

LAKE SUPERIOR STATE UNIVERSITY



Sault Sainte Marie, Michigan

**1991-92
Catalog/Calendar**

The **CALENDAR/
CATALOG**
1991-92

**LAKE SUPERIOR
STATE UNIVERSITY**
Sault Ste. Marie, Michigan

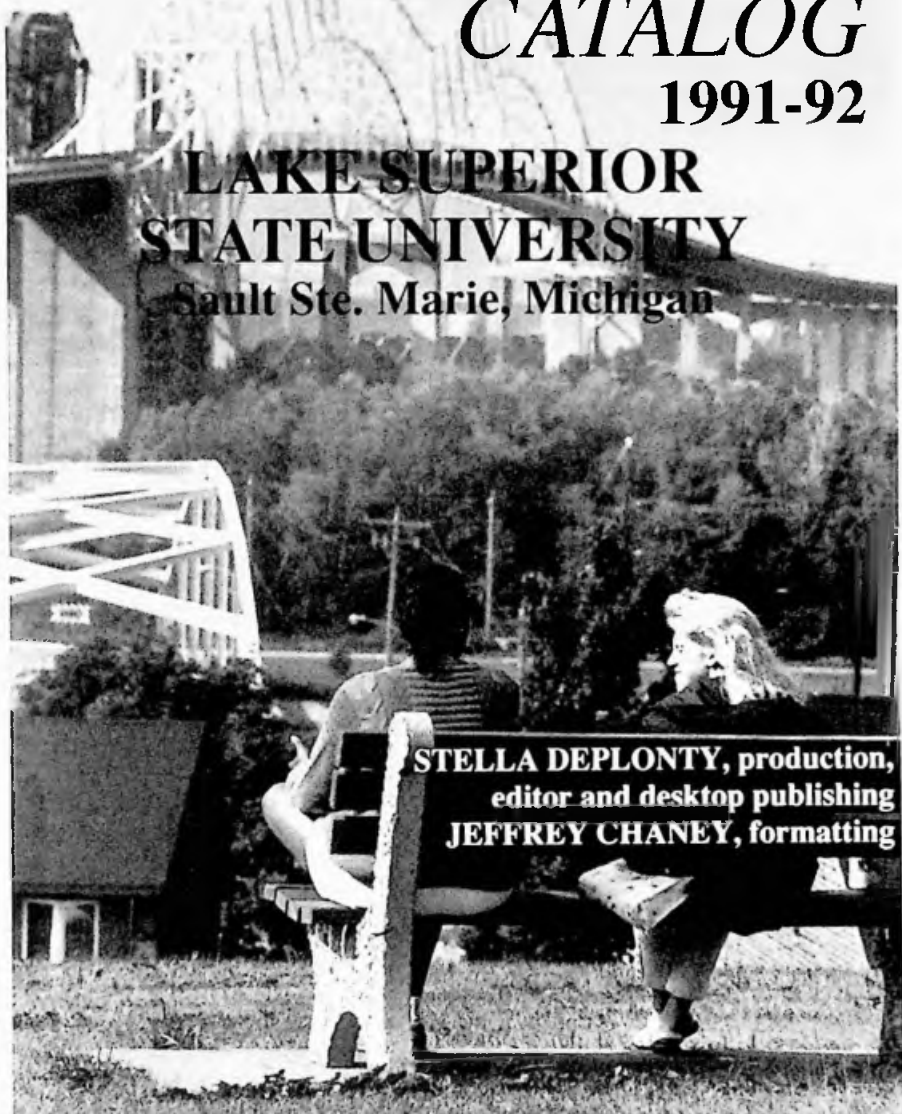


Photo by JOHN SHIBLEY

Published each year in August.

Contents are subject to change.

Consult department heads for details of such changes.

ADMISSIONS PHONES: 906-635-2231 or, toll-free, 1-800-682-4800, ext. 2231

PROGRAMS

DETAILS concerning these offerings are in the "Programs" section in the center of this Catalog/Calendar, listed under the departments by which they are taught.

