
- 435-535 **History of American Art I.** Art of America from the Indian cultures through the United States of the pre-Civil War period. 4 credits.
- 436-536 **History of American Art II.** Painting, sculpture, architecture, prints, and crafts from the Civil War to present. 4 credits.
- 437-537 **Modern Art.** The great modern movements of the 20th century including Fauvism, Cubism, Constructivism, de Styl, Dada, Surrealism, Abstract Expressionism, etc. Also includes innovations in architecture such as those associated with the Bauhaus. Prerequisite 320. 4 credits.
- 438-538 **Non-Western Art History.** Non-western cultures including India, China, Japan, and Russia. 4 credits.

#### COURSES FOR GRADUATE STUDENTS

- 600 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in Art. 1-4 credits.
- 603 **Design Laboratory.** Creative experimentation in many materials and critical analysis of result. Prerequisite: 102, 301, or equivalent. 4 credits.
- 610 **Drawing.** Practice in pictorial composition with various techniques and media of expression. 3-9 credits.
- 615 **Life Drawing I.** Practice in pictorial composition with various techniques and media of expression. Emphasis on anatomy of human body. 3-9 credits.
- 616 **Life Drawing II.** Advanced practice in pictorial composition with various techniques and media of expression. Emphasis on anatomy of human body. 3-9 credits.



- 620 **Advanced Theory.** Foundations of criticism, form analysis, psychology, and philosophy of art. 4 credits.
- 630 **Art Seminar.** Lectures, readings, and discussions on selected artists and their works. 2-4 credits.
- 641 **Painting I.** Advanced expression in the painting media; organization, color and technique. Prerequisite: 2 undergraduate courses in painting or permission of the department chairman. 3-9 credits.
- 642 **Painting II.** Continued work in painting media leading to development in individual expression. Prerequisite: 541. 3-9 credits.
- 643 **Watercolor Painting.** Practice in transparent watercolor painting, casein, tempera, and combined media. 2-6 credits.
- 651 **Prints and Composition I.** Advanced experience in printing methods and composition. Developing previously learned techniques. Prerequisite: 2 undergraduate courses in printmaking or permission of the department chairman. 3-9 credits.
- 652 **Prints and Composition II.** Advanced experiences in printing methods and composition. Intense concentration in a selected printing method. Prerequisite 551. 3-9 credits.
- 661 **Sculpture I.** Advanced work in three-dimensional organization of form; individual concentration toward competent expression in sculpture media. Prerequisite: 2 undergraduate courses in sculpture or permission of the department chairman. 3-9 credits.
- 662 **Sculpture II.** Continued work in sculpture media with emphasis on casting metals. Prerequisite: 561. 3-9 credits.
- 671 **Ceramics I.** Advanced expression in the ceramics media including firing techniques. Prerequisite: 2 undergraduate courses in ceramics or permission of the department chairman. 3-9 credits.
- 672 **Ceramics II.** Continued work in the ceramic media with emphasis on the chemistry of glazes and the design and construction of kilns. Prerequisite: 571. 3-9 credits.
- 676 **Fibers.** Advanced creative experiences in design and production on various looms; characteristics of looms, principles of textile construction, and materials of the weaver. Prerequisite: 2 undergraduate courses in weaving or permission of the department chairman. 3-9 credits.
- 681 **Metals.** Advanced experiences in jewelry design, silversmithing, and casting by the lost wax method. Prerequisite: 2 undergraduate courses in jewelry and enamelling or permission of the department chairman. 3-9 credits.
- 690 **Research in Art Education.** Current experiments in art education and closely related fields. Required of students working for a Master's degree in art. 2 credits.
- 692 **Current Problems in Art Education.** Statement, analysis and evaluation of art problems evidenced in contemporary living, in school, home, and community. 3 credits.
- 693 **History of Art Education in Europe and America.** Historical development of philosophies in art education in the United States and Europe. Required of students working for a Master's degree in art. 2 credits.
- 694 **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. Prerequisite: 251, 351, 451. 4 credits.
- 696 **Supervision of Elementary School Art.** Methods and practices of supervision in relation to art programs in the elementary school. Prerequisite: 251, 351, 451. 3 credits.
- 699 **Master's Thesis.** 3-9 credits.

## BIOLOGY

*Charles A. Rehwaldt, Ph.D., Chairman*

Programs may include areas of concentration such as Microbiology or Resource Management. Students interested in Medical Technology should refer to that section of the Bulletin.

## BACHELOR OF SCIENCE

**Comprehensive Biology Major (84)**

Biology 201, 202, 203, 301, 303, 332, 344, 456°, 457°.

A minimum of 4 credits from:

Biology 240, 247, 248, 340, 341, 345.

Chemistry 211, 212 or 213, 221 or 291.

Physics 231, 232, 233.

Biology electives: (26)

\* Must be taken before student teaching.

Supporting Course:

High School Trigonometry or Math 132 or 134.

**Major (60)**

Biology 201, 202, 203, 301, 303, 332, 456°, 457°.

A minimum of 4 credits from:

Biology 240, 247, 248, 340, 341, 345.

Chemistry 211, 212 or 213, 221 or 291.

Biology electives: (18)

\* Must be taken before student teaching.

Supporting Course:

High School Trigonometry or Math 132 or 134.

**Minor (36)**

Biology 201, 202, 203, 349, 457°.

A minimum of 12 credits from:

Biology 247, 248, 332, 341, 344, 345, 347, 447.

Biology electives: (6)

\* Must be taken before student teaching.

**Elementary Education Minor (24)**

Biology 201, 202, 203.

Biology Electives: (12) (Biology 341, 345, 347, or 349 are recommended.)

## BACHELOR OF ARTS

**Major (60)**

Biology 201, 202, 203.

Biology electives: (48)

Supporting Courses: 24 credits selected from Chemistry, Physics, and/or Mathematics, and/or Earth Sciences.

**Minor (36)**

Biology 201, 202, 203.

Biology electives: (24)

## COURSE DESCRIPTIONS

- 101 Life and Environment.** Regional interpretation; familiarity with the living world; interrelationships in nature. Laboratory. 4 credits.
- 104 Human Biology.** Organization and general functioning of the human body; reproduction; heredity; evolution; social implications of biological principles. Laboratory. 4 credits.
- 201 General Biology.** Introduction to major biological concepts. Laboratory. 4 credits.
- 202 General Botany.** Introduction to plant science with emphasis on anatomy and physiology. Laboratory. Prerequisite: 201. 4 credits.
- 203 General Zoology.** Introduction to animal science with emphasis on anatomy and physiology. Laboratory. Prerequisite: 201. 4 credits.
- 240 Mammalogy.** Principles of classification, morphology, ecology, life histories and population dynamics of mammals. Laboratory. Prerequisite: 203. 4 credits.
- 247 Plant Taxonomy I.** Principles of plant classification; nomenclature; identification. Laboratory. Prerequisite: 202. 2 credits.
- 248 Plant Taxonomy II.** Characteristics and taxonomic relations of vascular plant families. Students must make a collection prior to taking this course. Laboratory. Prerequisite: 247. 2 credits.
- 301 General Ecology.** Interrelationships between the biotic and physical aspects of the species, population, and community levels of organization. Laboratory. Prerequisite: 203, Math 132 or Math 134 or High School Trigonometry. 3 credits.
- 303 Cell Biology.** Molecular structure of protoplasm, surface and osmotic phenomena, permeability, nutrition, metabolism, mechanisms of energy exchange. Prerequisite: 202, 203, Chemistry 221 or 291. 3 credits.
- 309 Histology.** Microscopic structure and related functions of mammalian cells and tissues. Laboratory. Prerequisite: 203. 3 credits.

- 326 **Biology for Elementary Teachers.** Concepts in biological sciences appropriate for the elementary school. Laboratory. 3 credits.
- 332 **Principles of Heredity.** Introduction to genetics with emphasis on human inheritance. Laboratory. Prerequisite: 201. 4 credits.
- 340 **Ichthyology and Herpetology.** Principles of classification, natural history of fishes, amphibians, and reptiles. Laboratory. Prerequisite: 203. 4 credits.
- 341 **Entomology.** Morphology, physiology, and classification of common orders and families of insects. Laboratory. Prerequisite: 203. 4 credits.
- 342 **Comparative Vertebrate Anatomy.** Development and structure of representative vertebrates. Dissection of cat and selected lower forms. Laboratory. Prerequisite: 203. 4 credits.
- 343 **Human Anatomy.** Examination of tissues, organs and systems of the human body. Laboratory. Prerequisite: 203. 4 credits.
- 344 **Microbiology.** Morphology, classification, and culture of bacteria and other micro-organisms of economic importance. Laboratory. Prerequisite: Chemistry 211. 4 credits.
- 345 **Local Flora.** Field characteristics and ecological distribution in the identification of Minnesota vascular plants. Laboratory. Prerequisite: 202. 4 credits.
- 347 **Ornithology.** Identification, field study and life histories of birds. Laboratory. Prerequisite: 203. 4 credits.
- 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 Geography 372, Conservation of World Resources.) Laboratory. 4 credits.
- 350 **Soils.** Origin, development, classification, plant relationships, physical and chemical properties. Laboratory. Prerequisite: Chemistry 211. 4 credits.
- 400 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in Biology. 1-4 credits.
- 420 **Seminar.** Lectures, readings, and discussion on selected topics. May be repeated once. 1 credit.

#### COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

- 404-504 **Protozoology.** Taxonomy, ecology, physiology, economic importance of the protozoa. Laboratory. Prerequisite: 203. 4 credits.
- 405-505 **Radiation Biology.** Introduction to radiation, laws governing its use, medical uses, and its effects on man. Prerequisites: 332, Chemistry 211. 3 credits.
- 409-509 **Biological Techniques.** Collection, preparation, and display of biological materials. Laboratory. 2 credits.
- 411-511 **Human Heredity.** Human heredity as a component in function, behavior and evolution. Social and political interactions. Not open to biology majors or minors. 4 credits.
- 421-521 **Laboratory Procedures.** Techniques, skills and practical experiences. May be repeated once. Not open to B.A. majors. 1 credit.
- 432-532 **Molecular Genetics.** Biochemical approach to inheritance and development. Laboratory. Prerequisite: 332 and 344. 3 credits.
- 433-533 **Aquatic Plants.** Taxonomy and ecology of aquatic plants, including vascular plants, mosses and selected algae and fungi. Laboratory. Prerequisites: 301 and 248 or 345. 4 credits.
- 434-534 **Freshwater Algae.** Morphology, taxonomy and ecology of algae of lakes, ponds, streams, bogs and soils. Laboratory. Prerequisite: 202. 4 credits.
- 435-535 **Comparative Animal Physiology.** Comparative study of functional mechanisms in the various phyla. Prerequisites: 303, Chemistry 211. 3 credits.
- 436-536 **Plant Physiology.** Principles of metabolic processes of higher plants. Laboratory. Prerequisites: 303, Chemistry 211. 4 credits.
- 437-537 **Plant Morphology.** Survey of plant kingdom with emphasis on structure and form of primitive plants. Laboratory. Prerequisite: 202. 4 credits.
- 438-538 **Freshwater Invertebrates.** Collection, preservation and classification of local species. Laboratory. Prerequisites: 341, 448. 4 credits.
- 439-539 **General Parasitology.** Animal parasites and their relation to diseases of man and other animals. Laboratory. Prerequisite: 203. 4 credits.

- 440-540 **Mycology.** Structure, development, and identification of fungi with emphasis on species of economic importance. Laboratory. Prerequisite: 202.  
4 credits.
- 441-541 **Plant Ecology.** Relations between plants and their environment; field studies of plant communities and succession. Laboratory. Prerequisite: 301.  
4 credits.
- 442-542 **Embryology.** Prenatal development of human body; laboratory emphasis on chick and pig. Laboratory. Prerequisite: 203.  
4 credits.
- 443-543 **Animal Behavior.** Behavior of animals as interpreted through comparative studies and experimentation. Laboratory. Prerequisite: 203 or consent of instructor.  
4 credits.
- 447-547 **Mammalian Physiology.** Metabolic activities of organ systems with emphasis on human body. Laboratory. Prerequisites: 303, Chemistry 211.  
4 credits.
- 448-548 **Limnology.** Lakes and streams, their physical environment, plant and animal life and dynamic interrelations. Laboratory. Prerequisites: 301, Chemistry 212.  
4 credits.
- 451-551 **Animal Ecology.** Distribution, life histories, habitat requirements, and environmental interrelations of vertebrates and invertebrates. Laboratory. Prerequisites: 301 and one of the following: 240, 340, 341, 347.  
4 credits.
- 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. Laboratory. Prerequisites: 344, Chemistry 221.  
4 credits.
- 453-553 **Invertebrate Zoology.** Classification, phylogeny, anatomy, physiology, and natural history of invertebrates. Laboratory. Prerequisite: 203.  
4 credits.
- 454-554 **Wildlife Management.** General principles of wildlife management with detailed studies of selected species. Laboratory. Prerequisite: 301.  
4 credits.
- 455-555 **Physiology of Bacteria.** Comparative study of the metabolism of growth and reproduction of microbes. Laboratory. Prerequisites: 344, Chemistry 221.  
4 credits.
- 456-556 **Methods for Teaching Science.** Modern approaches to teaching sciences in junior and senior high schools. Not open to B.A. majors. Laboratory.  
2 credits.
- 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. Laboratory. Not open to B.A. majors.  
2 credits.
- 461-561 **Economic Entomology.** Life histories and control measures for economically important insects. Laboratory. Prerequisite: 341.  
2 credits.
- 462-562 **Medical Entomology.** Study of arthropods of medical and veterinary importance with emphasis on vector biology and disease ecology. Laboratory. Prerequisite 341 or consent of instructor.  
4 credits.
- 477-577 **Biology Institute.** Selected topics in biology for experienced teachers of science. Laboratory.  
3-6 credits.
- 489-589 **Paleobiology.** Field and laboratory study of living and fossil species and geological aspects of the environment. Laboratory. Prerequisites: 202, 203, Earth Science 285.  
4 credits.
- 498-598 **The Nature of Biological Science.** Assumptions, methods and limitations of science. Historical roots of biology and the development of major concepts. Operational structure and communication in biology. Interactions with other components of culture and society. Prerequisite: Senior standing.  
3 credits.

#### COURSES FOR GRADUATE STUDENTS

- 600 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in Biology.  
1-4 credits.
- 601 **Readings in Biology.**  
1-4 credits.
- 602 **Modern Biological Concepts.** General education course in which modern concepts in physiology, genetics, and ecology are developed through selected laboratory experiences, reading, and discussion. Not open to students with majors or minors in biology.  
3 credits.
- 603 **Research in Biology.**  
1-4 credits.

- 630 **Seminar in Biology.** 1 credit.
- 639 **Advanced Parasitology.** Selected topics in parasitology with emphasis on the interrelationships between the parasite and its host. Laboratory. Prerequisite: 439. 3 credits.
- 641 **Advanced Entomology.** Identification of insect families with ecological or taxonomic specialization in one group; discussion of selected topics in insect taxonomy, physiology and behavior. Laboratory. Prerequisite: 341 and a summer insect collection. 3 credits.
- 644 **Virology.** Structure and properties of viruses, host-virus interactions, major groups, relation to disease, diagnostic techniques. Prerequisites: 344, Chemistry 324 or equivalent. 3 credits.
- 645 **Molecular Biology.** Dynamic aspects of cell structure and function at the molecular level. Laboratory. Prerequisite: Chemistry 221. 3 credits.
- 646 **Immunology.** Theoretical basis, techniques, and applications of immunology. Laboratory. 4 credits.
- 647 **Advanced Ornithology.** Functional morphology and breeding biology of birds. Laboratory. Prerequisite: 347. 4 credits.
- 649 **Limnological Methods.** Theory and practice in limnological sampling and analysis, emphasis on plankton, physical and chemical parameters. Laboratory. Prerequisite: 448. 3 credits.
- 650 **History of Biology.** Origin and development of major ideas of biological thought. 2-4 credits.
- 652 **Pollution Biology.** Classification of pollutants and their effects on water and air quality, biota, and socio-economics. Remedial methods. Laboratory. Prerequisite: 448. 3 credits.
- 659 **Organic Evolution.** History, evidence, and processes of evolution. Prerequisite: 332. 2 credits.
- 660 **Fisheries Biology.** Natural history, ecology, recreational and commercial aspects, and special methods. Laboratory. Prerequisites: 340, 448. 4 credits.
- 663 **Advanced Genetics.** Selected topics with emphasis on gene structure, mutations, complementation and other aspects of modern genetics. Prerequisite: 432. 3 credits.
- 666 **Biogeography.** Past and present distribution of biotic communities in relation to environmental and historic factors. Prerequisite: 441. 2 credits.
- 669 **Advanced Limnology.** Readings and discussions of North American and international papers. Prerequisite: 649. 3 credits.
- 699 **Master's Thesis.** 3-9 credits.

## CHEMISTRY

*John W. Laakso, Ph.D., Chairman*

Courses in chemistry are offered as part of the education of every college student and as a preparation for (1) teaching in secondary schools, (2) careers in chemical industries or in governmental laboratories, (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.

### BACHELOR OF SCIENCE

This degree is primarily for those intending to teach high school chemistry and related sciences.

#### Comprehensive Chemistry Major (84 credits)

Chemistry 211 and 212 or 213<sup>\*</sup>; 214, 291, 292, 393, 325, 344, 425, 426, 427, 428, 429, 456, 458.  
Chemistry Elective 300-400 level (2 credits)  
Biology 201; 202 or 203.  
Mathematics 241, 242, 243.  
Physics 231, 232, 233.

#### Major (48 credits)

This major is to be taken with a 36 hour minor in some other field such as mathematics.

Chemistry 211; 212 or 213<sup>\*</sup>; 214, 291, 292, 325, 425, 426, 427, 428, 429, 456, 458.  
Electives 300-400 level (6 credits).

**Minor (36 credits)**

Chemistry 211; 212 or 213<sup>o</sup>; 214, 291,  
292, 325, 425, 426, 427, 428.

**Minor (28 credits)**

Chemistry 211; 212 or 213<sup>o</sup>; 214, 291,  
292.

Chemistry Elective 300-400 level  
(2 credits)

**Minor (24 credits)**

For Elementary Education majors de-  
siring a chemistry minor.

Chemistry 211; 212 or 213<sup>o</sup>; 214, 221  
or 291.

Chemistry Electives from 292 or 300-  
400 courses.

**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 (60 credits)**

Chemistry 211; 212 or 213<sup>o</sup>; 214, 291,  
292, 393, 325, 344, 425, 426, 427,  
428, 429.

Electives 300-400 (14 credits).

Supporting courses:

Mathematics 241, 242, 243.

Physics 231, 232, 233.

Foreign Language (recommended),  
12 credits.

**Minor (36 credits)**

Chemistry 211; 212 or 213<sup>o</sup>; 214, 291,  
292, 325, 425, 426, 427.

Electives 300-400 level (2 credits).

Supporting courses:

Mathematics 241, 242, 243.

Physics 231, 232, 233.

\* Students who qualify for advanced placement may substitute 213 for both 211 and 212 and may petition for a 4 credit reduction in chemistry requirements.

**COURSE DESCRIPTIONS**

- 102 Concepts in Chemistry.** Basic chemical concepts; impact of chemical discoveries on industry and society. Laboratory. 4 credits.
- 211, 212 General Chemistry I and II.** Atomic theory; chemical bond; molecular structure, nomenclature; chemical formulas and equations, stoichiometry; gases, liquids, solids; solutions, colloids; oxidation, reductions; chemical kinetics; equilibrium; acids, bases, salts; electrochemistry; representative elements, their preparation, properties, uses, and compounds. Laboratory. High school chemistry and algebra are desirable. 4 credits per quarter.
- 213 General Chemistry II-A.** Includes the same topics as 211-212 with emphasis on advanced topics. Ordinarily open only to students who have passed a department placement examination, but students with strong high school chemistry backgrounds are encouraged to consult with the chemistry staff for placement into this course. Laboratory. 4 credits.
- 214 General Chemistry III.** Introduction to inorganic chemistry; metals and non-metals, their compounds and preparation, with separation and identification of ions; transition metal chemistry; nuclear reactions. Laboratory. Prerequisite: 212 or 213. 5 credits.
- 221 Organic Chemistry.** Introduction, especially for biology students. The chemistry of carbon compounds. Principles underlying the classification, structure, uses, general properties. Laboratory. Prerequisite: 212 or 213. 4 credits.
- 291, 292 Organic Chemistry.** Structure, chemical and physical properties, synthesis, and applications of the chief classes of carbon compounds. Laboratory. Prerequisite: 212 or 213. 4 credits per quarter.
- 323 Clinical Analysis Chemistry.** Essentials of gravimetric and volumetric methods with emphasis on instrumentation, methods, and techniques required of medical technologists in clinical analysis of body fluids. Laboratory. Prerequisite: Chemistry 214. 4 credits.
- 324 Biochemistry.** Introduction to the chemistry and metabolism of living tissue; structure, properties, and functions of compounds of biological importance. Laboratory. Prerequisite: 292. 4 credits.
- 325 Quantitative Analysis.** Essentials of volumetric and gravimetric methods employed in inorganic quantitative analysis. Laboratory. Prerequisite: 214. 4 credits.

- 344 Intermediate Inorganic Chemistry.** Further developments of the concepts of inorganic chemistry; atomic structure; periodicity; bonding including molecular orbital theory; bond energy; crystal structure; crystal field theory of coordination chemistry; nuclear reactions. Laboratory. Prerequisite: 214.  
4 credits.
- 393 Organic Chemistry.** Special reactions, behavior on basis of electron structure. Laboratory. Prerequisite: 292.  
4 credits.
- 400 Special Problems.** A conference course for advanced students wishing to work out a special problem in chemistry. Department approval required. 1-4 credits.

#### COURSES FOR THE ADVANCED UNDERGRADUATE AND GRADUATE STUDENT

- 411-511 Advanced Inorganic Chemistry.** Theoretical approach to, and aspects of inorganic chemistry. Prerequisite: either 344 and math 242 or graduate standing.  
4 credits.
- 412-512 Radiochemistry.** Physical aspects of radiation, its measurement and its chemical and biological effects; nuclear decay; bombardment reactions; chemical operations involving radioisotopes. Some knowledge of basic calculus desirable. Prerequisite: 212 or 213.  
2 credits.
- 413-513 Radiochemistry Laboratory.** Detection, characterization, and measurement of radiation; chemical operations and the application of radioisotopes to chemical and biochemical problems. Prerequisite: 412-512 or concurrent registration.  
2 credits.
- 420-520 Seminar.** Lectures, readings, discussion on selected topics. May be repeated.  
1 credit per quarter to a maximum of 4 credits.
- 422-522 Quantitative Analysis.** Volumetric and gravimetric methods of greater complexity and finer techniques than those presented in 325; emphasis on instrumental analysis. Laboratory. Prerequisite: 325.  
4 credits.
- 423-523 Qualitative Organic Analysis.** Identification of several single and mixed organic compounds by physical and organic qualitative methods. Laboratory. Prerequisite: 292.  
4 credits.
- 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. Prerequisites: 325, Physics 232 and 233, and Math 243.  
3 credits per quarter.
- 428-528, 429-529 Physical Chemistry Laboratory.** 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. Prerequisite: 426 or concurrent enrollment in 426-526.  
2 credits per quarter.
- 456-556 Methods and Materials for Teaching Sciences.** Modern approaches to teaching sciences in junior and senior high school. Laboratory.  
2 credits.
- 458-558 Methods and Materials for Teaching Chemistry.** Modern approaches to teaching high school chemistry in classroom and laboratory including materials of Chemical Bond Approach Project and Chemical Education Materials Study. Laboratory.  
2 credits.
- 477-577 Chemistry Institute.** Selected topics in chemistry for experienced teachers of science. Laboratory.  
3-8 credits.
- 481-581 Chemical Thermodynamics.** Concepts of both classical and modern thermodynamics applied to problems encountered in chemistry. Prerequisite: 426-526.  
3 credits.

#### COURSES FOR GRADUATE STUDENTS

- 600 Special Problems.** A conference course for advanced students wishing to work out a special problem in Chemistry.  
1-4 credits.
- 601 Major Developments in Physical Sciences.** General education course employing selected science experiences as a basis for explanations of major developments in the area of physical science; their significance. Not open to students with majors or minors in physical science.  
3 credits.
- 699 Master's Thesis.**  
3-9 credits.



## ECONOMICS

*Allen F. Larsen, Acting Chairman*

The study of 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 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 Economics 280 and occasional workshops. For further information the reader is directed to page 160 for a description of the Center for Economic Education, an autonomous college 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-college requirements is the completion of Economics 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 program. The mathematics requirement is minimal as far as preparation is concerned. The Department recommends that the student continue his study of mathematics through Math 242.

**Required Core Courses**

These courses are to be completed as early as possible in the student's program. These courses **do not** count toward the total credit-hour requirements for the major.

Accounting 181, 182  
Marketing 140, or Mathematics 329  
Mathematics 140, or its equivalent 131 and 134

**BACHELOR OF ARTS****Major (48)**

Economics 273, 274, 471, 475, 476, 478, and at least one seminar to be chosen from Economics 480, 481, or 483.

**Elective major courses (20-22)**

Any of the remaining courses offered by the Department except Economics 259. A student may elect to take up to two of the following as a part of his elective program:

Management 371, 473. History 345.  
Geography 271. Social Science 472.

**Minor (24)**

Economics 273, 274, 478. Electives in Economics: (12).

**Elementary Education Minor (24)**

Economics 259, or 273 and 274, 280, Electives in Economics: (6-10).  
379, 445. It is recommended that the courses be  
Business Education 416. taken in the sequence indicated.

**Elementary Education Minor (36)**

Economics 259, or 273 and 274, 280, Business Education 416.  
379, 445. Electives in Economics: (18-22).

**COURSE DESCRIPTIONS**

**259 Introduction to Economics.** A basic course in the fundamentals of economics.  
4 credits.

- 273 Principles of Economics I.** Description and analysis of the economic process, nature of the free enterprise system, national income, money and the banking process, and other aspects of micro-economics. 4 credits.
- 274 Principles of Economics II.** Theory of income distribution, pricing process under different market situations, emphasis on micro-economics. Prerequisite: 273. 4 credits.
- 280 Seminar in Applied Economics.** The relating of basic economic concepts, theory, and analysis to current public policy issues, and/or to subject matter literature, and/or to the knowledge in the other social science disciplines. Prerequisite: Consent of Department. 2 credits.
- 377 Economics and Its Business Applications.** An examination of the relevance of economic analysis to business decision-making. Demand, cost, capital, and profit analysis are the four major topical areas discussed. Prerequisites: 273, 274. 4 credits.
- 378 Economics of Agriculture.** Development of agricultural production and its problems in the United States; scientific developments, organizations, programs, and legislation purposed to aid agriculture. 2 credits.
- 379 Comparative Economic Systems.** Descriptions of different economic organizational structures and control mechanisms. 2 credits.
- 400 Special Problems in Economics.** A seminar or conference course for advanced students wishing to work out a special problem in Economics. 1-4 credits.

#### COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

- 445-545 Economics of Underdeveloped Countries.** Economic development and examination of policy issues in underdeveloped countries. 2 credits.
- 460-560 Public Finance.** The role of government in the economy with emphasis upon analysis of public revenues and expenditures, tax structure, inter-governmental fiscal relations, fiscal policy, and public debt management. Prerequisite: 273, 274. 4 credits.
- 470-570 Business Cycles and Forecasting.** Factors causing fluctuations in national income and proposed methods of stabilization, with appropriate consideration of business forecasting techniques. Prerequisite: 273, 274. 4 credits.
- 471-571 Money and Banking.** Monetary and banking system of the United States; the nature of bank credit, operation of the individual bank and its relation to the banking system; the Federal Reserve System, central bank policy and the relationship between bank credit, money, and price levels. Prerequisite: 273, 274. 4 credits.
- 473-573 Labor Economics.** Labor as a factor of production; growth of collective bargaining and labor legislation, with their attendant effects upon society. Prerequisite: 273, 274. 4 credits.
- 474-574 International Economics.** International economic relationships and their effects upon domestic and foreign economics. Commercial and financial policies; tariffs, exchange controls, international monetary standards, and institutions established to facilitate international settlements. Prerequisite: 273, 274. 4 credits.
- 475-575 National Income and Employment Analysis.** Study of the flow of expenditures and income and their impact upon national income and upon price levels, with consideration of possible stabilization controls. Prerequisite: 273, 274. 4 credits.
- 476-576 Price and Distribution Theory.** Nature and scope of economic processes in the free enterprise system; determination of price, output, and factor services in different market structures. Prerequisite: 273, 274. 4 credits.
- 478-578 History of Economic Thought.** Development of economic thought and analysis from Adam Smith to the present. Prerequisite: 273, 274. 4 credits.
- 480-580 Seminar in Area Economic Studies.** An examination of the economy and of the current economic problems of selected regions, areas, or countries of the world. Prerequisite: Consent of the Department. 1-4 credits.
- 481-581 Seminar.** Selected topics in economic theory. Prerequisite: Consent of Department. 1-4 credits.

- 483-583 **Contemporary Economic Problems.** Solutions of problems arising from growth and development of modern institutions under the free enterprise system. Prerequisite: Consent of Department. 4 credits.
- 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 the American fiscal and monetary systems, policies and programs to maintain economic stability, high levels of income and employment. Prerequisite: 475. 4 credits.

### COURSES FOR GRADUATE STUDENTS

- 600 **Special Problems in Economics.** A seminar or conference course for advanced students wishing to work out a special problem in economics. 1-4 credits.
- 677 **Business Economics.** Economic analysis as an aid in business management and control. Prerequisite: 273, 274. 4 credits.

## ENGLISH

*Howard H. Russell, Ph.D., Chairman*

The functions of the Department of English are three: first, to help all students of the college to achieve proficiency in writing and reading; second, to help English majors and minors to develop a critical appreciation for literary content and form; third, to prepare English majors and minors for teaching and graduate study.

### General Education Courses in English

All students are required to complete English 162 or 172 and English 263 or 264. (English 172 is the enriched course for students with superior preparation who are registered in the first course in composition. It substitutes for English 162.)

In addition to the students with superior preparation in composition who are required to register in English 172, a small number of students with very superior preparation in composition are provided the opportunity to enroll in Honors 100 and 102 (English).

Completion of Speech 161 and English 162 with grades of "C" or better is prerequisite for enrollment in English 263. A "C" average in the required composition courses (English 162/172 and 263/264) is necessary for a student to meet the general education requirement in composition.

Students may elect English 124 to satisfy part of the requirement of the Humanities sequence.

Courses in writing and speaking at the freshman level need not be taken in sequence. The composition courses at the freshman level, however, must be completed with at least a "C," or waived, before students may take sophomore level courses (English 263 or 264).

Every student must have a "C" average in the required English composition courses to be allowed to apply for student teaching or to be graduated. Likewise, freshman level courses in composition must be completed or waived before a student's application for admission to a Major Program of Study will be approved.

### BACHELOR OF SCIENCE

#### Major (84)

English 221, 331, 343, 353, 421, 432, 434, 452.

Any two of the following:

English 435, 440, 441, 443.

Any one of the following:

English 368, 396, 468, 498.

One each from any four of the

English Literature Groups.

One each from any three of the

American Literature Groups.

One Speech course in the theory and practice of public address and one

Speech course in oral interpretation or play production with the approval of the adviser.

Foreign language above the 100 level/ or Library Science and Audiovisual Education above the 100 level/ or electives in any one department of the School of Arts and Sciences above the 100 level with the approval of the adviser. (12)

Free electives with the approval of the adviser.

**Major (64)**

English 221, 331, 343, 353, 421, 432, 434, 452.

Any two of the following:

English 435, 440, 441, 443.

Any one of the following:

English 368, 396, 468, 498.

One each from any four of the

English Literature Groups.

One each from any three of the

American Literature Groups.

One Speech course in the theory and

practice of public address and one

Speech course in oral interpretation

or play production with the approval

of the adviser.

The 64-hour major must be

accompanied by a minor.

**(Minor (37))**

English 331, 343, 432, 452.

One each from any four of the

English Literature Groups.

One each from any two of the

American Literature Groups.

One Speech course in the theory and

practice of public address and one

speech course in oral interpretation

or play production with the approval

of the adviser.

**Elementary Education****Minor (36)**

English 331, 343, 432.

One each from any four of the

English Literature Groups.

One each from any two American

Literature Groups.

English Electives.

**Elementary Education****Minor (26)**

A free elective minor of 26 credits.

The student is advised to include the various areas of English Composition, English Language, English Literature, American Literature.

**Junior High School****Concentration (40)**

English 331, 343, 353, 432, 452.

Speech 325, 331.

With approval of the adviser select at least one course from each of the following groups to total a minimum of 18 quarter hours:

1. English 221, 421.

2. English 293, 368, 396, 468, 498.

3. English 440, 441, 443, 435.

4. American Literature: Any period course other than those listed in Group 2 above.

5. English Literature: Any period course other than those listed in Group 2 above.

**AMERICAN LITERATURE GROUPS**

1. 260.

2. 265.

3. 366.

4. 368, 468.

**ENGLISH AND WORLD  
LITERATURE GROUPS**

1. 270.

2. 286, 287.

3. 288, 289.

4. 370, 440.

5. 279, 377, 441.

6. 384, 385, 386.

7. 396, 498.

8. 291, 293, 391, 394.

**BACHELOR OF ARTS****Major (48)**

The major for a Bachelor of Arts in English shall consist of 48 hours of English, minimum, with the courses to be selected with the guidance and approval of the major adviser. The major shall be accompanied with 12 hours in a foreign language at the 200 level or above.

**Minor (24)**

A free elective minor of 24 credits. The student will select courses with the approval of his adviser in English.

**COURSE DESCRIPTIONS****GENERAL EDUCATION COURSES IN ENGLISH**

**062 Remedial Composition.** For those students whose diagnostic evaluation indicates that they have deficiencies in written composition, and are so notified. Instruction is based on the student's individual difficulties. Successful completion of the course permits a student to enter English 162. Credits not applicable toward graduation. 1-4 credits.

Note: When English 062 is not offered, students needing remedial tutoring in composition may substitute work in the English Writing Laboratory to remedy their deficiencies in written composition. The English Writing Laboratory provides no credit.

- 124 **Humanities.** A study of various types of imaginative literature—fiction, poetry, and drama—designed to foster discriminating judgment in reading. 4 credits.
- 162 **Written Composition.** A study of the common principles and practices of expository composition. 4 credits.
- 172 **Written Composition.** In lieu of English 162 for students whose diagnostic evaluation indicates ability to profit from an enriched program. 4 credits.
- 263 **Mass Media and Composition.** Basically a course in communication, with mass media for content. Continuation of writing and speech concepts studied in previous courses: logical organization, use of concrete evidence to support opinions, use of appropriate language, and effective handling of source materials. Both oral and written critical evaluations. 4 credits.
- 264 **Literature and Composition.** A study of prose literature as a means of developing and enlarging the student's ability to think clearly and to express his thoughts effectively in written composition. May be selected in lieu of English 263. 4 credits.

## ENGLISH

- 221 **Introduction to Poetry.** A course in the forms and techniques of poetry. Designed to equip those beginning their English majors or minors with the skills and knowledge needed for advanced work in poetry. Suggested as the first course for the English major or minor. 3 credits.
- 230 **Traditional Grammars.** A study of the basic concepts of traditional grammars through a comparison of representative grammarians. 3 credits.
- 250 **Literature of the American Frontier.** A survey of the concept of the frontier as developed in American Literature from the Colonial Period to the present. 4 credits.
- 260 **Establishment of a National American Literature.** A study of the rise of American literary forms: Franklin, Irving, Bryant, Cooper, Poe, and selected authors of the Colonial Period. 3 credits.
- 265 **The American Renaissance.** A study of the transcendentalists and their critics: Emerson, Thoreau, Hawthorne, Melville, Whitman, and related authors. 4 credits.
- 270 **The English Renaissance.** A study of the Tudor poets from Wyatt to Sidney and Spenser, as well as the essayists, travellers, and dramatists (exclusive of Shakespeare). 3 credits.
- 279 **The Restoration.** A study of Dryden, Pepys, Butler, Wycherley, Congreve, and related authors. 3 credits.
- 286 **The Romantics I.** A study of 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 credits.
- 287 **The Romantics II.** A study of 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 credits.
- 288 **The Victorian Poets.** A study of the poetry of Tennyson, Browning, Arnold, and related authors. 4 credits.
- 289 **Victorian Prose Writers and Dramatists.** A study of Carlyle, Ruskin, Huxley, Arnold, and related authors, as well as an introduction to the drama and novels of the period. 3 credits.
- 290 **Masterpieces of Literature.** A study of literary works that have proved to be of lasting significance to Western literature. This is intended to be an adult education course designed for non-English majors and minors. It will not count towards an English major or minor. 4 credits.
- 291 **Literature of the Ancient World.** A study of selected literature of the Greeks and Romans in translation. 3 credits.
- 293 **Recent European Literature.** A study of the works of selected major authors in translation, as well as of the literary movements and forms. 4 credits.
- 330 **Creative Writing.** A study of narration and description with an emphasis on creative writing. 3 credits.
- 331 **Advanced Composition.** A study of exposition with an emphasis on the principles and practices of advanced expository composition. 3 credits.

- 343 **Shakespeare I.** An introduction to the histories, comedies, and tragedies. 4 credits.
- 353 **Literature for Adolescents.** A study of the types of literature suitable for recreational reading in junior and senior high school, and of standards for selecting materials, methods of presentation, and bibliography. 3 credits.
- 366 **Realism and Naturalism in American Literature.** A study of post-Civil War literary trends and writers, including Mark Twain and Henry James. 3 credits.
- 368 **Modern American Literature.** A study of twentieth-century literary trends and writers to World War II. 3 credits.
- 370 **Medieval English Literature.** An introduction to the literature and language of the Middle English Period: Chaucer, Langland, Malory, and the anonymous poets and playwrights. 3 credits.
- 377 **Seventeenth Century to the Restoration.** A study of John Donne and the metaphysical poets, Ben Jonson and the poets of the classical school, and the prose writers of the period. 3 credits.
- 384 **The Eighteenth Century, 1700-1750.** A study of Defoe, Swift, Addison, Steele, Pope, Collins, and related authors. 3 credits.
- 385 **The Eighteenth Century, 1750-1800.** A study of Gray, Boswell, Johnson, Walpole, Goldsmith, Cowper, Burns, and related authors. 3 credits.
- 386 **The Eighteenth-Century Novel.** A study of the evolution of the English novel during the eighteenth century: Defoe, Richardson, Fielding, Smollett, Sterne, and related authors. 4 credits.
- 391 **Literature of the Post-Classical Western World.** A study in translation of selected literature from the Middle Ages until modern times: Dante, Montaigne, Cervantes, Moliere, Voltaire, Goethe, Heine, and others. 4 credits.
- 394 **Literature of the Eastern World.** A survey of the major works of the Near and Far East, with some attention to primitive literatures. 4 credits.
- 396 **Modern English Literature.** A study of the trends and authors to World War II. 3 credits.
- 400 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in English. 1-4 credits.
- 440 **Chaucer.** A study of *The Canterbury Tales* and other works of Chaucer. 3 credits.
- 441 **Milton.** A study of *Paradise Lost* and other poems by John Milton. 3 credits.
- 443 **Shakespeare II.** An examination of the texts, background, and criticism of William Shakespeare with emphasis on the works of his later period. 3 credits.
- 452 **Teaching Language Arts in Secondary Schools.** A study of the principles, methods, materials, and organization of the teaching of literature, language, and composition. To be taken before student teaching. 4 credits.
- 461 **American Writers Before 1860.** Any topic, theme, or authors before 1860. Specific content to be announced in the quarterly schedule. 4 credits.
- 462 **American Writers After 1860.** Any topic, theme, or authors after 1860. Specific content to be announced in the quarterly schedule. 4 credits.
- 468 **Contemporary American Literature.** A study of literary trends and writers since World War II. 4 credits.
- 486 **English Writers of the Nineteenth Century.** Writings, background, and criticism of one or more of the principal writers of the nineteenth century, such as Wordsworth, Coleridge, Keats, Tennyson, Browning, Newman, Dickens, Thackeray. 4 credits.
- 498 **Contemporary English Literature.** A study of the trends and authors since World War II. 4 credits.

#### COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

- 421-521 **Literary Theory and Criticism.** A study of 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 credits.

- 432-532 **Introduction to Linguistics.** A beginning course in the systematic study of language: linguistic analysis; linguistic structures; language classification; introduction to the history of the English language; and applied English linguistics. 4 credits.
- 434-534 **Contemporary 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. Prerequisite: 432. 4 credits.
- 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. Prerequisite: 432. 3 credits.
- 445-545 **The English Novel.** A critical study of the nineteenth- and twentieth-century development of the English novel. 4 credits.
- 446-546 **The American Novel.** A critical study of the development of the American novel. 4 credits.
- 491-591 **Drama: The Beginnings to Ibsen.** A study of world drama, its origin and genesis. Primitive drama. Classical Greek and Roman, Oriental, Medieval, Elizabethan, Neo-classical, French, Restoration, Eighteenth-century, to 1875. 4 credits.
- 492-592 **The Modern Drama: Ibsen to World War II.** A study of the literature and production techniques of the modern theatre. 4 credits.
- 493-593 **Contemporary Drama.** A study of the trends in literature and production techniques of the present-day world theatre. 4 credits.
- 496-596 **Writers of the Twentieth Century.** A study of the writings, background, and criticism of one or more of the principal writers of the twentieth century. 4 credits.

#### COURSES FOR GRADUATE STUDENTS

- 600 **Special Problems.** A seminar or conference course for graduate students wishing to work out a special problem in English. 1-4 credits.
- 616 **Literary Research.** A study of bibliography, methods, and tools in the art of literary research. 4 credits.
- 622 **History of Literary Theory and Criticism.** An examination of the major texts from ancient times to the present. Designed to provide the student with a background of critical history. 4 credits.
- 637 **Old English.** An introduction to the language and literature of the Anglo-Saxon period. 4 credits.
- 639 **Seminar in Linguistics.** A study of one or more topics of current importance in linguistics. 4 credits.
- 640 **Seminar in Chaucer.** A study of selected aspects of Chaucer's prose and poetry. 4 credits.
- 641 **Seminar in Milton.** A study of selected aspects of Milton's prose, poetry, and drama. 4 credits.
- 642 **Tudor Literature.** A study of one or more figures such as Spenser, Sidney, or the sonneteers (exclusive of Shakespeare and the dramatists). 4 credits.
- 643 **Shakespeare Studies.** A study of the text and sources; theories; and history of representative comedies, tragedies, and histories. 4 credits.
- 647 **Seminar in Literary Themes.** A study of selected recurrent themes in literature. 4 credits.
- 648 **Seminar in Literary Forms.** A study of the forms of literature. 4 credits.
- 652 **Language Arts Problems.** A study of the latest trends in language arts teaching and course organization; application to specific problems of class members, with emphasis on individual research. Prerequisite: 452 or equivalent. 4 credits.
- 656 **The Teaching of College English.** A study of the planning and preparation of materials for college teaching. Involves observation in the college classroom together with student teaching. Research project on the teaching of college English required. 1-4 credits.
- 663 **Seminar in Early American Literature.** 4 credits.
- 664 **Seminar in the American Literature of the Early Nineteenth Century.** 4 credits.



- 665 Seminar in the American Literature of the Later Nineteenth Century. 4 credits.
- 666 Seminar in Modern American Literature. 4 credits.
- 670 The Study of Middle English Literature. A study of selected aspects of English literature from the twelfth to the sixteenth centuries. 4 credits.
- 671 Renaissance Drama Exclusive of Shakespeare. A study of representative Tudor and Jacobean dramatists: Kyd, Marlowe, Dekker, Jonson, Webster, Heywood, and related authors. 4 credits.
- 675 English Writers of the Seventeenth Century. A study of the writings, background, and criticism of one or more of the principal writers of the seventeenth century, such as Bacon, Bunyan, Burton, Donne, Herbert, Jonson, Dryden, Milton, and others. 4 credits.
- 679 Seminar in Restoration Literature. A study of selected Restoration authors, writings, and movements from 1660-1710. 4 credits.
- 682 The Eighteenth-Century Drama. A study of representative eighteenth century drama. 4 credits.
- 684 English Writers of the Eighteenth Century. A study of the writings, background, and criticism of one or more of the principal writers of the eighteenth century. 4 credits.
- 687 Seminar in Nineteenth-Century British Literature. A study of a selected aspect of nineteenth-century British literature. The content will vary. 4 credits.
- 691 Seminar in World Literature. A study of selected readings from the works of one or more major world figures. 4 credits.
- 694 Seminar in Twentieth-Century British Literature. A study of selected aspects of twentieth-century British literature. The content will vary. 4 credits.
- 695 The Great Classics. A survey of masterpieces in literature from different cultural origins and from different ages. This course is a graduate general education course and is not open to English majors. No prerequisites. 3 credits.
- 697 Contemporary Thought in Literature. A study of the philosophical and cultural content of selected contemporary writings. 4 credits.
- 699 Master's Thesis. 4-6 credits.

## FOREIGN LANGUAGES

*Hervé Fuyet, Ph.D., Chairman*

An educated person with a command of foreign languages is today's world citizen. Schools and colleges need competent language teachers. Employers increasingly prefer college graduates with foreign language training.

**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 program; with two or three years in high school, he may register for both 211 and 221; and with four years in high school, 243, 311, or 312. During the first week tests will be given to ascertain if the placement is correct and at that time changes may be made on the basis of individual competence.

### Majors and minors:

The following majors and minors are offered:

- |   |   |
|---|---|
| B.S. Major (48 qtr. cr. beyond the 100 level) in French, German or Spanish. | Minor (36 qtr. cr. beyond the 100 level) in French, German or Spanish.            |
| Comprehensive Major (84 qtr. cr.) in French, German or Spanish.             | Elementary Minor (24 qtr. cr. beyond the 100 level) in French, German or Spanish. |
| B.A. Major (48 qtr. cr. beyond the 100 level) in French, German or Spanish. | Minor (36 qtr. cr. beyond the 100 level) in French, German or Spanish.            |

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. 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. Course numbers indicated are the same for all languages. All literature and civilization courses are conducted in the foreign language.

**BACHELOR OF SCIENCE IN EDUCATION**

<b>Major:</b>		<b>Plan A</b>	<b>Plan B</b>
Plan A-48 qtr. cr. beyond the 100-level. Plan B-36 qtr. cr. beyond the 200-level. (for students entering with advanced preparation).	Courses at 200-level (to include 243) 311, 312, 321, 322, 323, 453 or 455, 454 or 456 Electives at 300- or 400-level (to include at least 3 additional cr. in literature)	9 to 15  24 - 24  15 to 9	0 to (3)  24 - 24  12 - 12

**Comprehensive Major (84)**

**Core:** 48 to 60 qtr. cr. 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 12 qtr. cr.) in the maximum of 60, provided the credits are not also counted toward General Education requirements.

**Electives:** 24 to 36 qtr. cr. in related studies, to be approved by an adviser in the Department of Foreign Languages. 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 Departments of Economics, History, Geography, and Sociology.
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 Departments of Art, English, Music, Philosophy, and Speech.
4. **Foreign Languages.** Courses in a second foreign language, for a minimum of 12 and a maximum of 24 qtr. cr. (Students who desire a greater concentration than this should elect a minor in the second foreign language.)