Masters Degree

Business Administration (MBA)

Baccalaureate Degrees

(4 years)

Accounting, BS

Biology, BA, BS

Business Administration, BS

Concentration in: Accounting, Computer Information Systems Management, General Business Option, Hospitality-Administration, Hospitality/Foreign Language, Hospitality/Hotel-Restaurant Management, Management, Marketing, Office Administration

Computer and Mathematical Sciences, BS

Criminal Justice, BS

Concentration in: Conservation Law Enforcement*, Corrections, Criminalistics, Generalist, Law Enforcement, Loss Control, Public Safety

Engineering Technology, BS

Degrees in: Automated Systems Engineering Technology, Electrical Engineering Technology, Mechanical Engineering Technology

English Language and Literature, BA

Environmental Science, BS

Exercise Science, BS

Finance and Economics, BS

Fire Science, BS

Concentrations in: Engineering Technology, Generalist, Hazardous Materials

Fisheries and Wildlife Management, BS

Geology, BS

Concentration in: Environmental

History, BA, BS

Human Services, BS

Individualized Studies, BA, BS

Legal Assistant Studies, BS

Mathematics, BS

Medical Technology, BS

Nursing, BS

Political Science, BA, BS

Concentrations in: General, Pre-Law,

Public Administration

Psychology, BA, BS

Recreation Management, BA, BS

Concentration in: Parks and Recreation Management*

Social Science, BA, BS

Sociology, BA, BS

Therapeutic Recreation, BS

Associate Degrees

(2 years)

Business Administration

Business Data Processing

Chemistry

Computer Engineering Technology

Criminal Justice/Corrections

Criminal Justice/Law Enforcement

Drafting and Design Engineering Technology

Early Childhood Education

Electrical Engineering Technology

Fire Science

Legal Assistant Studies

Liberal Arts

Mechanical Engineering Technology

Natural Resources Technology

Office Administration

Substance Abuse Prevention and Treatment

Technical Accounting

Water Quality Technology

Certificate Program

(1 year)

Computer Drafting

Pre-Professional Transfer Programs

(1-4 Years)

Dentistry, elementary and secondary education, engineering, forestry, journalism, law, medicine, pharmacy, veterinary medicine, special education

*Must be preceded by completion of LSSU Natural Resources Technology Program

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About this catalog . . .

The Lake Superior State University Catalog does not constitute a contract between the University and its student on either a collective or individual basis. It represents LSSU's best academic, social, and financial planning at the time of publication. Course and curriculum changes, modification of tuition; fees, dormitory, meal, and other charges, plus unforeseen changes in other aspects of LSSU life, sometimes occur after the Catalog has been printed, but before the changes can be incorporated in a later edition of the same publication. Because of this, Lake Superior State University does not assume a contractual obligation with its students for the contents of this Catalog.

LSSU admits and hires men and women, veterans, and disabled individuals of any race, color, national, or ethnic origin, or marital status in compliance with all appropriate legislation, including the Age Discrimination Act. The compliance officer is Ruth Gendzwill.

WHAT

Lake Superior State University encourages in its students a desire to learn and a willingness to serve. The primary purpose of the University is to educate and train young people for rewarding careers and lives of meaning. We:

REGARD STUDENTS *as mature, responsible individuals* engaged in the processes of self government which are essential in a democratic society.

TEACH INDIVIDUALS, *not groups;* with a close-working relationship between instructors and students. Each student has a faculty advisor and may also consult the counseling service.

EDUCATE STUDENTS *for well-rounded lives;* not only intellectual competence, but physical, social, and cultural development. The program of general education includes courses such as recreational activities, natural sciences, social sciences, English language and literature, and the humanities. Athletic events, clubs, dramatic and cultural presentations, and student self-government organizations offer a wide variety of co-curricular activities.

TEACH FUNDAMENTALS *and their application.* In modern society knowledge increases so rapidly that specific facts may become obsolete even before they are widely learned. Close attention to fundamentals is necessary. The University attempts to inculcate habits of learning, thinking and doing which,

thoughtfully modified, will endure for a lifetime.

ENCOURAGE INITIATIVE, *self criticism, and intellectual curiosity;* learn by doing. Education in fundamental knowledge should be supplemented by laboratory and field work in order that university preparation closely resembles conditions in professional careers. Students should develop lifelong intellectual curiosity and discovery, become constructive critics of themselves and of society, and learn to prize creative, original thinking.