<b>Minor:</b>		<b>Elementary Minor (24)</b>		<b>Plan A</b>
Plan A-36 qtr. cr. beyond the 100-level. Plan B-24 qtr. cr. beyond the 200-level. (for students entering with advanced preparation):	<b>Plan A</b>	<b>Plan B</b>	Courses at 200-level (to include 243) 311 455 and 456 Electives at 300- or 400-level	9 to 12 5 - 5 5 - 5 5 - 2
Courses at 200-level (to include 243) 311, 321, 322, 323, 453, 454 Electives at 300- or 400-level	9 to 15 19 - 19 8 to 2	0 to (3) 19 - 19 5 - 5		

## BACHELOR OF ARTS

	Major:		Minor:	
Plan A-48 qtr. cr. beyond the 100-level.			Plan A-36 qtr. cr. beyond the 100-level.	
Plan B-36 qtr. cr. beyond the 200-level.			Plan B-24 qtr. cr. beyond the 200 level.	
(for students entering with advanced preparation):				
	Plan A	Plan B	Plan A	Plan B
Courses at 200-level			Courses at 200-level	
(to include 243)	9 to 15	0 to (3)	(to include 243)	9 to 5 0 to (3)
311	5 - 5	5 - 5	311	5 - 5 5 - 5
Electives at 300-or			Electives at 300- or	
400-level (to include			400-level	16 to 22 19 to 16
at least 15 cr. in				
literature	34 to 28	31 - 31		

## COURSE DESCRIPTIONS

## FRENCH

- 131, 132, 133 Elementary.** Basic vocabulary and grammatical structures with emphasis on the spoken language. Must be taken in sequence. Not to be counted for credit toward graduation unless 133 is completed. 4 hours class, 1 hour laboratory weekly. 4 credits each quarter. 12 credits.
- 211, 212 Intermediate.** Review and expansion of basic vocabulary and grammatical structures; conversational practice; introduction to literature. Must be taken in sequence. May be taken concurrently with French 221, 222, 223. Prerequisite: 133 or 2 or 3 years high school French. 3 credits each quarter. 6 credits.
- 221, 222, 223 Introduction to the Cultural History of France.** Readings and class discussion in French. Taking sequence is recommended but not required. May be taken concurrently with French 211, 212, 243. Prerequisite: 133 or 2 or 3 years high school French. 2 credits each quarter. 6 credits.
- 243 Readings in Modern Literature.** Graded selections from prose, drama, and poetry. Prerequisite: 5 quarter credits at the 200-level, or 4 years high school French. 3 credits.  
Note: 12 quarter credits in French at the 200-level (or the equivalent as determined by the department) are prerequisite to all courses at the 300-level.
- 311 Composition.** Practice in the writing of resumes, simple narratives, descriptions, and critiques; studies in vocabulary and syntax, directed toward appreciation of literary style. Must be taken before or concurrently with the first literary course at the 300 or 400 level. 5 credits.
- 312 Conversation.** Intensive oral practice based on themes drawn from contemporary French culture. 5 credits.
- 321, 322, 323 Form and Style in French Literature.** Representative works of French literature considered as varieties of artistic experience and expression. Need not be taken in sequence. Prerequisite: see French 311.
- 321 Poetry.** 3 credits.  
**322 Drama.** 3 credits.  
**323 Prose Fiction.** 3 credits.
- 351 Phonetics.** Phonology of French, phonetic transcription, and practice in pronunciation. 3 credits.  
Note: 10 qtr. cr. in French at the 300-level are prerequisite to all courses at the 400-level.
- 400 Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in French. 1-4 credits.
- 431 Medieval Literature.** Survey of the medieval heritage with emphasis on the *chanson de geste* and theater. Offered in alternate years. 3 credits.
- 432 Renaissance Literature.** Survey of the 16th century with emphasis on Montaigne, Rabelais, and the Pleiade. Offered in alternate years. 3 credits.
- 433 Seventeenth-Century Literature.** The Age of Classicism, with emphasis on Corneille, Racine, Moliere. Offered in alternate years. 3 credits.
- 434 Eighteenth-Century Literature.** The "Enlightenment", with emphasis on philosophy and theater, and novel. Offered in alternate years. 3 credits.
- 435 Nineteenth-Century Literature.** Romantic and realistic trends in poetry, theater, and novel. Offered in alternate years. 3 credits.

- 436 **Twentieth-Century Literature.** Trends in Twentieth-Century poetry, prose and drama. Offered in alternate years. 3 credits.
- 441 **French Civilization.** Studies in the history and culture of France. 4 credits.
- 452 **Advanced Grammar.** Contrastive analysis of French syntactical patterns for native speakers of English. 3 credits.
- 453 **French for Secondary Teachers.** Materials for class and extracurricular use, and practice in presenting them. Required for student teaching.
- \*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 credits.
- 455 **French for Elementary Teachers.** Materials for class and extracurricular use, and practice in presenting them. Required for student teaching. 3 credits.
- \*456 **Teaching of Modern Foreign Languages in Elementary Schools.** Current curriculum developments, classroom objectives and procedures. Should be taken after student teaching. 2 credits.
- \*French 454, German 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 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.

**GERMAN**

- 131, 132, 133 **Elementary.** Basic vocabulary and grammatical structures with emphasis on the spoken language. Must be taken in sequence. Not to be counted for credit toward graduation unless 133 is completed. 4 hours class, 1 hour laboratory weekly. 4 credits each quarter. 12 credits.
- 211, 212 **Intermediate.** Review and expansion of basic vocabulary and grammatical structures; conversational practice; introduction to literature. Must be taken in sequence. May be taken concurrently with German 221, 222, 223. Prerequisite: 133 or 2 or 3 years high school German. 3 credits each quarter. 6 credits.
- 221, 222, 223 **Introduction to the Cultural History of Germany.** Readings and class discussion in German. Taking in sequence is recommended but not required. May be taken concurrently with German 211, 212, 243. Prerequisite: 133 or 2 or 3 years high school German. 2 credits each quarter. 6 credits.
- 243 **Readings in Modern Literature.** Graded selections from prose, drama, and poetry. Prerequisite: 5 quarter credits at the 200-level, or 4 years high school German. 3 credits.
- NOTE: 12 quarter credits in German at the 200-level (or the equivalent as determined by the department) are prerequisite to all courses at the 300-level.**
- 311 **Composition.** Practice in the writing of resumes, critiques, essays, descriptions, simple narratives; studies in vocabulary and syntax, directed toward appreciation of literary style. Must be taken before or concurrently with the first literary course at the 300 or 400 level. 5 credits.
- 312 **Conversation.** Intensive oral practice based on themes drawn from contemporary German culture. 5 credits.
- 321, 322, 323 **Form and Style in German Literature.** Representative works of German literature considered as varieties of artistic experience and expression. Need not be taken in sequence. Prerequisite: see German 311.
- 321 **Poetry.** 3 credits.
- 322 **Drama.** 3 credits.
- 323 **Prose Fiction.** 3 credits.
- 351 **Pronunciation and Intonation.** Analysis of German phonology for native speakers of English; intensive oral practice. 3 credits.
- NOTE: 10 qtr. cr. in German at the 300-level are prerequisite to all courses at the 400-level.**
- 400 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in German. 1-4 credits.
- 431 **Medieval and Early Modern Literature.** Emphasis on the Middle High German epic and courtly love lyric; writers of the Reformation, Renaissance and Baroque. Offered in alternate years. 3 credits.

## 50 FOREIGN LANGUAGES

- 432 **Classical Period.** The Enlightenment and the Age of Goethe. Offered in alternate years. 3 credits.
- 433 **Faust.** Examination of Goethe's world classic within its historical and autobiographical context. Offered in alternate years. 3 credits.
- 434 **Romanticism.** Contributions of early and later Romantic authors. Offered in alternate years. 3 credits.
- 435 **Realism and Naturalism.** Principle writers of the second half of the 19th century. Offered in alternate years. 3 credits.
- 436 **Twentieth-Century Literature.** Trends in Twentieth Century poetry, prose and drama. Offered in alternate years. 3 credits.
- 441 **German Civilization.** Studies in the history and culture of the German language area of Europe. 4 credits.
- 452 **Advanced Grammar.** Contrastive analysis of German syntactical patterns for native speakers of English. 3 credits.
- 453 **German for Secondary Teachers.** Materials for class and extracurricular use, and practice in presenting them. Required for student teaching. 3 credits.
- \*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 credits.
- 455 **German for Elementary Teachers.** Materials for class and extracurricular use, and practice in presenting them. Required for student teaching. 3 credits.
- \*456 **Teaching of Modern Foreign Languages in Elementary Schools.** Current curriculum developments, classroom objectives and procedures. Should be taken after student teaching. 2 credits.
- \*French 454, German 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 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.

## SPANISH

- 131, 132, 133 **Elementary.** Basic vocabulary and grammatical structures with emphasis on the spoken language. Must be taken in sequence. Not to be counted for credit toward graduation unless 133 is completed. 4 hours class, 1 hour laboratory weekly. 4 credits each quarter. 12 credits.
- 211, 212 **Intermediate.** Review and expansion of basic vocabulary and grammatical structures; conversational practice; introduction to literature. Must be taken in sequence. May be taken concurrently with Spanish 221, 222, 223. Prerequisite: 133, or 2 or 3 years in high school. 2 credits each quarter. 6 credits.
- 243 **Readings in Modern Literature.** Graded selections from prose, drama, and poetry. Prerequisite: 5 quarter credits at the 200-level, or 4 years in high school. 3 credits.
- NOTE: 12 quarter credits of Spanish at the 200-level (or the equivalent as determined by the department) are prerequisite to all courses at the 300-level.
- 311 **Composition.** Practice in the writing of short narratives, descriptions, resumes and critiques; studies in vocabulary and syntax, directed toward appreciation of literary style. Must be taken before or concurrently with the first literary course at the 300 or 400 level. 5 credits.
- 312 **Conversation.** Intensive oral practice based on themes drawn from the contemporary cultures of Spanish-speaking countries. 5 credits.
- 321, 322, 323 **Readings in Spanish-American Literature.** Representative works studied intensively both in relation to their social backgrounds and as varieties of literary expression. Need not be taken in sequence. Prerequisite: see Spanish 311.
- 321 **Poetry.** 3 credits.
- 322 **Drama.** 3 credits.
- 323 **Prose Fiction.** 3 credits.
- 351 **Pronunciation and Intonation.** Analysis of Spanish phonology for native speakers of English; intensive oral practice. 3 credits.

**NOTE:** 10 qtr. cr. in Spanish at the 300-level are prerequisite to all courses at the 400-level.

- 400 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in Spanish. 1-4 credits.
- 431 **Medieval Literature.** From the *Cid* to the *Celestina*. Offered in alternate years. 3 credits.
- 432 **The Golden Age.** Emphasis on Cervantes, Lope de Vega, Tirso de Molina, Calderon de la Barca. Offered in alternate years. 3 credits.
- 433 **Neoclassicism.** Influence of French literature on Spanish literature of the 18th century. Offered in alternate years. 3 credits.
- 434 **Romanticism.** Nineteenth-century literature, with emphasis on Becquer, Duque de Rivas, and Zorrilla. Offered in alternate years. 3 credits.
- 435 **The Generation of 1898.** Emphasis on Unamuno, Baroja, and Ortega y Gasset. Offered in alternate years. 3 credits.
- 436 **Contemporary Literature.** Trends in Twentieth-Century poetry, prose, and drama. Offered in alternate years. 3 credits.
- 441 **Spanish Civilization.** Studies in the history and culture of Spain. 4 credits.
- 452 **Advanced Grammar.** Contrastive analysis of Spanish syntactical patterns for native speakers of English. 3 credits.
- 453 **Spanish for Secondary Teachers.** Materials for class and extracurricular use, and practice in presenting them. Required for student teaching. 3 credits.
- \*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 credits.
- 455 **Spanish for Elementary Teachers.** Materials for class and extracurricular use, and practice in presenting them. Required for student teaching. 3 credits.
- \*456 **Teaching of Modern Foreign Languages in Elementary Schools.** Current curriculum developments, classroom objectives and procedures. Should be taken after student teaching. 2 credits.
- \*French 454, German 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 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.

## RUSSIAN

- 131, 132, 133 **Elementary.** Basic vocabulary and grammatical structures with emphasis on the spoken language. Must be taken in sequence. Not to be counted for credit toward graduation unless 133 is completed. 4 hours class, 1 hour laboratory weekly. 4 credits each quarter. 12 credits.
- 211, 212 **Intermediate.** Review and expansion of basic vocabulary and grammatical structures; conversational practice; introduction to literature. Must be taken in sequence. May be taken concurrently with Russian 221, 222, 223. Prerequisite: 133 or 2 or 3 years high school Russian. 3 credits each quarter. 6 credits.
- 221, 222, 223 **Introduction to the Cultural History of Russia.** Readings and class discussion in Russian. Taking sequence is recommended but not required. May be taken concurrently with Russian 211, 212, 243. Prerequisite: 133 or 2 or 3 years high school Russian. 2 credits each quarter. 6 credits.
- 243 **Readings in Modern Literature.** Graded selections from prose, drama, and poetry. Prerequisite: 5 quarter credits at the 200-level or 4 years high school Russian. 3 credits.

## COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

- French 437-537 **Literature of the "Tiers Monde".** Studies of leading writers in former French Colonies. 3 credits.
- French 460-560 **Summer Study Abroad.** Prerequisite: French 311, 312 plus 9 credits in literature (300 and 400 level) and approval of Program Director. 8 credits undergraduate, 3-6 credits graduate.

**German 460-560 Summer Study Abroad.** Same as French, except German.

**Spanish 460-560 Summer Study Abroad.** Same as German, except Spanish.

#### COURSES FOR GRADUATE STUDENTS

**French 554 Advanced Methodology in the Teaching of French.**

**German 554 Advanced Methodology in the Teaching of German.**

**Russian 554 Advanced Methodology in the Teaching of Russian.**

**Spanish 554 Advanced Methodology in the Teaching of Spanish.**

**A Seminar** dealing with problems of teaching foreign languages at the secondary level and with an examination of recent trends in methodology. Discussion of the course content in English and in the foreign languages. 1-4 credits.

### GEOGRAPHY

*Ruben L. Parson, Ph.D., Chairman*

Students interested in social studies programs with an emphasis in Geography should refer to the interdepartmental course offerings as listed in the section on Social Studies.

#### BACHELOR OF SCIENCE

##### Major (48)

A minimum of four topical courses and four regional courses in Geography. Social Studies 353.

Electives in two departments of Social Sciences other than Geography (8).

##### Minor (36)

A minimum of three topical courses and three regional courses in Geography. Social Studies 353.

Electives in two departments of Social Sciences other than Geography (8).

##### Junior High Concentration (40)

A minimum of three topical courses and three regional courses in Geography. Social Studies 353.

Electives in two departments of Social Sciences other than Geography (8).

##### Elementary Education Minor (36)

A minimum of four topical courses and four regional courses in Geography.

(The minor must be composed of three 200-level, three 300-level, and three 400-level courses.)

##### Elementary Education Minor (24)

A minimum of three topical and two regional courses. (The minor must be composed of three 200-level, two 300-level, and one 400-level courses.)

#### BACHELOR OF ARTS

##### Major (48)

Geography 271, 273, 405.

A minimum of four regional and three topical courses in Geography.

Electives in two departments of Social Sciences other than Geography (6-10).

##### Minor (36)

Geography 271, 273, 405.

A minimum of three regional and two topical courses in Geography.

Elective in one department of Social Sciences other than Geography (3-6).

#### COURSE DESCRIPTIONS

- 171 Regional Human Geography.** Fundamental concepts necessary for geographic thinking. Understandings of climatic patterns. Emphasis on relationships. 4 credits.
- 270 Introduction to Cultural Geography.** A topical treatment of those aspects of geography which are the result of man's modification of his environment. Topical. 4 credits.
- 271 Economic Geography.** Types of industries. Emphasis on methods, practices, and relationships. Topical. 4 credits.
- 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 for regional courses. Laboratory. Topical. 4 credits.



- 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 credits.
- 276 **Geography of Canada.** Regional contrasts and interrelationships, problems of human occupancy under varied environmental conditions. Regional. 2 credits.
- 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 credits.
- 279 **Geography of Outdoor Recreation.** Perception, use, and management of amenities of landscape, particularly landscape of the United States of America. Topical. 4 credits.
- 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. Topical. 4 credits.
- 368 **Geography of North Africa and 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 credits.
- 369 **Geography of South and Southeast Asia.** Physical and human geography of two major sub-regions of Asia, emphasis on population pressures and resource use. Regional. 4 credits.
- 370 **Geography of East Asia.** Physical and human geography of China, Japan, and Korea; geographic aspects of population pressure, development and use of resources and international resources. Regional. 4 credits.
- 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 for the greatest benefit of man. (May not be taken for credit if credit has already been received for Biology 349, Principles of Resource Management.) Topical. 4 credits.
- 374 **Geography of Europe.** Regional treatment of areas not dominated by the USSR. Interpretation of economic conditions. Regional. 4 credits.
- 376 **Geography of Minnesota.** Regional treatment of the geography of Minnesota, including distribution of surface features, natural resources, climatic differences, crops, and man. Regional. 3 credits.
- 378 **Geography of the USSR.** Physical, cultural, economic, historical and political study of geography of the land and peoples now a part of the USSR. Geographic analysis of Russia's strengths and weaknesses, limited regional work. Regional. 4 credits.
- 388 **Australia and New Zealand.** Regional study of those two parts of the world from standpoint of human response to environment. Regional. 2 credits.
- 390 **Geography Field Course.** Concepts and techniques of geographic field work. Practice in appraising cultural and physical features and portraying them on maps. Topical. 4 credits.
- 400 **Special Problems in Geography.** A seminar or conference course for advanced students wishing to work out special problems in geography. 1-4 credits.
- 471 **Historical Geography.** Geographic factors acting upon discovery and settlement of North America to 1890. Topical. 4 credits.

**COURSES FOR ADVANCED UNDERGRADUATE  
AND GRADUATE STUDENTS**

- 401-501 **Research or Readings in Topical Geography.** A seminar or conference course for students wishing to work on some phase of this subject. Credits and hours arranged. 1-4 credits.
- 402-502 **Research or Readings in Regional Geography.** A seminar or conference course for students wishing to work on the geography of a particular region. Credits and hours arranged. 1-4 credits.
- 405-505 **Cartography.** Map making and construction. Work with map making tools. Topical. 4 credits.
- 472-572 **Geomorphology.** The configuration of the earth's surface and physical processes which have brought the surface to its present condition. Topical. 4 credits.
- 474-574 **Meteorology.** The study of atmospheric phenomena; familiarity with sensing and recording instruments; the analysis of weather maps and weather forecasting. Topical. 4 credits.

- 475-575 Climatology.** World distribution of climatic elements and climatic types. Climatic change and fluctuation. Topical. 4 credits.
- 476-576 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 credits.
- 480-580 Agricultural Geography.** World areal differences in crop, livestock, and technological patterns. Special emphasis on farming in the United States. Topical. 4 credits.
- 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 credits.
- 489-589 Development of Geographic Thought.** Main currents from ancient Greece to the present. Basic ideas behind the division of geographic into regional and systematic categories. Topical. 4 credits.
- 490-590 Urban and Transportation Geography.** Geographic causes for growth and demise of the world's trade cities and trade routes. Particular attention to various kinds of carriers of world and American trade. Topical. 4 credits.
- 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, urban and rural; brief background in hydrologic processes. Topical. 4 credits.
- 494-594 Urban, Regional and Resource Planning.** A survey of the urban and regional planning field; concepts, philosophies and theories of planning; critical review of case-studies selected to illustrate different frameworks of urban, regional and resource planning. Topical. 4 credits.
- 498-598 Geography of Middle America.** Geographic analysis of Mexico, Central American countries, and West Indian Islands. Regional. 4 credits.

#### COURSES FOR GRADUATE STUDENTS

- 600 Special Problems in Geography.** A seminar or conference course for advanced students wishing to work out special problems in Geography. 1-4 credits.
- 699 Master's Thesis.** 3-9 credits.

### HISTORY

*Calvin W. Gower, Ph.D., Chairman*

Students interested in social studies programs with emphasis in History should refer to the course offerings listed in Social Studies.

#### BACHELOR OF SCIENCE

##### Major (48)

History courses required: 4 to 8 credits of the American History survey (140, 141) and 12 to 16 credits of the European survey (200, 201, 202, 203) (Total of 16 to 24 credits).

History Electives (12 to 20).

Social Studies 353.

Electives in two of the following departments: Economics, Geography, Political Science, or Sociology and Anthropology (8).

##### Minor (36)

A minimum of one course in each of the four fields of Ancient, Medieval, Modern European and American History.

Social Studies 353.

Electives in two of the following departments: Economics, Geography, Political Science, or Sociology and Anthropology (8).

##### Elementary Education (36)

History 140 or 141 and 200, 201, 202, or 203 (8).

History Electives at 200 level (4).

History Electives at 300-400 levels (16).

Electives in two of the following departments: Economics, Geography, Political Science, or Sociology and Anthropology (8).

##### Elementary Education Minor (24)

History 140 or 141 and 200, 201, 202, or 203 (8).

History Electives at 300-400 levels (16).

##### Junior High School Concentration (40)

A minimum of one course in each of the four fields of Ancient, Medieval, Modern European, and American History.

Social Studies 353.

Electives in two of the following departments: Economics, Geography, Political Science, or Sociology and Anthropology (8).

## BACHELOR OF ARTS

## Major (48)

A minimum of one course in each of the four fields of Ancient, Medieval, Modern European, and American History (48).  
Foreign Language (12).

## Minor (36)

A minimum of one course in each of the four fields of Ancient, Medieval, Modern European, and American History.

## COURSE DESCRIPTIONS

- 100, 300 Independent Study.** A conference course in a particular subject area of history. Subject listed each quarter in class schedule. Student must secure permission of instructor to register for this course. 1-4 credits.
- 101 Historical Studies.** An interpretive study of general trends and selected topics of various periods of history. Specific periods will be listed in the class schedule each quarter. General Education course and not to be counted as part of a History major or minor. 4 credits.
- 140 American History, 1607-1865.** An interpretive study of general trends and selected topics from the period of initial colonization through independence and constitutional government to the Civil War. 4 credits.
- 141 American History 1865 to Present.** An interpretive study of general trends and selected topics from Reconstruction through industrialization, agrarian protest, Progressivism, New Deal, and foreign involvement. 4 credits.
- 200 Ancient and Medieval Civilizations.** The origins of man, early developments in the Near East, Greece, and Rome, and life in the medieval world. 4 credits.
- 201 Modern European History, 1500-1715.** Renaissance and Reformation: rise of national states. 4 credits.
- 202 Modern European History, 1715-1870.** Revolutionary nationalism and decline of absolutism: Industrial Revolution and Imperialism. 4 credits.
- 203 Modern European History, 1870 to Present.** Imperialism and nationalism, late 1800's; World War I; totalitarianism and democracy, between the wars; World War II; post World War II developments. 4 credits.
- 320 Early Ancient History.** A general survey of the first half of ancient times. The origin of man is covered, and the culture and empires of all early peoples of the Near East are described down to the appearance of the Greeks. 3 credits.
- 321 Later Ancient History.** The Greeks and the Romans, their origins, their culture, and their contributions to modern times. 3 credits.
- 323 Medieval History, c. 325-1000.** Survey of the formative centuries of European-Mediterranean civilization; collapse of Rome; advent of Christianity; the Germanic kingdoms; Islam; origins of feudalism and feudal monarchy. 3 credits.
- 324 Medieval History. 1000-c.1500.** Survey of political and institutional growth of monarchy, the church, and medieval intellectual life. The changes in the feudal and seignorial system; the Crusades; the conciliar movement; changing class structure of Europe. 3 credits.
- 326 Renaissance and Reformation.** Intellectual, political, and religious movements in Continental Europe from 1300-1600. 3 credits.
- 327 The Old Regime, 1700-1789.** Struggle for European hegemony, decline of Enlightenment. Emphasis on France. 3 credits.
- 328 The French Revolution and Napoleon, 1787-1815.** Examination of ideas and conditions which produce revolution. The course of the Revolution in France and its extension throughout Europe by Napoleon. 3 credits.
- 336 English History to 1688.** Origin and development of English representative institutions; English colonization; economic, social, and cultural developments. Prerequisite: 201. 3 credits.
- 337 English History, 1688 to Present.** The development of parliamentary democracy; the British Empire; economic, social, and cultural developments. Prerequisite: 202. 3 credits.
- 338 Modern Germany.** Germany's rise from a nonpolitical entity to a powerful state; emphasis on historical development of German culture and thought; nationalism, militarism. Prerequisite: 202. 3 credits.

- 339 **History of Modern France.** France from the French Revolution to the present; emphasis on historical development of contemporary French institutions, culture, and ideas. Prerequisite: 201 and 202. 3 credits.
- 340 **Colonial American History, 1607-1789.** Study of seventeenth century, development of eighteenth century America. Revolution, Confederation, and founding of a national government; emphasis upon analysis and interpretation. 3 credits.
- 341 **Early National Period of the U.S., 1789-1848.** Constitutional government. Federalist era, Jeffersonian and Jacksonian Democracy, Manifest Destiny. 3 credits.
- 342 **Expansion, Union, and Disunion in the U.S., 1848-1877.** Sectionalism, nationalism, evolution of political parties, compromise and reaction. Civil War and Reconstruction. 3 credits.
- 343 **American Social Protest and Progressive Reform 1877-1920.** Stresses in political, agricultural, and labor groups caused by accelerated urban-industrial development; Progressivism as a response to social change; the domestic impact of World War I. 3 credits.
- 344 **Recent American History, 1920 to Present.** The development of the twentieth century liberal state and the problems it encountered domestically and abroad. 3 credits.
- 345 **American Economic History.** Colonial times to present, with concentration on economic factors and development in our change from a colonial agricultural economy to present industrial state. An elective in Economics. 4 credits.
- 346 **Minnesota History.** Survey of the entire field of Minnesota history, based largely on publications of the Minnesota Historical Society. 3 credits.
- 350 **American Minority Groups.** An historical study of either the Indian, Negro, Mexican-American, or other minority groups and their role in the development of the U.S. One group stressed each quarter. 3 credits per quarter. May be repeated. Maximum of 9 credits.
- 361 **Colonial Latin America, 1492-1825.** The Spanish and Portuguese colonial empires in America from their beginnings through the Wars of Independence. 3 credits.
- 362 **Republican Latin America, 1825 to Present.** A survey of the historical development of the Latin American countries since the Wars of Independence. Stress on major countries and U.S. relations with Latin America. 3 credits.
- 367 **Far East.** Westernization of China and Japan during 19th Century which led to their becoming participants in world affairs. 3 credits.
- 400 **Special Problems in History.** A seminar or conference course for advanced students wishing to work out a special problem in any area in history. 1-4 credits.

#### COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

- 420-520 **Early Modern Intellectual History of Europe.** Great ideas of the Renaissance, Reformation, and Enlightenment, and early scientific thought. Prerequisite: 201 and 202. 3 credits.
- 421-521 **Later Modern Intellectual History of Europe.** Origins of nineteenth and twentieth century European ideologies: romanticism, nationalism, Liberalism, socialism, Darwinism, and totalitarianism. Prerequisite: 202 and 203. 3 credits.
- 422-522 **Modern Social and Economic History of Europe.** Industrialization of the major European states in the nineteenth century, their social problems, the trend toward the welfare state in the twentieth century, and the emergence of Russia as an industrial power. Prerequisite: 202 and 203. 3 credits.
- 423-523 **Modern Diplomatic History of Europe.** Nineteenth century imperialism, origins of World War I, the Versailles Treaty, the crises of the thirties, and problems of the post World War II movement toward European unity. Prerequisite: 203. 3 credits.
- 431-531 **Russia, 850-1700.** Civilization of the Russian city-states, rise of Moscow, and origins of the institutions of modern Russia. Prerequisite: 324. 3 credits.
- 432-532 **Imperial Russia, 1700-1917.** Territorial expansion and relations with western Europe. Revolutions from above and below. Artistic and intellectual currents. Prerequisite: 202. 3 credits.

- 433-533 **The Soviet Union, 1917 to Present.** Revolution in theory and practice. Political, economic and social institutions. Relations with the West and Asia. Prerequisite: 203. 3 credits.
- 445-545 **A Military History of the U.S.** A general description of America's military problems and accomplishments from 1775 to the present time. 3 credits.
- 448-548 **Social and Intellectual History of U.S.** Social and intellectual trends and ideas which shaped American society and thought during colonial and early national years. Prior courses in American History, History of Philosophical Thought, and American Literature strongly recommended. 3 credits.
- 449-549 **Social and Intellectual History of the United States, 1865 to Present.** Social and intellectual trends and ideas which shaped American society and thought from the reconstruction period to the present. Prior courses in American History, History of Philosophical Thought, and American Literature strongly recommended. 3 credits.
- 452-552 **Foreign Relations of U.S., 1775-1860.** Revolution, neutral rights and territorial expansion. Prerequisite: 340 and 341. 3 credits.
- 453-553 **Foreign Relations of U.S., 1860-1920.** Civil War, commercial expansion, imperialism, and World War I and Versailles. Prerequisite: 342 and 343. 3 credits.
- 454-554 **Foreign Relations of U.S., 1920 to Present.** Economic expansion, isolationism, World War II, and Cold War. Prerequisite: 344. 3 credits.
- 458-558 **History of the West.** How frontier environment, continuously present from colonial beginnings to 1890, basically affected development of American history. 3 credits.
- 472-572 **European Historiography.** A survey of research, writing, and interpretation in European history. 3 credits.
- 473-573 **American Historiography.** Extensive reading and discussion of historians and historical interpretation from colonial American to the present. 3 credits.
- 478-578 **Historical Criticism.** Problems in and methods of historical accuracy and consistency; detailed study of references, chronology, availability of knowledge, and recognition of historical "myths." 2 credits.
- 480-580 **Seminar in American History.** Intensive reading and research in one area or topic of U.S., Canadian, or Latin American history. Subject area will be selected by the department. Prerequisite: Senior or graduate students only. 3 credits.
- 483-583 **Seminar in European History.** Bibliographical study, research and discussion of a selected topic in European history. Subject area will be selected by the department. Prerequisite: Senior or graduate students only. 3 credits.
- 486-586 **Seminar in Non-Western History.** Group reading and research on a selected topic outside the geographic areas of European or American history. Subject area will be selected by the department. Prerequisite: Senior or graduate students only. 3 credits.

#### COURSES FOR GRADUATE STUDENTS

- 600 **Special Problems in History.** A seminar or conference course for advanced students wishing to work out a special problem in any area in history. 1-4 credits.
- 635 **Readings in European History.** Guided study of European history through individual investigation of special periods and topics. 2 credits.
- 651 **Readings in American History.** Guided study of American History through individual investigation of special periods and topics. 2 credits.
- 662 **Seminar in Medieval History.** Bibliographical study, intensive reading, discussion, and research in selected areas or topics of Medieval History of Europe, 450-1450. Subject area will be selected by the department. 3 credits.
- 664 **Seminar in Early Modern European History.** Bibliographical study, intensive reading in documents and secondary works, critical analysis and discussion, and research in selected topics or areas of European History, 1450-1750. Subject area will be selected by the department. 3 credits.
- 667 **Seminar in Modern European History.** Bibliographical study, research, and discussion of selected topics in modern European history, 1750 to the present. Subject area to be selected by department. 3 credits.

- 681, 682 **Seminar in American History.** Intensive reading and research in one area or topic of U.S., Canadian, or Latin American history. Subject area will be selected by department. 3 credits per quarter. Maximum of 6 credits.
- 684, 685 **Seminar in European History.** Bibliographical study, research, and discussion of selected topics in European history. Subject area will be selected by department. 3 credits per quarter. Maximum of 6 credits.
- 687, 689 **Seminar in Non-Western History.** Group reading and research on selected topics outside the geographic areas of European or American history. Subject area will be selected by department. 3 credits per quarter. Maximum of 6 credits.
- 690 **Seminar in Colonial American History, 1607-1789.** Intensive reading and research in one area or topic of U.S. history, 1607-1789. Subject area will be selected by the department. 3 credits.
- 691 **Seminar in Early National Period of the U.S., 1789-1848.** Intensive reading and research in one area or topic of U.S. history, 1789-1848. Subject area will be selected by the department. 3 credits.
- 692 **Seminar in Expansion, Union, and Disunion in U.S., 1848-1877.** Intensive reading and research in one area or topic of U.S. history, 1848-1877. Subject area will be selected by the department. 3 credits.
- 693 **Seminar in American Social Protest and Progressive Reform, 1877-1920.** Intensive reading and research in one area or topic of U.S. history 1877-1920. Subject area will be selected by the department. 3 credits.
- 694 **Seminar in Recent American History, 1920 to Present.** Intensive reading and research in one area or topic of U.S. history, 1920 to present. Subject area will be selected by the department. 3 credits.
- 697 **Seminar in Latin American History.** Intensive reading and research in one area or topic of Latin American history. Subject area will be selected by the department. 3 credits.
- 699 **Master's Thesis.** 3-9 credits.

## JOURNALISM

*Richard Martin, Ph.D., Chairman*

The two principal objectives of the Department of Journalism are:

(1) To prepare students for responsible, rewarding careers in mass communication.

(2) To provide prospective high school journalism teachers with the background knowledge, professional insights and attitudes, and practical skills essential for competence in journalism teaching and publications advising.

The best general preparation in either area is a broad liberal education: hence three-fourths of the student's over-all program comprises course work other than professional communications courses. Additionally, many of the professional courses required deal largely with developing knowledgeable, discriminating consumers of the mass media product.

In the special nature of communications work, however, the producer objectives cannot be neglected. Therefore, adequate attention is given, also, to training in the on-the-job practices and techniques of high-standard journalism.

The Bachelor of Arts major and minor, and the Bachelor of Science 36-hour minor, offer a choice of electives, to accommodate special interests and occupational goals. Some of these electives may be taken in departments other than journalism if the substitutions are made with the journalism chairman's approval.

### BACHELOR OF SCIENCE

#### Minor (36)

Journalism 220, 221, 240, 350, 355, 455,  
460, 465, 480, 485, 487.  
Electives (7).

#### Minor (24)

Journalism 220, 221, 240, 350, 455, 460,  
465, 480, 485.

BACHELOR OF ARTS

Major (48)

Journalism 220, 221, 240, 342, 350, 355,  
450, 455, 460, 465.  
Journalism 357 or 480.  
Electives (18).

Minor (24)

Journalism 220, 221, 240, 350, 460, 465.  
Journalism 342 or 450.  
Electives (4).

COURSE DESCRIPTIONS

- 211 **Editing the College Yearbook.** Lecture and laboratory in layout, copywriting, and editing of the college yearbook; one hour lecture, two hours laboratory. 2 credits.
- 213 **Editing the College Newspaper.** Lecture and laboratory in reporting, editing, copy-reading, and makeup of a college newspaper. Two hours lecture, two hours laboratory. 3 credits.
- 220 **Introduction to Mass Communications: Printed Media.** Social and cultural role and organization of the printed media; fundamentals of news selection, gathering, and factual writing. 2 credits.
- 221 **Introduction to Mass Communications: Broadcast Media.** History, nature, functioning and responsibilities of the broadcast media. Introductions to the writing and production skills. 2 credits.
- 240 **Reporting and Newswriting.** Gathering material and writing news reports, interviews, and other types of news stories, (with attention to differing requirements of radio and television and of the small newspaper.) Practice in covering assignments and preparing copy. Prerequisite: 220, 221, ability to type 35 words per minute or Business 101. 4 credits.
- 245 **Photojournalism Laboratory.** Theoretical and practical considerations in planning and taking photographs for the printed media. Basic types of cameras, films, and other equipment and materials commonly used by the photojournalist. Developing, print-making, and other darkroom processes. Complements but not prerequisite to 345 Visual Communication. 2 credits.
- 255 **Publications Laboratory.** Theoretical and practical considerations in planning and producing printed media: a general, introductory, non-technical course in the production-oriented aspects of publications editing. Traditional formats and significant departures; process, equipment, personnel and cost considerations; layout and over-all design; text and display types; copy-fitting; paper stocks; treatment of photographs and other graphic elements; copy-reading and proof-reading; other production steps involving editorial staff members; typographic design and equipment trends. 2 credits.
- 333 **Announcing.** Basic skills training including standards of pronunciation, delivery, and interpretation. Study and practice in all types of radio and television speaking. Special emphasis upon microphone techniques. 3 credits.
- 342 **Advanced Reporting.** Problems of reporting, especially on small-city media; interpretative reporting, feature writing, reporting of public affairs; laws of libel, access to information, property rights in news; other types of special writing. Prerequisite: 240. 3 credits.
- 345 **Visual Communication.** Visual communication of information and ideas, the photo essay and photo story; selection and effective display of photographs in relation to the text. 2 credits.
- 350 **Editing and Makeup.** Principles and practices of news selection, copy-reading, headline writing, illustrations and makeup for newspapers. Prerequisite: 220, 221, 240. 3 credits.
- 355 **Typography and Graphics.** Principles of design in newspaper and magazine makeup and advertising; study of type faces, type harmony, readability and legibility; basic graphic arts processes; relation of typography to effective display and text. Prerequisite: Junior. 2 credits.
- 357 **Community Journalism.** The local media, their editors and reporters; their role and effect among American media. Problems of news and editorial direction, organization, responsibility. Prerequisite: 350. 3 credits.
- 371 **Broadcast Production I.** The structure and operation of commercial and educational radio and television stations. Study of program types and programming methods. Theory and practice in the basic facilities and production techniques. Laboratory. Prerequisite: 221 and English 263. 4 credits.



- 372 **Radio-Television News Writing and Editing.** Groundwork in gathering, writing, and editing news copy for broadcast; radio and television news style. Prerequisite: 240. 3 credits.
- 400 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in Journalism. 1-4 credits.
- 441 **Magazine Article Writing.** Writing feature articles for newspapers, magazines, and professional journals. Markets; the slanting of articles to meet needs of specific publications. 2 credits.
- 450 **Advanced Editing and Makeup.** Current trends in format, makeup, and typography of newspapers and magazines; special problems of makeup; editing and makeup of special pages and sections; attention to solutions of problems by outstanding small-city dailies and weeklies. Prerequisite: 350, 355. 3 credits.
- 451 **Broadcast Production II.** Intensive study in the production of the major educational and commercial programs including drama, documentary, news, interviews, discussions and lectures. Emphasis upon effective production and social responsibility. Laboratory. Prerequisite: 371. 3 credits.
- 455 **Editorial Writing.** Logical organization and principles of persuasion. The column, critical review, letters to the editor, and other materials of editorial page. Prerequisite: 240. 2 credits.
- 460 **Media, Ethics, Law, and Responsibility.** Concepts and problems of freedom, ethics, and responsibility in the printed and electronic media; present practices; major theories. 3 credits.
- 465 **History of American Journalism.** Development of American newspapers and periodicals from beginnings in Europe to present; rise of radio and television; role of journalism in American history and culture; significant journalists and their publications. 3 credits.
- 473 **Radio-Television Public Affairs and Documentaries.** Fundamentals of researching, writing and editing public affairs programs and documentaries. Study of the various types of such programs and their importance. Prerequisite: 372. 3 credits.
- 475 **Writing for Radio and Television.** Study and practice in the major forms of dramatic and non-dramatic programs. Scripting techniques, and the use of dramatic methods. Prerequisite: 371. 2 credits.
- 480 **High School Newspaper.** Role of faculty adviser in supervising. Methods of teaching; content of journalism elective in high school curriculum. Prerequisite: 240, 350. 3 credits.
- 485 **High School Yearbook.** Role and methods of faculty adviser, content of elective in high school curriculum. Prerequisite: 240, 350. 2 credits.

#### COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

- 487-587 **Public Relations.** Interpreting the school, business firm, or other organization for its various publics. Responsibilities of the public relations representative with respect to the community served. The over-all public relations program; the news bureau as a clearing house for publicity and informational materials. 3 credits.
- 495-595 **Workshop: Mass Communications in the High School Classroom.** Interdisciplinary, multi-media approach to the teaching of communication theory and mass media in the secondary school. First summer session only. Admission by consent of instructor. 8 credits.

#### LATIN AMERICAN STUDIES EMPHASIS (24-36)

*Adviser — Department of Social Science*

#### BACHELOR OF ARTS

Core: (22).  
Economics 474.  
Geography 277, 498.

History 321.  
Political Science 474.  
Sociology 267.

**Plan A:**

24 credits in Spanish beyond the elementary college year required (or equivalent).

- |                          |  |
|--------------------------|--|
| Electives: (2-14).       | Sociology 268, 347, 462, 471.            |
| Economics 379, 481.      | Spanish 321, 322, 323, 451.              |
| Geography 271, 486.      | Special Problems in Econ., Geog., Hist., |
| Social Science 460, 470. | Pol.Sci., Soc.Sci., Soc., Spanish.       |

**Plan B:**

Foreign language recommended but not required.

- |                          |  |
|--------------------------|--|
| Electives: (2-14).       | Sociology 268, 347, 462, 471.            |
| Economics 379, 481.      | Special Problems in Econ., Geog., Hist., |
| Geography 271, 486.      | Pol.Sci., Soc.Sci., Soc.                 |
| Social Science 460, 470. |  |

**MATHEMATICS**

*Alyn N. Dull, Chairman*

Mathematics Department Recommendations for Admission to the Major Program of Study.

- The Mathematics Department recommends the completion of at least two (2) mathematics courses at the college level. Some possible combinations could be:
  - Math 241, 242
  - Math 140, 241
  - Math 131, 241
  - Math 134, 241

If the students background is such that he must take both Math 131 and Math 134 he should delay application until he has completed Math 131, 134, 241.
- A student must have had a high school course in geometry or the equivalent.
- A student must have at least a 2.0 average in the mathematics courses completed. (He should be reminded that he needs a 2.25 average for admission to teacher education.)
- Math 271 and 272 may be substituted for an elective in senior level college mathematics.

**BACHELOR OF SCIENCE**

**Major (48)**

- Mathematics 241, 242, 243, 244, 254, 356, 357, 424, 329 or 437, 451.  
 Mathematics Electives at the 300-400 level. (8)

**Minor (36)**

- Mathematics 241, 242, 243, 254, 356, 424, 329 or 437, 451.  
 Mathematics Electives at the 300-400 level. (4)

**Elementary Education Minor (24)**

- Mathematics 241, 242, 251, 254, 352 or 356.  
 Mathematics Electives at 300-400 level. (4)

**Junior High School Concentration (40)**

- Mathematics 241, 242, 243, 254, 315, 356, 424, 329 or 437, 451.  
 Electives selected with approval of adviser. (4)

**BACHELOR OF ARTS**

**Major (60)**

- Mathematics 241, 242, 243, 244, 254, 333, 356, 357.  
 Mathematics Electives at the 300-400 level. (28)

**Minor (36)**

- Mathematics 241, 242, 243, 254.  
 Mathematics Electives at the 300-400 level. (20)

**Major (48)**

- Mathematics 241, 242, 243, 244, 254, 333, 356, 357.  
 Mathematics Electives at the 300-400 level. (16)

## BACHELOR OF SCIENCE OR BACHELOR OF ARTS

## Computer Science Minor (24)

Mathematics 269, 271, 272, 480, 254	Electives chosen from:
or Philosophy 320.	Marketing 240, 350, 451; Business Edu-
One course chosen from the following	cation 210, 414; Math 273, 360, 370,
group:	336, 457, 470, 490; Physics 232, 235,
Math 329, 437; Sociology 378; Psy-	332; Industry 281, 282, 283, 284;
chology 350; Marketing 140.	Psychology 351. (8)

## COURSE DESCRIPTIONS

- 121 Cultural Mathematics.** Computational and informational mathematics. Number systems, number bases, construction and interpretation of graphs, use of formulas, functional relations, measurement, statistics, consumer mathematics, fundamental concepts and rules of arithmetic and algebra, sets, logic, recreational mathematics. 4 credits.
- 130 Intermediate Algebra.** Fundamental operations of algebra, linear and quadratic functions; graphical representation of numbers; solution of elementary linear and quadratic equations; problem solving. 4 credits.
- 131 College Algebra.** Complex numbers; simultaneous quadratic equations, permutations and combinations; probability; determinants; partial fractions; inequalities; theory of equations; progressions; mathematical induction. Prerequisite: 130 or Higher Algebra in high school. 4 credits.
- 132 Mathematics for Biologists.** Ratio, proportion, and variation; functions; linear equations; quadratic equations; trigonometric functions; exponents and logarithms; probability; central tendency; variability; frequencies and distributions; the normal curve and sampling; emphasis on practical applications in the field of Biology. Prerequisite: 130 or Higher Algebra in high school. 4 credits.
- 134 Trigonometry.** Trigonometric functions; solution of right triangle; logarithms; radian measure; properties of trigonometric functions; the fundamental relations; functions of two angles; the oblique triangle; inverse trigonometric functions; complex numbers. Prerequisite: 131 and high school Geometry. 4 credits.
- 140 Integrated Algebra and Trigonometry.** Logic and mathematical proof, the real number system, relations and functions, the circular functions, polar coordinates and complex numbers, matrices and determinants, other selected topics from algebra and trigonometry. Prerequisite: Higher Algebra and Trigonometry in high school. 4 credits.
- 228 Slide Rule.** Theory and use. Prerequisite: 134 or high school trigonometry. 1 credit.
- 241 Analysis I.** Straight line, parabola, differentiation of algebraic functions, applications of derivatives, indefinite integrals. Prerequisite: Higher Algebra and Trigonometry in high school and in upper 50 per cent on Mathematics Entrance Test, or 131 and 134, or 140. 4 credits.
- 242 Analysis II.** Functions and limits, differentiation and integration of algebraic functions, applications, definite integrals. Prerequisite: 241. 4 credits.
- 243 Analysis III.** Differentiation and integration of transcendental functions, applications, formal integration, indefinite integrals. Prerequisite: 242. 4 credits.
- 244 Analysis IV.** Applications of the calculus, differentials, moments and centers of gravity, improper integrals and indeterminate forms, infinite series. Prerequisite: 243. 4 credits.
- 245 Mechanics of Rigid Bodies.** Equilibrium factors in structural models and machines. Kinematics of rigid bodies. Relative motion. Centroids, moments of inertia. Resultants of force systems. Prerequisite: 244, Physics 234, 235, 236. 4 credits.
- 250 Foundations of Arithmetic.** Real number system and its subsystems. Selected topics from elementary number theory. Basic geometric concepts. 4 credits.
- 251 Foundations of Geometry.** Designed for the elementary teacher. Space, plane and line as sets of points; simple closed curves, the triangle, rectangle, circle, sphere, and other figures considered as sets of points, with their properties developed intuitively. Concepts of measurement in plane and space. Selected topics from elementary number theory. Prerequisite: 250. 4 credits.

- 254 Foundations of Algebra.** Sets, logic and philosophy, real number system, algebraic structure. 4 credits.
- 269 Introduction to Computers.** History of computer, current uses in business, industry and education. Study of functional units of computer. Algorithms, flow charts, simple programming. 2 credits.
- 271 Computer Programming - Compiler Language.** Programming concepts. Gotran, Fortran. Laboratory. 2 credits.
- 272 Computer Programming - Assembler Language.** Symbolic Programming System. Machine language. Internal data transmission. Laboratory. 2 credits.
- 273 Computer Programming - Autocoder.** Assembly language for IBM 1401 Computer. Prerequisite: 272. 2 credits.
- 315 Elementary Number Theory.** Study of the integers including such topics as the division and Euclidean algorithms, prime and composite integers, divisibility, the fundamental theorem of arithmetic, systems of congruences, and Diophantine equations. (Not to be counted as an elective for math majors or minors.) 4 credits.
- 329 Introduction to Probability.** Basic work with sets, finite and countably infinite sample spaces, probability measure, conditional probability and independence of events, random variables of the discrete kind, probability distributions induced on random variables. Bernoulli trials and binomial distribution, dependent trials and the hypergeometric distribution, expectation, variance and covariance, weak law of large numbers. Prerequisites: 131, or equivalent. (Not to be counted as an elective for BA major or minor.) 4 credits.
- 333 Intermediate Calculus.** Partial derivatives; multiple integrals; infinite series; expression of functions, differential equations. Prerequisite: 244. 4 credits.
- 334 Differential Equations.** Separable, homogeneous, and exact equations; linear equations; solutions by use of series; applications to physical problems. Prerequisite: 333. 4 credits.
- 336 Applied Mathematics I.** Matrix algebra and related concepts from standpoint of relevance in coordinate system transformation problems and in the analysis and solution of (1) systems of linear equations, (2) a broad class of extreme-value problems. Prerequisite: 333 or concurrent enrollment. 4 credits.
- 337 Applied Mathematics II.** Jacobians, implicit function and transformation problems, more general coordinate systems; differential vector operators; further applications of partial derivatives; Leibnitz's rule, functions defined by integrals; line and surface integration. Prerequisite: 336. 4 credits.
- 338 Applied Mathematics III.** Infinite series of functions, uniform convergence, double series; improper integrals and the Laplace transformation; orthogonal function sets, approximation in the mean; Fourier series, integral and boundary value problems. Prerequisite: 336. 4 credits.
- 352 Algebra for the Elementary Teacher.** Properties of real numbers and subsets of the real numbers; linear equations and inequalities; quadratic equations and inequalities; modular arithmetic and algebraic structures; complex numbers; functions. 4 credits.
- 356 Modern Algebra I.** Congruences, polynomials, number systems. Boolean algebra, groups, matrix theory, fields, rings and ideals. Prerequisite: 254. 4 credits.
- 357 Modern Algebra II.** Real and complex fields, polynomials, vector spaces, linear systems and transformations. Prerequisite: 356. 4 credits.
- 360 Boolean Algebra.** Mathematical systems. Nature and method of proof. Fundamental axioms and theorems. Algebra of sets. Mathematical logic and switching networks. Lattice Theory. 2 credits.
- 370 Problems Solving on the Computer.** Use of computer in solving problems in mathematics. Prerequisite: 271. 2 credits.
- 400 Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in mathematics. 1-4 credits.
- 424 Elements of Geometry.** An elementary approach to geometry in keeping with both the spirit of Euclid and developments in axiomatic mathematics. Topics for study include: an analysis of axiomatic systems, a critique of Euclid, an axiomatic development of elementary geometry, and an introduction to axiomatic non-Euclidean geometry. Prerequisite: High School geometry and 254. 4 credits.

- 425 Contemporary Geometry.** An introduction to vectors and vector methods in elementary geometry and an introduction to important elementary transformations. Topics for study include: Position vectors, division of a segment, scalar and vector products, the isometries of the Euclidean plane; similarity transformations, inversion, and projectivities. Prerequisites: High School geometry and 254. 4 credits.
- 426 Advanced Geometry.** An introduction to projective geometry from both a synthetic and an analytic point of view. Topics for study include: Primitive forms, the principle of duality, perspectivities, and projectivities, conics, vector theory in projective analytic geometry and an introduction to classification theories and the Erlanger Program. Prerequisite: 424 or 425. 4 credits.
- 451 Professional Subject Matter for Junior and Senior High School Mathematics.** Subject matter and teaching course. Current curriculum developments, topics in modern mathematics, lesson planning, teaching, and observation in junior and senior high school mathematics. To be taken before student teaching. 4 credits.
- 454 Field Work in Mathematics.** Applications of mathematics through use of transit, level, plane table, sextant, angle mirror, clinometer, hypsometer, alidade, and slide rule in actual field experience. Valuable supplemental work for numerical trigonometry and indirect measurement in geometry. Prerequisite: Trigonometry. 2 credits.
- 480 Computer Seminar.** Reading, research, and discussion of selected topics. Prerequisite: Consent of instructor. 2 credits.
- 490 Practicum in Computer Science.** Supervised programming for various departments. Can be repeated for a maximum of 8 hours. Prerequisite: Approval of department. 2-4 credits.

#### COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

- 415-515 Number Theory.** Prime and composite integers, Diophantine analysis, number congruences, quadratic residues. Prerequisite: 254. 4 credits undergraduate, 3 credits graduate.
- 436-536 Complex Variables.** An introduction to the algebra and calculus of complex numbers and their geometric representation. Fundamental theorem of algebra. Conformal mapping. Power series. Properties of analytic functions. Prerequisite: 333. 4 credits undergraduate, 3 credits graduate.
- 437-537 Probability and Statistics I.** Basic notions of probability (axiomatic development), finite and countably infinite sample spaces, assignment of probabilities, conditional probability and independence of events, Bayes' Theorem, discrete random variables, continuous random variables, functions of random variables, properties of random variables, Chebyshev's Inequality, correlation coefficient, conditional expectation, regression of the mean. Prerequisites: 254, 243. 4 credits.
- 438-538 Probability and Statistics II.** Some important distributions; Poisson, Geometric, Pascal, Hypergeometric, Multinomial, Normal, Exponential, Gamma, Chi-Square, Truncated. Moment-generating functions and their properties, law of large numbers, Central Limit Theorem, samples and sampling distributions, estimation of parameters, maximum likelihood estimates, confidence intervals, testing hypothesis, goodness of fit tests, equality of means. Prerequisites: 437, 333. 4 credits.
- 440-540 History of Mathematics.** Historical survey of mathematical development and contributions from beginning to present time. Prerequisite: 241. 4 credits undergraduate, 3 credits graduate.
- 445-545 Introduction to Real Analysis I.** Functions, real number sequences and series, limits, metric spaces. Prerequisite: 333. 3 credits.
- 446-546 Introduction to Real Analysis II.** Continuous functions, notions of completeness and compactness, Riemann integrals, derivatives. Prerequisite: 445-545. 3 credits.
- 447-547 Introduction to Real Analysis III.** Taylor series expansions, sequences and series of functions, introduction to measure theory and Lebesgue integration. Prerequisite: 446-546. 3 credits.

- 452-552 Recent Trends in Secondary School Mathematics.** Number systems, sets, deduction, algebras, geometries, vectors, limits, functions, probability, computers, decisions. The changing mathematics curriculum. Not to be taken for credit by NSF Mathematics Institute students. Prerequisite: Mathematics major or minor completed before June, 1962. 4 credits.
- 455-555 Foundations of Mathematics.** Operations on sets, relations and functions, cardinal number, ordinal arithmetic, the axiom of choice, axiomatic theories. 4 credits undergraduate, 3 credits graduate.
- 457-557 Linear Algebra.** Vectors and vector spaces. Euclidean  $n$ -space, linear transformations, matrices, bilinear and quadratic forms, complex number field, polynomial rings. Prerequisite: 242 and 356. 4 credits undergraduate, 3 credits graduate.
- 459-559 Recent Trends in Elementary School Mathematics.** Modern approach to teaching arithmetic, teaching aids and devices, experimental work, recent research. Not to be taken for credit by students who have taken a course in teaching of arithmetic since January, 1960. 4 credits.
- 460-560 Topology.** Topological spaces and transformations, mapping fixed point, homology groups, manifolds and Hausdorff space. Prerequisite: 356. 4 credits undergraduate, 3 credits graduate.
- 470-570 Numerical Analysis.** Difference tables and application, interpolation, numerical integration and differentiation. Taylor's series, orthogonal polynomials, error analysis, numerical solution of equations, matrix theory. Laboratory in computer programming. Prerequisite: 271 and 333. 4 credits undergraduate, 3 credits graduate.

#### COURSES FOR GRADUATE STUDENTS

- 600 Special Topics.** Advanced topics in mathematics. The specific topics will be determined by the current needs of the students and the availability of staff. Prerequisite: Approval of the instructor. 3 credits.
- 624 Modern Geometry I.** An overview of Euclidean and non-Euclidean geometries, and the fundamentals of synthetic projective geometry. Topics for study include: Parallelism and Euclidean and non-Euclidean geometries, axiom systems, the projective plane, perspectivities and projectivities, and conics in the projective plane. Prerequisite: One course in college level geometry. 3 credits.
- 625 Modern Geometry II.** A continuation of 624, oriented toward transformational geometry. Topics for study include: Klein's Erlanger Program, an analytic model of the real projective plane, subgeometries of projective geometry, and circular transformations. Prerequisites: 624 and a background in groups, vector spaces, and matrices. 3 credits.
- 636 Complex Analysis I.** The complex field, topology of the complex plane, analytic functions. 3 credits.
- 637 Complex Analysis II.** Complex Integration Theory. Prerequisite: 636. 3 credits.
- 638 Complex Analysis III.** Complex series expansions, conformal mappings, Dirichlet's problem. Prerequisite: 637. 3 credits.
- 643 Calculus for Secondary Teachers.** Review calculus of one variable, limits, integration and differentiation of polynomials, trigonometric and logarithmic functions, applications to slope, velocity, areas and volume. Cannot be used as part of the 24 quarter hours of mathematics in the M.S. program. 4 credits.
- 645 Real Analysis I.** The real number system, Lebesgue Measure and Integration. 3 credits.
- 646 Real Analysis II.** Differentiation, Abstract Spaces. Prerequisite: 645. 3 credits.
- 647 Real Analysis III.** Generalized Measure and Integration. Prerequisite: 646. 3 credits.
- 656 Modern Algebraic Theory I.** Group, rings and ideals, modules and vector spaces, polynomials, factorization theory. Prerequisite: 356. 3 credits.
- 657 Modern Algebraic Theory II.** Field extensions and Galois theory. Prerequisite: 656. 3 credits.
- 658 Modern Algebraic Theory III.** Linear algebra and representations. Prerequisite: 656. 3 credits.
- 660 Topology I.** Topological spaces, product and quotient spaces, countability, sequences and filters, compactness. Prerequisite: 254 or 356. 3 credits.

- 661 **Topology II.** Connectedness, separation axioms, metric spaces, completeness, comparison of topologies, function spaces. Prerequisite: 660. 3 credits.
- 662 **Topology III.** Topics from uniform spaces, topological groups and algebras, algebraic topology. Prerequisite: 661. 3 credits.
- 671 **Computer Programming.** Concepts of programming Fortran. Writing a program to solve an approved problem in the major field. Laboratory. Prerequisite: Ed. 514 or 515. Approval of instructor and student's major adviser. 3 credits.
- 690 **Graduate Seminar.** Reading, research, and discussion of selected topics. Prerequisite: Consent of instructor. 1-3 credits.
- 699 **Master's Thesis.** 3-9 credits.

## MEDICAL TECHNOLOGY

The Bachelor of Science degree in Medical Technology requires three years of study in a prescribed curriculum at St. Cloud State College, and a fourth year of internship to be spent at a hospital of medical technology which has been approved by the Council of Medical Education and Hospitals of the American Medical Association. A Bachelor of Science degree in Medical Technology is conferred upon the satisfactory completion of a minimum of 192 quarter hours, which includes the General Education requirements, a year of internship, and the following courses:

Biology: 201, 203, 309, 332, 343, 344, Mathematics: 132.  
 439, 442, 447. Physics: 201, 202.  
 Chemistry: 211, 212 or 213, 214, 291, Internship: 48 credits.  
 292, 325.

## MUSIC

*Roger L. Barrett, Ph.D., Chairman*

The functions of the Music Department are: to prepare students to teach music at all levels in the schools; to foster the development of musical talent; to provide rich musical experiences for all students; to contribute to the musical life of the college, community, and state.

St. Cloud State College is an associate member of the National Association of Schools of Music.

### BACHELOR OF SCIENCE

#### Major

<p><b>Major (84)</b>          Music 103, 104, 203, 204, 205, 209,          221, 222, 223, 240.          Theory Electives: (4)          Music 303, 304, 305, 306.          Music History Electives: (4)          Music 321, 322, 421, 422.          Select one:</p>	<p><b>Instrumental Emphasis</b>          Music 211, 275, 340, 372, 373, 374, 405.          Musical Performance (22)          Music 165 (6)*          Electives (4)</p> <p><b>Vocal Emphasis</b>          Music 210, 300, 301, 302, 341, 342, 401.          Musical Performance (22)          Music 165 (6)*          Electives (2)</p>
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#### Minors

<p><b>Instrumental Minor (36)</b>          Music 103, 104, 203, 240.          Music History: (3)          Music 222 or 223.          Musical Performance (10)          Music 165 (3)*</p>	<p>Select one:</p> <p><b>Orchestral Emphasis</b>          Music 275.          Music 372 or 373.          Electives from the following: (4)          210, 222 or 223, 305, 372 or 373, 374.</p> <p><b>Band Emphasis</b>          Music 372, 373.          Electives from the following: (4)          210, 222 or 223, 305, 374.</p>
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**Vocal Minor (36)**

Music 103, 104, 203, 240, 302.  
 Music History: (3)  
 Music 222 or 223.  
 Musical Performance (10)  
 Music 165 (3)\*  
 Electives from the following: (5)  
 211, 222 or 223, 342, 165, 169.

**Elementary Education Minor (24)**

Music 103, 104.  
 Music History: (3)  
 Music 222 or 223.  
 Musical Performance: (6)  
 Music 165 (3)\*  
 Electives from the following: (6)  
 203, 222 or 223, 230, 240, 301, 321,  
 322.

\* If a keyboard instrument is the student's primary performance medium, take these credits in one of the following: Music 169, 171, 172, 173, 174.

**Private Lessons.** The fee for lessons in voice, piano, band or an orchestral instrument is \$15 per quarter. Majors and minors in music are not required to pay the fee for required credit. The fee for lessons in organ is \$20 per quarter. Students not majoring in music may register for private lessons as electives. One half hour to one hour of practice per day is required of all voice students and one to two hours of practice per day is required of all piano and instrumental students. Attendance is required of all music students at all department-sponsored recitals and performances, while studying applied music. Instrumental Music Majors and Minors - A minimum of three years of high school experience in band or orchestra is required of 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 required of prospective vocal majors and minors. Up to 12 credits of organizations, including ensembles, may be counted toward graduation.

**COURSE DESCRIPTIONS**

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|-----|---|------------|
| 103 | <b>Theory I.</b> A comprehensive study of 18th and 19th century musical practices, including appropriate ear-training, keyboard, sight-singing, analysis, and notation. Meets daily. Prerequisite: Ability to sing and to play the piano or an orchestral instrument. | 3 credits. |
| 104 | <b>Theory II.</b> Continuation of 103. Prerequisite: 103.   | 3 credits. |
| 111 | <b>College Choir.</b>   | 1 credit.  |
| 121 | <b>Vocal Ensemble.</b> Prerequisite: Permission of the instructor. Two rehearsals per week.   | 1 credit.  |
| 123 | <b>Humanities.</b> Significant aspects of man's creative works in music.  | 4 credits. |
| 141 | <b>College Bands.</b>   | 1 credit.  |
| 151 | <b>Instrumental Ensemble.</b> Prerequisite: Permission of the instructor. Two rehearsals per week.  | 1 credit.  |
| 161 | <b>College Orchestra.</b>   | 1 credit.  |
| 164 | <b>Class Piano.</b> Class instruction in piano for beginning students. Fundamentals and practical application of piano techniques. (A maximum of 2 credits may be applied to music major or minor.)   | 1 credit.  |
| 165 | <b>Private Lessons: Piano.</b>  | 1 credit.  |
| 166 | <b>Private Lessons: Organ.</b>  | 1 credit.  |
| 169 | <b>Private Lessons: Voice.</b>  | 1 credit.  |
| 171 | <b>Private Lessons: String Instruments.</b>   | 1 credit.  |
| 172 | <b>Private Lessons: Brass Instruments.</b>  | 1 credit.  |
| 173 | <b>Private Lessons: Woodwind Instruments.</b>   | 1 credit.  |
| 174 | <b>Private Lessons: Percussion Instruments.</b>   | 1 credit.  |
| 203 | <b>Theory III.</b> Continuation of Music 104. Prerequisite: 104.  | 3 credits. |
| 204 | <b>Theory IV.</b> Continuation of Music 203. Prerequisite: 203.   | 3 credits. |
| 205 | <b>Theory V.</b> Continuation of Music 204. Prerequisite: 204.  | 3 credits. |
| 209 | <b>Foundations and Principles of Music Education.</b> Historical, philosophical, and psychological principles of music education.   | 2 credits. |
| 210 | <b>Survey of Instrumental Music Program.</b> Principles and procedures involved in the instrumental music program.  | 2 credits. |



- 211 **Survey of Vocal Music Program.** Principles and procedures involved in the total vocal music education program. 2 credits.
- 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 credits.
- 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 credits.
- 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 credits.
- 230 **Italian Opera.** For non-initiated listener who wants to learn a stimulating approach to understanding of better-known Italian operatic works. Open to all students. 3 credits.
- 240 **Conducting.** Basic conducting principles in choral and instrumental music. Rehearsal techniques and examination of vocal and instrumental literature. Prerequisite: 104. 3 credits.
- 250 **Music in the Primary Grades.** Procedures and resources. 3 credits.
- 251 **Music in the Intermediate Grades.** Procedures and resources. Prerequisite: 250. 2 credits.
- 265 **Musical Performance: Piano.** Private Lessons, choral or instrumental organization, and studio class. Limited to students whose primary performance medium is piano. 2 credits.
- 266 **Musical Performance: Organ.** Private lessons, choral or instrumental organization, and studio class. Limited to students whose primary performance medium is organ. 2 credits.
- 269 **Musical Performance: Voice.** Private lessons, choral organization, and studio class. Limited to students whose primary performance medium is voice. 2 credits.
- 271 **Musical Performance: String Instruments.** Private lessons and instrumental organization.\* Limited to students whose primary performance medium is a string instrument. 2 credits.
- 272 **Musical Performance: Brass Instruments.** Private lessons and instrumental organization.\* Limited to students whose primary performance medium is a brass instrument. 2 credits.
- 273 **Musical Performance: Woodwind Instruments.** Private lessons and instrumental organization.\* Limited to students whose primary performance medium is a woodwind instrument. 2 credits.
- 274 **Musical Performance: Percussion Instruments.** Private lessons and instrumental organization.\* Limited to students whose primary performance medium is a percussion instrument. 2 credits.
- 275 **String Class.** Fundamental techniques and skills. Selection, care and assembly of the instrument; teaching techniques; and instructional materials. 3 Meetings Weekly. 2 credits.
- 300 **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 - singing, listening to music, playing classroom instruments, rhythmic-dramatic expression, and interpreting the musical score. Music majors take concurrently with Music 301. Four meetings weekly. 3 credits.
- 301 **Music Resources — Elementary Grades.** Films, records, song literature, and community resources which are used in kindergarten through sixth grade. Three meetings weekly. 2 credits.
- 302 **Junior High School General Music.** Activities and resources for the general music class (grades 7-9), with special emphasis on the "changing voice." Prerequisite: 300 and 301 (majors). 3 credits.
- 303 **Form and Analysis.** A study of organization and structure of selected musical works. Prerequisite: 205. 2 credits.

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\* Primary performance instrument only.

- 304 **Analysis of Twentieth Century Music.** An analysis of twentieth century musical forms. Prerequisite: 205. 2 credits.
- 305 **Instrumental Arranging.** Band and orchestra instruments; register and tone quality. Experience in writing arrangements for all types of groups from the small ensemble to the large instrumental organization. Prerequisite: 203. 2 credits.
- 306 **Choral Arranging.** Arranging for choruses of all types and degrees of development. Prerequisite: 203. 2 credits.
- 321 **Symphonic Literature.** A survey of orchestral music from its beginning. The Mannheim composers, the Viennese classics, the Romanticists, the National schools, and the late European and American developments. Works will be analyzed and their historical, cultural, and philosophical background examined. Prerequisite: 222 and 223. 2 credits.
- 322 **Chamber Music Literature.** Survey of 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. The core material will include chamber music of Haydn, Mozart, Beethoven, and Brahms. Prerequisite: 222 and 223. 2 credits.
- 340 **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. Prerequisite: 240. 3 credits.
- 341 **Junior-Senior High School Administration.** Organization of the junior and senior high school vocal music programs, including formulation of curriculum, public relations and coordination of activities. 2 credits.
- 342 **Choral Conducting and Repertoire.** Development of conducting skills in the vocal field at the junior and senior high school levels. Extensive materials. Prerequisite: 240. 3 credits.
- 372 **Woodwind Class.** Fundamental techniques and skills. Selection, care, and assembly of the instrument; teaching techniques; and instructional materials. 3 Meetings Weekly. 2 credits.
- 373 **Brass Class.** Fundamental techniques and skills. Selection, care, and assembly of the instrument; teaching techniques; and instructional materials. 3 Meetings Weekly. 2 credits.
- 374 **Percussion Class.** Fundamental techniques and skills. Selection, care, and assembly of the instrument; teaching techniques; and instructional materials. 2 Meetings Weekly. 1 credit.
- 400 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in music. 1-4 credits.
- 401 **Vocal Music Administration in the Elementary School.** Purchase and maintenance of materials and equipment; demonstration and observation lessons; workshops, staff relations. Prerequisite: 300, 301. 2 credits.
- 405 **Instrumental Administration.** Problems inherent in the administration of the public school instrumental music program. 3 credits.

#### COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

- 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. Prerequisite: 205. 3, 2 credits.
- 407-507 **Composition I.** The utilization of harmonic and contrapuntal techniques in developing original composition in various forms. Prerequisite: 205. 2 credits.
- 408-508 **Composition II.** A continuation of Music 407-507. Prerequisite: 407-507. 2 credits.
- 421-521 **Contemporary Music.** A survey of trends in European and American music from about 1910 to the present day. Particular emphasis placed on music since 1920. Works by Stravinsky, Schoenberg, Bartok, Hindemith, Webern, Berg, Varese, and Stockhausen will be examined in detail. Prerequisite: 222 and 223. 2 credits.

- 422-522 Choral Literature.** A survey of three basic areas of vocal repertoire. The art-song, the large vocal forms, and opera. An evaluation of the aesthetic, stylistic, musical, and dramatic principles and their application in works from the 18th century to present. Prerequisite: 222 and 223 or permission of instructor. 2 credits.
- 458-558 Music for the Exceptional Child.** An examination of methods and materials to be utilized in a music program designed for the exceptional child. 3 credits.
- 470-570 Musical Instrument Repair.** Consideration of instrument care, upkeep, and minor repair. 2 credits.
- 479-579 Piano Pedagogy.** Professionalized subject matter intended to broaden the understanding of the basic pedagogical problems of teaching private and class piano; a survey of available methods and materials. 2 credits.

### COURSE OF STUDY

- Music 620: Analytical Technique.** 4 credits.
- Music 665, 666, 669, 671, 672, 673, or 674. Private Lessons.** 4 credits.
- Music 610: Curriculum Development.** 4 credits.
- Music 615: Music Literature I.** 4 credits.
- Electives: 8-11 credits. (Plan A or Plan B).

### COURSES FOR GRADUATE STUDENTS

- 600 Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in Music. 1-4 credits.
- 605 Functional Harmony.** Organization of harmonic structure; geared to needs of music educators in elementary and secondary schools. 3 credits.
- 609 Introduction to Research in Music Education.** Materials, techniques, and procedures for research in music education. 3 credits.
- 610 Curriculum Development.** A philosophical and historical study of the problems of music curricula development with emphasis on current practices. 4 credits.
- 614 Music History Symposium.** A study of music history structured to meet the needs and interests of the class. 3 credits.
- 615 Music Literature I.** A study of selected large musical works of Bach, Handel, Mozart, Beethoven, Brahms, Wagner, Mahler, Stravinsky, Schoenberg, and Berg. 4 credits.
- 620 Analytical Techniques.** Harmonic, melodic, and structural analysis of music in various periods with emphasis on aspects specifically needed by students. 4 credits.
- 623 Music in Western Civilization.** Primarily for students who want a general studies elective in music. Examination of music masterpieces, continuation and elaboration of Humanities 123. Not open to students with majors or minors in music. 3 credits.
- 625 Canon and Fugue.** A study of the contrapuntal practices employed in the canon and fugue with primary attention to the works of Bach. 2 credits.
- 628 Music of the Baroque and Classical Periods.** A comprehensive study of the history and literature of the 18th century. 4 credits.
- 630 Music of the Romantic Period.** A comprehensive study of the history and literature of the 19th century. 4 credits.
- 631 Choral Arranging.** Principles and devices in choral arranging for choruses of all types and degrees of development. 4 credits.
- 650 Music for the Classroom Teacher.** Advanced methods in teaching music in the first six grades. Not open to students with music major. Prerequisites: 250 and 251. 4 credits.
- 652 Vocal Music Education Resources.** Recent materials for use in the total music program. Prerequisite: Approval of Department. 3 credits.
- 653 Music Education Seminar.** Research and discussion of latest developments. Individual problems analyzed and discussed. 2 credits.
- 654 Stringed Instrument Pedagogy.** Special projects; special techniques of bowing, position work, and artistic skills; survey of solo materials. 2 credits.

- 655 **Instrumental Administration.** Administrative principles applied to school bands, with special emphasis on organization, promotion, and public relations. 2 credits.
- 656 **Band Rehearsal Techniques.** Practice in aural discrimination of performance errors and application of corrective procedures. Special emphasis given to intonation, balance, blend, quality, interpretation, and ensemble. 2 credits.
- 660 **Elementary Vocal Music Administration.** Advanced work in music administration; co-teaching; conferences; workshops; resource units; developmental music programs; professional relations. 3 credits.
- 661 **Teaching and Administration of Music in Junior and Senior High Schools.** Place of music in education of adolescents; materials and activities. Prerequisite: 300, 301, 302. 3 credits.
- 665 **Private Lessons: Piano.** One hour lesson weekly. Prerequisite: Approval of Department. 1 credit.
- 666 **Private Lessons: Organ.** One hour lesson weekly. Prerequisite: Approval of Department. 1 credit.
- 669 **Private Lessons: Voice.** One hour lesson weekly. Prerequisite: Approval of Department. 1 credit.
- 671 **Private Lessons: String Instruments.** One hour lesson weekly. Prerequisite: Approval of the Department. 1 credit.
- 672 **Private Lessons: Brass Instruments.** One hour lesson weekly. Prerequisite: Approval of the Department. 1 credit.
- 673 **Private Lessons: Woodwind Instruments.** One hour lesson weekly. Prerequisite: Approval of the Department. 1 credit.
- 674 **Private Lessons: Percussion Instruments.** One hour lesson weekly. Prerequisite: Approval of the Department. 1 credit.
- 676 **Woodwind Pedagogy.** Basic pedagogical problems and techniques of each woodwind instrument. Methods and materials for teaching woodwinds. 2 credits.
- 677 **Brass Pedagogy.** Basic pedagogical problems and techniques of each brass instrument. Methods and materials for teaching brass instruments. 2 credits.
- 678 **Voice Pedagogy.** Basic problems and techniques in the teaching of voice and chorus. Survey of procedures and materials. 2 credits.
- 680 **Psychology of Music.** Function of the musical mind; factors in the development of musical skills and maturity. 3 credits.
- 681 **Aesthetics.** An analysis of aesthetic theories from Pythagoreanism to twentieth century theories as applied to music. 3 credits.
- 682 **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 credits.
- 699 **Master's Thesis.** 3 credits.

## PHILOSOPHY

*John N. Phillips, Ph.D., Chairman*

### BACHELOR OF ARTS

#### Major (36)

Philosophy 120, 225 or 235; 350, 360,  
435, 440, 445.  
Philosophy Electives (8)

#### Elementary Education Minor (24)

Twelve credits in ethics, religion, or  
history of philosophy.  
Philosophy Electives (12)

#### Minor (24)

Philosophy 120; 225 or 235; 350; 360;  
355 or 365.  
Philosophy Electives (8)

## COURSE DESCRIPTIONS

- 120 Introduction to Logic.** Traditional and contemporary investigation of accurate reasoning, deductive and inductive. 4 credits.
- 215 Representative Philosophical Concepts.** Selected classical and contemporary solutions of problems of knowledge, existence, value, and the social order. Methods and arguments used by philosophers are emphasized. 4 credits.
- 225 Ethics: Classical Theories.** Plato, Aristotle, Epicurus, the Stoics, Christian Ethics, Utilitarianism, Kant. 4 credits.
- 235 Ethics: Contemporary Problems.** Moral and ethical problems raised by philosophers in the 20th Century. 4 credits.
- 240 Eastern Religions.** Philosophy and history of Hinduism, Buddhism, Confucianism, Taoism, Zen, and other religions of the Far East. Emphasis is on the intellectual aspect of the philosophical issues. 4 credits.
- 245 Philosophy of Western Religions.** Philosophical aspects of Judaism, Christianity, Islam, and Communism, including problems of creation, revelation, the nature and existence of God, religious experience, morality in religion, religion and politics, and the nature of religious language. 4 credits.
- 320 Advanced Logic.** Symbolic logic, axiomatic systems, theory of proof, philosophical problems of logic. Prerequisite: 120 or 8 credits in mathematics or consent of department chairman. 3 credits.
- 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 credits.
- 333 Social and Political Philosophy.** Principles justifying ideal social and political forms. Philosophical analysis of key concepts, such as justice, right, the state, liberty, power, and public interest. 4 credits.
- 350 History of Philosophy: Greek and Roman.** The pre-Socratics, Socrates, Plato, Aristotle, the Skeptics, Epicureans, Stoics, and Plotinus. 4 credits.
- 355 History of Philosophy: Medieval and Early Modern.** Augustine, Anselm, Aquinas, Occam, Bacon, Hobbes, Descartes, and Spinoza. 4 credits.
- 360 History of Philosophy: Late Modern.** Locke, Leibniz, Berkeley, Hume, and Kant. 4 credits.
- 365 Nineteenth Century Philosophy.** Critical appraisal of the philosophy of Hegel, Schopenhauer, Nietzsche, Kierkegaard, Marx, Mill, or other important nineteenth century figures. 4 credits.
- 370 Existentialism and Phenomenology.** Pascal, Kierkegaard, Heidegger, Sartre, Camus, Marcel. 4 credits.
- 400 Special Problems.** Seminar or conference for independent study or special readings. 1-4 credits.

COURSES FOR ADVANCED UNDERGRADUATE  
AND GRADUATE STUDENTS

- 410-419, 510-519 Special Studies.** Seminar for intensive study of a particular philosopher (as announced in the class schedule), or of the philosophical problems in a special discipline, such as history or biology or behavioral sciences. 2-4 credits.
- 431-531 Philosophy of Art.** Major aesthetic theories, with particular applications to the principles of criticism in literature, music, theatre, and the visual arts. 4 credits.
- 435-535 Metaphysics.** Theories of the real and the unreal, being and change, mind and matter, other fundamental categories. 4 credits.
- 440-540 Theory of Knowledge.** Nature and justification of knowledge and belief; problems of sense-perception, memory, truth, and meaning. 4 credits.
- 442-542 History of American Philosophical Thought.** Tracing of the course of development of American philosophy from its beginnings, Puritanism, Transcendentalism, Idealism, Pragmatism, Realism, and contemporary analysis. 4 credits.
- 445-545 Value Theory.** Nature, types, criteria, and justification of values; intrinsic and instrumental values, the relation of values to facts. 4 credits.

- 446-546 **Analytic Philosophy.** Readings from Moore, Austin, Schlick, Carnap, Hempel, Reichenbach, Feigl, and others of the contemporary movement. 4 credits.

### COURSES FOR GRADUATE STUDENTS

- 600 **Special Problems.** Seminar or conference for independent study or special readings. 1-4 credits.
- 650 **Contemporary Philosophy.** Pragmatism, positivism, existentialism, linguistic analysis, or other contemporary philosophies. An introductory survey for graduate students. (Not open to students with a major or minor in Philosophy.) 3 credits.

## PHYSICS

*Philip G. Youngner, Ph.D., Chairman*

### BACHELOR OF SCIENCE

**Comprehensive Physics Major (84)**  
 Biology 201.  
 Chemistry 211; 212 or 213.  
 Mathematics 241, 242, 243, 244, 333.  
 Physics 234, 235, 236, 328, 329, 332,  
 333, 430, 456, 459.  
 Physics Electives (10)  
 Math Electives (4)

**Major (48)**  
 Physics 234, 235, 236, 328, 329, 332,  
 333, 430, 456, 459.  
 Physics Electives (10)

**Minor (36)**  
 Physics 234, 235, 236, 328, 329, 332,  
 430, 459.  
 Physics Electives (4)

**Minor (28)**  
 Physics 234, 235, 236, 328, 329.  
 Physics Electives (5)

Students interested in physical or general science programs should refer to Sciences' interdepartment course offerings.

### BACHELOR OF ARTS

**Major (60)**  
 Physics 234, 235, 236, 328, 329, 333,  
 334, 335, 430, 431, 432, 435, 436,  
 437, 438.

**Minor (36)**  
 Physics 234, 235, 236, 328, 329, 332,  
 430.  
 Physics Electives (6).

Students with a B.A. major in physics must take 36 or more supporting credits in mathematics. These credits should include Mathematics 241, 242, 243, 244, 333, 334, 336, 337, and 338.

### COURSE DESCRIPTIONS

- 103 **Concepts in Physics.** Energy sources and forms; important principles of mechanics, electricity, radiation, and atomic and nuclear physics; intelligent use of discoveries in physics; natural forces controlling the universe. Laboratory. 4 credits.
- 201 **Mechanics and Heat.** Basic principles of mechanics of solids, liquids, and gases; equilibrium; laws of motion; work and energy. Thermometry; simple heat engines; kinetic theory of gases. Laboratory. Prerequisite: High School Algebra or Mathematics 130. 4 credits.
- 202 **Electricity, Magnetism, and Light.** Electrostatics, magnetostatics, magnetic effect of electric currents; electrical circuits. Propagation of light; image formation; spectra. Diffraction, interference, and polarization. Laboratory. Prerequisite 201. 4 credits.
- 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 the great central ideas of science are emphasized. 4 credits.

- 231 Mechanics.** Vectors, statics, moments, rectilinear motion. Newton's laws of motion, work and energy, impulse and momentum, rotational and harmonic motion, elasticity, hydrostatics, hydrodynamics. Laboratory. Prerequisite: High School Trigonometry or Mathematics 132 or 134. 4 credits.
- 232 Electricity and Magnetism.** Coulomb's law, electric field, electrical potential, dielectrics, current electricity, DC circuits, ionic conduction, magnetic field, magnetic effects of current, electrical instruments, capacitance and inductance, AC circuits, electromagnetic waves, elementary electronics. Laboratory. Prerequisite: 231 or 234 or equivalent. 4 credits.
- 233 Heat, Light, and Sound.** Temperature, heat, heat transfer, laws of thermodynamics, thermal properties of matter. Wave motion, vibrating bodies, acoustical effects. Nature and propagation of light, reflection and refraction, lenses, optical instruments, photometry, interference and diffraction, polarization. Laboratory. Prerequisite: 231 or 234 or equivalent. 4 credits.
- 234 Mechanics.** Vectors, statics, moments, rectilinear motion, Newton's laws of motion, work and energy, impulse and momentum, rotational and harmonic motion, elasticity, hydrostatics, hydrodynamics. Laboratory. Prerequisite: Calculus or enrollment in Mathematics 242. 5 credits.
- 235 Electricity and Magnetism.** Coulomb's law, electric field, electrical potential, dielectrics, current electricity, DC circuits, ionic conduction, magnetic field, magnetic effects of current, electrical instruments, capacitance and inductance, AC circuits, electromagnetic waves, elementary electronics. Laboratory. Prerequisite: 234 or equivalent. 5 credits.
- 236 Heat, Light, and Sound.** Temperature, heat, heat transfer, laws of thermodynamics, thermal properties of matter. Wave motion, vibrating bodies, acoustical effects. Nature and propagation of light, reflection and refraction, lenses, optical instruments, photometry, interference and diffraction, polarization. Laboratory. Prerequisite: 234 or equivalent. 5 credits.
- 237 Intermediate Mechanics and Electromagnetism.** Laws of motion, periodic motion, motion of rigid bodies, hydrodynamics, Gauss's Law, magnetic fields, direct and alternating currents, electrical transients, other selected topics. Approach is from calculus point of view. Laboratory. Prerequisite: 236 or equivalent and Mathematics 243. 5 credits.
- 327 Physical Sciences for Elementary Teachers.** Construction and evaluation of individual projects, demonstrations, and teaching materials, using readily available materials, for more purposeful and meaningful instruction in physical science concepts. Laboratory. 3 credits.
- 328 Introduction to Atomic and Molecular Physics.** Atomic theory, electron, isotopes, radiation, photoelectric effect, Bohr theory, atomic spectra, the periodic table. X-rays, deBroglie waves, special theory of relativity. Prerequisite: 1 year college physics and Mathematics 244, or concurrent enrollment in Mathematics 244. 4 credits.
- 329 Introduction to Nuclear Physics.** Radioactivity, the nucleus, nuclear reactions, cosmic rays. Prerequisite: 328. 4 credits.
- 332 Electronics.** Electronic emission, construction and characteristics of vacuum and gas tubes, rectifiers, amplifiers, oscillators, resonant circuits, coupling, radio transmission and reception, transistors, electronic devices. Laboratory. Prerequisite: 1 year of college physics. 4 credits.
- 333 Optics.** Refraction, diffraction, interference, polarization, optical instruments, spectra and other aspects of physical optics. Prerequisite: 1 year of college physics and Mathematics 333 or concurrent enrollment in Mathematics 333. 4 credits.
- 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, kinetic theory, Maxwell-Boltzmann statistics. Pre-requisite: 1 year of college physics and Mathematics 333. 3 credits.
- 335 Electrical Measurements.** A laboratory course. The theory of electrical and magnetic measuring instruments and their associated circuits. Precision measurements of electrical and magnetic phenomena. Prerequisite: 1 year college physics and integral calculus. 3 credits.
- 400 Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in Physics. 1-4 credits.

**COURSES FOR ADVANCED UNDERGRADUATE  
AND GRADUATE STUDENTS**

- 420-520 Seminar.** Lectures, readings, discussion on selected topics. May be repeated. 1-4 credits.
- 430-530 Advanced Physics Laboratory.** Advanced experiments relating to topics studied in senior college physics courses. Prerequisite: 328, 333. 3 credits.
- 431-531 Introduction to Quantum Mechanics I.** The Schroedinger wave equation and solutions for some simple cases; eigenfunctions, eigenvalues, expectation values, potential barrier problems, the harmonic oscillator, the hydrogen atom. Prerequisite: Physics 329 and Math 434. 4 credits.
- 432-532 Introduction to Quantum Mechanics II.** A continuation of physics 431-531 in which the concepts of quantum mechanics are extended and some applications of quantum mechanics are discussed. Perturbation theory, angular momentum, transition probabilities, atomic and molecular spectra. Prerequisite: 431-531. 4 credits.
- 433-533 Modern Physics.** Energy bands in solids; theories of the electrical and magnetic properties of solids; semiconductors; the nucleus; nuclear reactions. Prerequisite 432, 532. 3 credits.
- 435-535 Theoretical Physics - Mechanics I.** Force fields, particle motions, rigid body motions, conservation laws, mechanics of deformable bodies, harmonic vibrations, resonance. Emphasis on vector-calculus methods. Prerequisites: 1 year college physics and Mathematics 333. 4 credits.
- 436-536 Theoretical Physics - Mechanics II.** Conservative forces, mechanics of constrained particles, generalized coordinates, Lagrange's equations, Hamilton's equations, variational principles. Prerequisite: 435-535. 4 credits.
- 437-537 Theoretical Physics - Electricity and Magnetism I.** Electrostatics. Gauss's law, dielectric theory, electric current, Biot Savart law, steady current theory, magnetic induction, alternating current theory, transients. Emphasis on vector-calculus methods. Prerequisite: 1 year college physics and Mathematics 333. 4 credits.
- 438-538 Theoretical Physics - Electricity and Magnetism II.** Poisson's equation, Laplace's equation, Maxwell's equations, Poynting vector, electromagnetic waves. Prerequisite: 437-537. 4 credits.
- 456-556 Methods for Teaching Science.** Modern approaches to teaching science in junior or senior high school. Laboratory. 2 credits.
- 459-559 Methods and Materials for Teaching Physics.** Modern approaches to teaching of high school physics in classroom and laboratory, including materials of Physical Science Study Committee. Laboratory. 2 credits.
- 477-577 Physics Institute.** Selected topics in physics for experienced teachers of science. Laboratory. 3-6 credits.

**COURSES FOR GRADUATE STUDENTS**

- 600 Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in Physics. 1-4 credits.
- 601 Major Developments in Physical Sciences.** General education course employing selected science experiences as a basis for explanations of major developments in area of physical science; their significance. Not open to students with majors or minors in physical science. 3 credits.
- 618 Atomic Physics for Science Teachers.** Electrons, protons, neutrons, radiation, photo-electric effect, Bohr theory, atomic spectra, the periodic table, and X-Rays, deBroglie waves. Special theory of relativity. Cannot be taken for credit if credit has been received in Physics 328. Prerequisite: 1 year college physics and integral calculus. 4 credits.
- 619 Nuclear Physics for Science Teachers.** Radioactivity, the nucleus, nuclear reactions, cosmic rays. Cannot be taken for credit if credit has been received in Physics 329. Prerequisite: 328 or 618. 4 credits.
- 699 Master's Thesis.** 3-9 credits.



## EARTH SCIENCE

## COURSE DESCRIPTIONS

- 206 Concepts of Earth Science.** Concepts from near-space astronomy, meteorology, oceanography, and geology. 4 credits.
- 284 Physical Geology.** Rocks and minerals, igneous activity, igneous rocks, weathering, erosion, sedimentary rocks, mountain building and metamorphism. Prerequisite: Chemistry 211. 4 credits.
- 285 Historical Geology.** Evolution of the Earth with emphasis on biological and physical events of the stratigraphic record. Laboratory, and some field work. Prerequisite: 284. 4 credits.
- 306 Astronomy.** Astronomical instruments. Solar system configurations and energy relations. Stellar distances and motions. Stars and constellations. Binary stars. Variable stars. Galaxies. Cosmogony. Prerequisite: Physics 231 or 234. 4 credits.
- 307 Field Geology.** Comprehensive study of the physical and historical geology of Minnesota. Field and Laboratory. Prerequisite: 284 and 285. 4 credits.
- 308 Oceanography.** Chemistry and Physics of the oceans, waves and tides, currents and circulation of the ocean waters, geology of the ocean basins and marine biology. Laboratory. Prerequisite: Physics 231 or 234. 4 credits.
- 309 Practical Astronomy.** Measurements of angles and arcs, right ascension and declination of planets, stars, and galaxies, time keeping and the measurement of time. Laboratory. Prerequisite: 306 and Mathematics 222 or its equivalent. 2 credits.
- 325 Mineralogy-Petrology.** The properties of rocks and minerals, the crustal processes involved in the genesis of rocks and minerals. Laboratory. Prerequisites: 284 and Chemistry 212 or 213. 4 credits.
- 340 Atmospheric Physics.** Atmospheric structure and processes will be presented and analyzed in terms of existing physical relationships. Prerequisite: Physics 231 or 234. 4 credits.
- 400 Special Problems.** A conference course for advanced students wishing to work out a special problem in Earth Science. 1-4 credits.
- 430 Geophysics.** The basic concepts of physics will be applied to the global earth and to the geologic processes at work in the earth. Prerequisites: 284, Physics 233 or 236, Mathematics 243. 4 credits.
- 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 Earth Science are required to earn 4 credits in this course. 1-4 credits.

COURSES FOR ADVANCED UNDERGRADUATE  
AND GRADUATE STUDENTS

- 420-520 Seminar.** Lectures, readings, discussion on selected topics. May be repeated. 1-4 credits.
- 456-566 Methods and Materials for Teaching Sciences.** Modern approaches to teaching science in junior and senior high school. Laboratory. 2 credits.
- 460-560 Methods and Materials for Teaching Earth Science.** Modern approaches to teaching junior high science in classroom and laboratory including work on the major junior high science curricula with emphasis on the Earth Science curriculum projects. Laboratory. 2 credits.
- 477-577 Earth Science Institute.** Selected topics in earth science for experienced teachers. 3-6 credits.

## COURSES FOR GRADUATE STUDENTS

- 600 Special Problems.** A conference course for advanced students wishing to work out a special problem in Earth Science. 1-4 credits.
- 699 Master's Thesis.** 3-9 credits.

## POLITICAL SCIENCE

*Orville H. Schmidt, Ph.D., Acting Chairman*

Students interested in social science programs should refer to the offerings of Social Science and Social Studies.

**Major (48)**

Political Science 281; 382; 385 or 386; 472, 474, 476 or 478; 480; 481 or 487; 482 or 485; 483 or 484; 486; 489.

Electives from the following:

Political Science 387 and alternatives from list of required courses. A maximum of 12 credits may be taken from Geography 486; History 140, 141; Economics 460; and Sociology 269.

**Minor (36)**

Political Science 281, 382, 385 or 386, 480, 481 or 487, 482 or 485, 483 or 484.

Electives (13) from the following:

Political Science 387, 472, 474, 476 or 478, 486, 489 and alternates from required courses.

**Minor (26)**

The required courses as listed under the 36 credit minor in Political Science plus three credits of electives as listed under the 36 credit minor.

**Elementary Education Minor (36)**

Political Science 280; 281; 382.  
Political Science Electives (24)

**Elementary Education Minor (24)**

Political Science 280; 281; 382.  
Political Science Electives (12)

## COURSE DESCRIPTIONS

- 280 Modern Governments.** Current developments in the field of comparative government and politics. Inquiry into the main elements of modern states, their systems of public laws, their politics, their institutions, their patterns of public administration, and their relations with one another. 4 credits.
- 281 American Government.** Functions of the three branches of national government of United States. Emphasis on participation of the people in democratic processes of government. Prerequisite to all courses in Political Science. 4 credits.
- 382 State and Local Government.** Organization and functioning of state government. Relations of state with national, local and other state governments. Types of local government. Emphasis upon governments of Minnesota. Prerequisite: 281. 4 credits.
- 385 Governments of Western Europe.** Comparison of governmental organization and processes in nations of western Europe. Principle emphasis on United Kingdom, France, and Federal Republic of Germany. Prerequisite: 281. 3 credits.
- 386 Government of Soviet Union.** U.S.S.R. political institutions; administrative procedures; organization of Communist Party. International aspects of Soviet foreign policy. Prerequisite: 281. 3 credits.
- 387 Metropolitan Area Government.** Governmental problems affecting metropolitan areas; transportation, parking, sanitation, zoning, tax revenues, relations of suburbs to each other and central city. Prerequisite: 382. 3 credits.
- 400 Special Problems in Political Science.** A seminar or conference course for advanced students wishing to work out a special problem in Political Science. 1-4 credits.