IN RETROSPECT

HISTORIC: Lake Superior State University is a hilltop campus, situated on the historic site of Fort Brady, a U.S. Army post dating back to 1822. The campus overlooks the St. Mary's River and the famous Soo Locks. After the fort was deactivated in 1944, the property was acquired by Michigan Technological University to establish a branch. Thus, the campus is a blend of historic and modern architecture. The University was accorded four-year status by the State Board of Education in 1966, and authorized to grant baccalaureate degrees.

WE ARE

The first baccalaureate class graduated in 1967. Autonomy, separating the University from Michigan Technological University, was granted January 1, 1970. On November 4, 1987, Governor James Blanchard signed legislation changing Lake Superior State from College to University.

CAMPUS RESIDENCE facilities include two conventional halls, a Student Village with eight-man and eight-woman apartments, townhouses, a mobile home park, small group housing and several apartment buildings. Canusa Hall provides food service facilities. The Walker Cisler Center offers recreational facilities as well as a snack bar, student offices, and meeting rooms. The James Norris Physical Education Center provides ample opportunity for a variety of recreational activities, intramurals, courses and intercollegiate athletics. The Center for Applied Sciences and Engineering Technology offers students the latest in modern technological resources.

A seasoned faculty and high academic standards have earned Lake Superior State University a reputation for an enriched education in such areas as liberal arts, engineering technology, business administration, social sciences, biological sciences and their allied fields.

The need to provide continuing education for adults has not been overlooked. The University offers evening courses as well as conferences and cultural programs. Enroll-

ment of part-time students in day classes is encouraged.

Students find the close relationship between faculty and the student body is extremely valuable in the first years of university work. No one is "lost in the crowd" here.

THE CAMPUS

ENVIRONMENT: The campus provides a true university environment, with its own classroom and laboratory buildings, residence halls, library, auditorium, gymnasium, food services, and health center. It consists of 121 acres of spacious, wooded campus on the western heights of Sault Ste. Marie overlooking the St. Mary's River, Lake Superior and Sault Ste. Marie, Ontario.

Students find that the city of Sault Ste. Marie and its environs offer much of value to enhance their educational experiences. Sault Ste. Marie is one of the oldest cities in the United States. It was a fur trading center as early as the second quarter of the seventeenth century. In 1641, a Jesuit mission was established here, and 27 years later Father Marquette founded at the Sault the first permanent settlement within the limits of Michigan. The Sault celebrated its 300th birthday in 1968.

ACCREDITATION: How does this university rank with other educational institutions scholastically? Accreditation means the curricula, faculty, equipment, laboratories, and library of an institution have been

inspected and approved. Lake Superior State University is accredited by the North Central Association of Colleges and Secondary Schools.

Fourth year instruction in medical technology is in hospitals approved by the Council on Medical Education and Hospitals of the American Medical Association.

Engineering Technology associate degree programs accredited by the

Accreditation Board for Engineering and Technology, Inc. include: computer; drafting and design; electrical and mechanical engineering technology. The Board has also accredited four-year programs in electrical, mechanical and automated systems engineering technology.

The nursing program is accredited by the National League for Nursing.

WELCOME to Lake Superior State University. I look forward to personally meeting you during your time at the University.

This Catalog is intended to be your guide through your academic and student life at Lake Superior State University. It is given to you with the expectation that it will become a part of your personal library along with your dictionary, thesaurus, and any other reference books you need at your fingertips.

While I do not necessarily commend it to you for a first-time cover-to-cover reading, I do urge you to read the first third of the book before moving to those sections devoted to specific disciplines and degrees.

As in every other field of endeavor, it is essential that as a student at Lake Superior State University you know the academic rules by which we are expected to play. This book will help you with these and assist you in formulating questions if in your review particular areas are not adequately explained.

While many students come to the University with a firm choice of a specific career field, others are not so certain. The literature shows that, once enrolled in higher education, the majority of those pursuing a degree change their minds about their academic major. This is healthy. Education is discovery. What you thought was the right choice for you in high school may take a distant second to something you find in a general education course or elective at the University. In this situation, the Catalog becomes a re-starting point, and now you will have faculty and staff whom you know to call on for advice.