**COURSES FOR ADVANCED UNDERGRADUATE  
AND GRADUATE STUDENTS**

- 472-572 Governments of the Middle East.** Organizational framework of selected governments in the eastern Mediterranean area. Analysis of recent and current relations of nations in the area. Prerequisite: 281. 3 credits.
- 474-574 Latin American Governments.** Analysis of governmental organization in Latin America. Emphasis on current developments. Major attention given larger countries such as Argentina, Brazil, Chile, Cuba, Mexico. Prerequisite: 281. 3 credits.
- 476-576 African Governments.** Study of current structure of governments in African nations. Emphasis on problems caused by transition from colonialism to independence. Prerequisite: 281. 3 credits.
- 478-578 Asian Governments.** Comparative analysis of governmental structure and political organization of selected Asiatic countries. Current conditions to determine choice of countries. Prerequisite: 281. 3 credits.
- 480-580 Principles of Public Administration.** Administrative functions of our federal and state governments, emphasizing Civil Service procedure on national, state, and local levels, and problems of public finance through budgetary application and reforms. Prerequisite: 281. 3 credits.
- 481-581 American Executive Process.** Factors involved in the executive process; the White House staff, relations with heads of departments, legislative leadership, defense responsibilities, foreign relations, party activities. Prerequisite: 281. 3 credits.
- 482-582 International Organization.** History and development of the community of nations, organization and authority of League of Nations, United Nations and its auxiliary components. Prerequisite: 281. 3 credits.
- 483-583 The Courts and Civil Rights.** Supreme Court decisions concerning voting, education, transportation, restaurants, housing, employment, due process of law, and other individual rights. Prerequisite: 281. 3 credits.
- 484-584 Constitutional Law.** Supreme Court decisions relating to civil and political rights, due process, powers of legislative, executive, and judicial departments, commerce, taxation, and other areas of judicial review. Prerequisite: 281. 3 credits.
- 485-585 International Relations and Politics.** Major concepts and principles involved in the understanding and analysis of relations among nations. Prerequisite: 281. 3 credits.
- 486-586 Political Parties.** American party system, its structure, practices, and policies as found in caucus, convention, campaign, and election procedures. Prerequisite: 281. 3 credits.
- 487-587 Legislative Process.** Problems connected with a democratic legislature. Typical examples: the influence of committees; political party influence; pressure groups. Prerequisite: 281. 3 credits.
- 489-589 American Political Thought.** Philosophy which underlies our American system of democratic government. Political theories which have contributed to formation of our system of government. Prerequisite: 281. 3 credits.

**COURSE FOR GRADUATE STUDENTS**

- 600 Special Problems in Political Science.** A seminar or conference course for advanced students wishing to work out a special problem in Political Science. 1-4 credits.
- 601 Classics of Political Thought.** Development of political thought, with emphasis upon background of modern democratic principles. Prerequisite: 281. 3 credits.

## SCIENCE

Also see programs offered by Biology, Chemistry and Physics. Credit may be earned in Biology 101, Chemistry 102, Physics 103, Biology 104, Chemistry 211 and Physics 231 by comprehensive examination.

**Comprehensive General Science****Major (84)**

This program satisfies minimum certification requirements for teaching junior high school science and one senior high school science subject in Minnesota.

Biology 201, 202, 203.

Chemistry 211; 212 or 213; 221.

Physics 231, 232, 233.

Earth Science 284, 285, 306.

Mathematics 132.

Science 456.

Select one: Biology 457, Chemistry 458, Physics 459, Earth Science 460.

Electives (28) selected so as to have a minimum of 15 credits in each of the following areas: biological sciences, earth sciences, and physical (chemistry and physics) sciences. In addition, there must be a minimum of 27 credits in one of the following subject areas: Biology, Chemistry, or Physics.

**Comprehensive Earth Science Major (84)**

Earth Science 284, 285, 307, 308, 340, 325, 430, 456, 460.

Mathematics 241, 242, 243.

Physics 231 or 234; 232 or 235; 233 or 236.

Chemistry 211, 212 or 213.

Biology 201.

Electives: Biology 489, Earth Science 309, 420, 450; Mathematics, Physics, Chemistry, Biology and Geography courses with approval of adviser.

**BACHELOR OF ARTS****Earth Science Major (48)**

Earth Science 284, 285, 306, 307, 308, 325, 340, 430, 450.

Electives:

Biology 309, 420.

Earth Science 489.

Mathematics, Physics, Chemistry, Biology and Geography courses with approval of adviser.

Supporting courses which are required:

Mathematics 241, 242, 243.

Physics 231 or 234; 232 or 235; 233 or 236.

Chemistry 211, 212 or 213.

Biology 201.

**Earth Science Minor (36)**

Earth Science 284, 306, 308, 340.

Chemistry 211.

Physics 231.

Electives: Mathematics, Physics, Chemistry, Biology, Earth Science and Geography courses with approval of adviser.

**Comprehensive Physical Science****Major (84)**

This program meets minimum certification requirements for teaching both high school chemistry and physics in Minnesota.

Chemistry 211; 212 or 213; 214, 321, 322, 325, 458.

Physics 231, 232, 233, 328, 329, 332, 459.

Math 241, 242, 243, 244.

Electives from Chemistry, Physics, and Math, selected so as to make a total of 36 credits in either Chemistry or Physics, and 28 credits in the other. (16)

**Physical Science Minor (36)**

Chemistry 211; 212 or 213; 214, 221.

Physics 231, 232, 233, 332.

Earth Science 306 or 307.

**Junior High School General Science****Concentration (48)**

Biology 201, 202, 203.

Chemistry 211; 212 or 213.

Earth Science 284, 285, 306, 456 or 460.

Physics 201, 202.

Electives of three or more credits of Biology and three or more credits of Earth Science selected with adviser approval. (6)

Supporting Minor:

The B.A. Earth Science Major will be required to complete a 36 hour minor in any one of the following fields:

Mathematics

Physics

Chemistry

Biology

Geography

Total (36)

In addition to the specified courses, the hours remaining to complete the 192 hours needed for graduation, should be taken outside of the major-minor fields.

**Earth Science Minor (36)**

Earth Science 284, 306, 308, 340.  
 Chemistry 211.  
 Physics 231 or 234.

Electives: Mathematics, Physics, Chemistry, Biology, Earth Science and Geography courses with approval of adviser.

**SOCIAL SCIENCE**

*Harold Lieberman, D.S.S., Chairman*

The Department of Social Science recognizes that most of the problems confronting man 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 department'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, Economics, Geography, History, Latin American Studies, Political Science, and Sociology and Anthropology.

Students seeking admission to a major or minor program in Social Science must have completed at least two of the following courses: Geography 171, History 101, Psychology 121, Social Science 104. The applicant must have at least a 2.0 grade point average in all courses taken from the above list and in economics, political science, and sociology-anthropology.

A major or minor in Social Science may not be combined with a major or minor in Economics, Political Science, or Sociology and Anthropology.

**BACHELOR OF SCIENCE****Social Science Major (48)**

Economics 273, 274  
 Political Science 281, 382.  
 Sociology 260; 267 or 465.  
 Social Studies 353.  
 Geography or History Electives (4)  
 Electives in Economics, Political Science, Sociology, or Social Science (16). (Must include at least one course in each of the first three fields named)

**Social Science Minor (36)**

Economics 273, 274.  
 Political Science 281, 382.  
 Sociology 260; 267 or 465.  
 Social Studies 353.  
 Geography or History Electives (4)  
 Electives in Economics, Political Science, Sociology, or Social Science (4)

**BACHELOR OF ARTS****Social Science Major (48)**

Economics 273, 274.  
 Political Science 281, 382.  
 Sociology 260; 267 or 465.  
 Geography or History Electives (4)  
 Electives in Economics, Political Science, Sociology, or Social Science (20)  
 (Must include at least one course in each of the first three fields named.)

**Elementary Education Minor (36)**

Economics 273, 274.  
 Political Science 281, 382.  
 Sociology 260; 267 or 465.  
 Electives in Economics, Political Science, Sociology, or Social Science (12)

**Junior High School Concentration (40)**

Economics 273, 274.  
 Political Science 281, 382.  
 Sociology 260; 267 or 465.  
 Social Studies 353.  
 Geography or History Electives (4)  
 Electives in Economics, Political Science, or Sociology (8)

**Social Science Minor (36)**

Economics 273, 274.  
 Political Science 281, 382.  
 Sociology 260; 267 or 465.  
 Geography or History Electives at 300-400 level (4)  
 Electives at 300-400 level in Economics, Political Science, Sociology, or Social Science (8)

## COURSE DESCRIPTIONS

- 104 **General Social Science.** Economic, political, and sociological factors which affect the person in contemporary American society. Analysis of problems designed to lead student to understanding of social-economic-political complexities and responsibilities of day-by-day living in contemporary world. 4 credits.
- 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 credits.
- 400 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in interdisciplinary social science. 1-4 credits.
- 401 **Concepts in Social Science.** Application of economic, political, and sociological concepts to issues in contemporary societies. Prerequisite: 104. 4 credits.

COURSES FOR ADVANCED UNDERGRADUATE  
AND GRADUATE STUDENTS

- 460-560 **Contemporary Issues Seminar.** Analysis of contemporary 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 credits.
- 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 credits.
- 472-572 **Methods in Social Research.** Philosophy in science as related to formulation of research problems, techniques for collecting and analyzing social data, process of interpreting results. 2 credits.

## COURSES FOR GRADUATE STUDENTS

- 600 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in interdisciplinary social science. 1-4 credits.
- 630 **Problems in the Social Sciences.** An examination of the methods used and the problems faced in the various social science disciplines. Not open to students with a major or minor in Social Science. 3 credits.
- 699 **Master's Thesis.** 3-9 credits.

## SOCIAL STUDIES

Students interested in a comprehensive multidisciplinary approach to social science should consider programs offered below or those listed in the section on Social Science. Students should also see programs offered in American Studies, Economics, Geography, History, Latin American Studies, Political Science, and Sociology and Anthropology.

## BACHELOR OF SCIENCE

**Social Studies Major (84)****Geography Emphasis**

A minimum of five topical courses and five regional courses in Geography is required (40)

History Electives (8)

Sociology 260.

Economics 273.

Political Science 281.

One elective each in Political Science, Economics, Sociology (12)

Social Studies 353.

Electives in related areas (8)

**History Emphasis**

History courses required: 4 to 8 credits of the American History survey (140, 141) and 12 to 16 credits of the European survey (200, 201, 202, 203).

History Electives (16-24)

One regional and one topical course in Geography.

Sociology 260.

Economics 273, 274.

Political Science 281.

One elective each in Political Science, Sociology (8)

Social Studies 353.

Electives in related areas (8)

**Social Science Emphasis**

(Students seeking admission to a major program in Social Studies — Social Science Emphasis must have completed at least **two** of the following courses: Geography 171, History 101, Psychology 121, Social Science 104. The applicant must have at least a 2.0 grade point average in all courses taken from the above list and in economics, political science, and sociology-anthropology.)

Economics 273, 274.

Political Science 281, 382.

Sociology 260; 267 or 465.

One topical and one regional course in Geography.

History Electives (8)

Social Studies 353.

Electives in Economics, Political Science, Sociology, or Social Science (24)

(Must include at least one course in each of the first three fields named.)

Electives in related areas. (16)

**Elementary Education Social Studies****Minor (36)**

(Admission requirements are the same as for Social Science.)

Economics 273.

Geography 271 or 273.

Political Science 281.

Sociology 260.

One 200-level History course.

One additional course from each of 4 or 5 of the above fields. (16)

**COURSE DESCRIPTIONS**

**353 Teaching Social Studies in Secondary School.** Philosophy, methods, and materials in the teaching of social studies in the secondary school. 4 credits.

**COURSES FOR GRADUATE STUDENTS**

**640 Recent Trends in Teaching Social Studies in Secondary School.** Secondary school social studies programs viewed in light of new methods, curriculum trends, materials, and philosophies. 3 credits.

**SOCIOLOGY AND ANTHROPOLOGY**

*H. Goodrich, Ph.D., Chairman*

Students interested in Social Science or Social Studies programs should refer to the course offerings listed in this bulletin.

**BACHELOR OF ARTS****Major (48)**

Sociology 260, 267, 378, 465, 478, 483.

Sociology Electives: 25 credits, 17 or more of which must be on the 300- and 400-levels. For students going into the field of social work, Sociology 365, 473, and 475 are strongly recommended. Students intending to go on to graduate school are strongly recommended to take Sociology 485.

**Minor (36)**

Sociology 260, 267, 465, 478, 483.

Sociology Electives: 17 credits, 9 or more of which must be on the 300- and 400-levels.

**Elementary Education Minor (24 or 36)**

Sociology 260, 267, 465.

Sociology Electives:

for 24-credit minor (12)

for 36-credit minor (24)

**Related Fields Minor (35-36)****For Sociology Majors Only**

Economics 273, 274.

Philosophy 333.

Political Science 281.

Psychology 250.

Select one course from each of four of the five groups below: (15-16)

Geography 372, 490.

Philosophy 240, 245, 332.

Political Science 382, 483.

Psychology 390, 475.

Social Science 460 and/or 470.

**Anthropology Minor (24)**

Sociology 250, 265, 267.

Anthropology Electives: 12 credits.

Select courses from those with a 250 prerequisite.



COURSE DESCRIPTIONS

- 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 credits.
- 260 **Principles of Sociology:** Human relations, including culture, group, group and personality, group interaction; community, social institutions, cultural change, social disorganization. 4 credits.
- 261 **Social Problems.** Nature, origins, and types of social problems characteristic of contemporary society. Collective efforts of society to eliminate or alleviate these problems. Not open to juniors or seniors majoring in Sociology. Prerequisite: 260. 4 credits.
- 265 **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 and the relationship between human biology and culture. Prerequisite: 250. 4 credits.
- 267 **Cultural Anthropology.** Culture: its meaning, analysis, changes. Significance of culture in human relations. Study of ways of life found in small societies throughout the world. Prerequisite: 250 or 260. 4 credits.
- 268 **Ethnic and Race Relations.** Problems of ethnic and racial differentiation. Causes and consequences of prejudice and discrimination. Action programs to reduce ethnic and race conflict. Prerequisite: 260. 4 credits.
- 269 **Urban Sociology.** History and functions of the city; urban social relations, ecology and institutions; social change and problems of urban life. Prerequisite: 260. 4 credits.
- 340 **Mass Media and Society.** Analysis of structure, functions (ideal and actual), content, and other institutional aspects of the mass media. Prerequisite: 260. 4 credits.
- 342 **Industrial Sociology.** Analysis of industrial organizations, ideologies of workers and managers, cooperation and conflict, morale, communication, and relationships of industrial organization to community and society. Prerequisite: 260. 3 credits.
- 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 with resulting problems, policies, and programs. Prerequisite: 260. 3 credits.
- 352 **The Family.** Study of the family in cross-cultural and historical perspective. Special emphasis on the family in the United States. Prerequisite: 250 or 260, 267. 4 credits.
- 354 **Mesoamerican Civilizations.** Brief history of Mesoamerican civilizations and study of their crafts, arts, cities, religions, and other institutions. Special attention to Maya and Aztec civilizations. Prerequisite: 250 or 260, 267. 4 credits.
- 355 **Ethnology of Africa.** Culture history of the continent and social anthropology of traditional societies. Background factors related to the problems of modern Africa. Prerequisite: 250 or 260, 267. 4 credits.
- 356 **Ethnology of Asia.** Survey and analysis of cultural diversity and unity on the continent of Asia. Prerequisite: 250 or 260, 267. 4 credits.
- 359 **Indians of North America.** The cultural anthropology of selected tribes and culture areas of pre-Columbian North America; impact of European conquest upon these cultures. Prerequisite: 250 or 260, 267. 4 credits.
- 365 **Introduction to Social Work.** The fields of social work. Background of the modern social work movement and development of its underlying theory. Prerequisite: 260. 5 credits.
- 366 **Juvenile Delinquency.** Causes, treatment, and prevention of juvenile delinquency. Prerequisite: 260. 3 credits.
- 367 **Criminology.** Etiology, treatment, and prevention of criminal behavior in modern society. Prerequisite: 260. 3 credits.
- 369 **Modern Courtship and Marriage.** Dating, mate selection, marriage and divorce regulations, marital roles, marital adjustment, parenthood. Prerequisite: 260. 4 credits.

- 378 **Social Statistics.** Application of statistical methods to research problems in sociology; classification and presentation of statistical data, measures of central tendency and variability; single statistics or relationship; large sample theory. Prerequisite: 260. 4 credits.
- 380 **Sociology of Religion.** Relation of religion to society. Various forms of religion and their relation to other institutions. Prerequisite: 260. 4 credits.
- 400 **Special Problems in Sociology.** A seminar or conference course for advanced students wishing to work out a special problem in sociology. 1-4 credits.
- 471 **Culture and Personality.** Personality development in context of cultural patterns for behavior in both preliterate and modern societies. Prerequisite: 250 or 260, 267. 3 credits.
- 475 **Field Work.** Placement in a supervised research or training project which may be in a social service agency, correctional institution, or other approved facility. Admission by departmental approval. 1-8 credits.
- 478 **Research Methods.** Conceptual clarification, design, data gathering, data analysis, derivation of conclusions, writing of reports. Prerequisite: 260. 4 credits.

#### COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

- 440-540 **Social Role Theory.** Relation of social roles to social organization, interaction, deviant behavior, social change, social maintenance. Prerequisite: 260. 3 credits.
- 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. Prerequisite: 260. 3 credits.
- 444-544 **Public Opinion.** Nature, function, formation, and measurement of public opinion; attempts to influence public opinion; propaganda. Prerequisite: 260. 4 credits.
- 447-547 **World Population Problems.** World population trends and pressures; their causes and consequences; war; international relations; standards of living; technological change; and cultural contrasts. Prerequisite: 260. 3 credits.
- 450-550 **Seminar: Integration of the Social Sciences.** Contributions of the various social sciences to the study of society and social change. Prerequisite: 260. 2-4 credits.
- 454-554 **Collective Behavior.** Unstable collectivities—collectivities with changing social structures. Nature, causes, and consequences of collective behavior in mobs, crowds, publics, etc. Prerequisite: 260. 3 credits.
- 456-556 **Complex Organizations.** Social and cultural characteristics of a variety of formal organizations, with emphasis on both theoretical and practical problems. Prerequisite: 260. 4 credits.
- 461-561 **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. Prerequisite: 260. 4 credits.
- 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 credits.
- 463-563 **Seminar.** Discussion and readings in advanced anthropology. A specific topic selected each time offered. May be repeated. Prerequisite: 250 or permission of department chairman. 4 credits.
- 464-564 **School and Community.** Community structure, institutions, and life. Relationship between community and personality growth. School and community relationships; the community school; youth and community surveys; the coordinating council. Prerequisite: 260. 3 credits.
- 465-565 **Social Psychology.** Influence of human relations and culture on development of personality. Biological, ethnological, and cultural approaches to individual, sexual, and racial differences. Development of attitudes and prejudices, Propaganda, rumor, and other psycho-social phenomena. Prerequisite: 260. 4 credits.
- 469-569 **Theory of Cultural Change.** An examination of various theoretical approaches to the dynamics of cultural change. Prerequisite: 250 or 260, 267. 4 credits.

- 473-573 **Issues and Practice in Social Welfare.** Special issues related to social welfare. Techniques and procedures employed in the various fields, with emphasis on case-work, group work, and community organizations. Prerequisite: 260, 365. 3 credits.
- 476-576 **American Social Institutions.** The structure and interrelations of the major institutions of modern American society. Institutions as agencies of social control, and institutional disorganization as an effect of social change. Prerequisite: 260. 4 credits.
- 481-581 **Social Stratification.** Nature, functions, criteria, and significance of social stratification systems; trends and factors in social mobility. Prerequisite: 260. 4 credits.
- 483-583 **Development of Sociology.** Sociological thought from folklore to social science: principal stages, central ideas, and major approaches with reference to social and cultural contents. Prerequisite: 260. 3 credits.
- 485-585 **Contemporary Sociological Theory.** Systematic organization of concepts and principles of the explanation of social phenomena and as a guide to contemporary sociological research. Prerequisite: 260. 3 credits.

**COURSES FOR GRADUATE STUDENTS**

- 600 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in Sociology. 1-4 credits.
- 667 **Principles of Cultural Anthropology.** Concepts and theories of anthropology. Analysis of tribal and peasant cultures; comparison with more complex societies. Prerequisite: 250 or 260. 4 credits.
- 668 **Minority Groups in Society.** Patterns of social dominance and subordination. Causes and consequences of prejudice and discrimination. Sociological theory and dominant-minority relations. Reduction of intergroup conflict. Prerequisite: 260. 4 credits.

**SPEECH AND DRAMATIC ART**

*Mary Emily Hannah, Ph.D., Acting Chairman*

The Department of Speech and Dramatic Art provides a broad academic program in theatre, public address and radio-television, and strong co-curricular programs in theatre, forensics and radio-television.

**BACHELOR OF SCIENCE**

Students electing the Bachelor of Science degree are advised to consult the Certification Requirements for Teachers of Speech and Theatre Arts of the Minnesota State Department of Education, available from any major advisor in this department.

**Speech Major (48)**

- Speech 221, 224, 320, 325, 331, 415, 420, 426, 452.  
 Select at least one:  
 Speech 235, 236, 349.  
 Select one: Speech Science 293 or 381.  
 Electives (15). Strongly recommended:  
 Speech 222, 227-228-229, 421, 422, 423, 424.

**Theatre Major (48)**

- Speech 235, 236, 248, 320, 331, 349, 445, 446, 452.  
 Select one: 491, 492, 493.  
 Select one: 325 or 426.  
 Select one: 415 or 420.  
 Select one: Speech Science 293 or 381 or Speech 250.  
 Electives (6).

**Speech Minor (36)**

- Speech 221, 320, 325, 331, 452.  
 (452 not required for Elementary Education minor); 420 or 426.  
 Select at least one:  
 Speech 235, 236, 349.  
 Select one: Speech Science 293 or 381.  
 Electives (11).

**Theatre Minor (36)**

- Speech 235, 236, 320, 331, 349, 452,  
 (452 not required for Elementary Education minor)  
 Select one: Speech 325, 415, 420, 426.  
 Select one: Speech Science 293, or 381 or Speech 250.  
 Electives (10).

**Radio-Television Minor (36)**

- Speech 221, 320, 333, 371, 376, 476.  
 Journalism 220.  
 Select one: 250 or 331.  
 Electives (10).

## BACHELOR OF ARTS

**Speech Major (48)**  
Speech 221, 320, 325, 415, 420, 426.  
Electives approved by advisor (30).

**Theatre Major (48)**  
Speech 235, 236, 248, 331, 349, 491,  
492, 493.  
Electives (20).

**Radio-Television Major (48)**  
Speech 221, 235, 320, 333, 371, 372,  
376, 442, 451, 475.  
Select one: 250 or 331.  
Journalism 220.  
Electives (12).

**Speech Minor (36)**  
Speech 221, 320, 325, 415, 420, 426.  
Electives approved by advisor (18).

**Theatre Minor (36)**  
Program requirements determined in  
conference with Department Chair-  
man based on individual interests,  
needs and abilities.

**Radio-Television Minor (36)**  
Speech 221, 250, 320, 333, 371, 376,  
475.  
Journalism 220.  
Electives (12).

## COURSE DESCRIPTIONS

## GENERAL

- 161 Fundamentals of Speech.** Study and practice of speech, with emphasis on audience analysis, defining issues, supports and proofs, effective use of language, voice and action. 4 credits.
- 250 Voice and Diction I.** Development of superior speech. Analysis of and practice in vocal pitch, loudness, and quality; speaking rate; articulation and pronunciation. 3 credits.
- 251 Voice and Diction II.** Continuation of Voice and Diction. 3 credits.
- 331 Oral Interpretation I.** Theory and practice in oral reading, with emphasis on selection, study, and presentation of literature suited for oral interpretation. Prerequisite: Speech 161, English 162. 3 credits.
- 332 Oral Interpretation II.** Continuation of Oral Interpretation. 3 credits.
- 400 Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in speech. 1-4 credits.

## SPEECH

## Public Address

- 220 Public Speaking.** Continuation of Fundamentals of Speech. Designed for students who want further study in speech theory and practice. Prerequisite: 161. 4 credits.
- 222 Parliamentary Procedure.** Practice in applying rules of order to group meetings where parliamentary procedure is followed. 2 credits.
- 223 Effective Listening.** Instruction and practice in discriminative, appreciative and critical listening. 2 credits.
- 224 Fundamentals of Debate.** Study of the elements, principles, and procedures basic to high school and collegiate debate. Preparation and presentation of debate cases as formal argumentation. 3 credits.
- 227-228-229; 327-328-329 Intercollegiate Forensics.** Active participation in the forensics program. Opportunity for state and national tournament competition. Three quarters needed for credit. Sequence must begin in Fall or Winter quarter. One credit per quarter. Maximum of 6 credits.
- 320 Advanced Public Speaking.** An exploration in depth of speech principles through speech making and the study of famous speakers and selected readings. 4 credits.
- 325 Discussion and Conference Leadership.** Study and application of problem-solving discussion. 3 credits.
- 415 Speech Criticism.** Analysis of rhetorical principles applied to public address. Prerequisite: 320. 3 credits.
- 420 Persuasion.** Study of the elements of persuasion as a process of influencing man. Application of persuasion. 3 credits.
- 426 Argumentation.** Study of critical thinking in issues of controversy. Evaluation of rational decision-making processes. Emphasis on logic as inference and proof in arguments. 3 credits.

## RADIO-TELEVISION

- 210-211-212; 310-311-312 Practice in Radio and Television Production.** Participation in radio and television production activities. Assignments and goals given students on the basis of individual needs and abilities. Departmental approval required. Maximum of 6 credits. 1-2 credits per quarter. Three consecutive quarters required for credit.
- 221 Introduction of Mass Communications: Broadcast Media.** History, nature, functioning and responsibilities of the broadcast media. Introduction to the writing and production skills. 2 credits.
- 310-311-312.** See 210-211-212.
- 333 Announcing.** Basic skills training including standards of pronunciation, delivery, and interpretation. Study and practice in all types of radio and television speaking. Special emphasis upon microphone techniques. 3 credits.
- 371 Broadcast Production I.** Introduction to production theory and techniques. Study and application of educational and commercial program types and methods. Emphasis on radio. Laboratory. Prerequisite: 221. 4 credits.
- 372 Radio-Television News Writing and Editing.** Groundwork in gathering, writing, and editing news copy for broadcast; radio and television news style. Prerequisite: 371. 3 credits.
- 376 Introduction to Television Production and Direction.** The understanding of and practice in the use of basic television facilities and techniques. Introduction to production theory and directing. Laboratory. Prerequisite: 371. 4 credits.
- 451 Broadcast Production II.** Intensive study in the production of the major educational and commercial programs including drama, documentary, news, interviews, discussions, and lectures. Emphasis upon effective production and social responsibility. Laboratory. Prerequisite: 371. 3 credits.
- 464 Management of the Broadcasting Station.** Advanced study of the organization and operation of the commercial and educational radio and television station from the standpoint of management. Research in the design and equipping of a commercial or educational station. Special consideration of the educational closed-circuit operation. 3 credits.
- 473 Radio-Television Public Affairs and Documentaries.** Fundamentals of researching, writing and editing public affairs programs and documentaries. Study of the various types of such programs and their importance to radio, television and society. 3 credits.
- 475 Writing for Radio and Television.** Study and practice in the major forms of dramatic and non-dramatic programs. Scripting techniques, and the use of dramatic methods. Prerequisite: 371. 2 credits.
- 476 Advanced Television Production.** Production and direction of basic educational and commercial program types. The use of television graphics, sets, and properties coordinated with production techniques. Set design. Laboratory. Prerequisite: 376. 4 credits.
- 477 Advanced Television Direction.** Production and direction of advanced educational and commercial program types. Emphasis is upon the central role of the television director. Special consideration of creative experimental production. Laboratory. Prerequisite: 476. 4 credits.

## THEATRE

- 140 Introduction to Theatre Art.** History and theory of the arts and crafts of the theatre. This course is designed for students who desire a better appreciation of the theatre as a cultural and social force in modern living. 4 credits.
- 234 Stage Properties.** Design, materials, and construction methods utilized in set and hand properties for theatre production. 2 credits.
- 235 Introduction to the Theatre.** The theatre, its artistic and technical components, and requirements. For the theatre specialist. Laboratory. 4 credits.
- 236 Technical Production Methods I.** Scene design and construction; technical problems pertinent to the theatre. Laboratory. Prerequisite: 235. 3 credits.
- 237 Technical Production Methods II.** Continuation of Technical Production Methods. Laboratory. Prerequisite: 235, 236. 2 credits.

- 238-438 **Theatre Production.** Active participation in theatre production activities. Departmental approval required. Maximum of 6 hours. 1-3 credits per quarter.
- 240 **Stage Make-Up.** A laboratory course; theory and practice of make-up techniques. 2 credits.
- 248 **Acting I.** Development of vocal and physical skills basic to acting. Prerequisite: 235. 3 credits.
- 252 **Cinema as a Dramatic Art.** An historical survey and theoretical analysis of the motion picture as a dramatic art form. 3 credits.
- 349 **Directing I.** Methods of selecting, casting, and rehearsing plays for production. Prerequisite: 235. 3 credits.
- 350 **Creative Dramatics and Children's Theatre.** Principles and methods of developing original dramatizations with children and the selection, direction, and production of plays for children's theatre. 3 credits.
- 437 **Technical Production Methods III.** Continuation of Technical Production Methods II. 3 credits.
- 441 **Technical Theatre Workshop.** A laboratory course; experience in meeting technical problems of educational theatre production. Prerequisite: 236. 4 credits.
- 445 **Costuming I.** Theory and practice, survey of historical costume pertinent to theatre, techniques of stage costume construction. Laboratory. Prerequisite: 235. 3 credits.
- 455 **Costuming II.** Continuation of Costuming I. 3 credits.

#### COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

##### GENERAL

- 452-552 **Teaching of Speech.** Materials and methods of speech in high school. To be taken prior to practice teaching. 3 credits.

##### SPEECH

- 421-521 **American Public Address I.** Major speakers in American history studied from a rhetorical perspective. Prerequisite: 415. 3 credits.
- 422-522 **American Public Address II.** Rhetorical analysis of significant American speakers, 1865-1940. Prerequisite: 415. 3 credits.
- 423-523 **Contemporary Public Address.** Critical analysis of speakers and speeches as they relate to significant political, economic, and social issues since 1940. Special consideration given to the problems of contemporary rhetorical criticism. 3 credits.
- 424-524 **British Public Address.** Study of selected significant British speeches in historical and rhetorical perspectives. 3 credits.

##### THEATRE

- 442-542 **Theory and Practice of Stage Lighting.** Development of stage lighting; basic needs; cost and types of equipment. Laboratory. Prerequisite: 236. 2 credits.
- 444-544 **Acting and Directing Workshop.** A laboratory course, experience in meeting problems in acting and directing in educational theatre production. Prerequisite: 235. 1-4 credits.
- 446-546 **Scenic Design I.** Development of scenic design; basic needs and procedures in designing plays. Laboratory. Prerequisite: 235, 236. 3 credits.
- 447-547 **Scenic Design II.** Continuation of Scenic Design. Laboratory. Prerequisite: 446. 2 credits.
- 448-548 **Acting II.** Analyzing and creating a stage character. Prerequisite: 248. 3 credits.
- 449-549 **Directing II.** Study and application of advanced directing techniques. Prerequisite: 349. 3 credits.
- 456-556 **Scenic Design III.** Continuation of Scenic Design II. 3 credits.
- 458-558 **Acting III.** Continuation of Acting II. 3 credits.
- 459-559 **Directing III.** Continuation of Directing II. 3 credits.
- 460-560 **Theatre Promotion and Business Management.** Theatre administrative procedures. 3 credits.

- 466-566 **Theatre Design.** Patterns in the historical development of theatre design and construction. 3 credits.
- 491-591 **Drama I.** The beginnings to Ibsen. World drama, its origin and genesis. Primitive drama. Classical Greek and Roman, Oriental, Medieval, Elizabethan, Neo-classic French, Restoration, Eighteenth Century to 1875. 4 credits.
- 492-592 **Drama II.** Modern drama to Ibsen to World War II. Literature and production techniques of the modern theatre. 4 credits.
- 493-593 **Drama III.** Contemporary drama. Trends in the literature and production techniques of the modern theatre. 4 credits.
- 496-596 **Summer Theatre.** Theatre production for advanced students in residence at the professional Theatre L'Homme Dieu, Alexandria, Minnesota. Production of 9 plays in 11 weeks. Acting, directing, costuming, construction, publicity, lighting, and other disciplines of the theatre. Registration by application only. 1-8 credits.

**COURSES FOR GRADUATE STUDENTS**

- 600 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in speech or theatre. 1-4 credits.
- 639 **Seminar in Acting.** 3 credits.
- 640 **Seminar in Directing.** 3 credits.
- 650 **Seminar in Speech Education.** 3 credits.
- 660 **Seminar in Technical Problems of Theatre.** 3 credits.
- 661 **Seminar in Theatre History.** 3 credits.
- 680 **Seminar in Ancient Rhetorical Theory.** Major Greek and Roman works in rhetoric. 3 credits.
- 682 **Seminar in Public Address.** 3 credits.
- 684 **Seminar in Rhetorical Theory.** 3 credits.
- 699 **Master's Thesis.** 3 credits.

**SPEECH SCIENCE, PATHOLOGY AND AUDIOLOGY**

*Martin A. Kammermeier, Acting Chairman*

The Department of Speech Science, Pathology and Audiology has as its primary objective the preparation of speech and hearing clinicians. The student may elect either the Bachelor of Science with professional Education and practice teaching requirements, or the Bachelor of Arts with greater emphasis in psychology. Both degrees entitle the student to certification as a school clinician in the State of Minnesota.

**BACHELOR OF SCIENCE**

**Major (48)**

Speech Science, Pathology and Audiology 285, 293, 380, 381, 382, 383, 385, 386, 387, 453, 454, 480, 481, 482.

Electives (3).

**Required Special Professional**

**Education Core (25)**

Education 312, 471, Information Media 468.

Education Electives (6) from the following: 200, 412, 456.

Education Electives (8) from the following: 472, 473, 482, 483.

**BACHELOR OF ARTS**

**Major (48)**

Speech Science, Pathology and Audiology 285, 293, 380, 381, 382, 383, 385, 386, 387, 453, 454, 480, 481, 482.

**Student Teaching (16)**

**Required Psychology Minor (24)**

Psychology 250, 262, 350, 482.  
Psychology Electives (8) from the following: 360, 390, 466, 468, 471, 472, 473.

or

**Psychology Minor (36)**

Psychology 250, 350, 360, 482, 483.  
Psychology Electives (16).

**Required Psychology Minor (36)**

Psychology 250, 350, 360, 482, 483.  
Electives (16) from the following:  
Psychology 390, 466, 368, 471, 472, 473.



## COURSE DESCRIPTIONS

- 080 Special Instruction in the Speech and Hearing Clinic.** Training for students with speech and/or auditory problems. Prerequisite: Consultation with instructor. (Not to be counted toward graduation.) May be repeated. 1-3 credits.
- 285 Phonetics.** Speech sounds from a sociological, physiological, and acoustical point of view. Instruction and training in the use of international phonetic alphabet. 3 credits.
- 293 Introduction to Speech and Hearing Disorders.** Introduction to Speech Pathology and Audiology. Survey of concepts basic to the understanding of normal and abnormal speech and hearing; principles of treatment. 3 credits.
- 380 Anatomy and Physiology of the Ear and Vocal Mechanism.** Gross anatomy of the hearing and vocal mechanisms and their supporting structures. 3 credits.
- 381 Speech Science.** Basic scientific concepts of acoustics, physiology, and linguistics fundamental to understanding speech and hearing phenomena. 3 credits.
- 382 Speech Pathology I.** Research and theory of the nature, etiology and treatment of functional articulation and voice problems. Clinical observation required. Prerequisite: 283 or 293. 3 credits.
- 383 Stuttering Theory and Therapy.** Research and theory of the nature, etiology and treatment of stuttering. Prerequisite: 283 or 293. 3 credits.
- 385 Audiology.** Theory and research of hearing problems and audiometric evaluation. Supervised practice or hearing testing. Prerequisite: 283 or 293. 4 credits.
- 386 Speech Reading and Auditory Training.** Theory and practice of lip reading and auditory training for the aurally handicapped. Prerequisite: 385. 3 credits.
- 387 Language for the Hearing Impaired.** Theory and research in the nature and management of the preschool aurally handicapped child. Prerequisite: 385. 3 credits.
- 400 Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in speech. 1-4 credits.
- 453 The Speech and Hearing Clinician in the Schools.** Philosophy, responsibilities, and operating procedures of the professional worker in the public schools. Prerequisite: 283 or 293.
- 454 Diagnosis and Appraisal in Speech Pathology and Audiology.** Evaluation and use of diagnostic tools. Includes participation in diagnostic evaluations and preparation of clinical reports. Prerequisites: 283 or 293 and staff approval. 3 credits.
- 480 Practicum in Speech Pathology and Audiology.** Supervised training in therapeutic techniques. Can be repeated to a maximum of 6 and 9 credits by B.S. and B.A. majors respectively. Prerequisite: 283 or 293 and staff approval.
- 481 Clinical Methods and Practices.** Practical integrations of theory and method in the clinical setting. Staffing of cases. Required in conjunction with Speech 480. 1 credit. Repeated for a maximum of 3 credits.
- 482 Speech Pathology II.** Research and theory of the nature, etiology and treatment of aphasia and other speech problems associated with organic pathology. Prerequisite: 283 or 293. 3 credits.

COURSES FOR ADVANCED UNDERGRADUATE  
AND GRADUATE STUDENTS

- 402-502 Seminar in Functional Voice and Articulation Disorders.** Advanced study of functional voice and articulation problems with emphasis on published research. 3 credits.
- 404-504 Advanced Audiology.** Above-threshold audiometric testing. Objective audiometry, Aid fitting, Auditory training. 3 credits.
- 405-505 Seminar in Structural Speech Disorders.** Advanced study of speech disorders associated with structural pathology (cleft palate, laryngectomy, etc.) with emphasis on published research. Prerequisite: Staff approval for undergraduates. 3 credits.

- 406-506 **Seminar in Neurological Speech Disorders.** Advanced study of aphasia and speech problems associated with cerebral palsy, mental retardation and disorders of the nervous system. Emphasis on published research. Prerequisite: Staff approval for undergraduates. 3 credits.
- 408-508 **Seminar in Stuttering.** Advanced study of the nature, etiology and treatment of stuttering with emphasis on published research. Prerequisite: Staff approval for undergraduates. 3 credits.

**COURSES FOR GRADUATE STUDENTS**

- 600 **Special Problems.** A seminar or conference course for graduate students wishing to work out a special problem in his major field. 1-4 credits.
- 601 **Advanced Clinical Practice in Speech Therapy and Audiology.** Clinical practice with more uncommon types of speech and hearing disorders. 1-3 credits.
- 603 **Elements of Research in Speech Pathology.** Tools to evaluate methods and results of original research in Speech Science; experimental design; statistical measures. 2 credits.
- 607 **Experimental Phonetics.** Research in Speech Science not strictly devoted to therapeutic work in speech and hearing; field trips to nearby laboratories and manufacturing concerns. 2 credits.
- 609 **Seminar in Speech Pathology.** Selected topics in Speech Pathology. 3 credits.
- 699 **Master's Thesis.** 3-9 credits.



# School of Business

*James G. Marmas, Ed.D., Dean*

## Departments

Accounting

Management and Finance

Marketing and General Business

Business Education and Office Administration

Bureau of Business Research

The primary purpose of the School of Business is to prepare the student for a professional career in business, education, or government and for competent and responsible participation and leadership in society. In pursuing these objectives, the school is firmly committed to the principle that education for business requires both a broad training in business and substantial exposure to the sciences and arts of life.

Recognizing that the character of our students, faculty, and institutional capabilities will influence the attainment of these objectives, the School of Business strives to develop in the student:

- 1) broad conceptual knowledge essential to understanding the environmental processes which exercise a controlling influence upon the operating business organization
- 2) extensive comprehension of the principles and skills characterizing effective business administration with appropriate specialization in the preparation for specific careers
- 3) analytical skills and capabilities requisite to incisive reasoning, rational judgment, and continuing personal growth
- 4) an appreciation of the standards for responsible and ethical conduct

The School 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; and Secretarial Administration. An Associate in Arts program in secretarial science and minor programs are also available.

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

## **Bureau of Business Research**

*Gandi R. Rajender, Ph.D., Director*

The Bureau of Business Research is the research and service division of the School of Business. The main objective of the Bureau is to provide faculty and students with facilities and opportunities for research in business and other related areas and to be of service to the community by furnishing information and knowledge for solving problems. Some of the functions of the Bureau are:

- 1) originate and administer industry and area research projects
- 2) channel research proposals to faculty members
- 3) seek cooperative arrangements with outside individuals and organizations for conducting specific research and service projects
- 4) operate or permit facilities to be used as a laboratory for study of select problems which involve research
- 5) conduct a publication program adapted to the needs of bureau functions
- 6) provide a readily identifiable point of contact for business, industry, and government, through which they can be informed of or discuss the kinds of research in which they are interested

**Internship Program in Business**

Business majors are encouraged to participate in the Internship Program in Business available in each department. The Internship Program in Business provides students an opportunity to work under a carefully planned and approved program for a quarter of the academic year with a participating firm or organization. This program affords the student an opportunity to identify with the business world while he is yet an undergraduate student in college. It also affords the business community an opportunity to cooperate with the School of Business in preparing the student for opportunities after graduation. Internship programs are open to business majors who have completed their junior year of work. The programs are available for any quarter during the academic year and also during the summer period. Interested students are urged to contact the respective department chairmen concerning arrangements for the program.

**Admission to Major Program**

A student is eligible for admission to a major program in the School of Business after he has complied with the following requirements:

- 1) Completion of 32 quarter credits with a grade point average of 2.0 in a 4.0 grade system. Transfer students must complete a minimum of 14 quarter credits in residence to be eligible for admission. Courses to be transferred must have a grade of 2.0 or better and must be acceptable to the student's program.
- 2) Completion of College Algebra, Mathematics 131 or equivalent; Written Composition, English 162; Business Statistics I; Marketing 140; Accounting I, Accounting 181, or their equivalents, with a grade of 2.0 or better in each. The student makes application for admission after the above requirements are met in the Office of the Dean.

**Core Requirements for Business Programs**

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

*Marketing 140 Business Statistics I	4
Accounting 181 Accounting I	4
Accounting 182 Accounting II	4
Accounting 183 Accounting III	4
Marketing 220 Introduction to Marketing	4
Management 267 Management Theory and Practice	4
Economics 273 Principles of Economics I	4
Economics 274 Principles of Economics II	4
Business Education 309 Business Communications	4
Management 371 Corporation Finance	4
**Marketing 435 Business Law	4

Majors in the School of Business are not required to complete a minor in order to fulfill the requirements for the degree.

\*Majors in Business Teacher Education substitute Psychology 362 and 463 for Marketing 140.

\*\*Majors and minors in the Department of Business Education and Office Administration may substitute Business Education 300 with approval of adviser.

## ACCOUNTING

Mohamed S. Heakal, Ph.D., Chairman

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 his area of interest, the accounting major may select a concentration in private/industrial or public accounting. Internships in public accounting and industrial accounting offer the student an opportunity to bridge the gap between theoretical preparation and the realities of practical life.

In Minnesota, the CPA certificate is issued by the Minnesota State Board of Accountancy to those who have satisfied the experience requirements and have passed an examination in accounting practice, theory of accounts, auditing and commercial law. Completion of the accounting program, which is approved by the State Board of Accountancy, serves as the basic preparation for the examination. Accounting majors are encouraged to sit for the C.P.A. examination immediately after graduation.

## Majors

In addition to the core requirements for business programs, accounting majors may elect to pursue one of the following programs:

**Private/Industrial Accounting (64)**

Mathematics 241 or equivalent.  
Marketing 240, 350, 436.  
Management 467.  
Economics - Elect 4 hours from:  
471, 476.  
Accounting - 281, 282, 381, 382, 480,  
481, 485, 486, 489.  
Elect 4 hours from 488, 444.

**Public Accounting (64)**

Mathematics 241 or equivalent.  
Marketing 240, 350, 436, 437.  
Management 467.  
Economics - Elect 4 hours from 471,  
475, 476.  
Accounting - 281, 381, 382, 480, 481,  
482, 485, 486.  
Elect 4 hours from - 487, 444.

**Minor (36)**

Marketing 435.  
Management 267.  
Accounting 181, 182, 183, 283, 381,  
382, 480.

## COURSE DESCRIPTIONS

- 181 Accounting I.** Basic accounting concepts; principles of recording business transactions; periodic adjustment of transaction data; matching cost and revenue; financial statement presentations. (This course may be waived by examination upon approval by the department.) 4 credits.
- 182 Accounting II.** Continuation of Accounting I; applies basic principles and procedures to proprietorships, partnerships, corporation and manufacturing concerns. 4 credits.
- 183 Accounting III.** Analysis and interpretation of financial statements; preparations and use of fund flow and cash flow statements; basic valuation and cost concepts; budgeting. 4 credits.
- 281 Cost Accounting I.** Fundamental principles and procedures of cost accounting including analysis of the basic elements of cost, job order costing, process costing, and costing by-products and joint products. 4 credits.
- 282 Cost Accounting II.** Cost accounting and cost analysis emphasizing budgeting, standard costing, and cost and profit analysis for decision-making purposes. Prerequisite: 281. 4 credits.
- 283 Managerial Accounting.** An introduction to accounting as a tool for management. Emphasis is placed on how accounting data can be interpreted and used by management in making decisions; especially for planning, coordination, and control. (Not open to accounting majors.) Prerequisite: Accounting 183. 4 credits.
- 284 Cost Accounting for Engineers.** Introduction to the fundamentals of cost accounting; basic cost concepts, cost flow; methods of cost accumulation and allocation. Prerequisite: Accounting 181. 4 credits.

- 381 **Intermediate Accounting I.** Theory and procedures of accounting for the classification, valuation, and presentation of current assets, non-current assets, and liabilities. 4 credits.
- 382 **Intermediate Accounting II.** Theory and procedures of accounting for stockholder's equity, statements from incomplete data, correction of errors, financial statement analysis, funds flow and cash flow reporting, and price level changes. Prerequisite: Accounting 381. 4 credits.
- 400 **Special Problems.** A seminar or conference course for advanced students. 1-4 credits.
- 444 **Internship in Accounting.** Participation in a full-time position as an intern with a public accounting firm, industrial firm, or governmental agency whose program has been approved in advance by the department. Sixteen credits are provided upon completion of all requirements of which 4 credits apply to major and 12 credits apply to general electives for graduation. Prerequisite: senior standing. 16 credits.
- 480 **Income Tax.** Basic discussion of Federal income taxation of individuals. 4 credits.
- 491 **Senior Research.** A research seminar for senior accounting students. 1-4 credits.

#### COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

- 481-581 **Advanced Accounting I.** Theory and practice of accounting for partnerships; joint venture; business combinations; parents and subsidiary accounting through consolidated balance sheets, income statements and retained earnings. Prerequisite: Accounting 382. 4 credits.
- 482-582 **Advanced Accounting II.** Accounting for installment sales, consignments, home office and branch, statement of affairs, receiverships, statement of realization and liquidation, estates and trusts, governmental and institutional units and actuarial methods. Prerequisite: Accounting 481. 4 credits.
- 483-583 **C.P.A. Problems.** Selected problems for C.P.A. examinations as preparation for the accounting practice part of the C.P.A. examination. 4 credits.
- 484-584 **Accounting Theory.** Analysis of the accounting function. Study of the basic concepts and principles underlying accounting theory as they relate to asset valuation and income determination. 4 credits.
- 485-585 **Advanced Income Tax.** Federal income taxation of partnerships, corporations, trusts, and estates; Federal estate and gift taxation. Emphasis is placed on tax planning and tax research. Prerequisite: Accounting 480. 4 credits.
- 486-586 **Auditing Theory.** Nature of the audit function; nature of the audit evidence, basic audit techniques; audit standards; professional ethics; and audit reports. 4 credits.
- 487-587 **Auditing Problems and Cases.** Application of the auditing standards and techniques in the verification of financial statements and preparation of audit reports. Prerequisite: Accounting 486. 4 credits.
- 488-588 **Accounting Systems.** Accounting system planning, design, and applications. Emphasis is placed on the interaction of computers and accounting in the development of management information systems. Prerequisite: Marketing 350. 4 credits.
- 489-589 **Controllership.** Case analysis of the coordinating and administrative functions of the controller. 4 credits.