When your experience at LSSU is twenty years in the distance, I hope it will be fun to pull this book from the closet, dust it off, and reflect on interesting courses and faculty and, I hope, some very good times.

This is a multi-purpose book; one that can continue to work for and with you. Keep it and use it wisely.

Dr. H. Erik Shaar, President

UNIVERSITY TALK

BEFORE READING THIS CATALOG it would be well to familiarize yourself with terminology you will encounter along the way; words and phrases which you might not have previously encountered but are peculiar to the academic world:

ACADEMIC CREDIT (or credit hours, or, simply, credit): One academic credit is generally earned for every 15 hours in a lecture during a semester.

ACADEMIC PROBATION: What you get when your grade point average falls below an acceptable level.

ACADEMIC YEAR: Two 15-week semesters plus a summer semester.

ACCREDITED: Quality of academic programs has been approved by an outside, rating agency.

ADD: You may change your schedule by adding courses after you schedule. Check schedule booklet for dates.

ADMISSION: Your acceptance for enrollment.

ADVISOR: Faculty member who offers you academic advice, explains requirements, and assists in scheduling. Ask your department head for an advisor.

ASSOCIATE DEGREE: Awarded for (generally) two-year programs.

BACHELOR'S DEGREE: (Baccalaureate): awarded for four-year program.

CALENDAR: Important dates of the academic year.

CATALOG: (In Canada, this is called "the Calendar"): Published in June/July.

CERTIFICATE: Requires one year of study.

COREQUISITE: Course you must take during the same semester as another course.

COGNATE: A specified course, generally in field other than your major, which you must take for your program.

COMPETENCY REQUIREMENTS: You must pass tests in writing and mathematics before you receive your degree.

COURSES: Listed in the Academic Departments section of this Catalog, generally show a course number--EN 110 - followed by the course name - Freshmen Composition and the number of academic credits for the course (3) shown at the right of the column.

CREDIT: See academic credit.

CURRICULUM: (major, program) Courses required for specific degree or certificate.

CUT: Deliberately miss a class for no good reason. In high school you "skipped".

DELETE: (DROP) You may change your schedule by dropping classes after you schedule. See scheduling booklet for dates.

DEPARTMENTS: Seven academic departments, each administered by a "head" and offering courses in one or more disciplines.

DISCIPLINE: Group of related courses such as mathematics.

DROP (DELETE) AND

ADD: You may change your schedule by dropping or adding courses after you schedule. Check scheduling booklet for dates.

ELECTIVE: Course distinguished from required course. You pick it from a number of specified courses.

FIELD PLACEMENT: See practicum.

FINANCIAL AIDS: Includes grants, loans, scholarships, or work-study.

FULL-TIME STUDENT: If you enroll for 12 or more credit in a semester.

GENERAL EDUCATION REQUIREMENTS: a group of courses you must take to earn a bachelor's degree or an associate in Liberal Arts Degree, provides you with broadly based education.

GED EXAMINATIONS: (General Education Development Examination): You take this if you didn't finish high school, but believe you learned enough in other ways to qualify for university.

GRADE POINT AVERAGE (GPA): Number of points divided by the hours of credit attempted.

INTERNSHIP (practicum, field placement, or clinical): Courses or activities you must take outside of classroom or lab.

MAJOR (Curriculum): Your concentration of courses in your specific area.

MINOR: Your lesser concentration (20 credits or more).

PART-TIME STUDENT: You, if you take less than 12 credits in a semester.

PRACTICUM: Another word for internship.

PROFESSOR: General term for all faculty; also, a specific rank of college teachers who progress from instructor, assistant professor and associate professor to full professor.

Professors having a doctoral degree may also be referred to as "doctor".

PREREQUISITE: Certain courses you must successfully complete before you may enroll for another specific course. Students must satisfy prerequisites, and any other stated conditions, before enrolling in a course, or have permission from an instructor to waive the prerequisites. Enrollment in a course may be revoked if it is found before the end of the drop period that the proper prerequisites have not been met. Responsibility rests with the student to be certain that he/she has the approved prerequisites.

PROGRAM (also curriculum): A group of courses you must take in order to earn a degree or certificate.

REGISTRATION: Each semester you must request specific classes for the next semester, pay tuition, etc.