#### COURSES FOR GRADUATE STUDENTS

- 600 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in accounting. 1-4 credits.
- 605 **Business Seminar-Accounting.** Selected topics related to accounting theory and practice. Approval of the department chairman required. 4 credits.
- 680 **Special Research.** A research seminar for MBA students with non-thesis plan. 1-4 credits.
- 681 **Income determination theory.** A critical analysis of the evolution of accounting thought as it relates to income determination, i.e. the balance sheet, the service, the value, and the information theory approaches. 4 credits.

- 682 **Cost Accounting Theory.** A critical study of cost accounting concepts and techniques. Emphasis is focused on the goals of the firm and the possible aid in achieving these goals through cost control, cost analysis, budgets, and forecasting. 4 credits.
- 683 **Managerial Accounting.** Uses of accounting as a managerial tool. (Not open to MBA students with functional concentration in Accounting). 4 credits.
- 699 **Master's Thesis.** 3-9 credits.

## BUSINESS EDUCATION AND OFFICE ADMINISTRATION

*Harry Olson, Ph.D., Chairman*

The Department of Business Education and Office Administration prepares students for teaching business subjects in the secondary and post-secondary schools and for major office occupations in business, industry, civil service, and the professions.

The Master of Science program in business education provides graduate students with the opportunity to develop their professional ability and to increase their knowledge and understanding in the field of business. (See Graduate Bulletin for details).

The Bachelor of Science program in business education is designed to provide students with a broad understanding of the scope, development, and philosophy of business education; to stimulate interest in the teaching profession; and to prepare them to teach business subjects successfully.

The Bachelor of Science program in secretarial administration is designed to develop secretarial techniques to a high professional level.

The Associate in Arts program in secretarial science is a two-year program which provides students the opportunity of developing marketable skills leading to responsible positions in industry.

In addition to meeting general education and core requirements, students majoring or minoring in Business Education and Office Administration should review the optional areas of concentration which follow.

Because of the student teaching requirement, it is important that Business Education students take Typewriting, Shorthand, and Accounting during the freshman and sophomore years or consult with the department chairman during the first quarter on campus. Methods course requirements in each area of concentration must be completed before student teaching.

### Freshman Year:

Typewriting: Placement in courses will be on the basis of demonstrated proficiency. Students who have had at least one semester of formal typewriting instruction should consult with Business Education advisers.

Business Education 108.

Mathematics 130.

Business Education 207.

English 162.

Accounting 181.

### Sophomore Year:

Shorthand: Non-transfer secretarial students **must** begin Shorthand sequence in their sophomore year. **Transfer** secretarial students should consult with Business Education advisers for placement in Shorthand sequence.

Accounting 182.

Accounting 183.

Candidates for the Associate in Arts in Secretarial Science degree should consult during the freshman year with the A. A. adviser. The secretarial sequence must be started in the fall quarter of the freshman year. Students (selecting the secretarial emphasis) who have no prior Shorthand must take Business Education 201 during the first (fall) quarter. Students who have had no typewriting must take Business Education 101 during their first or second quarter on campus.

The department chairman reserves the right to place a student in a higher or lower-numbered course if, during the first week of class meetings, the instructor indicates that such a change is advisable. Any student who desires to take proficiency tests is invited to consult an adviser.

**Business Education Majors (84)**

A student may be placed in a higher or lower-numbered course if, during the first week of class meetings, the instructor indicates that such a change is advisable. Any student who desires proficiency testing is invited to consult a business education adviser. Any changes must be approved by the department chairman.

In addition to the core requirements for business programs, Business Education majors will select one of the following areas of concentration:

**Accounting**

Business Education 207, 311, 401, 414.  
 Accounting 381, 382, 480.  
 Management 167.  
 Marketing 436.  
 Accounting Electives (4) Select from:  
 281, 282, 481, 485.  
 Business Electives (9)  
 Students must include either  
 Business Education 103 and 312 and/  
 or 416 and 314.

**Distributive Education**

Business Education 102, 315, 401, 405,  
 406, 408, 409.  
 Marketing 322, 323, 420, 425.  
 Business Education 444 (1-16 credits).  
 Business Electives (0-9) must be ap-  
 proved by adviser).

NOTE: Internship may be waived by department chairman if student meets state requirements.

**Basic Business**

Business Education 314, 401, 414, 416.  
 Economics 460, 471.  
 Management 167.  
 Marketing 436.  
 Business and Economics Electives (16)  
 Students must include either Business  
 Education 103 and 312 and/or 311.

**Business Education Minors (36)**

**Accounting**

Business Education 207, 311.  
 Accounting 181, 182.  
 Management 167.  
 Accounting Electives (12).  
 Business Electives (7).

**Distributive Education**

Business Education 102, 314, 315.  
 Marketing 322, 323, 420, 425.  
 Business Education 444. (1-16 credits).  
 Business Electives (0-13).

NOTE: Internship may be waived by department chairman if student meets state requirements.

**Elementary Education Minor (24)**

Business Education 101 or 102 or 103,  
 108, 208, 308, 309, 416.  
 Business Electives (5).

**Secretarial**

Business Education 103, 108, 207, 208,  
 307, 311, 312, 313, 314, 401, 414.  
 A. Students **without** high school short-  
 hand:  
 Business Education 201, 202, 203,  
 204.  
 Business Electives (2).  
 B. Students **with** high school shorthand:  
 Business Education 211, 212, 213.  
 Business Electives (4).

NOTE: Shorthand students may substitute other business courses for 211 and 212 with the approval of the adviser.

**Restricted Major (60)**

Core requirements for business pro-  
 grams (44).  
 Business Education 103, 207, 311, 312,  
 314, 401, 414.  
 Electives (2).

NOTE: Restricted major shall be approved by the department chairman only in special cases. A minor is required.

**Basic Business**

Business Education 308, 314, 416.  
 Economics 273.  
 Management 167.  
 Marketing 220.  
 Business Electives (14).

**Secretarial**

Business Education 103, 108, 207, 208,  
 312, 313.  
 A. Students **without** high school short-  
 hand:  
 Business Education 201, 202, 203,  
 204.  
 Business Electives (8).  
 B. Students **with** high school shorthand:  
 Business Education 211, 212, 213.  
 Business Electives (10).

NOTE: Shorthand students may substitute other business courses for 211 and 212 with the approval of adviser.



**Secretarial Administration (124)**

Core requirements for business programs (44).

Business Education 103, 108, 207, 208, 211, 212, 213, 307, 413, 414.

Psychology 222.

Business and Related Fields Electives (42).

Students will select from one of the following areas of concentration:

Foreign Service Secretary; two years foreign language or its equivalent; courses in history, economics, and/or geography of the country whose language is being studied.

General Secretary

Legal Secretary: electives must include Marketing 436, 437.

Medical Secretary: electives must include Biology 201, 203, 309;

Chemistry 211; Management 475.

Technical Secretary: electives must include Industry 260; Chemistry 211; Physics 201.

**ASSOCIATE IN ARTS**

Speech 161.

English 162, 263.

Science (4).

Health Education 115.

History 101.

Humanities or Philosophy (4).

Physical Education (3).

Psychology 121.

Social Science 104.

Management 167.

Marketing 220.

Accounting 181, 182.

**Secretarial Science (96)**

Business Education 103, 108, 207, 208, 307, 308, 309.

Students **without** high school shorthand: Business Education 201, 202, 203, 204.

Students **with** high school shorthand: Business Education 211, 212, 213.

Electives (7).

NOTE: Students may substitute other business courses for 211 and 212 with the approval of adviser.

**COURSE DESCRIPTIONS**

- 101 Typewriting.** Developing skill in operation of typewriter, simple letter writing and tabulation. May not be taken for credit if the student has had high school typewriting or equivalent. 2 hours laboratory. 3 credits.
- 102 Typewriting.** A continuation of Business 101, forms and styles of letter writing, speed development. 2 hours lab. 3 credits.
- 103 Typewriting.** A continuation of Business 102, letters, stencils, drafts, legal documents, contracts, and other widely-used business forms, use of electric typewriter, greater accuracy and speed. 2 hours lab. 3 credits.
- 107 Machine Calculation.** Operation of the ten-key adding-listing machine, ten-key printing calculator, and introduction to the rotary calculator. Not open to Business Education majors. 1 credit.
- 108 Records Management.** Common systems and filing practices; study of records, organization, management, and control. 2 credits.
- 201 Shorthand.** Principles of Gregg shorthand, basic characters and their execution, stressing reading and writing ability. Not open to students with high school shorthand. Prerequisite: 103. 4 credits.
- 202 Shorthand.** Continuation of Business 201, completing basic principles of Gregg shorthand and developing ability to read shorthand notes fluently and to take simple dictation. 4 credits.
- 203 Shorthand.** Continuation of Business 202, stressing speed and accuracy in taking dictation and transcribing new material of average difficulty. Students registered for this course are required to take Business 204 at the same time. 4 credits.
- 204 Transcription.** Must be taken concurrently with Business Education 203; developing transcription ability and typewriting from office-practice point of view. 2 hours lab. 2 credits.
- 207 Advanced Machine Calculation.** Development of skill in the use of the rotary calculator and the ten-key printing calculator; introduction to machine accounting; application to use in business. 3 credits.

- 208 **Duplicating Machines.** To develop skill in the use and application of voice-writing equipment and stencil and spirit duplicators. 2 hours lab. Prerequisite: proficiency in typewriting. 2 credits.
- 209 **Advanced Duplicating Processes.** Duplicating processes utilizing the offset press and photo-copying techniques. Prerequisite: 208, proficiency in typewriting, or consent of the instructor. 1 credit with lab.
- 210 **Keypunch.** Development of skill in using the IBM Keypunch machine with additional training on the IBM Selectric simulated keyboard. 1 credit with lab.
- 211 **Secretarial Science.** For students who have had some shorthand but whose ability to write shorthand and transcribe accurately is under 100 words per minute. Prerequisite: ability to write shorthand at 80 words per minute and transcribe accurately. 4 credits.
- 212 **Secretarial Science.** Continuation of Business Education 211, introducing more rapid dictation and transcription, and integrating all forms of office correspondence. Prerequisite: 211. 4 credits.
- 213 **Secretarial Science.** Continuation of Business Education 212, increasing students' dictation and transcription power. Prerequisite: 212. 4 credits.
- 304 **Medical Shorthand.** Emphasis on medical terminology, dictation of case histories, medical abstracts, and scientific articles. Medical forms and office procedures will be included. Prerequisite: Ability to take shorthand at 100 words per minute and transcribe accurately. 4 credits.
- 305 **Legal Shorthand.** Legal terminology, office procedures, and legal forms. Prerequisite: Ability to take shorthand at 100 words per minute and transcribe accurately. 4 credits.
- 307 **Administrative Secretarial Procedures.** Secretarial techniques at a high professional level. The scope of a secretarial career; duties and responsibilities; effective office relations. Emphasis on office administration, correspondence, business reports. Prerequisite: skill in typewriting and shorthand. 4 credits.
- 308 **Survey of Business Law.** To prepare business education students to teach business law in high school. 4 credits.
- 309 **Business Communications.** The interdisciplinary nature of the communication process in business. Role of critical thinking and logical organization of thought in communication. Analyzing and interpreting business communication with emphasis on writing reports, letters, and memos. 4 credits.
- 311 **Methods in Bookkeeping.** Subject matter, materials, methods, techniques, and evaluative procedures for teaching bookkeeping. Required before student teaching. Prerequisites: Accounting 181, 182. 2 credits.
- 312 **Methods in Typewriting and Related Subjects.** Instruction in materials, methods, techniques, and evaluative procedures for teaching typewriting and related office skills. Required before student teaching. Prerequisite: 103. 2 credits.
- 313 **Methods in Shorthand and Transcription.** Subject matter, materials, methods, techniques, evaluative procedures for teaching shorthand, transcription and office practice. Required before student teaching. Prerequisites: 201, 202, 203 or 211, 212, 213. 2 credits.
- 314 **Methods in Basic Business Subjects.** Subject matter, materials, methods, and evaluative procedures for these subjects. Required before student teaching. 2 credits.
- 315 **Methods in Distributive Education.** Subject matter, methods, and evaluative procedures for teaching the distributive subjects. Required before student teaching. Prerequisite: Marketing 322, 323. 2 credits.
- 400 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in Business Education. 1-4 credits.
- 444 **Internship in Business Education.** 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 with which the student has an approved major. Sixteen credits are provided upon completion of all requirements of which four credits apply to the required electives under the major program and twelve credits apply to general electives for graduation. Internship is required by Business Education majors for vocational certification.

### COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

- 401-501 Seminar.** Discussion and evaluation of readings, current research, and teaching problems in business education. Undergraduates must have completed their student teaching. 2 hour block of time. 2 credits.
- 405-505 Vocational Education.** History, purpose, organization, and philosophy of vocational education. 3 credits.
- 406-506 Methods for Cooperative Programs.** Includes related office procedures and materials. 3 credits.
- 407-507 Adult Education Programs.** Planning, administering, supervising, selecting, and training evening school instructors; evaluating adult office programs. 3 credits.
- 408-508 Coordination Techniques.** Guidance, selection, and placing students in work stations; assisting in job adjustments; developing training programs. 3 credits.
- 409-509 Organization and Administration of Cooperative Programs.** Principles, practices, laws and regulations; local, state and federal organization; administrative forms; club programs; curriculum structure; wage and hour laws; coordinators' associations. 3 credits.
- 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 credits.
- 414-514 Office Automation.** The selection, acquisition, application, and operation of modern electronic data processing systems. 4 credits.
- 415-416 Consumer Education.** Problems of personal banking, wise consumption, buying on credit, borrowing money, making investments, buying insurance, home ownership, household records. 4 credits.
- 495-595 Workshop in Business Education.**

### COURSES FOR GRADUATE STUDENTS

- 600 Special Problems.** A seminar or conference course for graduate students wishing to work out a special problem in business education. 1-4 credits.
- 601 Foundations in Business Education.** Principles, philosophy, and curriculum development in business education. 3 credits.
- 602 Improvement of Instruction in Secretarial Subjects.** Instructional materials, methods and procedures, standards of achievement, and other classroom problems. 3 credits.
- 603 Improvement of Instruction in Accounting and Basic Business Subjects.** Aims, courses of study, materials, teaching techniques, testing programs, and other classroom problems. 3 credits.
- 604 Administration and Supervision of Business Education.** Problems of teacher, department head, or supervisor beyond those involved in classroom teaching. Equipment and layout, budget making, publicity, curriculums, selection of textbooks, employment, rating, and related problems. 3 credits.
- 606 Research in Business Education.** Analysis and application of published research in business education. 3 credits.
- 607 Business for General Education.** Consumer law, new types of household insurance, annuities, pensions, Social Security, tax accounting, estate planning, and wills. Not open to business majors or minors. 3 credits.
- 699 Master's Thesis.** 3-9 credits.

## MANAGEMENT AND FINANCE

*LaVerne A. Cox, Ph.D., Chairman*

The Department of Management and Finance focuses the students' interests on the technical and conceptual aspects of management, finance, insurance and real estate. Emphasis is placed on the behavioral aspects as well as the basic orientations and the applications to the business world. Courses are designed to prepare students for careers in management, personnel, production, finance, investments, insurance and real estate.

PROGRAMS FOR MAJORS IN MANAGEMENT AND FINANCE

In addition to the core requirements for business programs, majors may elect to pursue one of the following programs:

**Management Major**  
 Marketing 240, 436.  
 Management 360, 363, 375, 467, 468.  
 Electives (16) from:  
     Management 367, 460, 461, 463, 464,  
     465, 471, 473, 474.  
     Marketing 451, Psychology 422, 474,  
     Sociology 456, 465, Industry 325,  
     326.

**Finance Major**  
 Marketing 240, 436.  
 Management 360, 375, 467, 471, 473.  
 Economics 471.  
 Electives (12) from:  
     Management 378, 468, 472, 474.  
     Marketing 451, Economics 460, 470.

**Insurance and Real Estate Major**  
 Management 360, 375, 378, 467, 473.  
 Marketing 240, 436.  
 Electives (16) from:  
     Management 400, 468, 471, 474, 475,  
     476, 478.  
     Marketing 323, 424, 451.

**Minor (36)**  
 Accounting 181, 182.  
 Marketing 220, 435.  
 Management 267.  
 300-400 level departmental courses  
 elected from area of minor (16).

**Minor (24)**  
 Accounting 181.  
 Marketing 220, 435.  
 Management 267.  
 300-400 level departmental courses  
 elected from area of minor (8).

COURSE DESCRIPTIONS

- 167 **American Business.** The business world: organization, marketing, financing, managerial controls, and governmental regulation. 4 credits.
- 267 **Management Theory and Practice.** Historical development of scientific management, and functions of management in the decision making process; introducing current organizational concepts. 4 credits.
- 360 **Personnel Administration.** A study of personnel functions as they relate to the activities and responsibilities pertinent to the integration of the worker; acquisition and effective utilization of human resources; and desirable working relationships within the working organization. 4 credits.
- 363 **Production Management.** A general survey of industrial planning and the related management activities such as the transformation of inputs (material labor-management-capital) into goods and services. Also included are plant location and layout; research and development of product lines; and production planning operations. 4 credits.
- 367 **Small Business Management.** Analysis of management problems and responsibilities in organizing, financing, and operating a small business. 4 credits.
- 371 **Corporation Finance.** Principles and practices employed in the financing of a modern business. The sources of funds and their employment in the firm. Prerequisite: Accounting 283. 4 credits.
- 375 **Risk Management and Insurance.** Property, liability, and life insurance, economic and social significance of various types of life insurance contracts, structure, management, and investments of life insurance companies. 4 credits.
- 378 **Real Estate Principles.** Description and classification of property; private and public restrictions; rights and duties of owners and possessors; real estate management. 4 credits.
- 400 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in management finance. 1-4 credits.
- 444 **Internship in Management & Finance.** 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 with 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 general electives for graduation. 16 credits.

- 468 Business Policies I.** Capstone course in analyzing contemporary management problems, supplemented with case studies and outside readings for a comprehensive management perspective. 4 credits.

**COURSES FOR ADVANCED UNDERGRADUATE  
AND GRADUATE STUDENTS**

- 460-560 Problems in Personnel Administration.** Analysis of selected personnel problems. Emphasis is on wage and salary administration, job evaluation, wage and salary surveys, merit rating, profit sharing, and incentives. Intensive study of selected issues and problems of manpower utilization. (Senior and Graduate Students Only). Prerequisite: 360 or permission of instructor. 4 credits.
- 461-561 Collective Bargaining.** Company and union positions in the bargaining process. Gathering, analyzing, and formulating plans; evaluating and revising contracts, costs and administration of labor agreements. (Senior and Graduate Students Only). 4 credits.
- 463-563 Problems in Production Planning.** In depth study of management control practices including production planning and its relation to engineering; production control including routing, scheduling and dispatching; manpower requirements; and the interacting of decision-making processes as they relate to problems in production planning. (Seniors and Graduate Students Only). Prerequisite: 363 or permission of instructor. 4 credits.
- 464-564 Industrial Purchasing.** Fundamental information regarding procurement principles, procedures, and methods. Planning, systemization, management, research, and analysis. 4 credits.
- 465-565 Time and Motion, Work Simplification.** Principles and practices, including motions economy, operation, and analysis, methods, micro-motion study, stopwatch time study; analysis and synthesis of data and formula construction. Prerequisite: 363 recommended. 4 credits.
- 467-567 Organizational Theory.** Analysis of relationships fostered by the industrialized productive setting leading to an integration of individual, group, and organization conclusions and data. (Seniors and Graduate Students Only). 4 credits.
- 471-571 Corporate Financial Policies.** The analysis of financial concepts and their application to specific corporate problems. Prerequisite: 371. 4 credits.
- 472-572 Financial Institutions.** A study of the major financial institutions and their role in the field of finance including principle financial management problems related to these financial institutions. Management of commercial banks, savings and investment institutions, lending institutions, and investment intermediaries will be examined in depth. (Seniors and Graduate Students Only). Prerequisite: 371 or Economics 471 or permission of instructor. 4 credits.
- 473-573 Investment Principles.** Analysis of the national economy and industries and their effect on common stock performance. Bond analysis, portfolio management and financial institutions. Prerequisite: 371. 4 credits.
- 474-574 Security Analysis.** Stock market organization and operation. Interpretation of financial statements and examination of variables affecting the investment value of common stocks. Prerequisite: 473 or permission of instructor. 4 credits.
- 475-575 Life and Health Insurance.** Risk Management applied to personal and personnel risks. Life and health contracts, group life insurance, pension plans, programming, estate planning and business insurance. 4 credits.
- 476-576 Property and Liability Insurance.** Risk Management applied to insurable property and liability risks. Contracts; essentials of insurance law; rates and reserves; insurance surveys, types of property and liability insurances; optimum insurance programs. 4 credits.
- 478-578 Advanced Real Estate.** Financial and legal aspects of real estate ownership and occupancy with emphasis on deeds, contract for deed, estate mortgages, contract for purchases, and trusts as well as intestate and testate succession laws, taxation, homestead and special problems related to these areas. (Seniors and Graduate Students Only). Prerequisite: 378 or permission of instructor. 4 credits.
- 495-595 Workshop-Management & Finance.** 1-4 credits.

## COURSES FOR GRADUATE STUDENTS

- 600 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in management/finance. 1-4 credits.
- 605 **Business Seminar - (1) Management; (2) Finance; (3) Insurance & Real Estate.** An examination of recent developments in business concepts and analyses of specific business problems, with emphasis on their relationships to the specific functional areas of business. 4 credits.
- 662 **Business Case Analysis.** Independent research culminating with written and/or oral presentation. 3 credits.
- 664 **Public Policy Seminar.** Readings and problem analysis; business decisions in economic, legal, political, and social interest. 4 credits.
- 665 **Readings in Management.** Special readings to provide depth and breadth in the subject area. 4 credits.
- 667 **Decision Making Techniques.** The theory of decision making and its practical application to business problems using various analytical techniques. 4 credits.
- 670 **Business Policies II.** Advanced analysis, case studies, and outside readings in contemporary management problems. 4 credits.
- 672 **Readings in Finance.** Special readings to provide depth and breadth in the subject area. 4 credits.
- 675 **Readings in Insurance and Real Estate.** Special readings to provide depth and breadth in the subject area. 4 credits.
- 699 **Master's Thesis.** 3-9 credits.

## MARKETING AND GENERAL BUSINESS

*Robert G. Benson, Ph.D., Chairman*

Two major programs of study in business administration are offered through the department. Career preparation in marketing seeks to provide basic understandings, knowledge, and skills requisite to job success in the several areas of employment in the field. Preparation in general business allows each student to choose his study emphasis through election of business courses within his area of career interest.

**Marketing**

In addition to the courses specified in the business core, the Marketing major will satisfactorily complete the following requirements:

Marketing 221, 240, 350, 425, 429, 436. Electives from the School of Business Economics 377. (12).  
Marketing Electives (16).

In order to graduate with the required total credits of 192, the marketing major will elect 24 credits of additional course work. These 24 credits should be outside the School of Business. With approval of the adviser, the 12 elective credits from School of Business courses specified above may be combined with the 24 credits of additional course work so that a student may obtain a 36 hour non-business minor.

**General Business**

In addition to the courses specified in the business core, the General Business major will satisfactorily complete the following requirements:

Marketing 240, 350, 436. 36 elective credits in any School of Business or related course, with approval of adviser. However, no more than 16 credits may be taken from any one School of Business department.  
Accounting 381.  
Economics 377, and

In order to graduate with the required total credits of 192, the General Business major will elect 24 credits of additional course work. These 24 credits should be outside the School of Business. With approval of the adviser, 12 of the business electives specified above may be combined with the 24 credits of additional course work so that a student may obtain a 36 hour non-business minor.

## Marketing Minors

Minor (24)	Minor (36)
Accounting 181.	Accounting 181, 182.
Marketing 220, 435.	Marketing 220, 435.
Management 267.	Management 267.
300-400 level marketing electives (8).	300-400 level marketing electives (16).

## General Business Minors

Minor (24)	Minor (36)
Accounting 181.	Accounting 181, 182.
Marketing 220, 435.	Marketing 220, 435.
Management 267.	Management 267.
300-400 level business electives (8).	300-400 level business electives (16).

## COURSE DESCRIPTIONS

- 140 Business Statistics I.** Collection, presentation, and analysis of business data. Introduction to probability theory and classical statistical inference. Prerequisite: Mathematics 131. 4 credits.
- 220 Introduction to Marketing.** Analysis of marketing functions and institutions, as well as management policy and practice at the manufacturing, wholesaling, and retailing levels of distribution. 4 credits.
- 221 Consumer Behavior.** Utilizing an interdisciplinary approach, students analyze and interpret consumer buying habits, motives, and economic behavior. Emphasis is placed on consumer psychological, economic, and socio-cultural actions and reactions as they relate to a better understanding of consumption. 4 credits.
- 240 Business Statistics II.** Continuation of 140. Introduction to Bayesian statistical inference, regression and correlation analysis, and forecasting techniques. Prerequisite: 140. 4 credits.
- 322 Introduction to Advertising.** Functions, theory, principles, and purposes of advertising. Includes methods of appeal, elementary problems of copy, layout, typography, and selection of media. 4 credits.
- 323 Personal Selling.** Examination of personal sales practices with illustrations and demonstrations. 4 credits.
- 326 Credit and Collections.** Work of the credit manager, emphasizing kinds of credit, credit agencies, processing credit applications and collection procedures. 4 credits.
- 350 Data Processing for Business.** Fundamentals of data processing with emphasis on information needs of the firm; analysis of data processing systems, including manual, punched card, and computer applications. 4 credits.
- 400 Special Problems.** A seminar or conference course for advanced students in any area of business wishing to work out a special problem in his major field. 1-4 credits.
- 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 chairman. 1-3 credits.
- 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 with 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 general electives for graduation. 16 credits.

COURSES FOR ADVANCED UNDERGRADUATE  
AND GRADUATE STUDENTS

- 420-520 Retailing Management.** Organization for retailing and functional activities involved. Includes problems of inventory methods, credit and collections, personnel, location, layout, receiving, and delivery. 4 credits.



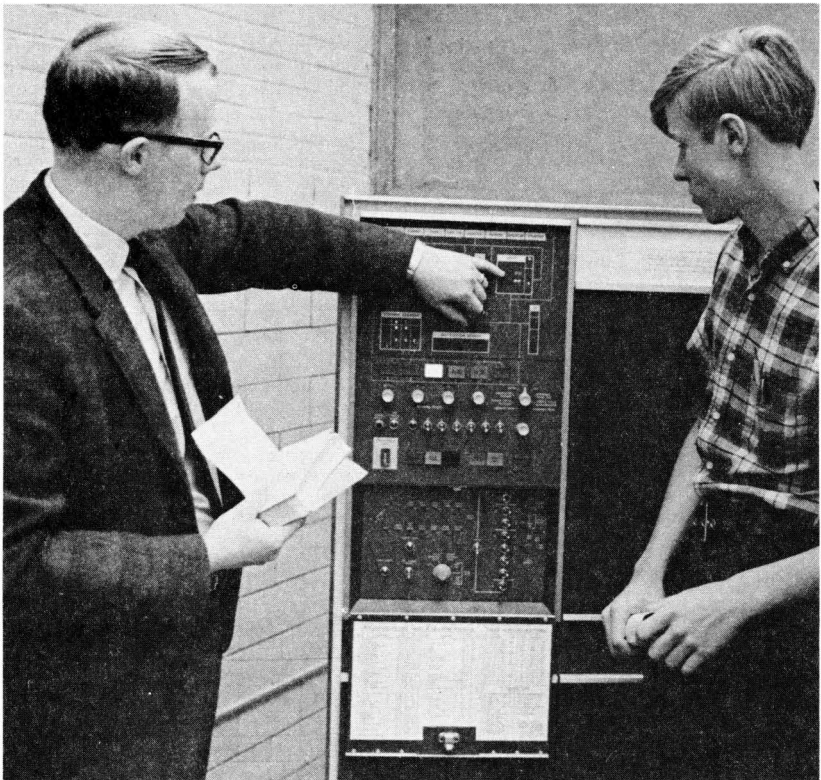
- 421-521 Advanced Retailing Management.** Study of markup, computation of profit, inventory valuation, stock control, merchandise planning, expense control, and merchandising policies. 4 credits.
- 422-522 Price Policy.** Examines price theory, objectives, and practice. Role of judgment in prices, non-price competition, administered pricing, judicial and legislative intervention. 4 credits.
- 423-523 Advertising Management.** Analysis of advertising policies and practices in campaign planning, media selection, client-agency relationships, research and testing. Prerequisite: 322 or instructors consent. 4 credits.
- 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. Prerequisite: 323, or consent of instructor. 4 credits.
- 425-525 Marketing Research.** Research process as an aid to decision making in marketing management. Research methodology, presentation of marketing research results, evaluation of the effectiveness of marketing research. 4 credits.
- 426-526 Marketing Systems.** An introduction to the system concept in the analysis of marketing activities. The study of system theory, and its application to marketing. Emphasis is on the explanation of varying approaches to marketing systems, such as ecological, institutional, and social physics. The development of marketing systems. 4 credits.
- 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. Characteristics, structures, and competitive factors of international markets are emphasized. 4 credits.
- 429-529 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. 4 credits.
- 431-531 Problems in Retailing.** Case studies in retail profit, merchandising policies, buying, pricing, merchandise control, sales promotion, personnel, store system and operation, and finance. 4 credits.
- 435-535 Business Law.** An introduction to the legal process, contracts, and sales incorporating the Uniform Commercial Code. 4 credits.
- 436-536 Business Law.** Negotiable Instruments and the Uniform Commercial Code, and Business Associations including Agency, Partnerships, and Corporations. 4 credits.
- 437-537 Business Law.** Real and Personal Property, trusts, mortgages, bankruptcy, wills and estates, and secured transactions. 4 credits.
- 438-538 Law and Society.** Resolving disputes, maintaining historical continuity, protecting voluntary arrangements and alleviating acute social conflict. Cases from criminal, tort and domestic relations law. 4 credits.
- 451-551 Computer Programming.** Analysis and design of computer based information systems within the firm. Emphasis on information requirements, design approaches, feasibility studies, processing methods, system implementation, documentation, and use of the COBOL computer language. Students design business information systems using a project or case approach. Prerequisite: 350 or consent of instructor. 4 credits.

#### COURSES FOR GRADUATE STUDENTS

- 600 Special Problems.** A seminar or conference course for advanced students in any area of business wishing to work out a special problem in his major field. 1-4 credits.
- 605 Business Seminar—Marketing.** Selected topics related to marketing theory practice. Consent of instructor required. 4 credits.



- 626 **Readings in Marketing.** Augments coursework in marketing to meet individual student needs. Consent of instructor required. 1-3 credits.
- 629 **Theory and Development of Marketing Thought.** Introduces various approaches to marketing theory, with emphasis on sources and meaning of marketing theory. Traces development of marketing thought since the 1800's to the present, and analyzes current concepts and dimensions of marketing thought. 4 credits.
- 632 **Managerial Mathematics.** Theoretic and applied uses of mathematics in managerial situations. The basic mathematics needed to understand the literature of operations research, management science, managerial economics, and decision theory. 4 credits.
- 633 **Business Case Analysis.** Independent research culminating in written and/or oral presentation. 1-3 credits.
- 699 **Master's Thesis.** 3-9 credits.



# School of Education

*Irvamae Applegate, Ph.D., Dean*

## Departments

Elementary Education  
Health, Physical Education and Recreation  
Library and Audiovisual Education  
Psychology  
Secondary Education  
Special Education

## Auxiliary Professional Services:

Campus Laboratory School  
Student Teaching  
Physical Therapy

The primary function of the School of Education is to provide the necessary professional background in educational philosophy, methods, theory and practice needed for effective teaching.

Work in the School for the preparation of teachers consists of (1) professional course work, and (2) professional laboratory experiences.

Professional course work provides the opportunity to acquire knowledge and understanding of the historical and philosophical foundations of education, the methods and materials in teaching skills and content, appraisal of the results of the teaching-learning process, curriculum organization and the responsibilities of teachers as professional people.

Professional laboratory experiences provide students with the opportunity, under guidance, to develop skills in and understandings of the teaching-learning process through observation, demonstration, participation, and student teaching.

The departments of Elementary Education, Secondary Education, Psychology, and Library and Audiovisual Education provide professional course work. The departments of Library and Audiovisual Education and Special Education offer minors leading to certification in these fields. The Department of Health, Physical Education and Recreation offers both major and minor preparation for teaching. The auxiliary services, the Thomas J. Gray Laboratory School and the Student Teaching Office, provide professional laboratory experiences either directly or in cooperation with public schools in the college service area.

In addition to the primary function of teacher education, departments of the School of Education serve the college in two ways: (1) the departments of Health, Physical Education and Recreation, and Psychology contribute to the general education program for the entire student body, (2) the Department of Psychology offers work leading to a Bachelor of Arts degree in Psychology.

## ELEMENTARY EDUCATION

*Owen A. Hagen, Ed.D., Chairman*

## BACHELOR OF SCIENCE

### Elementary Education

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 boys and girls 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; (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; and (7) to explore materials and methodology of classroom instruction related to present day problems.

Students who complete this curriculum are recommended to receive an Elementary School Certificate qualifying them to teach in any rural or graded 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, Professional Education Core, Required Content, and a 24 or 36 credit Academic Minor.

Major	Required Content
Education 290.	Math 250.
Education 312, 412.	Social Studies 320.
Physical Education 292.	Industrial Arts 321.
Art 296.	Biology 326.
Music 250, 251.	Science 327.
	History 346 or Geography 376.

#### Elementary Professional Education Sequence

To be taken before student teaching:	To be taken after student teaching:
Psychology 262, 362.	Psychology 463.
Education 200, 455, 456, 457, 458.	Education 402, 459.
Student Teaching (16).	
Information Media 468 may be taken before or after student teaching.	

#### Minor

Students will elect 24 or 36 hour minor in consultation with their major adviser from one of the following fields: Art, Biology, Business Education, Chemistry, Economics, English, French, Geography, German, History, Industrial Arts,, Library Science, Mathematics, Music, Physical Education, Psychology, Science, Social Science, Social Studies, Sociology, Spanish, Special Education, and Speech and Dramatic Art.

#### Kindergarten-Primary

Qualification in this field requires completion of the General Education requirements, Professional Education Core, a 24 or 36 hour minor, Elementary Education Major (Standard), course requirements with the addition of Education 351, and a minimum of 4 credits in Kindergarten student teaching.

#### Intermediate-Junior High School

Qualification in this field requires completion of the General Education requirements, Professional Education Core, Elementary Education Major (Standard) course requirements, and Education 370 or equivalent.

The remaining elective hours in the Intermediate-Junior High School program must be used to supplement the General Education program in order to earn a minor or equivalent in each of two junior high school teaching fields. Student teaching at junior high school level is required and is counted as part of the 16 quarter hour requirement in student teaching.

#### Elementary Remedial Reading Certificate

To be recommended for an Elementary Remedial Reading Certificate the student must: (a) Present an elementary or secondary teacher's certificate 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 — Education 312 or 412.
- Diagnosis and correction of reading difficulties — Education 421-521.
- Individual mental testing — Psychology 586 or 587, or 469-569.
- Practicum in analysis of reading difficulties — Education 423-523.
- Practicum in correction of reading difficulties — Education 425-525.

## SECONDARY EDUCATION

*Fred T. Menninga, Ed.D., Chairman*

## BACHELOR OF SCIENCE

To meet the requirements of this program a student must satisfactorily complete 192 quarter hours, which includes the (1) General Education requirements, (2) the Professional Education Core, and (3) one of the following combinations of fields of concentration:

1. A comprehensive major field of study of 84 quarter hours.
2. A major field of study of 60 quarter hours and a minor field of 24 quarter hours.
3. A major field of study of 48 quarter hours and a minor field of 36 quarter hours.

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	Health, Physical	Mathematics
Art	Education and	Music
Biology	Recreation	Physics
Business Education	History	Psychology
Chemistry	Industrial Education	Social Science
English	Journalism	Social Studies
French	Library and	Sciences
Geography	Audiovisual	Spanish
German	Education	Speech and
		Dramatic Art

**Secondary Professional Education Sequence**

To be taken before student teaching:

Psychology 262, 362.

Education 447.

Student Teaching (16).

Information Media 468 may be taken before or after student teaching.

To be taken after student teaching:

Psychology 463.

Education 448, 401.

**Secondary Reading Certification**

Qualification for secondary remedial reading certification requires (1) an elementary or secondary teacher's certificate based on a bachelor's degree, (2) two years of successful teaching experience, (3) and one course in each of the following areas, which can be a part of or beyond the bachelor's degree requirements.

**Remedial Reading Certification**

Developmental reading — Education 312 or 412.

Diagnosis and correction of reading difficulties — Education 421-521.

Individual mental testing — Psychology 586 or 587, or 469-569.

Practicum in analysis of reading difficulties — Education 423-523.

Practicum in correction of reading difficulties — Education 425-525.

Secondary developmental reading — Education 417.

**Developmental Reading Certification**

Elementary developmental reading

Education 312 Developmental Reading I (4).

or

Education 412 Developmental Reading II (3).

Secondary developmental reading

Education 417-517 Developmental Reading in Junior and Senior High School (4,3).

Diagnosis and correction of reading difficulties.

Education 421-521 Analysis and correction of Reading Difficulties (4,3).

Adolescent Literature

English 353 Literature for Adolescents (3).

**Junior High School Major**

This curriculum is intended primarily for students who wish to make junior high school teaching a career. Qualification in this field requires satisfactory completion of (1) General Education requirements, (2) Junior High School Professional Education Sequence, and (3) Subject matter concentration in two fields (English, mathematics, sciences, or one area of social studies — geography, history, social science) of 84 quarter hours selected in collaboration with the junior high school adviser. Subject matter concentration are described by the above departments in this bulletin.

**Junior High School Professional Education Sequence**

To be taken before student teaching:	Student Teaching (16).
Psychology 262.	To be taken after student teaching:
Education 371 (7).	Education 470 (6).
Information Media 468 and Education 417 may be taken before or after student teaching.	

**SPECIAL EDUCATION**

*Stanley C. Knox, Ph.D., Chairman*

Admission to a program in special education requires the approval of the Department of Special Education, either through acceptance as a minor or by application to the department.

**ELEMENTARY TEACHERS**

Qualifications in these fields include all of the requirements listed, except academic minor, for the Bachelor of Science in Elementary Education and the following:

**Mentally Retarded Minor (24)**

Education 471, 482, 483, 487.  
 Psychology 473.  
 Teaching 415 (credits not applicable to minor)  
 Electives selected with adviser — 6 credits.

**Orthopedically Handicapped Minor (24)**

Education 471, 482, 483, 487, 489.  
 Teaching 416 (credits not applicable to minor).  
 Electives selected with adviser — 6 credits.

**SECONDARY TEACHERS**

Qualifications for secondary teachers include all the requirements in the major area and the following:

Education 471, 482, 483.  
 Psychology 466, 473.  
 Teaching 415 (credits not applicable to the minor).  
 One of the following:  
 Industrial 161, 192, or Business Education 416.  
 Electives selected with adviser to total a minimum of 36 hours for the minor.

**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.  
 0 to 4 credits.

- 200 Introduction to Elementary Education.** Topics considered are: development of elementary education; organization and financing of American education; objectives of the American public school system; nature of the pupil population, school and personnel services; professional organizations and ethical standards. Class activities and experiences include: classroom observation, participation, discussions and interviews with classroom teachers and administrators, etc. 3 credits.
- 216 Audiovisual Equipment Operation.** Operation of slide and motion picture projectors, sound amplifiers, and other audiovisual equipment useful in community recreational programs and for the guidance of hobbyists. 1 credit.
- 290 Literature for Children.** An evaluative study of good books that may foster an active interest in wide reading and a continuing appreciation of fine literature; prose, poetry and drama. Students with a Library Science minor will not be required to take Ed 290. 3 credits.
- 312 Developmental Reading I.** Methods and materials used in the teaching of reading at the primary grade levels. Specific areas to be considered include reading readiness, initial phase of reading instruction, word-identification skills, silent and oral reading skills, recreational reading, evaluation and lesson planning. This course is to be taken two quarters preceding student teaching. 4 credits.
- 346 Directed Observation.** Observation in Campus Laboratory School, with interpretative discussions of the teacher-pupil activities. Readings to formulate principles and standards of successful teaching. Topics chosen on basis of student needs. 2 or 4 credits.
- 351 Kindergarten, Primary Education.** Aims, methods, philosophy, continuity of growth problems in unified kindergarten, first grade education. Required for students specializing in kindergarten-primary education. 4 credits.
- 356 Unit Teaching in Elementary School.** Philosophy underlying unit teaching, practical suggestions for planning, organizing, and developing a unit of work with children. Relation of unit teaching to total school program. 4 credits.
- 358 Recent Trends in Reading.** For teachers who have not had Ed. 312 during the past 10 years. Teaching techniques and procedures most effective at present time. Current reading materials and reading programs based on needs, interests, and abilities of all children. 4 credits.
- 360 Aviation Education.** To prepare teachers to use vocabulary, information, and teaching materials of the Air Age. No previous experience in aviation necessary. Three credits for class work. One credit additional for eight hours of approved flight experience.
- 370 Junior High School Education.** Philosophy, developments, status, functions, curriculum, organization, management. 4 credits.
- 371 Junior High School Education I.** Introduction to junior high school education (functions, purposes, philosophy); major emphasis on nature of learning in relationship to adolescent growth and development and purposes and functions of junior high school; field experiences, including observation and participation in a modern junior high school. Pre-student teaching. 7 credits.
- 400 Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in education. 1-4 credits.
- 401 Teaching Profession.** Historical development of profession, problems of prospective teachers, securing positions, contracts, public relations, professional responsibilities, professional organizations, ethics. (To be taken during the last year in student's program, following completion of student teaching assignment.) 2 credits.
- 402 Departmental Seminar in Elementary Education.** An advanced departmental seminar for elementary education majors. Designed to provide opportunities for students and staff to explore various problems and issues related to elementary education that have grown out of a student's preparation to date. To be taken after student teaching. 2 credits.

- 412 Developmental Reading II.** Methods and materials used in the teaching of reading at the intermediate grade levels. Specific areas to be treated include vocabulary development, the acquisition of dictionary skills, coping with comprehensive inhibiting difficulties, reading in the content subjects, the work-study skills, improving reading rate, the program of prepared oral reading, children's literature, and coping with reading problems within the classroom. This course is to be taken the quarter preceding student teaching. Prerequisite: 312. 3 credits.
- 436 History and Philosophy of American Education.** Nature, aims, and objectives of education in society which have evolved in the United States. Emphasis on development of educational philosophies. 4 credits.
- 447 Secondary School I.** History, philosophy, curriculum, instructional practices; responsibilities of secondary school teacher. Prerequisite: Psychology 362. To be taken the quarter immediately preceding student teaching and immediately following Psychology 362. 4 credits.
- 448 Secondary School II.** Nature of school, curricular and instructional problems, related responsibilities of the secondary school teacher. Prerequisite: 447 and student teaching. 3 credits.
- 455 Elementary Education I.** Observation, methods, and materials in teaching science. Prerequisite: Psychology 362, Science 327, and Biology 326. Must be taken the quarter immediately preceding student teaching, and concurrently with Education 456, 457, 458. 3 credits.
- 456 Elementary Education II.** Observation, methods, and materials in teaching Language Arts. Prerequisite: Psychology 362. Must be taken the quarter immediately preceding student teaching. 3 credits.
- 457 Elementary Education III.** Observation, methods, and materials used in teaching social studies. Emphasis is on the unit method of teaching. Prerequisite: Psychology 362. Must be taken the quarter immediately preceding student teaching. 4 credits.
- 458 Elementary Education IV.** Observation, methods, and materials used in teaching arithmetic. Prerequisites: Psychology 362, Mathematics 250. Must be taken the quarter immediately preceding student teaching. 3 credits.
- 459 Elementary Education V.** Organization and curriculum in the elementary school. Classroom organization and management, appraisal and promotional policies, and curriculum organization. Prerequisite: Student teaching. 3 credits.
- 470 Junior High School Education II.** Organizing the school program; evaluation, appraisal and reporting growth and learning; guidance roles of the teacher; introduction to the role of teacher in school, community and profession. Post-student teaching. 6 credits.
- 485 Junior Practicum in Special Education.** Laboratory experience for four hours per week in special classes in the public schools and Campus Laboratory School. Open only to juniors and seniors considering certification in special education. Prerequisite: 471. 2 credits.
- 487 Senior Seminar in Special Education.** Individual projects, observations, and discussions related to experience while student teaching. Prerequisite: student teaching in special education. 2 credits.

#### COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

- 417-517 Developmental Reading in Junior and Senior High School.** 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 credits undergraduate, 3 credits graduate.
- 419-519 Administration and Supervision of the Reading Program.** Implementation and improvement of reading program from pre-reading through corrective procedures in high school. 4 credits undergraduate, 3 credits graduate.
- 421-521 Analysis and Correction of Reading Disabilities.** Causes of reading difficulties, procedures to diagnose and correct them. Relationship to disabilities of vision, hearing, speech, intelligence, preference, health, readiness, home environment, school environment. Prerequisite: A developmental reading course; one year teaching experience or acceptance in the program for teaching the mentally retarded. 4 credits undergraduate, 3 credits graduate.

- 423-523 Practice in Analysis of Reading Disabilities.** Clinical experiences in administration and interpretation of techniques in diagnosing reading disabilities. Opportunity to determine causes of disabilities found in cases sent to Psychological Services Center and to prescribe needed remediation. Prerequisite: 421-521 and department approval.  
4 credits undergraduate, 3 credits graduate.
- 425-525 Practice in Correction of Reading Disabilities.** Clinical experiences in correction of reading disabilities. Prerequisite: 423-523 and department approval.  
4 credits undergraduate, 3 credits graduate.
- 469-569 Administration of Audiovisual Programs.** Organization and management of audiovisual programs in schools. Prerequisite: 468.  
3 credits.
- 471-571 Introduction to Exceptional Children.** Recognition, needs, and guidance of children who deviate significantly in physical, mental, emotional, or social characteristics; implications for education of all children.  
4 credits undergraduate, 3 credits graduate.
- 472-572 Education of the Culturally Disadvantaged.** Problems of cognitive, linguistic, social and emotional development. Problems of measurement. Pre-school, elementary and secondary school programs. Role of supportive agencies.  
4 credits undergraduate, 3 credits graduate.
- 473-573 Behavior Problems in the School.** Nature of behavior problems in school programs including types of problems, etiology, and management. Role of other agencies. Parental consultation.  
4 credits undergraduate, 3 credits graduate.
- 481-581 Education of the Gifted.** Identification, characteristics, psychological factors. Improvement of instruction.  
3 credits.
- 482-582 Methods and Materials in Special Education I.** Selection of children and organization of school programs for mentally retarded and orthopedically handicapped children. Supportive services. Curriculum adjustment, teaching methodologies and special procedures.  
4 credits undergraduate, 3 credits graduate.
- 483-583 Methods and Materials in Special Education II.** Intensive analysis of curricular materials to be used with mentally retarded and orthopedically handicapped children. Techniques of presentation. Reporting to parents and parent counseling. Observation and participation. Prerequisite: 482-582.  
4 credits undergraduate, 3 credits graduate.
- 489-589 Orthopedic Handicaps in the School.** Characteristics, etiology, treatment, and prognosis of the various types of orthopedic handicaps found in school programs. Role of auxiliary services and other professions.  
4 credits undergraduate, 3 credits graduate.
- 491-591 Special Learning Disabilities.** An investigation of language problems and deficits related to learning in children. Techniques of diagnosis, evaluation and treatment for more efficient instruction.  
4 credits undergraduate, 3 credits graduate.
- 492-592 Special Learning Disabilities II.** A study of learning problems associated with emotional and neurological problems in children especially those related to perception. Analysis and diagnosis of perceptual disorders. Procedures for teaching children with perceptual disorders. Observation and participation. Prerequisite: 491-591.  
4 credits undergraduate, 3 credits graduate.
- 495-595 Workshop in Education.** Specific teaching problems of experienced teachers, intensive study under direction of workshop staff who give personal guidance, suggest methods, references, and resources. Prerequisite: Teaching experience and permission of workshop staff.  
4 to 8 credit undergraduate, 3 to 6 credits graduate.
- 497-597 Aviation Education Workshop.** Aviation in planning teaching units and in developing background for teaching about the Air Age. Teaching aids, lectures, demonstrations, field and laboratory work.  
4 credits undergraduate, 3 credits graduate.