REQUIRED COURSES: You must take these to earn your degree.

SCHEDULE BOOKLET: Published before scheduling period for next semester. Includes course details and scheduling procedures.

SCHEDULING: Period each semester when you must request courses for next semester.

SEMESTER: Sometimes called term. See academic year.

SYLLABUS: Written description of course content.

TERM: Sometimes called semester. See academic year.

TRANSCRIPT: Record of all your courses kept by LSSU Registrar.

TRANSCRIPT, OFFICIAL: Mailed directly from principal's or registrar's office of issuing institution to LSSU admissions office. It must bear the seal of the institution and signature or stamp of school official.

WITHDRAWAL: Procedure when you drop a course or from school.

LIBRARY

THE LIBRARY provides a wide variety of resources and services for students and faculty. It contains more than 126,000 volumes of books, 16,000 bound volumes of periodicals, 75,000 microforms, and over 40,000 paper government documents. The current subscription list exceeds 1,000 individual titles. The Library has been a depository of select U.S. Government publications since 1982. The Audio-Visual Center, on the main floor of the Library, maintains a diverse collection of cassettes, filmstrips, games, kits, 16mm films, slides and video tapes. A closed-circuit television system transmits many of these materials to campus classrooms. To assist faculty and students in obtaining materials from other libraries, the Library maintains an interlibrary loan service through OCLC, a computer service linked to libraries throughout the United States with access to more than 19 million books and periodicals.

Library facilities include stacks open to all faculty and students, group study areas, CD-ROMs, microform

readers and printers, photocopy machines, equipment for using audio-visual materials, production equipment for making transparencies and other materials.

REFERENCE librarians on the main floor offer personal guidance in the use of the computerized catalog, indexes and abstracts and bibliographies. A handbook of library services and bibliographies are published by the library to assist faculty and students. Library tours and lectures are available to introduce students to the Library and teach library research skills.

The Library is a member of an Upper Peninsula-wide consortium of 105 libraries.

THE LIBRARY STAFF includes a director, Dr. Fredrick Michels; librarians, Ruth Neveu, Linda Cullum, Mary June, Maureen Delaney; and audio-visual specialist, Charles Gustafson.

NOTES

EQUAL OPPORTUNITY

Notice of Lake Superior State University's policy of compliance with Federal and State Law

LAKE SUPERIOR STATE UNIVERSITY

complies with all Federal and State laws and regulations prohibiting discrimination, and with all requirements and regulations of the U.S. Department of Education.

Lake Superior State University reaffirms its policy that no person shall be discriminated against, excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination in employment, or in any program or activity for which the University is responsible or for which it receives financial assistance from the Department of Education, on the basis of race, color, religion, national origin or ancestry, age, sex, marital status, height, weight, handicap, or veteran status.

Inquiries or complaints concerning the application of Title VII of the Civil Rights Act of 1964 which deals with nondiscrimination on the basis of race,

color and national origin, Title IX of the Educational Amendments of 1972 which deals with nondiscrimination in education programs on the basis of sex, and Section 504 of the Rehabilitation Act of 1973 which deals with nondiscrimination on the basis of handicap, should be made to the following University officers who have been designated to coordinate these programs, and act as Grievance Officers.

Applicants for admission and students: Dr. Harry Pike, executive vice president, Fletcher Center, Lake Superior State University. Telephone: 635-2684

Applicants for employment and employees: Ms. Ruth Gendzwill, director of employee relations, office of employee relations, Administration Building, Lake Superior State University. Telephone: 635-2614

LAKE SUPERIOR STATE UNIVERSITY grievance procedures for Title VII of the Civil Rights Act of 1964, Title IX of the Educational Amendment Act of 1972, and Section 504 of the Rehabilitation Act of 1973.

POLICY

1. The University encourages students, faculty and staff to report promptly instances of discrimination and discriminatory harassment. Once the University has been informed of such behavior it will take timely and appropriate steps to investigate the problem. At any step of the grievance process, time schedules as outlined in the process may be extended by mutual agreement in writing.
2. Individuals may discuss with the Grievance Officer concerns they may have regarding possible discrimination or harassment to learn what options are available.
3. **NONRETALIATION:** The University not only prohibits discrimination, including harassment, but also strictly prohibits any retaliation against any individual, who, in good faith, has registered a complaint under this procedure. Any supervisor, agent, or employee of the University who, after investigation, has been determined to have retaliated against any employee or student for using the complaint procedure in this policy will be subject to appropriate discipline up to and including immediate discharge. If an employee

believes he or she has been retaliated against for exercising his or her rights under this policy, the employee should use this complaint procedure.