#### COURSES FOR GRADUATE STUDENTS

- 600 Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in education.  
1-4 credits.



- 601 **Research and Theory in Educational Administration.** Emphasis on human behavior in its relationship to the theory and practice of administrative behavior. Content would be models as drawn from the related fields of business administration, economics, social psychology, sociology, and political science. 3 credits.
- 602 **Evaluation of the School Program.** Historical and recent developments in evaluation of the school program; practices, problems, and issues; evaluative research studies of significance; evaluative criteria; approaches to school evaluation; published evaluation materials for appraising the school program, and accrediting groups. 3 credits.
- 603 **Curriculum Construction.** Study of local, state and national curriculum patterns; trends, influences for change; courses of study in the subject areas; the techniques for constructing curriculum; K-12 scope and sequence; the instructional, psychological, medical, and other out-of-school resources available as effective supplements to the instructional program and how to relate them to the instructional group. 3 credits.
- 604 **School Finance.** Problems of school finance; business management; local, state and federal sources of school income; budgeting; accounting; construction of the school budget; and the relationship of school finance to the effectiveness of the instructional program. 3 credits.
- 605 **Current Instructional Research.** A review and appraisal of research study findings in all Instructional areas. Educational implications of the research. 3 credits.
- 607 **Modern Trends in Secondary Education.** A study and analysis of the various kinds of new educational materials, programs and equipment; speakers, visitations, and observation. 3 credits.
- 608 **Public Relations for School Administrators.** Techniques of Public Relations; a study of communication structures in the community; speaking to and working with special interest groups; preparing news releases; working with press, radio, television; school publications. 3 credits.
- 609 **Comparative Education.** A comparative study of the foundations, practices, and problems of European, Asiatic, and American school systems. 3 credits.
- 610 **Simulated Experiences in Educational Administration.** Actual supervisory and administrative problem situations are dealt with through student participation in representations of the real problems. 3 credits.
- 611 **Preparation of Instructional Materials.** Planning and preparing materials for instructional use; use of audiovisual equipment. Laboratory. 3 credits.
- 613 **Practicum in Curriculum Construction and Development.** Actual work with a school system to (1) survey the needs of the community, (2) study the present curriculum in the school, and (3) suggest changes. This may be a survey of the total curriculum as a generalist or a specific subject area as a specialist. Results will be presented in form of a paper to the instructor. 3 credits.
- 614 **Interpretation of Research.** Documentation and bibliography; kinds of research and research methods; use and interpretation of basic statistical tools and procedures. 3 credits.
- 615 **Introduction to Research.** Evaluating research procedures and interpreting findings. Defining and delimiting a problem, efficient gatherings and proper documentations of data, organization and presentation of findings in acceptable form. 3 credits.
- 616 **Philosophy of Education.** Historical aspects of education theory; beliefs, arguments, and assumptions underlying current educational thought and practice. Prerequisite: One year of teaching experience. 3 credits.
- 628 **The School and the Social Order.** Importance of education in the socialist structure, effects of a culture on education, the interrelationships of education and the economic, social and political systems; comparative education. 3 credits.
- 640 **School Plant Planning and Management.** Plant planning and financing, (including community surveys), board elections, operation and maintenance of school buildings. 3 credits.
- 641 **Surveys and Field Studies.** The theory, techniques, procedures, and results of school surveys and field studies. Written field study report required. Prerequisite 515. 3 credits.

- 650 **School Law.** Statutes and judicial decisions affecting public education in Minnesota and other states. Legal authority, powers, and liabilities of school personnel with respect to school finance, curriculum, property, contracts, pensions, tenure, etc. 3 credits.
- 651 **Elementary Language Arts.** Activities and procedures for improving instruction in the language arts. Analysis and evaluation of literature, research findings, and curriculum materials in the language arts curriculum. Prerequisite: One year of teaching experience. 3 credits.
- 652 **Elementary Science.** Activities and procedures for improving instruction in science instruction. Analysis and evaluation of literature, research findings, and curriculum materials in the science curriculum. Prerequisite: One year of teaching experience. 3 credits.
- 653 **Elementary Social Studies.** Activities and procedures for improving instruction in the social studies. Analysis and evaluation of literature, research findings, and curriculum materials in the social studies curriculum. Prerequisite: One year of teaching experience. 3 credits.
- 654 **Elementary Arithmetic.** Activities and procedures for improving instruction in arithmetic instruction. Analysis and evaluation of literature, research findings, and curriculum materials in the arithmetic curriculum. Prerequisite: One year of teaching experience. 3 credits.
- 655 **Elementary Education.** Problems, conditions, and issues relating to elementary education. Analysis and study of contemporary trends and practices in organization, curriculum, materials, evaluation and reporting procedures, and articulation. Prerequisite: One year of teaching experience. 3 credits.
- 656 **Diagnostic and Remedial Teaching.** Diagnostic and remedial techniques used in teaching, reading, spelling, handwriting, fundamentals of English and arithmetic. Prerequisite: One year of teaching experience. 3 credits.
- 658 **Teaching of Reading.** Current reading and research materials. Prerequisite: One year of teaching experience. 3 credits.
- 659 **Problems in American Education.** Issues arising in our American educational situation; organizing principle of education in a democracy; the school and the state; education and social reconstruction; public schools and religious education; academic freedom; teaching controversial issues. Prerequisite: 515, or taken concurrently. 3 credits.
- 660 **Elementary Curriculum.** Historical development; current issues and trends; sociological and psychological foundations; organization; programs and procedures of curriculum improvement stressing roles of teacher and administrator. Prerequisite: One year of teaching experience. 3 credits.
- 661 **Secondary Curriculum.** Historical development; current issues and trends; sociological and psychological foundations, theories of secondary school education; organization; programs and procedures of curriculum improvement stressing role of teacher. 3 credits.
- 662 **Kindergarten, Primary Education.** Activities and procedures to improve the teaching and use of materials in kindergarten and primary program. Prerequisite: One year of teaching experience. 3 credits.
- 667 **Human Relations.** Techniques and practice of group interaction in problematic relation situations; case analysis; group discussion; socio-drama and role-playing; action research; community and school projects. 3 credits.
- 674 **Educational Administration.** Administration in United States, problems related to participation of federal government in education, organization and duties of state departments of education, types of school districts, major activities of boards and superintendents of local school units. 3 credits.
- 675 **Improvement of Secondary School Instruction.** Learning principles at adolescent level, curriculum, planning for classroom instruction, managing a classroom, conducting individual and group work, using instructional materials, study and work habits. 3 credits.
- 676 **Secondary School Principalship.** For students preparing for administration of secondary schools, principles and practices in organization and administration of secondary schools. 3 credits.
- 677 **Personnel Administration in Education.** Theories and principles of school personnel administration; personnel policies and procedures; selection, appointment, and orientation; salary policies, evaluation, and professional welfare. 3 credits.

- 678 **Supervision of Student Teachers.** Student teaching in professional curriculum; procedures for guiding students in planning, teaching, and evaluating learning activities. Prerequisite: Two years successful teaching experience. (Enrollment restricted to present and past co-operating teachers and those in a position to supervise student teachers.) 3 credits.
- 679 **Unit Teaching in Elementary School.** Philosophy underlying unit teaching; practical suggestions for planning, organizing, and developing a unit of work with children. Relation of unit teaching to total school program. Prerequisite: One year of teaching experience. 3 credits.
- 684 **Problems in Special Education.** 3 credits.
- 685 **Recent Research in Mental Retardation.** Trends, implications for planning educational programs for mentally retarded, emphasis on studies in psychology and education. Prerequisites: 483 and Psychology 473. 3 credits.
- 686 **Supervision of Special Education.** Methods, problems of staffing, curriculum development, administrative relationships. Prerequisite: a course in supervision, or Special Education minor. 3 credits.
- 687 **Curriculum for Special Education.** Research into problems and changing concepts in planning for the handicapped child in public school programs. Effects of expanding special education programs on the school curriculum. Consideration of innovative curricular approaches. Trends of present programs Future considerations. 3 credits.
- 690 **Junior High School Education Seminar.** History, philosophy, and development of junior high school; organization and management; curriculum organization; guidance; extra-curricular activities. 3 credits.
- 692 **Elementary School Administration.** Responsibilities of elementary school principal; relationships between teacher, principal, superintendent, and board of education; elementary school program; special learning aids; pupil accounting; use and care of school facilities; non-teaching staff. Prerequisite: One year of teaching experience. 3 credits.
- 694 **Seminar in Elementary Education.** Prerequisite: One year of teaching experience. 1-4 credits.
- 696 **Elementary School Supervision.** Organization, purposes, and procedures for supervision; study of teaching-learning situations with emphasis upon principal's function in diagnosis and improvement of instruction. Prerequisite: One year of teaching experience. 3 credits.
- 698 **Seminar in Elementary School Administration.** Problems facing principals in organization and administration of elementary schools. Areas of emphasis determined by needs and members of seminar. Open only to experienced elementary school teachers and principals. Prerequisite: One year of teaching experience. 1-4 credits.
- 699 **Master's Thesis.** 3-9 credits.

## HEALTH, PHYSICAL EDUCATION AND RECREATION

*John D. Kasper, P.E.D., Chairman*

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 useful skills, to conduct himself in socially acceptable ways, and to enjoy wholesome living. The work in Health, Physical Education, and Recreation is classified under two headings: (1) Courses for majors and minors, and (2) Courses for the general student.

A major or minor in Physical Education may be earned only by students enrolled in the four-year course. The admission and/or retention of students in the major or minor programs in Health, Physical Education, and Recreation are determined by the staff of the department of HPER.

Men students electing to major in Physical Education must complete 68 required hours on the combined major of Health and Physical Education. Minors must complete 36 required hours as listed.

Women students electing to major in Physical Education must complete the major of 60 hours. Minors must complete 36 required hours as listed.

Major and minor students must complete four 1 quarter hour activity courses in addition to satisfying major or minor requirements.

Physical Education is required of all students. Degrees and diplomas are granted only after all requirements are met, including 4 one-quarter hour activity courses in physical education. For the men the first of these four courses shall be Physical Education 100 (Orientation). **Only 1 hour credit may be earned in any 1 quarter to apply on constant requirements**, except for majors and minors. A student whose major or minor is in another department may select other courses in physical education to apply toward graduation.

No minors (men) are eligible to take the coaching courses Physical Education 221, 251, 252, 253, 254, 255, 265, or 267 until they have completed 8 credits in other physical education courses.

All students are required to take a physical-medical examination. Individual courses are arranged for those found unable to take the regular work. **Upon recommendation of the department and the College Health Service**, students over 40 years of age may take suitable adapted courses, or at the discretion of the department certain health courses may be prescribed, or in some instances the requirement could be waived.

**Men** students are asked not to purchase gymnasium uniforms or shoes until after the first class meeting. **Women** students must have a dark pair of shorts (no jeans or cut-offs) and short sleeved white blouse plus white socks and white tennis shoes for activity classes requiring a gymnasium outfit. Students enrolling in any swimming course must furnish their own cap (plain) and swimming suit made of some synthetic type material.

## BACHELOR OF SCIENCE

### Health and Physical Education For Men

#### Broad Major (68)

Physical Education 151, 152, 159, 204, 248, 261, 263, 333, 348, 349, 352, 375, 412, 432, 450, 451, 456.

Health Education 210, 305, 315, 438.

Psychology 471.

Select two: Physical Education 221, 251, 252, 253, 254, 255, 265, 267.

#### Minor (36)

Physical Education 151, 152, 159, 204, 248, 261, 263, 333, 348, 375, 450.

Electives (6) (May not be one-hour courses)

Select one: Physical Education 221, 251, 252, 253, 254, 255, 265, 267.

### Special Certification

A teacher who is head coach in any of the following areas: Football, basketball, track, hockey, wrestling, baseball; shall be certificated either through professional preparation in the physical education major or minor programs or through a special coaching requirement in physical education.

### Athletic Coaching Certificate (30)

Physical Education 204, 248, 305, 348, 349, 450, 456.

Select three:

Physical Education 221, 251, 252, 253, 254, 255, 265, 267.

### Physical Education for Women

#### Major (60)

Physical Education 103, 109, 110, 111, 112, 131, 133, 206, 212, 248, 261, 268, 348, 349, 352, 353, 358, 378, 411, 412, 432, 451, 455.

#### Minor (36)

Physical Education 103, 109, 110, 206, 248, 261, 353, 358, 378, 411, 432, 455.

Select one: Physical Education 111, 112.

### Major & Minors Available for Men and Women

#### School Health Education Major (63)

Health Education 210, 305, 315, 398, 438, 481, 482.

Physical Education 204 or 206, 248, 349.

Biology 201, 203, 344.

Chemistry 211.

Sociology 260.

Psychology 250, 471.

#### Health Education Minor (36)

Physical Education 204 or 206; 248.

Health Education 210, 305, 315, 438, 481, 482.

Psychology 471.

Electives (4) Select from:

Biology 201, 203, 344.

Chemistry 211.

Industry 490, 491.

Physical Education 349.

**Elementary Education Minor (24)**

Physical Education 110, 206, 248; 348 Health Education 398.  
or 349; 411\*.

Electives (9-10) Select from:

Physical Education 109, 112, 131,  
132, 133, 151, 153, 212, 235,  
263, 352, 451.

\*Physical Education 411 is to be taken  
in lieu of Physical Education 292.

**BACHELOR OF SCIENCE or BACHELOR OF ARTS****Recreation Minor (36)**

This program requires the completion of 18 credits in the Core and 18 credits in the Skill Areas listed here. No more than 10 credits may be taken in any one skill area. Students must consult with the adviser of this program for selection of Skill Area courses.

**Core:**

Industrial Arts 161.  
Physical Education 206 212, 333, 335,  
337.  
Sociology 260.

**Skill Areas**

Consult adviser for selection of courses.  
Arts, Crafts, Music.  
Nature Activities.  
Physical Education.  
Speech and Dramatic Art.

**PHYSICAL EDUCATION****COURSE DESCRIPTIONS**

The description (m) refers to courses for men only.

(w) refers to courses for women only.

(★) designates major-minor courses.

- 100 Orientation to Physical Education for Men.** Survey of and participation in a variety of physical education activities. Orientation to the physical education program. Prerequisite to other men's physical education activity courses. 1 credits. (m)
- 103 Softball, Track and Field.** Techniques of fundamental skills and methods of teaching. 2 credits. (w★)
- 109 Fall-Winter Team Activities.** Techniques of fundamental skills in hockey, soccer, volleyball, and basketball. 3 credits. (w★)
- 110 Introduction to Physical Education.** Orientation in physical education for women majors and minors. Includes brief history, philosophy, qualifications, and opportunities in the profession. 2 credits. (w★)
- 111 Modern Dance.** Techniques of fundamental and advanced skills, rhythm analysis, and dance composition. 3 credits. (w★)
- 112 Apparatus, stunts, Tumbling, and Body Mechanics.** Techniques of fundamental skills. 3 credits. (w★)
- 121 Wrestling.** Skills in performing fundamental positions, holds and breaks, taking opponent to mat; defenses, riding opponent, offense, and defense. 1 credit. (m)
- 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 credit. (m)
- 125 Ballroom Dance Rhythms.** Fundamentals of Waltz, Foxtrot, and Lindy emphasized. Rumba, Samba, Tango, and ChaCha included. 1 credit.
- 126 Gymnastic Stunts.** Skills in balancing in both single and double stunts. 1 credit. (m)
- 128 Individual Gymnastics.** Special exercises for correction of defects. Physically handicapped students advised to take this course. 1 credit. (m)
- 130 Skating.** Skills involved in beginning figure skating. Some recreational and speed skating. Student must furnish figure skates. 1 credit.
- 131 Stunts and Games for the Elementary School Child.** Stunts, games, achievement, and efficiency tests for elementary level. 1 credit.
- 132 Individual and Recreational Games.** Individual and dual sports such as shuffleboard, desk tennis, aerial darts, table tennis, bowling, etc. 1 credit.

- 133 **Rhythms and Dances for the Elementary School Child.** Simple folk dances, singing games, and free rhythms suitable for all elementary grade levels. 1 credit.
- 135 **Observation and Individual Gymnastics.** For students unable to participate in any activity course. To be substituted for the required work upon recommendation of school nurse or doctor, or Department of Physical Education. 1 credit. (w)
- 136 **Beginning Swimming.** For students who cannot swim in deep water. Elementary strokes and diving. 1 credit.
- 138 **Intermediate Swimming.** Intermediate level swimming with emphasis on side, back, and crawl strokes. Prerequisite: 136 or equivalent. 1 credit.
- 139 **Advanced Swimming.** Advanced strokes and diving. Prerequisite: 138 or equivalent. 1 credit.
- 141 **Body Mechanics.** Health habits, normal carriages, flexibility according to individual needs and abilities. 1 credit. (w)
- 144 **Volleyball.** Volleyball skills and techniques. 1 credit.
- 151 **Gymnastic Stunts.** Fundamental skills involved in doing exercises in tumbling and on apparatus. Progression in difficulty. 2 credits. (m★)
- 152 **Physical Fitness.** Physical fitness tests, calisthenics, running, fitness, activities, leadership techniques. 1 credit. (m★)
- 153 **Folk Dancing.** Simple folk, round, and mixer dances. 1 credit.
- 158 **Modern Gymnastics.** Skills in apparatus, floor exercise, stunts, and tumbling. 1 credit.
- 159 **Swimming.** Theory and practice of skills involved in the American National Red Cross nine swimming styles. Methods of conducting classwork in water activities and competitive water events. 2 credits. (m★)
- 180 **Ice Hockey.** Basic techniques and knowledge used in playing. Student must furnish skates. Prerequisite: 130. 1 credit. (m)
- 200 **Skiing.** Basic techniques and knowledge. For beginners only. Students must furnish own ski boots. 1 credit.
- 204 **First Aid and Training.** Theory and practice of treatment of injuries through first aid. 2 credits. (m★)
- 206 **First Aid.** Standard and advanced skills and knowledge necessary to give first aid to victims of accidents or sudden illness. 2 credits.
- 207 **First Aid.** Designed to qualify students to teach first aid and issue American Red Cross certificates. Prerequisite: 204 or 206. 1 credit.
- 212 **Camping Education.** Types of camps, underlying philosophies, trends, camp standards, program planning, cabin counseling, and camp craft skills. 4 credits.
- 221 **Coaching of Wrestling.** To prepare majors and minors in physical education to coach and supervise a wrestling program both in physical education and after-school program. Prerequisite: 121. 1 credit. (m★)
- 222 **Beginning Bowling.** Basic techniques and knowledges. Charge is made for equipment and lane fees. 1 credit.
- 230 **Beginning Tennis.** Court positions, footwork, and rules. Fundamental skills of serving, forehand, and backhand. Student must furnish racket and balls. 1 credit.
- 231 **Intermediate Tennis.** Strategy, singles, and doubles. Techniques used in advanced tennis tournaments. Student must furnish racket and balls. 1 credit.
- 232 **Badminton.** Terminology, fundamentals, techniques, grip, footwork, service stroking, strategy, and etiquette. Single and doubles game. 1 credit.
- 233 **Beginning Modern Dance.** Techniques to increase range, strength, flexibility, rhythm, and balance, and knowledge of musical notations, terminology, and form as these are related to dance. 1 credit.
- 234 **Advanced Modern Dance.** Development of movement vocabulary; skills in advanced dance technique and in dance composition. 1 credit.
- 235 **Square Dancing.** To satisfy interest developed in other rhythm classes and to create interest in historic and literary significance of square dance. 1 credit.
- 238 **Beginning Archery.** History, basic techniques for target shooting. Terms, rules, and etiquette. 1 credit.

- 240 **Intermediate Archery.** Adaptation and variation, clout and tournament shooting. 1 credit.
- 248 **Anatomy.** An introduction to descriptive human anatomy. Human architecture, structure, and interrelationships of body parts, including Osteology, Angiology, Myology, Neurology, Splanchnology, Endrocinology, and Dermatology. 3 credits. (m & w★)
- 250 **Fly and Bait Casting.** Dry and wet fly and artificial bait casting. Student must furnish fly and bait casting equipment. 1 credit.
- 251 **Coaching Basketball.** Theory of basketball coaching with some laboratory experiences. Basic stratagems of modern basketball. 3 credits. (m★)
- 252 **Coaching Gymnastics.** Theory and practice. All phases of tumbling, apparatus, and free exercise. How to conduct meets. 3 credits. (m★)
- 253 **Coaching Swimming.** Theory and practice of coaching swimming. History, philosophy, physiology, mechanics, techniques, conduct of meets, organization and administration of the interscholastic, intercollegiate, and interclub competitive swimming programs. Prerequisite: 159. 3 credits. (m★)
- 254 **Coaching Hockey.** Defensive and offensive team play. Position hockey. Drills and strategy. Offensive shots and plays and defensive moves. 3 credits. (m★)
- 255 **Coaching Basketball.** Theory and practice of coaching different styles of offense and defense. Fundamentals of forward pass, punting, center pass and team strategy. 3 credits. (m★)
- 261 **Dancing and Rhythms.** Study and practice of simple rhythms, folk, square, and social dancing. 2 credits. (m & w ★)
- 263 **Sports Education.** Skills and methods involved in some so-called minor sports: soccer, archery, volleyball, speedball, and games of like nature. Training in directing conditioning exercises. 2 credits. (m★)
- 265 **Coaching of Baseball.** Theory and practice, all positions. History and background, defensive phases, team strategy, rules. 3 credits. (m★)
- 266 **Life Saving.** Theory and practice of methods used in Red Cross Life Saving and Water Safety. 1 credit.
- 267 **Coaching of Track.** Theory and practice, all track and field events. How to conduct track meets. 3 credits. (m★)
- 268 **Teaching of Swimming.** Methods and techniques of teaching; training of Water Front Safety Instructors. Prerequisite: 266 or current Red Cross Life Saving certificate. 1 credit.
- 269 **Synchronized Swimming.** Skills and technical aspects of swimming productions. Prerequisite: 139 or equivalent. 1 credit.
- 270 **Foil Fencing.** Basic techniques and knowledge in the use of the foil. 1 credit.
- 271 **Skin and Scuba Diving.** Techniques, knowledge and practices of skin and scuba diving (self-contained underwater breathing apparatus) with special emphasis on safety factors. Prerequisite: Current Senior Life-Saving certificate and special ear-sinus examination by Health Service. Charge is made for equipment used. A charge of \$5.00 is made for compressed air service. 1 credit.
- 272 **Diving.** Techniques and knowledge of springboard diving. Prerequisite: 138 or equivalent. 1 credit.
- 273 **Canoeing.** Principles of safety and self-rescue plus basic strokes of canoeing. Prerequisite: Senior life saving certification. 1 credit. (m & w)
- 274 **Advanced Foil Fencing.** Advanced skills and strategies of foil fencing. Prerequisite: 270 or equivalent. 1 credit. (m & w)
- 275 **Golf.** Fundamental strokes, rules, terms, etiquette. Each student must furnish own equipment. 1 credit.
- 290 **Basketball for Men.** Basic skills and knowledge used in playing. 1 credit. (m)
- 292 **Elementary School Physical Education.** Materials, programming, and procedures. Open only to elementary education majors. 2 credits.
- 305 **Officiating — Football and Basketball.** Techniques involved in officiating high school football and basketball. Rules governing these sports. Six weeks will be devoted to each sport, with some practical work assigned in each area. 2 credits. (m★)



- 333 **Organization of Physical Education Activities in Recreation.** History and objectives of recreation, leadership and staff, areas, facilities, equipment, activities, and program planning. Emphasis on the summer playground program. 3 credits.
- 335 **Practicum I in Recreation.** Engaging in direction and observation of activities sponsored by the St. Cloud Recreation Department or those offered by the College. Prerequisite: 333. 1 credit.
- 337 **Practicum II in Recreation.** Engaging in planning and direction of activities sponsored by the St. Cloud Recreation Department or those offered by the College. Prerequisite: 333. 1 credit.
- 348 **Kinesiology.** The study and analysis of human motion based on anatomical, physiological, and mechanical principles, with particular reference to physical education skills. Prerequisite: 248. 3 credits. (m & w ★)
- 349 **Human Physiology.** The basic systems of the body, e.g., neurons, circulatory, and the mechanisms influencing these systems, e.g., reflex mechanism, vasomotor mechanism, etc. Prerequisite: 348. 4 credits. (m & w ★)
- 352 **Tests and Measurements in Physical Education.** Evaluative tools and techniques unique to physical education activities. Laboratory exercises in selected tests and evaluative procedures. Prerequisite: 349. 2 credits. (m & w ★)
- 353 **Organization of Materials.** Method of presentation and adaptation of materials on secondary level. 4 credits. (w★)
- 358 **Team Sports.** Techniques of advanced skills, methods of teaching, and officiating. Prerequisites: 103 and 109. 3 credits. (w★)
- 375 **Methods in Physical Education.** Organization of classwork, use of teaching aids and conducting classwork of various age levels. 3 credits. (m★)
- 378 **Individual and Dual Sports.** Techniques of advanced skills, methods of teaching, and officiating. 3 credits. (w★)
- 400 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in Physical Education. 1-4 credits.
- 432 **Techniques in Teaching Dancing.** Available materials and methods of teaching social, tap, folk, and modern dance. 2 credits. (m & w ★)
- 451 **Adapted Physical Education.** The study and/or modification of the physical education curriculum in order to meet the needs of atypical children. Prerequisite: 348. 2 credits. (m & w ★)
- 455 **Extra-Class Activities.** Organization and administration of playdays, sports days, demonstrations, pageants, GRA, intramural and extramural programs. 3 credits. (w★)

**COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS**

- 411-511 **Organization and Development of Physical Education in Elementary School.** Principles, problems, and procedures. 4 credits.
- 412-512 **History of Physical Education.** 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 credits.
- 415-515 **Organization and Administration of Intramural Sports.** Methods and materials of the intramural sports program in public schools. Content of program, methods of organizing competition, regulations governing play, outcomes, and awards. 3 credits. (m)
- 450-550 **Curriculum and Administration of Physical Education.** Organization and administration of programs in physical education. 4 credits. (m & w ★)
- 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 credits. (m)

**COURSES FOR GRADUATE STUDENTS**

- 600 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in Physical Education. 1-4 credits.
- 607 **Principles of Movement.** A study of the scientific principles that form the basis for developing a complete concept and understanding of human movement. 3 credits.



- 608 **Principles and Philosophy of Physical Education.** Biological, sociological, and psychological interpretations of physical education. Philosophical concepts from ancient Roman and Greek cultures to present. 3 credits.
- 609 **Sport and Society.** The inter-relationship of sports and athletics with other aspects of culture. Emphasis is on the Twentieth Century. Prerequisite: 412-512 or consent of instructor. 3 credits.
- 610 **Comparative Physical Education.** A study of physical education in other parts of the world with emphasis on methods of instruction, objectives and types of activities. Selected countries will be studied in depth. 3 credits.
- 613 **Supervision of Instruction in Health and Physical Education.** Planning; teacher qualifications, conducting conferences with health and physical education teachers. 3 credits.
- 620 **Physiology of Exercise.** Review of basic systems of the body; emphasis upon neural controls; with analysis of the manner in which exacting requirements of exercise are met. Prerequisite: 349. 3 credits.
- 631 **Seminar in Physical Education.** Problems of teachers engaged in teaching or supervising physical education in the public schools. 3 credits.
- 633 **Readings and Research in Physical Education.** 1-4 credits.
- 635 **Theory of Dance.** History, principles, theory, and philosophy underlying dance from primitive times to the present. 3 credits.
- 640 **Camping Administration.** Organization and administration of camps; program planning; selection and training of staff; camp site selection and development, health and safety. 3 credits.
- 641 **Outdoor Education.** Developments in outdoor education. Instructional principles of outing activities and outdoor education program materials and methods. 3 credits.
- 652 **Tests and Measurements in Physical Education.** Critical study of tests and measurements available in physical education; methods of constructing and evaluating new tests and measurements. 3 credits.
- 654 **Advanced Theory of Competitive Athletics.** Practical problems associated with coaching and training a competitive athlete through high school and college years. No one sport will be stressed. Physical, intellectual, and psychological phases of athlete's life contingent on high performance. 3 credits.
- 660 **Administration of Physical Education.** Facilities, equipment, space, time, costs, etc. involved in promotion of a physical education program. 3 credits.
- 661 **Planning Physical Education Facilities.** Principles, terminology, and standards for planning construction, use, and maintenance of facilities. 3 credits.
- 699 **Master's Thesis.** 3-6 credits.

## HEALTH EDUCATION

### COURSE DESCRIPTIONS

- 116 **Health Education.** Care and development of good health habits, including personal and community health. (This course complies with the requirements of Minnesota Statutes Chapter 131, 151.) 2 credits.
- 210 **Principles of Nutrition.** Role of nutrition in child development. Fundamentals of diet and dietary problems and the school lunch; brief laboratory experience. 3 credits.
- 305 **Principles of Safety Education.** Contemporary and anticipated accident problems and principles of their solution in our society. 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 credits.
- 315 **Organization and Administration of School Health Program.** History; legal basis; the curriculum; school health services and program; emotional climate of school; emergency care; evaluating results of health instruction; role of physical education in health education. 4 credits.
- 398 **Elementary School Health Program.** Principles, procedures and problems in planning and conducting a school health program. Identification of health problems of school age children. 3 credits.

- 400 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in health education. 1-4 credits.
- 438 **Methods and Materials in Health Education.** Activities, projects, and units in health curriculums at various age levels. Field trips, teaching observations; practical problems, and evaluation of pertinent materials, texts, and State course of study. Prerequisite: 315, 482 and 10 credits in the health education sequence. This course should be completed before student teaching. 4 credits.

#### COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

- 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 credits.
- 482-582 **Man and His Diseases.** Concepts of health, aging and longevity, vital statistics, communicable and chronic diseases, environmental health, consumer health, alcoholism and drug addiction. 4 credits.

#### COURSES FOR GRADUATE STUDENTS

- 630 **Seminar in School Health Education.** Problems confronting teachers engaged in teaching or supervising health education in public schools. 3 credits.
- 632 **Survey of Recent Research in the Field of Health.** Readings and discussions of recent studies and authentic reports in various areas of health interest. 3 credits.

### LIBRARY AND AUDIOVISUAL EDUCATION

*Luther Brown, Ph.D., Acting Chairman*

Important functions of the Department of Library and Audiovisual Education are the preparation of school librarians, audiovisual coordinators-directors, and curriculum materials specialists. This it does through the courses in Information Media (Library and Audiovisual Education) for both the elementary and secondary curriculums.

The school library certificate for (1) undergraduates includes the following courses: I.M. 275, 402, 476, 477, 478, 479, 480; (2) post-graduates and graduates includes the following courses: I.M. 275, 501, 502, 511, 576, 577, 578, 579, 580. The Information Media (library) minor is available on the Bachelor of Arts program.

#### Information Media Minor (36) (Library and Audiovisual)

##### Elementary Majors

1. Certificate courses listed above.
2. Education 447.
3. I.M. 402-502, 468, 433-533.
4. Elect 3 credits from the following: Education 312, 370, 412, or other Information Media courses.

##### Secondary Majors

1. Certificate courses listed above.
2. Education 459.
3. I.M. 402-502, 468, 433-533.
4. Elect 4 credits from the following: Education 312, 370, 412, English 353 (if not language arts major), or other Information Media courses.

The Director of Audiovisual Education is a teacher in charge of the total audiovisual program in any school system. For information on requirements for the Director's Certificate the student should write to the Chairman, Department of Library and Audiovisual Education.

#### COURSE DESCRIPTIONS

- 275 **Introduction to Librarianship.** Introductory survey of the various facets of librarianship. 2 credits.
- 400 **Special Problems in Information Media.** A seminar or conference course for advanced students wishing to work out a special problem in Information Media. 1-4 credits.
- 468 **Audiovisual Materials and Methods of Instruction.** Techniques of utilizing community resources, field trips, display materials, projected still and motion pictures, television, sound recordings, radio, programmed learning, etc., educational programs. Opportunities to learn equipment operation. Laboratory. 3 credits.

**COURSES FOR ADVANCED UNDERGRADUATE  
AND GRADUATE STUDENTS**

- 402-502 Administration of Information Media.** Administration of the various types of information media programs. 4 credits undergraduate, 3 credits graduate.
- 433-533 Photographic Processes in Information Media.** Use of still and movie photography, photographic darkroom processes and equipment to prepare educational pictures. Laboratory. 3 credits.
- 476-576 Selection and Evaluation of Information Media Materials.** Theory, principles, and techniques of evaluation and selection; introduction to the basic tools for selection of information media materials in all subject areas. Prerequisite: 275. 4 credits undergraduate, 3 credits graduate.
- 477-577 Bibliography and Reference.** The theory and practice of bibliographic and reference work; study and evaluation of reference tools and study of bibliographies of information media materials. Prerequisite: 275. 4 credits undergraduate, 3 credits graduate.
- 478-578 Technical Processes I.** Organization of information media materials for effective service to users; acquisition, cataloging, classification, and preparation of basic media materials. Prerequisite: 275. Laboratory. 4 credits undergraduate, 3 credits graduate.
- 479-579 Reading Guidance for Children.** Types of reading materials for children in elementary grades and their sources; evaluation, selection, and presentation, including story-telling and dramatization. Observation in the Campus Laboratory School. Prerequisite: 275. 4 credits undergraduate, 3 credits graduate.
- 480-580 Reading Guidance for Youth and Adults.** Types of materials for youth and adults; their sources, evaluation, selection, and presentation. Methods of introducing books, developing and guiding reading habits. Prerequisite: 275. 4 credits undergraduate, 3 credits graduate.

**COURSES FOR GRADUATE STUDENTS**

- 600 Special Problems in Information Media.** A seminar or conference course for advanced students wishing to work out a special problem in Information Media. 1-4 credits.
- 601 Organization and Supervision of Information Media.** An introductory survey of the various facets of organization and supervision of information media. 3 credits.
- 604 Information Media in Society.** The role of media, personnel, and organization in society. (Not open to Information Media majors.) 3 credits.
- 611 Preparation of Information Media.** Planning and preparing materials for instructional use; projected and non-projected. Laboratory. 3 credits.
- 625 Information Storage and Retrieval I.** Principles of information storage and retrieval with emphasis on information needs and housekeeping problems of the information media center. Analysis of processing systems; manual, punch-card, and computer application. Laboratory. 4 credits.
- 630 History of Information Media.** A chronology of events and circumstances in the development of information media. 3 credits.
- 631 Recent Trends in Information Media.** Consideration of the latest trends and thinking in the various areas of information media handling and use. 3 credits.
- 635 Information Storage and Retrieval II.** Use of the capabilities of modern computer methods for the storage and retrieval of information. Laboratory. Prerequisite: 525. 3 credits.
- 645 Television in Information Media.** The operation and use of television in the instructional program. Laboratory. 3 credits.
- 681 Technical Processes II.** Continuation of the study of information media materials organization with emphasis on the problems of acquisition, cataloging, classification and preservation of special materials. Laboratory. Prerequisite: 478-578. 3 credits.
- 690 Practicum in Information Media.** Laboratory experience relating to information media in all its practical facets. (Maximum: 2 credits per academic year). 2-6 credits.

- 691 **Readings in Information Media.** Selected readings of literature of the field and related areas. 3 credits.
- 692 **Research in Information Media.** Current experiments in information media and closely related fields. 1-4 credits.

## PHYSICAL THERAPY

The physical therapy curriculum leading to the Bachelor of Science degree covers approximately five years of academic, technical, and professional preparation. Students who have met the graduation requirements of St. Cloud State College and have completed the certificate course in physical therapy at a school which is accredited by the Council on Medical Education and Hospitals of the American Medical Association will receive the Bachelor of Science degree from St. Cloud State College.

College courses covering the first three years' work are completed at St. Cloud State College. This program covers the general education courses and courses preparatory to the physical therapy internship.

The last phase of the degree will be completed in a fifteen month to two year internship. Students who satisfactorily complete the internship will be granted 48 quarter credit hours. Students who wish to apply for admission to a school of physical therapy approved by the Council on Medical Education and Hospitals will communicate directly with the medical director of that school.

Biology 201, 203, 342, 344.

Chemistry 211; 212 or 213.

Physics 201, 202.

Mathematics 220 or 221.

Physical Education 248, 348, 349.

Health Education 210.

Psychology 262.

Electives in Humanities and Social Sciences (7).

Internship:

Fifteen months to two years with the School of Physical Therapy. Credits are applied toward major (48).

\* A student may complete a B.A. degree in Biology and then complete his Physical Therapy Certificate course at a number of other institutions offering the program.

\* A student can complete the above courses and select other courses to complete two years of academic work and then apply for Physical Therapy at the University of Minnesota.

## PSYCHOLOGY

*Frank B. Slobetz, Ed.D., Chairman*

The Psychology Department is responsible for instructional services and related activities in the areas of academic, educational, and industrial and personnel psychology.

Responsibilities include contributions to both teacher education and general and liberal arts programs of the College. The department offers a major and two minors on the Bachelor of Arts program and two minors on the Bachelor of Science in Education program.

At the graduate level, in addition to responsibilities for graduate offerings for the several graduate programs of the College, the department offers Master of Science programs in School, Rehabilitation, and Employment Counseling; and the Master of Arts in Psychology.

### BACHELOR OF ARTS

#### Major (48)

Psychology 250\*, 350, 360, 482, 483,  
490.

Electives (24).

#### Minor (36)

Psychology 250\*, 350, 360, 482, 483.  
Electives (16).

#### Minor (24)

Psychology 250\*, 390; 441 or 443; 483.  
Electives (8).

## BACHELOR OF SCIENCE

## Elementary and Secondary Education

Minor (36)

Psychology 250\*, 350, 360, 482, 483.

Electives (16).

Minor (24)

Psychology 250\*, 390; 441 or 443; 483.

Electives (8).

## Speech Pathology and Audiology

Minor (36)

## Speech Pathology and Audiology

Psy 250 Principles of Behavior (4)

Psy 350 Psychological Statistics (4)

Psy 360 Experimental Psychology I (4)

Psy 482 Motivation (4)

Psy 483 History and Schools (4)

Electives (16).

Minor (24)

Psy 250 Principles of Behavior (4)

Psy 262 Human Growth &amp; Development (4)

Psy 350 Psychological Statistics (4)

Psy 482 Motivation (4)

Electives (8).

\*Psy 250 is a prerequisite to all other psychology courses for majors and minors. 362 and 463 are not open to B.A. students.

## COURSE DESCRIPTIONS

- 121 General Psychology.** Introduction to the scientific study of human behavior; implications for the general conduct of life. 4 credits.
- 222 Survey of Industrial Psychology.** Overview of the scientific study of the relationships between man and the world of work. Contents and methods of Industrial Psychology. 4 credits.
- 250 Principles of Behavior.** Psychology as a science of behavior with emphasis on representative experimental findings in the areas of perception, motivation, and learning. 4 credits.
- 262 Human Growth and Development.** From prenatal period through adolescence; significance of physical, intellectual, emotional, and social phases as related to total growth. 4 credits.
- 350 Psychological Statistics I.** Introduction to the statistical method in the behavioral sciences; descriptive techniques with respect to central positions, variability, and relationship; utilization of electronic data processing equipment in statistical analysis. 4 credits.
- 351 Psychological Statistics II.** Introduction to inferential statistics. Probability; sampling; estimating population parameters; testing hypotheses. Stress on use of electronic data processing and equipment. Prerequisite: 350 and Math 271. 4 credits.
- 360 Experimental Psychology I.** Introduction to the experimental psychology of learning; selected experiments performed by students, illustrating the basic phenomena and principles of simple learning; classical conditioning, operant conditioning, multiple response. Lectures and laboratory. Prerequisite: 350. 4 credits.
- 361 Experimental Psychology II.** Perception; influence of environmental, physiological and personal factors in perception, organization, and interpretation of stimuli; emphasis on vision and hearing. Lecture and laboratory. Prerequisite: 360. 4 credits.
- 362 Learning and Measurement I.** Nature of classroom learning. Measurement and evaluation of learning outcomes. Prerequisite: 262. (To be taken not earlier than two quarters preceding Student Teaching.) For teaching majors only. 4 credits.
- 390 Differential Psychology.** The study of individual differences. Prerequisite: 250. 4 credits.
- 400 Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in Psychology. 1-4 credits.
- 401 Field Work.** Special arrangement with supervising professor, department chairman, deans, and field institution supervisor. 1-4 credits.
- 422 Personnel Psychology.** Psychological methods, procedures, and principles in personnel work; technical aids, psychological testing, vocational guidance, worker efficiency and morale. Prerequisite: 222. 4 credits.
- 441 Psychology of Childhood.** Early, middle, and later childhood; principles and philosophy of growth. Prerequisite: 262. 4 credits.

- 443 **Psychology of Adolescence.** Behavior of adolescent; characteristics unique to this age group; home, school, and community relations. Prerequisite: 262. 4 credits.
- 461 **Psychological Foundations of Education.** Developmental and behavioral approach to the educational process. Designed particularly for the Teachers Corps Program. 5 credits.
- 463 **Learning and Measurement II.** Learning process; basic theories; examination; administration and interpretation of tests and other measurement devices. Prerequisite: 362 and student teaching. For teaching majors only. 4 credits.
- 490 **Advanced Theoretical Psychology.** Critical examination of modern views and theoretical issues in the field of psychology. Limited to majors in psychology, Capstone course, one of last courses in the major. 4 credits.

#### COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

- 430-530 **Seminar.** General seminar designation; title of selected topic in special areas in psychology will be identified. May be repeated. 1-4 credits.
- 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 credits undergraduate, 3 credits graduate.
- 466-566 **Guidance for the Handicapped.** Special problems. Counseling with children and parents. Psychological, aptitude, achievement tests. 4 credits undergraduate, 3 credits graduate.
- 468-568 **Psychological Measurement.** Methodology and content in the assessment of human behavior; survey of individual and group tests; intelligence, special aptitudes, and achievement. Knowledge of descriptive statistics presumed. 4 credits undergraduate, 3 credits graduate.
- 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. Prerequisite: 463 or 468-568. 4 credits undergraduate, 3 credits graduate.
- 471-571 **Mental Hygiene.** Characteristics of wholesome personality; methods and aims of mental hygiene; personal development and techniques of effective adjustments. Prerequisite: 262. 4 credits undergraduate, 3 credits graduate.
- 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. Prerequisite: Education 471-571 for B.S. students; Psychology 441 or 443 for B.A. students. 4 credits undergraduate, 3 credits graduate.
- 473-573 **Psychology of Mental Retardation.** Etiology characteristics. Classification, diagnosis, assessment. Social control. Role of family, school, community agencies. Prerequisite: Education 471-571 for B.S. students; Psychology 441 or 443 for B.A. students. 4 credits undergraduate, 3 credits graduate.
- 474-574 **Interpersonal Dynamics.** Survey of research, experimentation, and theory of relationships between the individual and the group; interpersonal communication, influence, group structure and function, leader-member relations. 4 credits undergraduate, 3 credits graduate.
- 475-575 **Abnormal Psychology.** Functional and organic deviations for understanding normal behavior of human personality with greater clarity and precision. 4 credits undergraduate, 3 credits graduate.
- 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. Prerequisite: 475-575. 4 credits undergraduate, 3 credits graduate.
- 482-582 **Motivation.** Theory and research in animal and human motivation; psychological, social, and personal aspects of motivation; basic, deficit, derived, growth motivation. 4 credits undergraduate, 3 credits graduate.
- 483-583 **History and Schools.** Systems, experiments, personalities in the development of modern psychology; comparative study and analysis of systems; contributions of outstanding persons. 4 credits undergraduate, 3 credits graduate.

- 485-585 Theories of Personality.** Basic theoretical concepts, factors of vital relationships within individual personality; interpersonal relationships; individual and field frames of reference as they relate to mental health. At undergraduate level, limited to psychology majors.  
4 credits undergraduate, 3 credits graduate.

#### COURSES FOR GRADUATE STUDENTS

- 600 Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in Psychology. 1-4 credits.
- 621 Psychology in Human Affairs.** Examination of the broad principles of psychology and their impact on human affairs; nature of man, mind and body, basis of knowledge, basis for conduct; relation between psychological thinking and other modes of inquiry. Not open to students majoring in Counseling or Psychology. 3 credits.
- 650 Introduction to Rehabilitation.** Orientation to the rehabilitation process including a survey of the history, principles, philosophy and legal aspects of rehabilitation and related fields. 3 credits.
- 651 Principles and Techniques of Rehabilitation Counseling.** Application to rehabilitation counseling; role and function as counselor and as coordinator of services. 3 credits.
- 652 Medical Aspects of Disability.** Implications of anatomy, physiology and pathology of human systems; physical restoration and etiology, prognosis and therapy of disabling conditions. 3 credits.
- 653 Psychological and Sociological Aspects of Disability.** Social and personal problems of the handicapped; psychological aspects of physical, social and mental disabilities. 3 credits.
- 654 Organization of Rehabilitation Services and Administration of Client Services.** Client study process; counselor's responsibilities for providing services. 3 credits.
- 655 Seminar in Rehabilitation Counseling.** Special topics in the field. May be repeated. 1-3 credits.
- 656 Vocational Placement and Adjustment.** Principles of placement services for the disabled. 3 credits.
- 657 Community Resources and Agencies.** Utilization of community resources and agencies; development of resources. 3 credits.
- 663 Theories of Learning.** Principles of psychology of learning and experimental findings; application to problems encountered in teaching and learning; examination of theories of learning. 3 credits.
- 670 Developmental Psychology.** Advanced course in human growth and development, emphasis on trends, problems, theoretical considerations, and contemporary research. 3 credits.
- 677 Seminar in Counseling.** For majors in counseling. Integration of course work in the field of counseling; problems in counseling; theoretical issues, and recent research in the broad field of counseling. May be repeated. 3 credits.
- 678 Statistical Methods.** A review and extension of correlation and regression analysis; introduction of probability and sampling theory; estimating population parameters; testing hypothesis. Prerequisite: 350 or 463. Familiarity with descriptive statistics assumed. 3 credits.
- 679 Seminar: Research Planning.** For majors in counseling. Planning research appropriate for meeting Master's Degree research requirement; development of project outlines and presentation for critical review to members of the seminar. Prerequisite: 677. 3 credits.
- 680 Organizational Psychology.** Psychology of individual and group behavior in the organizational complex; contemporary research and implications for administration and management; motivation, influence, communication, group processes, leadership, supervision. 3 credits.
- 686 Binet.** Measurement of intelligence by means of the Stanford revision of the Binet-Simon technique; demonstrations, lectures, practice in administration of tests; observation of individual by instructor. Admission by Department approval. 8 hours laboratory. 3 credits.



- 687 **Wechsler.** Measurement of intelligence by means of the Wechsler Adult Intelligence Scales, Wechsler Intelligence Scale for Children, and Wechsler Intelligence Scale for Adults and Adolescents, administering, scoring, and interpreting results. Admission by Department approval. 8 hours laboratory. 3 credits.
- 689 **Seminar: Research Reporting.** For majors in counseling. Reporting of research planned in Psy. 679 and subsequently undertaken; preparation of reports in accordance with APA and APCA publication standards and presentation to seminar. 3 credits.
- 690 **Appraisal Techniques.** Analysis of appraisal techniques used in Guidance and Counseling. Information, sources, assembly, and use in the counseling process. Prerequisite: 464 - 564, 678. 3 credits.
- 691 **Small Group Counseling Process.** Didactic instruction in small group process and practice in such process under the leadership of a staff member. Lecture and laboratory. Prerequisite: 464-564. 3 credits.
- 692 **Occupational and Education Information.** Occupation and educational information and materials. Sources, evaluation, collection, and filing of occupational and educational information and materials, proper use and place in total guidance program. Prerequisite: 454-564. 3 credits.
- 693 **Counseling Procedures.** Various approaches in counseling, practice in interviewing, concepts of therapy, analysis of attitudes in counseling. Prerequisite: 590. 3 credits.
- 694 **Supervised Practicum in Counseling.** Prerequisite: 693 and Counselor Education Committee approval. Required of all students in Counselor Education: School, Employment and Rehabilitation Counseling. 3-6 credits.
- 696 **Supervised Counseling Internship Experience.** Prerequisite: 693 and Counselor Education Committee approval. 1-16 credits.
- 697 **Guidance Program Development.** Problems of organization and administration, interrelationships with administration, teacher personnel, and other school functions. 3 credits.
- 698 **Practice in Small Group Process.** Supervised practicum in conducting small group counseling sessions. Prerequisite: 691. No exception to this prerequisite requirement. 3 credits.
- 699 **Master's Thesis.** 3-6 credits.

## STUDENT TEACHING

*Floyd Perry, Ed.D., Director*

The student teaching experience may take place in the Campus Laboratory School or off-campus public schools. This experience is provided during the third quarter of the junior year or the first or second quarter of the senior year.

All student teachers in off-campus public schools are required to live in the community, participate in community activities, and study community life. The college will recommend approved housing during the off-campus assignment; however, it is the responsibility of the student teacher to make his own housing arrangements and bear the expense involved.

The prospective student teacher needs to make long-range plans for his total college program at an early date if he is to receive maximum benefits from the student teaching experience.

Application for student teaching assignments must be completed and on file in office 118, Stewart Hall, by the end of the first week of the quarter, two quarters preceding the quarter the student plans to student teach. The application process includes the following:

1. Certification of Readiness for Student Teaching.
  - a. An honor point ratio of 2.25 or more in the major(s).
  - b. An honor point ratio of 2.0 or more in the minor(s) and in total number of credit hours completed at the time of application.
  - c. No grade less than "C" in professional education courses.
  - d. Acceptance to a major program.
  - e. Admission to Teacher Education.
  - f. Recommendation by department chairmen.



2. Health examination.
3. Information requested on the Personal Data Form.
4. A copy of the tentative schedule for the quarter of student teaching.
5. Recent photograph of the applicant.
6. Course sequence requirements.
  - a. Secondary student teachers must have Psychology 362 and Education 447 completed or in progress at the time of application. The appropriate communication sequence must be completed at the time of application.
  - b. Elementary student teachers must have Psychology 362, Education 200, 312, 412, 455, 456, 457, 458 completed or in progress at the time of application. The appropriate communication sequence must be completed at the time of application.

Before certifying a student's readiness for student teaching, the department chairmen will determine that the student has met the student teaching prerequisites of his department.

The specific dates for the application for student teaching appear in this General Bulletin. It should be noted that applications for Fall Quarter student teaching assignments must be completed during the first week of the preceding Spring Quarter.

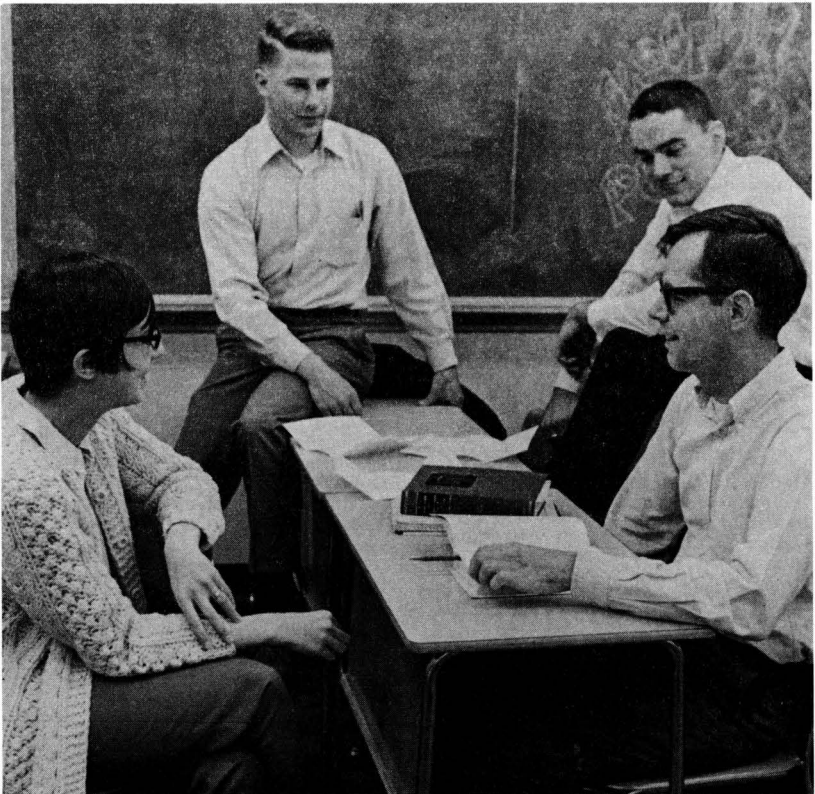
#### COURSE DESCRIPTIONS

- 402 Kindergarten Teaching.** Supervised teaching in the kindergarten. Required for elementary majors with kindergarten endorsement. Prerequisite: Psychology 362, Education 351 and 458. 4-8 credits.
- 404 Elementary School Teaching.** Supervised teaching in Campus Laboratory School during first summer session. Teaching done during second or third morning period; conferences held during second afternoon period. Prerequisite: Psychology 362 and Education 458. 4 credits.
- 405 Elementary School Teaching.** Supervised teaching in the elementary school for students on elementary school curriculum. Prerequisite: Psychology 362 and Education 457. 16 credits.
- 406 Elementary School Teaching.** Supervised teaching in the elementary school. Required for elementary majors certified in any of the following areas: kindergarten, junior high school, mentally retarded and cerebral palsied or orthopedically handicapped. Prerequisite: Psychology 362 and Education 458. 8 credits.
- 410 Junior High School Teaching.** Supervised teaching in the junior high school. Required for elementary majors with junior high endorsement. Prerequisite: Psychology 362, Education 370 and 458. 8 credits.
- 412 Secondary School Teaching.** Supervised teaching in the secondary school for students on secondary school curriculum. Prerequisite: Psychology 362 and Education 447. 8 or 16 credits.
- 414 Special Area Teaching.** Supervised teaching for students with majors in fine arts, music, industrial arts, health and physical education, or a minor in library science. Prerequisite: Psychology 362 and Education 447 or 458. 4, 8 or 16 credits.
- 415 Teaching the Mentally Retarded.** Supervised teaching of the mentally retarded. Prerequisite: Psychology 362 and Education 447 or 458 and Education 483. 4 or 8 credits.
- 416 Teaching the Cerebral Palsied or Orthopedically Handicapped.** Supervised teaching of the cerebral palsied. Prerequisite: Psychology 362 and Education 458 and 482. 4 or 8 credits.
- 417 Elective Teaching.** Supervised teaching available to students desiring additional teaching in Psychological Services Center or special area in which major or minor is taken. Prerequisite: Psychology 362. 1-8 credits.
- 418 Teaching the Child with Learning Disabilities.** Supervised teaching in the area of special learning disabilities. Prerequisite: Education 491, 492. 4 or 8 credits.

#### COURSES FOR GRADUATE STUDENTS

- 600 Elective Teaching.** Supervised laboratory experience in any of the following areas: teaching, guidance, school administration, supervision of instruction. Prerequisite: Two years successful teaching experience. 2-4 credits.

- 605 **Internship.** A full year of on-the-job supervised teaching as part of the fifth year or master's degree available to selected, mature, certified, beginning teachers. Participants selected jointly by college and participating public schools. Workshops and seminars will be conducted by the college to supplement the experience. Supervision provided by a master teacher and college supervisor. 3 credits each registration; maximum 9 credits.
- 606 **Internship in Secondary School Administration.** Practical administrative experience in cooperation with selected school administrators. Prerequisite: Two years successful teaching experience. 3-9 credits.
- 612 **Student Teaching.** Supervised secondary and post-secondary teaching for students preparing to teach in grades 7-14. Assignment will be in a public educational institution. Prerequisite: Psychology 563 and Education 561 or equivalent. 16 credits.
- 614 **Special Area Teaching.** Supervised teaching for students with majors in fine arts, music, industrial arts, health and physical education, or information media. Assignments may be in grades 7-14 in a public educational institution. Prerequisite: Psychology 563 and Education 561 or equivalent. 16 credits.
- 620 **Teaching in the Junior High School.** Internship opportunities for observation, participation, and teaching in a junior high school core program; parallel classwork related to nature, conditions, and problems in core teaching. Prerequisite: Undergraduate preparation for junior high school teaching. 6 credits.



# Institute of Industrial Education and Technology

*Raymond H. Larson, Ph.D., Dean*

## Departments

Industrial Education.  
Technology.

The Institute of Industrial Education and Technology is an administrative unit for the purpose of coordinating the administration and functions of the various phases of educational programs which draw a considerable amount of their content from industry—industrial education (industrial arts and technical training), engineering technology and industrial engineering.

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

## INDUSTRIAL EDUCATION

*William H. Kemp, Ed.D., Chairman*

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. Training is in an area of learning rather than in an isolated subject or course. 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 driver education; to offer opportunity for graduate study in industrial arts; and to offer instructional material, non-vocational in nature, which is an integral part of general education. Ever increasing functions are: meeting the needs of teachers, preprofessional people, recreational workers, rehabilitational works, and community groups.

**Students who have not had higher algebra in high school must take Math 131. Students who have not had a full year of physics in high school must take Physics 201 and 202.**

## INDUSTRIAL ARTS

### **Comprehensive Major (84)**

#### **Core (60)**

Industrial 110, 111, 130, 150, 151, 152,  
160, 170, 211, 224, 225, 240, 244,  
260, 271, 340, 346, 351, 365, 430,  
450, 452, 480.

#### **Options (24)**

##### **Option 1: Drawing (12).**

Industrial 214, 312; 311 or 411; 412.

Industrial Electives (2).

##### **Option 2: Electronics (12)**

Industrial 173, 272, 275, 471, 472.

##### **Option 3: Institutional Therapy (24) .**

Industrial 493.

Psychology 475.

Sociology 260, 261.

Industrial Electives (4).

##### **Option 4: Mathematics and/or Physics (12).**

Mathematics courses must be equivalent to 131 and above.

Physics courses must be equivalent to 231 and above.

##### **Option 5: Photographic (12).**

Industrial 261, 262, 361, 362, 472.

##### **Option 6: Metal (12).**

Industrial 327, 344, 440, 444.

Elect one of the following:

Industrial 343, 446, or Art 280.

##### **Option 7: Technical Illustrating (12).**

Industrial 214, 312, 313, 314, 317.

##### **Option 8: Graphic Arts (12).**

Industrial 262, 323, 424, 425, 426 or 427.

#### **Major (60)**

Comprehensive core above (60).

#### **Driver Education Certificate**

Health Education 305, Industrial 490, 491.

**Industrial Education — Non-Teaching**

Industrial 110, 111, 130, 160, 170, 211, 224, 240, 260.

Industrial Electives (23).

Concentration in Mathematics and science (minimum of 12 credits in each of two areas) (24).

Related Field Area (24).

Electives (28).

Mathematics courses taken in the mathematics or science concentration must be Math 131 or above. If mathematics or science is elected as a related fields area the courses must be in addition to those in the concentration.

**Elementary Education Minor (24)**

Industrial 110, 130, 170, 210, 224, 240, 260.

Elect two of the following:

Industrial 111, 151, 160, 161, 211.

**TECHNOLOGY**

*Robert D. Ryan, Ed.D., Chairman*

The Department of Technology 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 curriculums are based upon recommendations by industrialists, the American Society for Engineering Education, and universities having similar programs.

**Industrial Engineering**

Industrial 110, 111, 170, 173, 214, 260, 271, 272, 311, 312, 317, 325, 326, 499.

Accounting 281, 284.

Business Education 300.

Chemistry 211, 212 or 213.

Economics 273.

Management 360, 363, 464, 465.

Marketing 431.

Mathematics 241, 242, 243, 244, 271, 272, 329.

Physics 234, 235, 236, 334.

Psychology 222.

Electives (4).

**Engineering Technology**

Industrial 110, 111, 151, 152, 170, 173, 224, 240, 260, 271, 272, 325, 326, 327, 340, 472.

Accounting 281, 284.

Business Education 300.

Economics 273.

Geography 271.

History 345.

Management 360, 465.

Marketing 431.

Mathematics 131.

Physics 201, 202.

Psychology 222.

Sociology 260.

Speech 220.

Electives (12).

**Photographic Engineering Technology**

Industrial 151, 152, 165, 170, 173, 260, 261, 262, 271, 272, 224, 225, 325, 326, 361, 362, 461, 472.

Accounting 281, 284.

Chemistry 211, 212.

Management 167, 267, 360, 367.

Marketing 220, 425, 429, 431.

Electives (16).

**ASSOCIATE IN ARTS****Engineering Technology (96)**

General Education (36).

Mathematics 121.

Speech 161.

English 162.

English 263.

Geography 171 or Industrial Education 192.

Physics 103 or Chemistry 102.

Psychology 121.

Physical Education (2).

Social Science 104

**Technical Illustrating Technology**

Industrial 110, 111, 151, 152, 160, 161, 170, 211, 214, 224, 240, 272, 312, 313, 314, 317, 325, 326, 365.

Mathematics 131.

Electives (7).

**Electro-Mechanical Communications Systems Engineering Technology (EMCS)**  
 Industrial 110, 111, 151, 152, 153, 155, 170, 173, 260, 271, 272, 280, 281, 282, 283, 284, 325, 326.  
 Economics 274.  
 Mathematics 131, 271, 272.  
 Electives (6).

**Photographic Engineering Technology**  
 Industrial 151, 152, 165, 170, 173, 224, 261, 262, 271, 272, 361, 362, 365, 472.  
 Chemistry 211.  
 Management 167, 260, 267.  
 Marketing 220, 425.  
 Mathematics 131.  
 Electives (4).

**Mechanical Engineering Technology**  
 Industrial 110, 111, 151, 152, 160, 161, 170, 173, 214, 221, 240, 244, 260, 271, 272, 312, 325, 326, 327, 328, 340, 346, 365.  
 Mathematics 131.  
 Electives (5).

**Electronics Engineering Technology**  
 Industrial 110, 111, 151, 152, 160, 170, 173, 211, 224, 240, 244, 260, 271, 272, 325, 326, 327, 328, 340, 346, 365.  
 Mathematics 131, 271, 272.  
 Electives (5).

**Electronics Engineering Technology**  
 Industrial 110, 111, 151, 152, 160, 170, 173, 211, 224, 240, 244, 260, 271, 272, 325, 326, 340, 346, 365, 471, 472.  
 Mathematics 131, 271, 272.

#### COURSE DESCRIPTIONS

The course descriptions are a composite of all courses offered in the Institute of Industrial Education and Technology. Specific programs in the departments draw their courses from the total offerings listed.

- 110 Technical Drawing I.** Use and care of instruments, lettering, freehand sketching, orthographic, pictorial, sections, auxiliary, revolutions and measurements. 3 credits.
- 111 Technical Drawing II.** Symbols and conventions common to drawings of machines and machine parts. Special emphasis on dimensioning, tolerances, fasteners, assembly, detailed drawings, exploded views, graphing and reproduction of drawings. 2 credits.
- 130 Wood Technology.** Fundamental tools, materials, and processes used in woodwork, primarily confined to handwork. Machines used only to dimension stock. Elementary wood finishes and finishing. 3 credits.
- 150 History and Philosophy.** History, objectives, and philosophy of industrial education. The distinction between industrial arts and trade-training. Ancestry of industrial arts as an area of general education. 2 credits.
- 151 Technical Mathematics I.** Mathematics used in technical practices. Algebra, plane and solid geometry and basic trigonometry. Logarithms, basic slide rule operation. Applications to technical situations. Prerequisite: High school higher algebra or equivalent. 3 credits.
- 152 Technical Mathematics II.** Exponential functions, curve tracing, nonlinear empirical equations, analytical trigonometry, introduction to calculus, differentiation and integration, handbook, advanced slide rule operation, applications to technical situations. Prerequisite: 151 or equivalent. 3 credits.
- 153 Technical Mathematics III.** Computer logic algebra utilized in the design of digital computer logic. Boolean algebra as applied to computer functions. Theory and application of logic circuitry. Number systems as related to EMCS Technology. 3 credits.
- 155 Energy Systems I.** Hydraulic and pneumatics systems. Theory and applications of energy systems as they apply to EMCS. 3 credits.
- 160 Industrial Finishes and Adhesives.** Historical background relating the development of industrial finishes and adhesives as well as specific applications of varnishes and synthetic resin, comparison of the basic resins common to both finishes and adhesives. Emphasis placed on compounding finishes and adhesives for qualities required by industry. Experimentation with adhesives and finishes. 2 credits.
- 161 Industrial Crafts.** Leather; plastics forming, shaping, casting, and molding; metal spinning; ceramics, hand work, tile, molds; wood turning; metal etching; and engraving. 3 credits.

- 165 **Introduction to Photo Technology.** History of photography. Camera types, systems and applications. Composition and lighting. Filters. Basic darkroom procedures. Future opportunities in photo technology. 2 credits.
- 169 **Tools and Machines.** The care and use of tools and machines common to the Art and Speech and Dramatic Art departments. Not open to industrial majors. 1 credit.
- 170 **Electronics Technology I.** Direct and alternating current-theory and circuitry. 3 credits.
- 173 **Electronics Technology II.** Theory, design, application of electronic test instruments. 2 credits.
- 192 **Modern Technology and Civilization.** Analysis of contemporary technology and its effects on man 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 credits.
- 210 **Construction and Upholstering.** Construction, repair, and refinishing of covered home furnishings. Sources of essential fabrics and other materials. Comparisons of types of construction. 2 credits.
- 211 **Industrial Design and Illustrating.** Application of principles of drawing in design. Projects functional in the several industrial arts areas and at various grade levels provide special problems. 3 credits.
- 214 **Technical Drawing III.** Descriptive geometry. Measurements of distance and angles, intersections of straight or curved lines with plane or curved surfaces; intersections of surfaces, tangent surfaces, size and shape of plane areas and development of plane and curved surfaces. 3 credits.
- 221 **Mechanics.** Fundamentals of force systems, centroids, moments, mass and acceleration, work, energy, impulse, and momentum. Prerequisite: 151. 2 credits.
- 224 **Graphic Reproduction Processes.** Introduction to graphic arts, history, design and layout, basic letterpress printing, linoleum block printing, basic screen process printing, rubber stamp making, duplicating, paper, ink, and book-binding. 3 credits.
- 225 **Photomechanical Processes.** Photomechanical processes related to letterpress, offset lithography, gravure, and screen process printing. Copy preparation, basic photography, line photography, photoengraving, photographic stencils, basic lithography, basic intaglio, and xerography. Prerequisite: 224. 3 credits.
- 240 **Metal Technology.** Processes of bench metal and art metal, and use of common metal working machines. Properties and characteristics of iron, steel, and the nonferrous metals. 3 credits.
- 242 **Sheet Metal.** Principles of pattern development. Use of hand tools and machines common to the area. Manipulative work such as soldering, riveting, transfer, assembly, and finishing of sheet metals. 2 credits.
- 244 **Welding I.** Principles and practices of gas and arc welding and brazing of cast iron, mild steel and aluminum. 2 credits.
- 260 **Industrial Materials and Processes.** Industrial materials in relation to the processes and products and production. 3 credits.
- 261 **Photographic Chemistry.** Chemistry of photography and the combined procedure of washing, outlining the effects of time, temperature and chemical strength on chemical activity. Chemical reactions, simple laboratory procedures and practical operation of densitometers. 3 credits.
- 262 **Photographic Sensitometry.** Effects of light on various photo sensitized materials. Measurement, evaluation and control of exposed photo sensitive materials. Photographic quality control systems and practical operation of sensitometers and densitometers. 2 credits.
- 271 **Electronics Technology III.** Vacuum tubes, types and characteristics; power supplies; amplifiers; oscillators. 2 credits.
- 272 **Electronics Technology IV.** Transistor theory; transistor circuit analysis and design. 3 credits.
- 275 **Electronics Technology V.** Design, construction, and operation of direct and alternating current machines; electric machine control mechanisms; transformers. 2 credits.

- 280 Programming CDC 1700 System.** Machine language and systems as related to internal functions. 2 credits.
- 281 EMCS Circuits.** Basic circuits of digital computer, gates, and, or, nor, nand, inverter and flip-flop circuits. Counters delay lines, registers, adders, subtractors and microelectronics. 2 credits.
- 282 EMCS Logic.** Central Processor, logic parallel data transfer, timing and sequence. Theory and types of memory units. 3 credits.
- 283 EMCS I/O.** Current peripheral equipment and comparison of basic computer systems. Maintenance and trouble-shooting. 3 credits.
- 284 EMCS Systems.** Applications of the computer and use of current I/O equipment, programming systems with techniques of designing systems, layout and computer needs. 1 credit.
- 311 Technical Drawing IV.** Construction and application of charts and graphs. Vector analysis, graphical nomograms, graphical layout of empirical equations and graphical mathematics. 3 credits.
- 312 Specification Drawing.** Material specifications, architectural specifications, structural specifications, and blue print analysis. 2 credits.
- 313 Technical Illustration I.** The translation of orthographic, working drawings into three-dimensional drawings by isometric, dimetric, trimetric, perspective and exploded view methods. Shading, rendering, use of templates, handbooks and reproduction equipment. Problems are integrated with technical report writing. 3 credits.
- 314 Technical Illustration II.** Student problems will constitute a resume of student's technical illustration ability, analytical ability and general knowledge of the specific field. A project will be chosen, designed, technical data researched and the drawing completed. Air brush techniques will be utilized. 2 credits.
- 317 Technical Report Writing.** Techniques of a report writer and the processes to follow in technical report writing. Analysis of the writing situation, methods of investigation, functional organization of the report, terminology, physical aspects of the report. 2 credits.
- 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). 2 credits.
- 323 Advanced Letterpress Printing.** Advanced techniques in letterpress printing including advanced hand composition, mechanical typesetting, letterpress printing plates, advanced imposition, advanced power platen press operation, automatic power presses, and miscellaneous related machinery and equipment. Prerequisite: 225. 2 credits.
- 325 Industrial Planning and Safety.** Plant and machinery layout, accident investigation and prevention. 2 credits.
- 326 Quality Control.** Practices in quality control measures including frequency distributions, control charts, sampling procedures and continuing analysis. Quality control statistics. 3 credits.
- 327 Properties and Testing of Metals.** An experimental laboratory study of the characteristics and testing of metals, including effects thereon of stress, heat and cold. 2 credits.
- 328 Strength of Materials.** Properties of materials, stresses and deflections in beams and columns; riveted and welded joints. Prerequisite: 221. 2 credits.
- 340 Foundry and Forging.** Principles of patternmaking, foundry and forging. Casting of nonferrous metal, forging of iron and steel and heat treating of metals. 3 credits.
- 343 Art Metal.** The design and making of original and useful articles from common and semi-precious metals. Ornamentation is emphasized. 3 credits.
- 344 Advanced Forging and Heat Treating.** Principles and practices of hot and cold forging and treating of metals. 2 credits.
- 346 Machine Metal I.** Care and use of lathe, miller, shaper, metal saws, and other machinery common to metal area. 2 credits.
- 351 Course Construction.** Techniques and devices employed in analysis to determine operations, jobs, and basic informations; format for organization of instruction within a particular area. A practical application of analysis within a philosophy of industrial arts. 2 credits.



- 361 **Photographic Processing Mechanisms.** Mechanisms and designs of photographic processing equipment. Nomenclature, function, and design requirements of various machines and component parts. Interrelation of light source, optical systems, and other mechanisms required for photographic exposure. 3 credits.
- 362 **Photographic Processes.** Concepts underlying the science of photography. Various types of processes for black and white, color, X-ray and graphic arts processing. Actual processing experience, using automatic photographic processing equipment. 3 credits.
- 365 **Plastics Technology.** Identification, classification, properties and uses of plastics. Design theory and experimental techniques of basic processes. 3 credits.
- 400 **Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in industry. 1-4 credits.
- 411 **Architectural Drawing.** Standard symbols and conventions used in building construction drawing. Designing of plan and elevation views of an ideal home. Some work in landscaping and pictorial representations. 3 credits.
- 412 **Industrial Design II.** Industrial design, stressing creativity, models and rendering in color. 2 credits.
- 426 **Graphic Arts Production I.** Practical experience in letterpress printing. Management of a small graphic arts business and laboratory work involving the operation of numerous machines and equipment. Three contact hours per credit. Prerequisite: 323. 3 credits.
- 427 **Graphic Arts Production II.** Practical experience in photo offset lithography. Management of a small graphic arts business and laboratory work involving the operation of numerous machines and equipment. Three contact hours per credit. Prerequisite: 424. 3 credits.
- 430 **Machine 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. 2 credits.
- 440 **Advanced Foundry Practice.** Materials, equipment and techniques used in volume production using both ferrous and non-ferrous metals. 2 credits.
- 444 **Technical Welding II.** The application of industrial welding techniques in heli-arc, redi-spot, forge, furnace, flow and pressure and chemical welding of metals. 3 credits.
- 446 **Machine Metal II.** Experimentation and application of metal working processes. Tool and die, application of automation to machine shop processes. 3 credits.
- 450 **Methods in Industrial Arts Education.** Lesson planning, instruction sheets, personnel organization, individual and group activities, progress charts, community resources, evaluation, and use of instructional aids. 3 credits.
- 461 **Unconventional Photographic Systems.** Concepts of holography, diazotype processes, deformable films, electro-photographic processes, dry silver systems, and other new systems. 2 credits.
- 480 **Power.** Theory and practical experience in varied sources of power: such as double and four stroke cycle engines; automotive, diesel, aircraft and steam engines. 3 credits.
- 490 **Driver Education and Traffic Safety Education I.** Critical analysis of traffic accidents, attitude factors, essential knowledge of automobile operation, traffic laws and regulations, responsibilities and traffic engineering. Includes laboratory experiences for developing driving skills. Prerequisite: H.E. 305. 4 credits.
- 491 **Driver Education and Traffic Safety Education II.** Methods of teaching, organization and administration of high school drivers and traffic safety education, including supervised student teaching experience. 4 credits.
- 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. Approved by college required for acceptance. 1-8 credits.
- 498 **Internship.** Offered only to students who hold internships with industrial organizations for which advanced approval has been given by the department. Senior Standing. 8 credits.
- 499 **Engineering Seminar.** The engineer's role in a technological society, the work of the engineer, engineering careers and the professional role of the engineer. Field trips to selected industries. Senior Standing. 0 credits.



### COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

- 417-517 Organization and Administration of Industrial Education.** Organization and administration of all-day, part-time, and evening industrial programs. 3 credits.
- 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. Prerequisite: 225. 3 credits.
- 425-525 Color Separation.** Introduction to color separation procedures. Basic color theory, color separation, plate-making, and multi-color printing. Direct and indirect color separation, continuous tone intermediates, filtering, masking, and color stripping. Prerequisite: 424. 3 credits.
- 431-531 Evaluation in Industrial Subjects.** Analysis of factors to be evaluated; instruments of measurement to be studied; and techniques of their use. 2 credits.
- 451-551 Selection and Organization of Subject Matter.** Technique of trade and job analysis, selection of teaching content, and organization of content into instruction sheets and course material. 3 credits.
- 452-552 Shop Planning, Equipment, and Maintenance.** Theory and practice in planning industrial education shops; selection, arrangement, and maintenance of equipment. Approaches to new shops and reorganization of existing shop areas. 2 credits.
- 471-571 Electronics Technology VI.** Theory and application of special transmitters, receivers, antennas. 3 credits.
- 472-572 Electronics Technology VII.** Industrial electronics; theory and application of industrial controls and systems. 2 credits.

### COURSES FOR GRADUATE STUDENTS

- 600 Special Problems.** A seminar or conference course for advanced students wishing to work out a special problem in industry. 1-4 credits.
- 601 Technology and Man.** Effects of invention and technological development on society with implication for man's general education. Not open to Industrial Arts majors. 3 credits.
- 604 Current Issues of Industry.** Current industrial issues, events, advancements and their effects on industrial education. Not open to student taking or who have taken Ind. 601. 3 credits.
- 615 Seminar in Industrial Education.** Group exploration of topics bearing on Industrial Education. (Example: Evaluation of psychology of learning as it relates to Industrial Education). 2 credits.
- 632 Technical Problems (Communication).** Technical study for specialists in communications. Recent developments, experimentation and technical reports. 3 credits.
- 640 Technical Problems (Manufacture).** Technical study for specialists in the manufacturing industry. Recent developments, experimentation and technical reports. 3 credits.
- 663 Technical Problems (Synthetics).** Technical study for specialists in the area of synthetics. Recent developments, experimentation and technical reports. 3 credits.
- 665 Technical Problems (Construction).** Technical study for specialists in the construction industry. Recent developments, experimentation and technical reports. 3 credits.
- 668 Current Literature and Research.** Analysis of literature of the industrial field, with special attention to individual readings and reports, implications of such literature for current problems in Industrial Education. 4 credits.
- 673 Leaders and Movements in Industrial Education.** Contributors to development of industrial education with special attention to economic, social, and philosophical factors motivating this development. 4 credits.
- 683 Technical Problems (Power and Transportation).** Technical study for specialists in the power and transportation field. Recent developments, experimentation and technical reports. 3 credits.
- 699 Master's Thesis.** 3-9 credits.

# Administration

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Ray Rowland, Director, Information Services & Public Relations

Donald Sikkink, Dean, School of Arts & Sciences

Arthur Sullivan, Assistant Vice President, Academic Affairs

Howard R. Weise, Director, Academic Services

# Faculty

- WICK, ROBERT HOBBIE, President, 1948-  
B.A., Northern University of Iowa; M.A., University of Southern California;  
Ph.D., University of Iowa.
- ABBOTT, THOMAS, Instructor of Music, 1966-  
B.Mus., Cincinnati Conservatory of Music; M.Mus., Chicago Musical College.
- ACREA, KENNETH, Assistant Professor of History, 1967-  
B.A., M.A., Drake University; Ph.D., University of Wisconsin.
- ADAMS, MARY, Instructor of Speech and Dramatic Art, 1966-  
B.E., St. Cloud State College; M.A., University of Minnesota.
- ADDICOTT, JAMES THOMAS, Instructor of Geography, 1968-  
B.S., North Dakota State University; B.S., Moorhead State College; M.A.,  
University of Kentucky, 1968.
- ALHELM, FRANK, Instructor of Art, 1966-  
B.A., Iowa State Teacher's College; M.A., State College of Iowa.
- ALLEN, THOMAS, Instructor of Music, 1966-  
B.Mus., M.Mus., University of Colorado.
- ANDERSON, ALAN C., Instructor of Physics, 1965-  
B.S., St. Cloud State College; M.S., Colorado State University.
- ANDERSON, ARLYNN L., Instructor of Physical Education, 1966-  
B.S., Wisconsin State University (Superior); M.S., Bemidji State College.
- ANDERSON, DERWYN L., Associate Professor of Psychology, 1968-  
B.A., North Park College (Chicago); M.A., Ph.D., University of North Dakota.
- ANDERSON, FLORENCE M., Instructor of Elementary Education, 1969-  
A.E., B.S., St. Cloud State College; M.A., University of Minnesota.
- ANDERSON, JAMES BRUCE, Assistant Professor of English, 1966-  
B.A., M.A., Southern Illinois University.
- ANDERSON, JAMES WENDELL, Professor of Education, 1966-  
B.S., St. Cloud State College; M.A., Ph.D., University of Minnesota.
- ANDERSON, MYRON G., Associate Professor of Philosophy, 1965-  
B.A., M.A., University of Minnesota; Ph.D., Brown University.
- ANDERSON, ROGER C., Associate Professor of Education, 1966-  
B.S., Mankato State College; M.A., University of Minnesota; Ed.D., University  
of North Dakota.
- ANDERSON, ROWLAND C., Professor of Mathematics, 1939-43; 1948-  
B.E., St. Cloud State College; M.A., University of Minnesota; M.S., Purdue  
University; Ed.D., Columbia University.
- ANFENSON, RODNEY, Assistant Professor of Physical Education, 1958-62; 1965-  
B.S., Bemidji State College; M.S., St. Cloud State College.
- ANNADALE, ARTHUR DAVID, Instructor of Psychology, 1968-  
B.A., Warner Pacific College; M.A., University of Arizona.
- APPLEGATE, IRVAMAE, Professor; Dean, School of Education, 1956-  
B.S., North Dakota Agricultural College; M.A., Ph.D., University of Minnesota.
- ARNDTS, RUSSELL T., Associate Professor of Chemistry, 1968-  
B.S., Bemidji State College; M.S., North Dakota State University; Ph.D.,  
Louisiana State University.
- ASKLAND, CARL L., JR., Instructor of Physics, 1967-  
B.S., Iowa State University; M.S., Saint Louis University.
- BALL, LYLE E., Professor of Marketing-General Business, 1957-  
B.S., Illinois State University; M.S., University of Illinois; J.D., University of  
North Dakota.
- BARGHOUT, SAAD HASSAN, Assistant Professor of Management & Finance, 1968-  
B.Comm., University of Alexandria, UAR; M.A., University of Chicago.
- BARKER, HUGH, Professor of Biology, 1946-  
B.E., Wisconsin State University (Whitewater); Ph.M., Ph.D., University of  
Wisconsin.

- BARRETT, ROGER LEE, Professor of Music, 1949-  
B.M.E., M.M., Drake University; Ph.D., State University of Iowa.
- BASCH, CHARLES J., Instructor of Physical Education, 1968-  
B.S., Concordia College; M.S., St. Cloud State College.
- BATDORF, LELAND C., Assistant Professor of Management-Finance, 1966-  
B.S., U.S. Coast Guard Academy; M.B.A., Harvard Business School.
- BAVERY, EDGAR A., Associate Professor of Elementary Education, 1968-  
B.S., M.S., Western Illinois State College; Ed.D., Colorado State College,  
University of New Mexico, University of Illinois.
- BECK, CATHERINE A., Instructor of Art, 1964-  
B.A., M.A., University of Minnesota.
- BECKER, ROBERT WILLIAM, Assistant Professor of Political Science, 1963-  
B.A., Hamline University; M.A., Michigan State University.
- BEHR, PHILLIP R., Instructor of Geography, 1962-  
B.S., M.S., St. Cloud State College.
- BENNETT, FLORENCE DUNN, Instructor of Education, 1953-  
B.S., St. Cloud State College.
- BENSON, ROBERT G., Professor of Marketing, 1958-  
B.S., M.S., St. Cloud State College; Ph.D., University of Iowa.
- BERLING, JOHN G., Learning Resources, 1968-  
B.S., St. Cloud State College; M.S.L.S., Wayne State University.
- BIRD, HOWARD A., Assistant Professor of Mathematics, 1966-  
B.S., Minot State College; M.S., University of North Dakota.
- BIRR, SHIRLEY, Instructor, Gray Campus School, 1968-  
B.S., M.S., St. Cloud State College.
- BISHOP, JANIS NORTH, Instructor of Biology, 1968-  
B.S., M.S., Colorado State University.
- BJORKLUN, EUGENE, Associate Professor of Secondary Education, 1967-  
B.S., M.A., Ed.D., University of Nebraska.
- BLEICK, FRANCES A., Professor of Physical Education, 1958-  
B.S., University of Nebraska; M.A., New York University; D.P.E., Indiana  
University.
- BLOOMER, BARBARA JANE, Instructor of Foreign Languages, 1964-  
B.A., St. Olaf College; M.A., University of Illinois.
- BOLTUCK, CHARLES J., Professor of Psychology, 1966-  
B.A., Sir George Williams University; Ph.D., Indiana University.
- BOLTUCK, MARY A., Assistant Professor of Psychology; Staff, Counseling and  
Related Services Center, 1964-  
B.A., Miami University; M.A., State University of Iowa.
- BOVEE, JOHN R., Assistant Professor of English, 1966-  
B.S., M.S., Bemidji State College; Ph.D., Washington State University.
- BOWER, THOMAS R., Instructor of Accounting, 1968-  
B.S., M.B.A., Northern Illinois University.
- BRAATEN, KARSTEN O., Assistant Instructor in English, 1969-  
B.S., Valley City State (North Dakota).
- BRAUN, THOMAS R., Director of Auxiliary Services, 1969-  
B.S., M.S., St. Cloud State College.
- BREITER, JOAN CATHERINE, Associate Professor of Education, 1968-  
B.S., M.S., Mankato State College; Ed.D., Colorado State College.
- BREWER, A. WILBUR, Professor of Secondary Education, 1965-  
B.S., Ohio State University; M.S., Western Washington State College; Ed.D.,  
Washington State University.
- BRINK, ALLEN L., Associate Professor of Mathematics, 1959-  
B.A., Concordia College (Moorhead); M.Ed., University of North Dakota; M.S.,  
University of Illinois.
- BROWN, DAVID R., Associate Professor of Art, 1965-  
B.A., M.F.A., Indiana University.
- BROWN, LUTHER, Professor; Director, Bureau of Learning Resources, 1956-  
B.S., Northeastern State College (Oklahoma); M.S., Oklahoma A & M College;  
Ph.D., George Peabody College for Teachers.

- BRUNCKHORST, JEANETTE IRENE, Instructor of English, 1966-  
B.A., Wisconsin State University; M.A., Northwestern University.
- BRUNCKHORST, LOUIS A., Assistant Professor of Sociology, 1966-  
B.A., Central College; M.A., Drake University;  
L.L.B.J.D., Marquette University.
- BRUTON, CHARLES, Assistant Professor of Biology, 1957-  
B.S., M.S., Oklahoma State University.
- BRYCE, ELLSWORTH SCOTT, Assistant Professor of Speech; Coordinator,  
Television Activities, 1964-  
B.A., Oberlin College; M.A., Indiana University.
- BUCK, RICHARD R., Assistant Professor of Library and Audiovisual, 1967-  
B.S., Wisconsin State University; M.A., University of Minnesota.
- BUCK, ROBERT LEE, Information Services, 1968-  
B.A., San Francisco State College; M.A., University of Iowa.
- BUCKLEY, CHESTER W., Associate Professor of Physical Education, 1966-  
B.S., South Dakota State University; M.A., Colorado State College of Educa-  
tion; D.P.E., Springfield College.
- BUNKER, TONI ANN, Instructor of Speech, 1968-  
B.A., Macalester College; M.A., University of Illinois.
- BURICK, LAWRENCE T., Instructor of Social Science, 1968-  
A.B., Miami University; J.D., Northwestern Law School.
- BURNES, BRUCE, Assistant Professor of Management-Finance, 1967-  
B.B.A., M.B.A., University of Minnesota.
- BUSSE, LAWRENCE R., Learning Resources, 1968-  
B.S., Mayville State College; M.S., University of North Dakota.
- CAIRNS, PAUL E., Professor of English, 1957-  
B.A., Adrian College; M.A. (Speech), M.A. (English), Ph.D., University of  
Michigan.
- CAMPBELL, CHARLES E., Assistant Professor of Library and Audiovisual Educa-  
tion, 1963-  
B.S., Northeastern State College (Oklahoma); M.S., Oklahoma State University.
- CARLSON, KENT F., Associate Professor of Mathematics, 1967-  
B.S., University of North Dakota; M.A., Washington State University; Ph.D.,  
Montana State University.
- CARPENTER, JOHN H., Associate Professor of Chemistry, 1968-  
B.A., Macalester College; M.S., Ph.D., Purdue University.
- CATES, EDWIN HINES, Professor of History, 1946-  
A.B., A.M., Ph.D., State University of Iowa.
- CERMELE, D. J., Assistant Professor of Speech and Dramatic Art, 1968-  
B.A., Antioch College (Yellow Springs, Ohio); M.F.A., Boston University.
- CHERRIER, LYNN, Learning Resources, 1967-  
B.S., Wisconsin State University; M.A., University of Minnesota.
- CHRISTOPHERSON, DUANE L., Learning Resources, 1967-  
B.S., St. Cloud State College.
- CLAPP, THOMAS W., Assistant Professor of Biology, 1967-  
B.S., Murray State College; M.S., North Dakota State University; Ph.D., Texas  
A & M University.
- COARD, ROBERT L., Professor of English, 1960-  
A.B., Quincy College; M.A., Ph.D., University of Illinois.
- COLEMAN, DANIEL ROBERT, Assistant Professor; Assistant Director of Institu-  
tional Research, 1967-  
B.S., M.S., St. Cloud State College.
- COLLETTI, EDWARD M., Assistant Professor of Physical Education, 1932-44;  
1946-  
B.E., St. Cloud State College; M.Ed., University of Minnesota.
- CONLIN, MARGUERITE, College Nurse, 1958-  
R.N., St. Mary's Hospital Training School (Minneapolis); P.H.N., University  
of Minnesota.

- CORLISS, RICHARD L., Assistant Professor of Philosophy, 1966-  
B.A., Taylor University; B.D., Northern Baptist Seminary; M.A., Ph.D.,  
University of Illinois.
- COULTER, JOHN C., Associate Professor of Elementary Education, 1967-  
B.S., St. Cloud State College; M.A., Ph.D., University of Minnesota.
- COX, LAVERNE A., Professor of Management-Finance, 1967-  
A.B., M.A., Ph.D., University of Nebraska.
- CRAIK, JAMES S., Instructor of Social Science, 1968-  
B.G.E., University of Omaha; M.A., University of Iowa.
- CRAIK, MARY BERNICE, Associate Professor of Psychology, 1968-  
A.A., Armstrong Junior College; B.A., M.Ed., University of Texas; Ph.D.,  
University of Iowa.
- CRANE, CHARLES LLOYD, Associate Professor of Art, 1958-  
B.A., M.A., Michigan State University.
- CRANE, EDWARD J., Instructor of Mathematics, 1966-  
B.S., Wisconsin State University; M.S., University of Wyoming.
- CRANE, MARY CONSTANCE, Instructor of Education, 1967-  
B.S., Wisconsin State University (Eau Claire); M.A., St. Cloud State College.
- CRAWFORD, AUDREY ROBISON, Assistant Professor, Gray Campus School, 1949-  
B.S., Mankato State College; M.A., University of Minnesota.
- CROCKETT, DAVID JOE, Assistant Professor of Management and Finance, 1968-  
B.B.A., M.A., University of Iowa.
- DAGGETT, CLAIR EDWIN, Professor of Marketing-General Business, 1939-42;  
1945-  
B.E., State University of Wisconsin (Whitewater); M.A., Ph.D., State  
University of Iowa.
- DALE, AMY HELENE, Assistant Professor of English, 1931-44; 1945-  
B.A., Macalester College; M.A., Colorado State College of Education.
- DALLMAN, MARTHA, Professor of Elementary Education, 1969-  
B.S., M.A. (Psychology), Ph.D., University of Minnesota; M.A. (Education),  
Columbia University.
- DAVIS, LELAND, Instructor of Sociology, 1966-  
B.S., St. Cloud State College; M.A., New Mexico Highlands University.
- DEININGER, MARIAN MacNEIL, Associate Professor of Sociology, 1968-  
B.A., M.A., Ph.D., University of Minnesota.
- DeZOPPO, CLAUDE F., Associate Professor of Sociology, 1957-  
B.S., M.S., St. Cloud State College.
- DENDINGER, RICHARD, Assistant Professor of Chemistry, 1965-  
B.S., Minot State College; M.S., North Dakota State University.
- DENNIS, JOHN D., Instructor of Speech and Dramatic Art, 1966-  
B.A., M.A., Northern Illinois University.
- DETRA, ELINOR M., Instructor of Speech, 1962-  
B.S., M.S., St. Cloud State College.
- DEVEREAUX, ROBERT W., Instructor of Speech and Dramatic Art, 1966-  
B.A., University of Minnesota; M.A., University of Nebraska.
- DOCKENDORFF, THOMAS P., Instructor of Geography, 1966-  
B.A., St. Mary's College; M.A., Chicago State College.
- DRENNAN, IRENE JANICE, Assistant Professor of Music, 1968-  
B.S., M.A., Northeast Missouri State College.
- DUFFY, ROBERT D., Assistant Professor of Speech Science, Pathology &  
Audiology, 1965-  
B.A., M.A., San Diego State College.
- DULL, ALYN NEIL, Associate Professor of Mathematics, 1956-  
B.S., St. Cloud State College; M.E., University of South Dakota.
- EARLES, GAIL A., Instructor of Mathematics, 1969-  
B.S., M.S. (Education), Illinois State University; M.S. (Mathematics), Rutgers  
University (New Jersey).
- EARLES, ROBERT W., Assistant Professor of Mathematics, 1969-  
B.S., M.S. (Education), Illinois State University; M.S. (Mathematics), Rutgers  
University (New Jersey); Ed.D., Colorado State College.

- EBERT, ARDEN L., Chief Engineer, Radio & Television, 1968-
- ELLENS, DAVID H., Admissions Counselor, 1966-  
B.S., M.S., St. Cloud State College.
- ELLINGSON, WILLIAM J., Associate Professor of Art, 1963-  
B.F.A., Minneapolis School of Art; M.F.A., State University of Iowa.
- ELLIS, BRUCE W., Instructor of Physics, 1964-  
B.A., Jamestown College; M.S., University of North Dakota.
- ELSEN, MARIE KATHERINE, Learning Resources, 1967-  
B.A., M.A., University of Minnesota.
- EL-SHAZLY, TALAAT ABDEL-RAHMAN, Assistant Professor of Accounting, 1967-  
B.S., Cairo University; M.S., University of Illinois.
- EMERY, URSULA MARY, Librarian, Gray Campus School, 1966-  
B.E., Wisconsin State University (Eau Claire); M.S., St. Cloud State College.
- ENGLAND, JULIANA E., Instructor of Speech & Dramatic Arts, 1968-  
B.A., University of Missouri.
- ERICKSON, GEORGE BECKER, Instructor of Geography, 1965-  
B.S., M.S., St. Cloud State College.
- ERICKSON, GEORGE OTTO, Instructor of Audiovisual Education, 1951-  
B.S., M.S., St. Cloud State College.
- ERICKSON, JOHN M., Professor of Chemistry, 1960-  
B.S., University of Wisconsin; M.S., South Dakota State University; Ph.D., Iowa State University.
- ERICKSON, W. EDWIN, Circulation and Reserve Librarian, 1966-  
B.S., M.S., St. Cloud State College.
- ERNEST, DAVID JOHN, Professor of Music, 1963-  
B.M., Chicago Musical College; M.S., University of Illinois; Sorbonne, University of Paris; Ed.D., University of Colorado.
- ERNST, CHARLES I., Associate Professor of Mathematics, 1962-1965; 1968-  
B.S., St. Cloud State College; M.A., State University of South Dakota; Ph.D., The Ohio State University.
- ERNST, JANE LYNDA, Assistant Instructor of Health, Physical Education and Recreation, 1965-  
B.S., Northwest Missouri State College.
- ESCALAS-CAIMARY, JAIME, Instructor of Foreign Languages, 1968-  
B.A., College of LaSalle; M.A., University of Barcelona.
- FALK, ARMAND E., Assistant Professor of English, 1968-  
B.A., Concordia College (Moorhead); B.S., University of Minnesota; M.A., University of Montana; Ph.D., Michigan State University.
- FARRAH, GEORGE A., Associate Professor of Elementary Education, 1968-  
B.S., M.E., Ed.D., Wayne State University.
- FAUROT, LYLE M., Instructor of Technology, 1967-  
B.S., M.A., University of Minnesota.
- FISCHMANN, RUEL E., Assistant Professor of Philosophy, 1968-  
B.A., M.A., University of California (Los Angeles).
- FLEISCHER, ANN H., Instructor of Foreign Languages, 1966-  
B.A., Hope College; M.A., Middlebury College.
- FLIS, JAMES R., Associate Professor of Business Education and Office Administration, 1968-  
B.B.A., B.S., M.A., Ph.D., University of Minnesota.
- FLOM, JAMES, Assistant Professor of Music, 1965-  
B.S., M.A., University of Minnesota.
- FOLKERTS, CARL J., Professor of Economics, 1949-  
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B.A., Pomona College; M.A., University of Illinois.
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B.S., South Dakota State University.
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B.S., Loras College; M.A., Drake University.
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B.S., University of Wisconsin (Milwaukee); M.F.A., State University of Iowa.
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B.F.A., Municipal University of Omaha; M.A., University of Denver.
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B.S., University of Illinois; M.S., University of California (Los Angeles);  
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B.E., Winona State College; M.S., Montana State College; Ph.D., University of  
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B.S., Concordia College; B.D., Luther Seminary; M.S., North Dakota State University.
- LANE, RICHARD BERT, Assistant Professor of Sociology, 1968-  
B.A., University of New Mexico; M.A., University of California (Santa Barbara).
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B.S., M.A., University of Minnesota.
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B.A., Ph.D., University of Arizona.
- LARSEN, ALLEN F., Assistant Professor of Economics, 1966-  
B.A., Augustana College (Illinois); M.A., Indiana University.
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B.A., Millikin University; M.S., Indiana University; Ed. Specialist.
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A.A., Stephens College (Columbia, Missouri); B.A., University of Iowa.
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B.A., University of Nebraska; M.A., Ph.D., University of Minnesota.
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B.A.E., M.S., Wayne State College; Ph.D., Iowa State University.
- LEASE, ALFRED A., Professor; Vice-President for Administrative Affairs, 1959-  
B.S., M.S., St. Cloud State College; Ph.D., University of Minnesota.
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- LEJA, ALFRED E., Associate Professor of English, 1968-  
M.A., Columbia University; Ph.D., University of Texas.
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B.Mus., M.Mus., Drake University.
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A.B., Ripon College; M.A., Southern Illinois University.
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- NUNN, WILLIAM HIESTAND, Associate Professor of Social Sciences, 1954-  
B.S., M.S., North Texas State University.
- OCHS, LINDA MARY, Instructor of Physical Education, 1965-  
B.A., Central Washington State College; M.S., University of Oregon.
- OLIPHANT, ROBERT A., Assistant Director, Placement Bureau, 1966-  
B.S., M.S., St. Cloud State College.
- OLSBURG, MICHAEL D., Instructor of Accounting, 1967-  
B.S., Valley City State College; M.S., University of North Dakota.
- OLSON, HARRY, Professor of Business Education and Office Administration, 1958-  
B.B.A., B.S., M.A., Ph.D., University of Minnesota.
- OLSON, MYRTLE EVELYN, Supervisor of Student Teaching, 1967-  
B.S., St. Cloud State College; M.A., University of Minnesota.
- O'NEILL, JAMES E., Assistant Professor of Spanish, 1964-  
B.A., M.Ed., St. Thomas College.
- ORVIS, JOHN WESLEY, JR., Catalog Librarian, 1966-  
B.S., St. Cloud State College; M.S., St. Cloud State College.
- OSENDORF, FRANK P., Instructor of Health, Physical Education and Recreation,  
1967-  
B.S., M.S., St. Cloud State College.
- OTTO, DON H., Associate Professor of English, 1969-  
B.A., Quincy College (Illinois); M.A., Drake University; Ph.D., University of  
Southern California.
- OTTO, JAMES G., Instructor of History, 1969  
B.A., M.A., University of Kentucky.
- OXTON, JOHN ROBERT, Instructor of Health, Physical Education and Rec-  
reation, 1967-  
B.S., Dickinson State College; M.S., University of North Dakota.
- PANTZKE, SANDRA B., Learning Resources, 1968-  
B.A., B.S., Bemidji State College.
- PARDUHN, LINDA JEANNE, Instructor, Gray Campus School, 1968-  
B.S., St. Cloud State College.
- PARK, THOMAS C., Associate Professor of Education, 1965-  
Diploma, Seoul Teachers College; B.A., M.A., Ed.D., University of Florida.
- PARKER, BARRY PATRICK, Instructor of Art, 1967-  
B.A.E., Eastern Michigan University; M.F.A., University of Massachusetts.
- PARSON, RUBEN L., Professor of Geography, 1967-  
B.S., Moorhead State College; M.A., Ph.D., Clark University; Certificate from  
Industrial College of the Armed Forces.
- PARTCH, MAX LORENZO, Professor of Biology, 1949-  
B.S., University of Minnesota; Ph.D., University of Wisconsin.

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\* On Leave of Absence 1969-70.

- PASCHALL, BILLY L., Assistant Professor of Sociology, 1964-  
B.A., M.A., University of Iowa.
- PATTON, DALE W., Professor; Vice-President for Student Affairs, 1963-  
B.E., St. Cloud State College; B.Mus., Northwestern University; M.Ed., Syracuse University; Ed.D., Arizona State University.
- PATTON, ELEANOR M., Instructor of Speech Science, Pathology and Audiology, Staff, Counseling and Related Services Center, 1963-64; 1966-  
B.S., Northwestern University; M.A., Arizona State University.
- PAYNE, DONALD LOREN, Associate Professor; Director of Campus Planning, 1968-  
B.S., M.A., Northeast Missouri Teachers College; Ed.D., University of Missouri.
- PEARSON, GEORGE, Instructor of Journalism, 1967-  
B.A., Gustavus Adolphus College; M.A., University of Minnesota.
- PECK, JOHN HUBERT, Assistant Professor of Biology, 1968-  
B.A., Clark University; Ph.D., University of California (Berkeley).
- PECK, WALLACE EDWARD, Assistant Instructor of Industrial Education, 1968-  
B.S., Moorhead State College.
- PEHLER, JAMES CLETUS, Television Services, 1967-  
B.S., M.A., St. Cloud State College.
- PERKINS, EUGENE REED, Associate Professor of Psychology, 1958-  
B.S., St. Cloud State College; M.A., University of Minnesota; Ed.D., Colorado State College.
- PERKINS, LORRAINE MILDRED, Instructor of English, 1961-  
B.S., M.S., St. Cloud State College.
- PERRY, FLOYD PAGE, Professor of Education, 1953-  
B.S., Eastern Oregon College of Education; M.A., Central Washington College of Education; Ed.D., Colorado State College.
- PETERSEN, MARY LOUISE, Assistant Professor of Psychology, 1949.  
B.S., University of Minnesota; M.Ed., University of Oregon.
- PETERSON, DALE W., Assistant Professor of History, 1966-  
B.A., Macalester College; M.A., University of Minnesota.
- PETERSON, DONALD D., Instructor in Social Sciences, 1966-  
B.S., Mayville State College; M.S., St. Cloud State College.
- PETERSON, DONALD GORDON, Assistant Professor of Biology, 1965-  
B.S., M.A., University of Minnesota; Ph.D., University of Minnesota.
- PETERSON, ROBERT A., Sports Information Director, 1965-  
B.S., St. Cloud State College; M.S., University of North Dakota.
- PHILLIPS, ALAN M., Assistant Professor of Philosophy, 1966-  
A.B., Knox College; M.A., Michigan State University.
- PHILLIPS, JOHN N., Professor of Philosophy, 1962-  
B.S., Northwestern University; M.A., University of Southern California; Ph.D., University of North Carolina.
- PIERCE, JON L., Instructor of Management and Finance, 1968-  
B.S., Wisconsin State University (Eau Claire); B.F.T., The American Institute for Foreign Trade (Phoenix, Arizona); M.S., University of Wisconsin; Post-Master, Johns Hopkins University.
- PIETZ, REUEL H., Instructor of Geography, 1965-  
B.A., Gustavus Adolphus College; M.A., East Carolina University.
- PLUTH, EDWARD J., Assistant Professor of History, 1966-  
B.S., M.S., St. Cloud State College.
- POLESACK, FRED G., Instructor, Gray Campus School, 1964-  
B.S., St. Cloud State College; M.A., Colorado State College.
- POTTER, PATRICIA S., Assistant Professor; Assistant Dean of Students, 1963-  
B.S., M.S., University of Wisconsin.
- POU, WENDELL M., Assistant Professor of Physics, 1966-  
B.S., Millsaps College; M.S., Vanderbilt University.
- PURDOM, BOYD A., Associate Professor of Education, 1968-  
B.A., M.A., University of Kentucky; Ed.D., George Peabody College for Teachers.



- RADOVICH, WILLIAM, Assistant Vice-President for Administrative Affairs, 1966-  
B.S., M.S., St. Cloud State College.
- RAJENDER, GANDI R., Director, Bureau of Business Research, 1967-  
B.S., Madras University, India; M.S., Ph.D., University of Wyoming.
- RASCHKE, KENNETH E., Assistant Instructor of Electronics, 1968-  
B.S., Winona State College.
- RAUCH, KEITH J., Director, Admissions and Records, 1965-  
B.S., M.S., St. Cloud State College.
- REDDING, ARTHUR J., Associate Professor of Psychology, 1968-  
B.S., Mankato State College; M.A., Colorado State College; D.Ed., University  
of North Dakota; Specialist Diploma, University of Texas.
- REGNIER, ROBERT E., Assistant Professor of English, 1966-  
B.S., St. Cloud State College; M.A., University of Oregon.
- REHA, ROSE K., Assistant Professor of Business Education and Office Adminis-  
tration, 1968-  
B.S., Indiana State University; M.A., University of Minnesota.
- REHWALDT, CHARLES A., Professor of Biology, 1965-  
B.A., Mankato State College; M.S., University of Minnesota; Ph.D., State  
University of New York.
- REID, SHERWOOD J., Director of Field Services, 1966-  
B.A., Hamline University; B.S., St. Cloud State College.
- REND AHL, STEPHEN E., Instructor of Speech and Dramatic Arts, 1968-  
B.A., Concordia College (Moorhead); M.A., University of North Dakota.
- RICE, ARLENE M., Instructor of Physical Education, 1959-62; 1964-  
B.S., St. Cloud State College.
- RISELING, ROBERT L., Instructor of Art, 1967-  
B.A., M.A., University of Northern Iowa.
- ROBINSON, KAREN, Learning Resources, 1968-  
B.A., M.A., University of Minnesota.
- ROCHFORD, BETH, Assistant Professor, Acting Director of Information Ser-  
vices, 1968-  
B.A., Iowa Wesleyan College; M.A., University of Iowa.
- ROCK, JOHN L., Assistant Director of Housing, 1967-  
B.A., University of Minnesota.
- RODBERG, THOMAS M., Instructor of Music, 1968-  
B.S., Ohio State University; M.A., University of Denver.
- ROSKE, PATRICIA A., College Nurse, 1968-  
R.N., St. Cloud Hospital.
- ROSSMAN, FLORENCE PATRICIA, Instructor, Gray Campus Lab School, 1967-  
B.S., M.S., St. Cloud State College.
- ROUCH, ROGER L., Associate Professor of Elementary Education, 1967-  
B.S., Indiana Central College; M.S., Butler University; Ed.D., Ball State  
University.
- ROWLAND, HOWARD RAY, Assistant Professor; Director, Information Services,  
1959-  
B.J., University of Missouri; M.S., Southern Illinois University.
- ROY, JAMES P., Professor of Art, 1964-  
B.A., Concordia College (Moorhead); M.A., University of Iowa; Ed.D., Penn-  
sylvania State University.
- ROYER, LEWIS R., Instructor of Industrial Education, 1968-  
B.S., Mankato State College; M.A., University of Minnesota.
- RUSSELL, HOWARD H., Professor of English, 1963-  
B.A., M.A., University of Minnesota; Ph.D., University of North Dakota.
- RUSSELL, MARY F., Instructor, Gray Campus Lab School, 1961-  
B.S., College of St. Scholastica; M.S., St. Cloud State College.
- RYAN, ROBERT D., Professor of Industrial Education, 1962-  
B.A., Wayne State College; M.A., Ed.D., Colorado State College.
- RYDBERG, DAVID G., Acquisition Librarian, 1966-  
B.S., M.S., St. Cloud State College.

- RYLANDER, JOHN D., Assistant Professor of English, 1965-  
B.A., M.A., San Jose State College.
- SAFFELL, DAVID C., Assistant Professor of Political Science, 1966-  
B.A., Baldwin-Wallace College; M.A., Ph.D., University of Minnesota.
- SAMARRAI, ALAUDDIN, Associate Professor of History, 1968-  
B.A., M.S., Ph.D., University of Wisconsin.
- SAURE, MABETH LOUISE, Assistant Professor of Music, 1968-  
A.B., Augsburg College; M.Mus., Northwestern University (Evanston, Illinois);  
A.Mus.D., The University of Michigan.
- SAVAGE, CARL CLAYTON, Associate Professor of Library and Audiovisual Edu-  
cation, 1968-  
B.A., Belmont College; M.R.E., Ed.D., New Orleans Baptist Seminary; Post  
Graduate Study at University of Colorado.
- SAVAGE, MARY ANNE, Instructor of Foreign Languages, 1966-  
B.A., College of St. Catherine; M.A., University of Wisconsin.
- SCHARF, MARY CHRISTINE, Associate Professor of Psychology; Staff, Counsel-  
ing and Related Services Center, 1949-  
B.S., M.A., University of Minnesota; Ed.D., University of North Dakota;;  
Certified Psychologist.
- SCHATTSCHEIDER, GARL CARL, Instructor of Speech and Dramatic Art, 1968-  
B.A., M.A., St. Cloud State College.
- SCHELSKE, ALVIN H., Professor of Student Teaching, 1953-65, 1969-  
A.A., Rochester Junior College; B.S., Mankato State College; M.A., Ed.D.,  
Columbia University.
- SCHIEMANN, RALPH, Instructor, Gray Campus School, 1968-  
B.S., M.S., St. Cloud State College.
- SCHMIDT, ORVILLE HAROLD, Associate Professor of Political Science, 1967-  
B.A., University of Minnesota; M.A., The George Washington University; Ph.D.,  
West Virginia University.
- SCHRADER, SHIRLEY L., Assistant Professor of Music, 1967-  
B.A., B.M., Colorado State College; M.A., The University of Denver; Ph.D.,  
University of Michigan.
- SCHULZETENBERG, ANTHONY C., Assistant Professor, Learning Resources;  
Technical Services Supervisor, 1965-  
B.A., St. John's University; M.S., St. Cloud State College; M.A., University  
of Minnesota.
- SENTZ, ERMA IONE, Supervisor, Student Teaching, 1968-  
B.S., M.A., University of Minnesota.
- SERAN, WILLIAM P., Instructor of Philosophy, 1967-  
B.A., Baldwin-Wallace College; M.A., University of Cincinnati.
- SERDULA, GEORGE, Professor of Health and Physical Education, 1957-  
B.A., Muskingum College; M.A., Ohio State University; H.S.D., Indiana  
University.
- SEVERSON, LELAND W., Learning Resources, 1968-  
B.A., Augsburg College; M.A., University of Minnesota.
- SHERARTS, THEODORE, Instructor of Art, 1966-  
B.Ph., University of North Dakota; M.F.A., California College of Arts and  
Crafts.
- SHIVES, AUBREY COURTNEY, JR., Instructor of Marketing and General  
Business, 1968-  
A.B., Duke University; M.B.A., University of Colorado.
- SHOEN, NORMA JOAN, Learning Resources, 1967-  
B.A., St. Cloud State College.
- SHURR, GEORGE WILLIAM, Instructor of Earth Science, 1967-  
B.A., University of South Dakota; M.S., Northwestern University.
- SIKKINK, DONALD E., Professor; Dean, School of Arts and Sciences, 1963-  
B.A., M.A., Ph.D., University of Minnesota .
- SIMPSON, ELEANOR E., Assistant Professor of Social Science, 1969-  
B.A., Park College (Missouri); M.A., San Francisco State College.

- SINHA, MYRTLE DORAI RAJ, Assistant Professor of English, 1967-  
B.A., University of Madras; M.S., University of Kerala; M.A., Ph.D., University of California.
- SKALBECK, BRUCE ALLAN, Instructor of Marketing and General Business, 1968-  
B.A., Mankato State College; M.B.A., University of Denver.
- SLOBETZ, FRANK BEN, Professor of Psychology, 1949-  
B.S., Kansas State Teachers College (Pittsburg); M.A., Ed.D., University of Missouri.
- SMELSER, LAWRENCE B., Associate Professor of Library and AV Education, 1969-  
B.S., Southwest Missouri State; M.Ed., Washington University; Ed.D., University of Oklahoma.
- SMITH, PETER C, Instructor of Geography, 1968-  
B.S., St. Cloud State College; M.A., Western Washington State College.
- SMITH, STEVEN A., Assistant Professor of History, 1967-  
B.S., Illinois State University; M.A., University of Illinois.
- SORENSEN, DAVID T., Assistant Professor of Chemistry, 1964-  
B.S., M.S., North Dakota State University; Ph.D., University of Kansas.
- SOWADA, LENORE, Instructor of Special Education, 1968-  
B.S., M.S., St. Cloud State College.
- STACH, ALEX G., Instructor of Sociology, 1967-  
M.A., University of Minnesota.
- STAHLECKER, WINSTON D., Assistant Professor of General Business and Marketing, 1968-  
B.S., Southern State (Springfield, South Dakota); M.A., Colorado State College.
- STANEK, JAMES F., Instructor of Health, Physical Education and Recreation, 1967-  
B.S., St. Cloud State College; M.E., University of Minnesota.
- STANGLER, LEO WILLIAM, Supervisor, Student Teaching, 1968-  
B.S., M.S., Mankato State College.
- STEIN, THOMAS E., Chief Program Advisor, 1969-  
B.S., St. Cloud State College.
- STELLING, CHARLES, Learning Resources, 1967-  
B.S., Concordia Teachers College (Seward, Neb.); M.A., University of Minnesota.
- STENNES, ERNEST KORMAN, Assistant Professor of Mathematics, 1955-  
B.A., Concordia College (Moorhead); M.A., University of Wyoming.
- STENNES, FLORENCE S., Assistant Professor of Mathematics, 1961-62; 1963-  
B.A., M.A., University of Illinois.
- STENSLAND, ALLEN GEORGE, Assistant Professor of Social Science, 1967  
B.A., Hamline University; M.S., Bemidji State College.
- SULLIVAN, ARTHUR FRANCIS, Assistant Vice-President for Academic Affairs, 1968-  
B.S., Manhattan College; M.A., Fordham University; Ph.D., Fordham University; Diploma in American Law and Procedure.
- SUMMERS, MARCIA ANN, Assistant Professor of English, 1969-  
B.A., Geneva College (Pa.); M.A., Ph.D., University of Illinois.
- SUNDBY, LAWRENCE CHARLES, Instructor of Accounting, 1966-  
B.A., M.B.A., St. Cloud State College.
- SWALLERS, CLAIR M., Instructor of Mathematics, 1966-  
B.S., North Dakota State University; M.A., University of South Dakota.
- SWANSON, DALE L., Assistant Professor of Speech and Dramatic Art, 1966-  
B.S., Mankato State College; M.S., University of Wisconsin.
- SWEENEY, CONNIE E., Instructor of Physical Education, 1968-  
B.S., M.S., St. Cloud State College.
- SWENSON, ALF A., Assistant Professor of Management and Finance, 1963-  
B.A., St. Olaf College; M.S., University of Minnesota; C.L.U., American College.
- SWENSON, KENNETH H., Supervisor, Student Teaching, 1967-  
B.S., M.S., Bemidji State College.

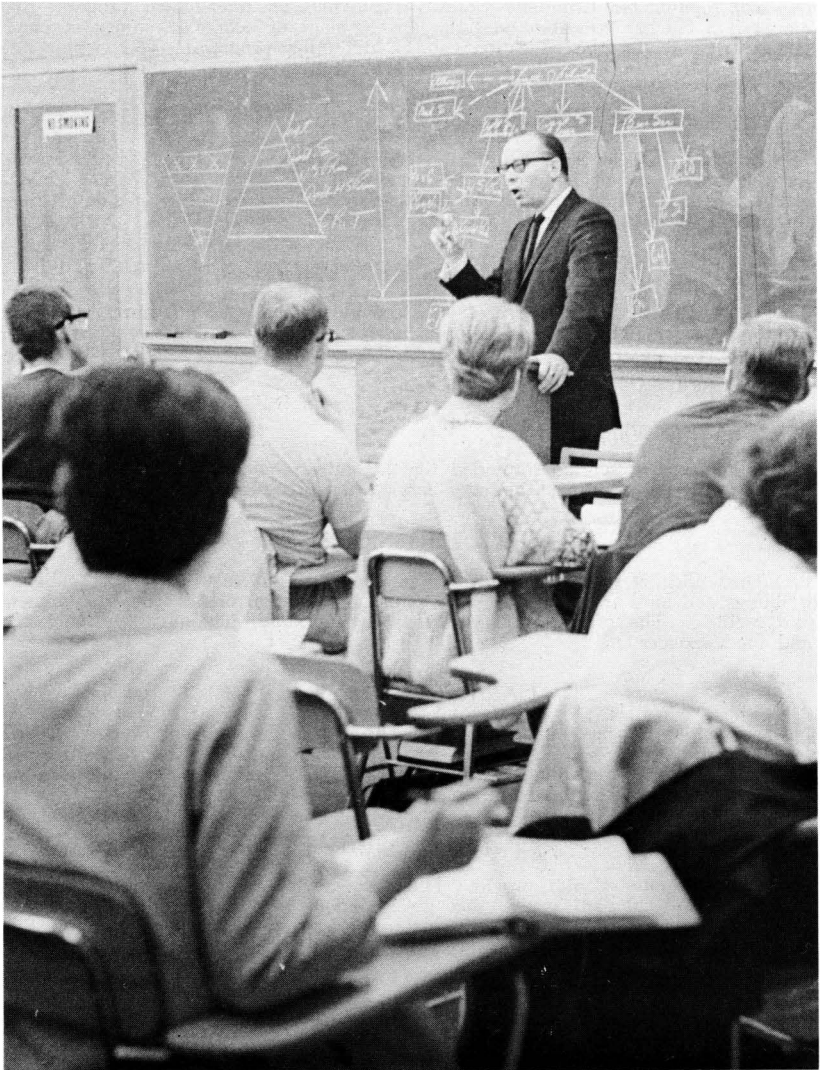
- SWENSON, MARTIN, Associate Professor of Elementary Education, 1968-  
B.S., University of North Dakota (Ellendale); M.Ed., University of North  
Dakota; Ed.D., University of Nebraska.
- SYKORA, MERLE H., Instructor of Art, 1965-  
B.S., Mankato State College; M.S., St. Cloud State College.
- SYVERUD, DEL FAYE, Instructor, Gray Campus School, 1968-  
B.S., St. Cloud State College.
- SYVERUD, LAWRENCE, Instructor of English, 1966-  
B.S., General Beadle State College; M.S., South Dakota State University.
- TEMLIN, DOROTHY EDITH, Instructor of Health and Physical Education, 1968-  
B.S.E., Southwest Missouri State College; M.S., University of Wyoming.
- TENNISON, PHILIP C., Instructor, Gray Campus School, 1967-  
B.S., M.S., St. Cloud State College.
- TEPLEY, LARRY D., Program Advisor, 1968-  
B.S., St. Cloud State College.
- TESSENDORF, RICHARD W., Instructor of Music, 1961-  
B.S., Bemidji State College; M.S., Mankato State College.
- THOMPSON, GLENN J., Assistant Professor of Library and AV Education, 1966-  
68, 1969-  
B.S., Augustana College; M.A., University of Minnesota; Ed.D., University of  
South Dakota.
- THOMPSON, MARVIN ORVILLE, Professor of English, 1956-  
B.A., Macalester College; M.A., Ph.D., University of Minnesota.
- THOMPSON, NEIL BAIRD, Professor of Social Science, 1967-  
B.S., M.S., Kansas State University; Ph.D., University of Minnesota.
- THOMPSON, RUTH, Instructor of English, 1963-  
B.S., Mankato State College; M.S., St. Cloud State College.
- THORNTON, WILLIAM G., Instructor of Physical Education, 1968-  
B.S., University of Kansas; M.S., University of Arkansas.
- TIMMERS, BEVERLY A., Instructor of Education, 1966-  
B.S., M.S., St. Cloud State College.
- TORBORG, FRANCIS G., Instructor of Technology, 1968-  
B.M.E., University of Minnesota.
- TOSH, LEO WAYNE, Assistant Professor of English, 1969-  
B.A., M.A., Ph.D., University of Texas.
- \*TRACY, ROBERT A., Instructor of Physical Education, 1963-  
B.S., M.S., Northern State College.
- TROYER, BEVERLY JAYNE, Assistant Professor of Physical Education, 1967-  
B.S., M.A., University of Minnesota; Certificate of Candidate in Philosophy,  
University of Minnesota.
- UMERSKI, MYRON S., Registrar, 1966-  
B.S., St. Cloud State College.
- VACEK, RODNEY, Instructor, Gray Campus School, 1967-  
B.S., M.S., St. Cloud State College.
- VAN AKIN, EVERETT FRANK, Assistant Professor of Mathematics, 1968-  
B.A., M.A., State University of New York (Albany).
- VANDELL, ROLAND ARTHUR, Professor of Mathematics, 1943-  
B.E., St. Cloud State College; M.A., University of Colorado; Ed.D., Univer-  
sity of North Dakota.
- VAN NOSTRAND, MANNING EUGENE, Professor of Psychology, 1949-  
B.A., University of Rochester; B.D., Colgate-Rochester Divinity School (New  
York); Ph.D., Boston University.
- VAN PELT, ELIZABETH S., Associate Professor of English, 1963-  
B.A., M.A., Ph.D., University of Illinois.
- VAN PELT, LYLE E., Assistant Professor of English, 1963-  
B.A., Bradley University; M.A., University of Illinois.
- VAUGHTER, PAUL H., Assistant Professor of History, 1962-  
B.A., M.A., University of Tulsa.

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\* On Leave of Absence 1969-70.

- VINJE, JOHN LLOYD, Instructor of Physical Education, 1966-  
B.S., Bemidji State College; M.Ed., Bemidji State College and University of  
Minnesota (Duluth).
- VOELKER, FRANCIS M., Instructor of English, 1959-  
B.A., St. John's University; M.S., St. Cloud State College.
- VOELKER, LUDMILLA A., Instructor of English, 1965-  
B.A., College of St. Benedict; M.A., St. Cloud State College.
- WALKER, RICHARD EARL, Associate Professor of Psychology, 1968-  
B.S., Millikin University; M.Ed., Certificate of Advanced Study, University of  
Illinois; Ed.D., Colorado State College.
- WALLIN, LELAND DEAN, Instructor of Art, 1967-  
B.F.A., Kansas City Art Institute; M.F.A., University of Cincinnati.
- WALTON, HOWARD RALPH, Assistant Professor of Industrial Education,  
1947-48; 1955-  
B.S., St. Cloud State College; M.A., University of Minnesota.
- WATKINS, IVAN, Assistant Professor of Physics, 1963-  
B.S., M.S., University of Kansas; Ph.D., Texas A & M University.
- WEHRLE, ROGER, Director of Atwood Memorial College Center, 1966-  
B.S., University of Iowa.
- WEISE, HOWARD R., Instructor; Director of Academic Services, 1966-  
B.S., St. Cloud State College; M.A., Colorado State College.
- WELCH, JEAN L., Instructor of Student Teaching, 1969-  
B.A., College of St. Catherine; M.S., Creighton University.
- WENTWORTH, DARRELL F., Assistant Professor of Management and Finance,  
1969-  
B.S., University of Omaha; M.S., University of Wyoming.
- WESLEY, CLARE J., Instructor of Economics, 1967-  
B.S., B.A., University of Denver; M.A., St. Mary's University of San Antonio.
- WHITE, JAMES E., Assistant Professor of Philosophy, 1964-  
A.B., Dartmouth College; M.A., Ph.D., University of Colorado.
- WHITFORD, AUDRA E., Professor of Business Education-Office Administration,  
1943-  
B.S., University of Wisconsin; M.A., University of Iowa; Ed.D., Columbia  
University.
- WHITT, BOYD R., Instructor of Industrial Education, 1968-  
B.S., M.S., Stout State University.
- WICKLANDER, DALE R., Instructor of Speech and Dramatic Art, 1966-  
B.S., M.A., University of Minnesota.
- WILLIAMS, THOMAS HAROLD, Instructor, Gray Campus School, 1968-  
B.S., St. Cloud State College.
- WILLIAMS, VIRGINIA GENEVIEVE, Assistant Professor of Business Education-  
Office Administration, 1952-  
B.S., Oklahoma College for Women; M.B.A., Denver University; Ed.S., George  
Peabody College for Teachers.
- WILSON, RUFUS W., Instructor of Physical Education, 1965-  
B.S., M.S., Mankato State College.
- WINK, JACK STANLEY, Instructor of Physical Education, 1956-  
B.S., M.S., University of Wisconsin.
- WIXON, LEWIS G., Instructor of Geography, 1966-  
B.A., University of Michigan; M.S., Indiana State University.
- WOLFER, ALTON C., Instructor of Social Science, 1968-  
B.S., North Dakota State University; M.S., Utah State University.
- WOOD, STANLEY F., Instructor of Industrial Education, 1968-  
B.S., M.S., St. Cloud State College.
- YOHO, DeVON L., Instructor of Economics, 1968-  
B.A., Westmar College; M.A., Purdue.
- YOOS, GEORGE, Assistant Professor of Philosophy, 1962-  
B.A., M.A., University of Missouri.
- YOUNGNER, PHILIP G., Professor of Physics, 1949-  
B.S., St. Cloud State College; M.S., Ph.D., University of Wisconsin.

- ZAHN, ULRICH, Instructor of Foreign Language, 1967-  
B.A., Northern Illinois University; M.A., University of Texas.
- ZENDER, JoANN, Instructor of Speech and Dramatic Art, 1965-  
B.A., M.A., University of Northern Iowa.
- ZETA, ELINORE M., Learning Resources, 1967-  
B.A., University of Pennsylvania.
- ZIEMER, GLADYS L., Instructor of Health, Physical Education and Recreation,  
1968-  
B.S., Mankato State College; M.S., University of New Mexico.



# College Services

## ACADEMIC SERVICES

Academic services available on campus in addition to courses of study include the Center for Economic Education, Educational Television and Learning Resources.

## CENTER FOR ECONOMIC EDUCATION

The Center for Economic Education provides an inter-school program that emphasizes teacher education and the development of economic education curriculum materials for the education courses and other programs. The Center also provides instruction, research and service to schools in Central Minnesota.

## EDUCATIONAL TELEVISION

Educational Television facilities on campus are used for teaching courses and for the production of college instruction via closed-circuit TV. Regular college courses are also taught by regular instructors on off-campus television stations through arrangements with the Coordinator for Radio and Television.

## LEARNING RESOURCES

The main function of this area is to provide the college with library facilities, including the Main Library and Campus School Library. In addition to this service are the special areas in the Audiovisual Center and Curriculum Materials Center.

## ADMINISTRATIVE SERVICES

Administrative services provided for the entire campus include the Auxiliary Services, Campus Planning, Computer Services and Institutional Research.

## AUXILIARY SERVICES

This office is responsible for the maintenance and security of the college's buildings and land areas including the care and operation of all college equipment and facilities. The office also supervises the bookstore, telephones, graphic arts and food services.

## CAMPUS PLANNING

This office is concerned with the expansion and development of the college's buildings and land areas. In addition long-range planning of physical facilities and developing policies regarding space utilization, construction, remodeling and related activities are coordinated through this office.

## COMPUTER SERVICES

The Computer Center provides both educational and administrative services with an IBM-1620 card system that gives students computer experience and an IBM-1401 disk and tape system for programming and administration.

## INSTITUTIONAL RESEARCH

This office processes governmental questionnaires, advises faculty members on research activities and initiates research projects with other professional groups and institutions. In addition, they study student enrollment and class distribution.

## INSTITUTIONAL RELATIONS

Special services that reach off campus include Alumni and Placement Offices, Information Services and Publications.

## ALUMNI OFFICE

The alumni office maintains a file of all graduates and publishes a magazine to keep alumni informed about the College. The Alumni Association directs a program of area reunions, sponsors alumni awards, participates in Homecoming and other activities on campus.

## PLACEMENT SERVICE

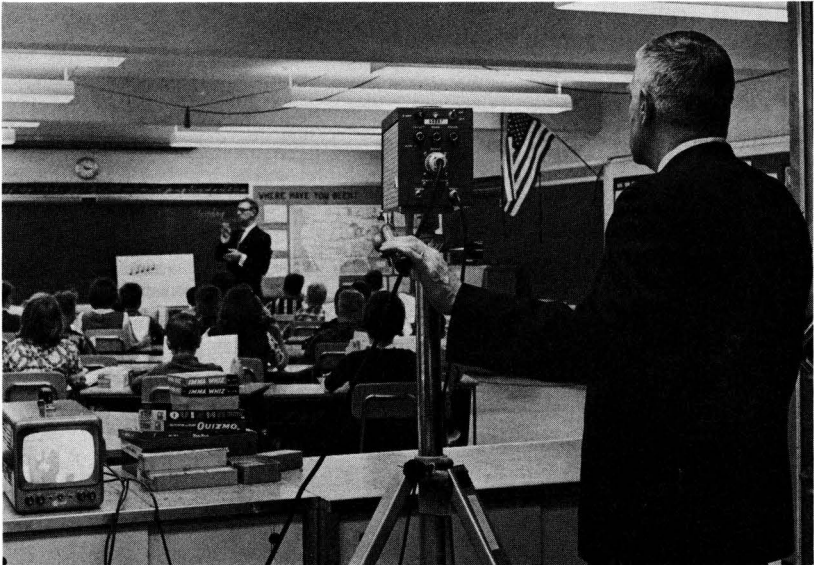
The placement office obtains accurate information concerning the character, personality, preparation, aptitudes and experience of graduates for employing officials to assist students in obtaining suitable positions. The Service also advises students in techniques of job application and informs them of vacancies.

## INFORMATION SERVICE

As the official college news and sports information agency for the college, this office disseminates information of general interest about the college to newspapers, radio and television stations and periodicals. The office also assists outside groups in scheduling activities on the campus and helps coordinate the Master Calendar.

## PUBLICATIONS OFFICE

This office helps coordinate all college publications and printed materials for faculty and students. Editing and specifications are prepared for the official bulletins off campus. In addition announcements and brochures for all departments are supervised through this office and published in cooperation with the Printing Service.





# Buildings and Grounds

The college campus has 27 buildings located between the Mississippi River and Fourth Avenue and Third and Tenth Streets. Ten residence halls are located on the north and east edges of the campus and ten classroom buildings are scattered from the center to the south end. The remaining seven buildings are service buildings.

## CLASSROOM BUILDINGS

Brown Hall - 1959	Houses science and mathematics classes. It has a science museum and auditorium for 250.	Named for Joseph C. Brown, the ninth president from 1916-1927.
Business Building-1968	The School of Business classrooms and offices are located in this building, together with the Center for Economic Education.	
Eastman Hall - 1929	Formerly a gymnasium. It has a swimming pool, classrooms and offices for Arts and Science.	Named for Alvah Eastman, a former member of the State College Board and Resident Director.
Gray Campus Laboratory School - 1958 & 1962	Elementary and junior high school for approximately 300 students, including special education classes for cerebral palsied children. It has a 200-seat auditorium, children's library and student teaching observation rooms.	Named for Thomas J. Gray, president from 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, who provided the college's first scholarship.
Headley Hall - 1962	Art and industrial education and technology building with shops, laboratories, classrooms and offices plus an art gallery and lecture auditorium seating 150.	Named for John W. Headley, president from 1947-1951.
Performing Arts Center - 1968	Music and speech and drama classrooms and offices, with the main theatre seating 485, a circle theatre, recital hall seating 300, rehearsal hall, private practice studios and television studio.	
Riverview - 1911	English classes and foreign language laboratories with audiovisual facilities plus offices are located here.	The second oldest building still on campus.
Stewart Hall - 1948	Largest classroom building on campus with 200 classrooms and offices, bookstore and an auditorium seating 1,200.	Named for Warren H. Stewart, a St. Cloud attorney, who was resident director from 1938-1948.

## RESIDENCE HALLS

Benton Hall - 1967 & 1968	Apartment-type residence for men and women. 300 beds	Named for Benton County.
Carol Hall - 1946	Originally a private home now housing 22 women.	Named for Carol Selke, wife of President George A. Selke
Case Hall - 1964	Men's residence hall with 200 beds.	Named for Marie E. Case, former faculty member.
Hill Hall - 1962	Women's residence hall with 200 beds.	Named for Helen Hill, faculty member for 37 years.
Holes Hall - 1965	First high-rise with nine stories housing 400 women.	Named for W. W. Holes, former member of the State College Board.
Lawrence Hall - 1905	Women's residence hall with 130 beds. Oldest building still on campus.	Named for Isabel Lawrence, president from 1915-1916.
Mitchell Hall - 1957 & 1959	Largest women's residence with 420 beds.	Named for W. B. Mitchell, former resident director.
Sherburne Hall - 1969	Tallest building on campus housing 450 women.	Named for Sherburne County.
Shoemaker Hall - 1915 1960	North hall houses 120 women. East and West halls house 400 men.	Named for Waite A. Shoemaker, president from 1902-1916.
Stearns Hall - 1966	Companion building to Holes Hall housing 400 men.	Named for Stearns County.

## SERVICE BUILDINGS

Atwood Memorial College Center - 1966	This partially completed building houses dining and recreation facilities and meeting rooms for students and faculty.	Named for the Clarence L. Atwood family. He was a former resident director.
B. Building - 1947	Counseling and related services are housed here.	
Garvey Commons-1965	Two dining rooms with cafeteria service seating 500 at one time.	Named for Beth Porter Garvey, first dean of women.
Kiehle Library - 1952	Houses library facilities, reading rooms, audiovisual classrooms and curriculum materials.	Named for David L. Kiehle, second president from 1875-1881.
Maintenance Building - 1964	Provides shops, warehouse and vehicle storage for the campus. It is attached to the Heating Plant.	
Talahi Lodge	A rustic lodge with fireplace and kitchen facilities overlooking the Mississippi in a wooded area a half mile south of the campus.	
Whitney House - 1956	This private residence is now used for the president's and other administrative offices.	A gift to the college from the heirs of A. G. Whitney.

### 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 130-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.

**Selke Field**

The varsity athletic field contains a baseball diamond, cinder track and football field, enclosed by a granite wall.

Named for George A. Selke, president from 1927-1943.

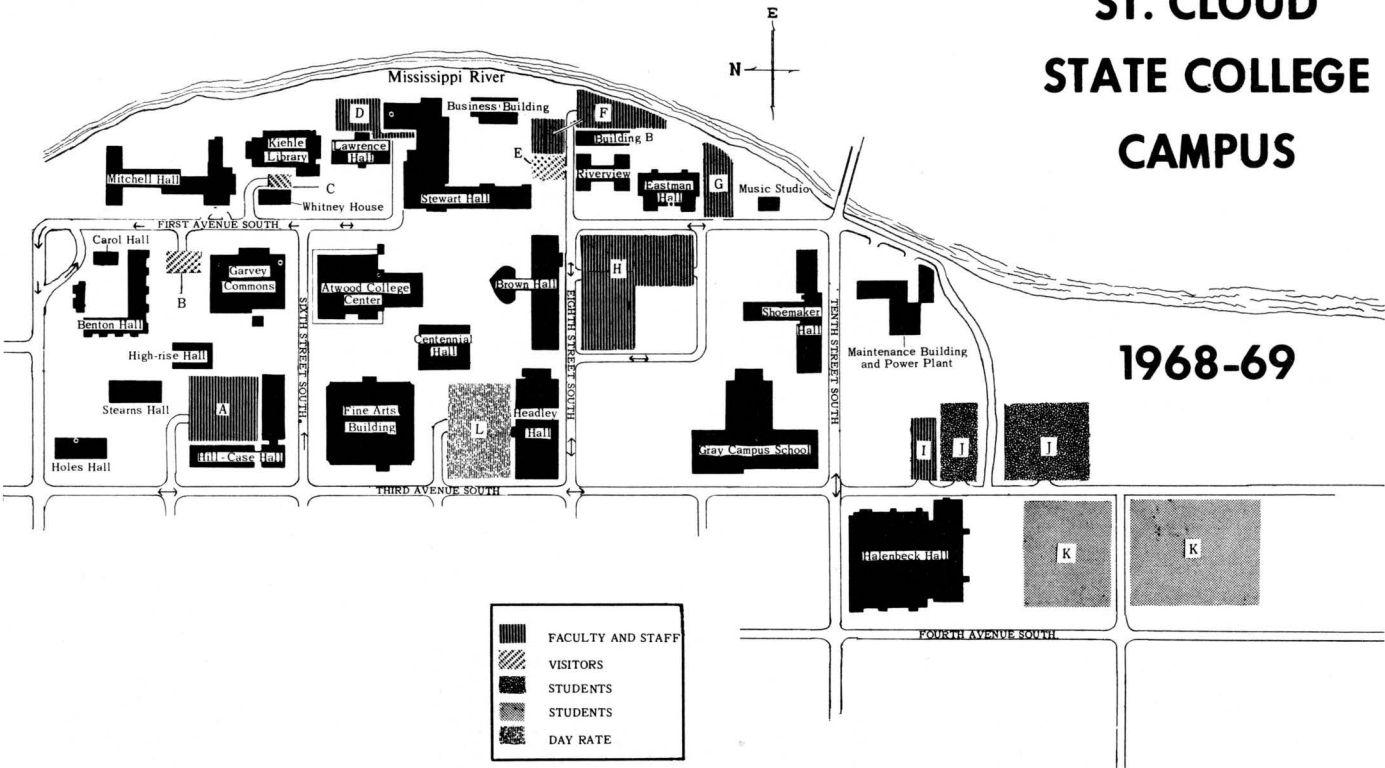
**Talahi Woods**

The upper river terrace area is being preserved as an oak savannah and is to be retained in its natural condition for biological study.



# ST. CLOUD STATE COLLEGE CAMPUS

1968-69



- FACULTY AND STAFF
- ▨ VISITORS
- ▩ STUDENTS
- ▧ STUDENTS
- ▦ DAY RATE

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COLLEGE BULLETIN

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# Academic Calendar 1969-1970

## 1969 FIRST SUMMER SESSION

June 16, Monday	Registration and payment of fees. Pre-registration cancelled at 12 noon.
June 17, Tuesday	Classes begin. Late fees apply.
June 20, Friday	Deadline for class changes, fees and graduation applications.
June 27, Friday	Deadline for dropping courses.
July 4, Friday	No classes.
July 18, Friday	Official closing First Summer Session - 5:00 p.m.

## 1969 SECOND SUMER SESSION

July 21, Monday	Registration and payment of fees. Pre-registration cancelled at 12 noon.
July 22, Tuesday	Classes begin. Late fees apply.
July 25, Friday	Deadline for class changes, fees and graduation applications.
August 1, Friday	Deadline for dropping courses.
August 21, Thursday	Summer Commencement.
August 22, Friday	Official closing Second Summer Session - 5 p.m.

## 1969 FALL QUARTER

Sept. 14-16, Sun.-Tues.	New Freshman and Transfer Students Orientation.
September 14, Sunday	Residence Halls open - 9:00 a.m. New Student Convocation - 2:00 p.m.
Sept. 15-16, Mon. & Tues.	Registration and payment of fees.
September 16, Tuesday	Pre-registration cancelled at 12 noon.
September 17, Wed.	Classes begin. Late fees apply. Deadline for Student Teaching applications for Spring Quarter assignment.
September 23, Tuesday	Deadline for class changes and fees.
October 7, Tuesday	Deadline for dropping courses.
Oct. 16-20, Thurs.-Mon.	Mid-term recess.
October 21, Tuesday	Classes resume.
November 3, Monday	Deadline for Fall graduation applications.
Nov. 26-30, Wed.-Sun.	Thanksgiving recess begins at 12 noon.
December 1, Monday	Classes resume.
December 12, Friday	Fall Commencement.

## 1970 WINTER QUARTER

January 2, Friday	Registration and payment of fees. Pre-registration cancelled at 12 noon.
January 5, Monday	Classes begin. Late fees apply. Deadline for Fall Quarter Student Teaching assignments.
January 9, Friday,	Deadline for class changes and fees.
January 26, Monday	Deadline for dropping courses.
February 2, Monday	Deadline for Winter Graduation applications.
March 20, Friday	Official closing of Winter Quarter - 5 p.m. Winter Commencement.

## 1970 SPRING QUARTER

March 30, Monday	Registration and payment of fees. Pre-registration cancelled at 12 noon.
March 31, Tuesday	Classes begin. Late fees apply. Deadline for Winter Quarter Student Teaching applications.
April 6, Monday	Deadline for class changes and fees.
April 20, Monday	Deadline for Spring Graduation applications. Deadline for dropping courses.
June 12, Friday	Official closing Spring Quarter - 5 p.m. Spring Commencement.

## 1970 FIRST SUMMER SESSION

June 15, Monday	Registration and payment of fees. Pre-registration cancelled at 12 noon.
June 16, Tuesday	Classes begin. Late fees apply.
June 19, Friday	Deadline for class changes, fees and graduation applications.
June 26, Friday	Deadline for dropping courses.
July 17, Friday	Official closing First Summer Session - 5 p.m.

## 1970 SECOND SUMMER SESSION

July 20, Monday	Registration and payment of fees. Pre-registration cancelled at 12 noon.
July 21, Tuesday	Classes begin. Late fees apply.
July 24, Friday	Deadline for class changes, fees and graduation applications.
July 31, Friday	Deadline for dropping courses.
August 20, Thursday	Summer Commencement.
August 21, Friday	Official closing Second Summer Session - 5 p.m.