4. All matters discussed in this process will be kept as confidential as possible.
5. Individuals have the right under the law to seek remedies from the Michigan Department of Civil Rights, the Equal Employment Opportunity Commission, the Office for Civil Rights, Department of Education or by court action. Individuals may file complaints of illegal discrimination on the basis of sex (Title IX) or handicap (Section 504) with the Office for Civil Rights, Department of Education, at the same time a grievance is filed under the University's procedure, during or after the use of the grievance process, or without using the grievance process at all. A Title IX or Section 504 complaint must be filed in writing with the Office for Civil Rights no later than 180 days after the occurrence of the possible discrimination.

**STEP 1:
INFORMAL COMPLAINT**

Any individual (complainant) with a discrimination or harassment complaint, may

contact the Grievance Officer in person.

The Grievance Officer will speak with the complainant and try to resolve the matter on an informal basis. At Step 1, all information will be kept confidential to the extent possible.

STEP 2: FORMAL COMPLAINT

If the problem cannot be resolved at Step 1 within five (5) working days from the date of first contact with the Grievance Officer, the complainant may submit a written complaint on a form provided by the Grievance Officer. The Grievance Officer will help the complainant complete the form if the complainant requests.

Within five (5) working days of the receipt of the written complaint, the Grievance Officer will send a Notice of Complaint, a copy of the complaint form, a response form and a copy of this procedure to the respondent. The respondent will submit the completed response within five (5) working days from the date the complaint is received by the respondent.

The Grievance Officer will conduct an investigation. The investigation should be completed within twenty (20) working days after receipt of the response. If the complaint is against the University as the Employer, the Grievance Officer will have thirty (30) days from the receipt of the

written complaint to investigate the matter.

Within ten (10) working days of completion of the investigation, the Grievance Officer will issue to complainant a written Determination stating whether the allegations of the complaint are true and any remedial action recommended.

At Step 2, information will be kept confidential to the extent possible.

STEP 3: HEARING

If either the complainant or the respondent is dissatisfied with the Grievance Officer's Determination, he or she may request that the matter be referred to a Hearing Panel for a hearing by submitting the form obtained from the Grievance Officer. The request for hearing must be submitted in writing to the Grievance Officer within five (5) working days after receipt of the Determination.

The President will appoint a permanent Hearing Panel composed of three members including, if possible, at least one female and one minority member. The Director of Budgets, Planning and Personnel will be the chairperson and will conduct the hearing.

The Grievance Officer will send a Notice of Hearing and a copy of the Request for Hearing to the complainant, respondent (if any), and Hearing Panel, scheduling

the hearing within fifteen (15) working days, unless the Panel Chairperson provides otherwise and so notifies those involved.

At the hearing the complainant and respondent will be allowed to give their own testimony, present the testimony of witnesses, documentary evidence or other evidence relevant to the proceedings and cross examine the other party's witnesses. The complainant and respondent may have an attorney or other advisor present. The Grievance Officer will present the findings of the investigation conducted at Step 2 and may present witnesses, if appropriate. To ensure the privacy of those involved, witnesses (other than the complainant and respondent) will be allowed in the hearing room only during their testimony. At the Chairperson's discretion, the hearing may be recorded.

Within fifteen (15) working days after completion of the hearing, the Chairperson will issue the Decision and recommended order of the Hearing Panel. The Decision will be mailed to the complainant and respondent with a copy to the Grievance Officer. The Chairperson will implement any action recommended by the Panel.

STEP 4: APPEAL

The decision of the Hearing Panel will be final and binding. If grievants wish to pursue the matter further, they may file with the outside agencies listed in Policy section, No. 5.

Section 5.02 of the by-laws of the Board of Regents, approved July 24, 1989, will not be invoked for grievances submitted for settlement under this procedure.

NOTES

ACADEMIC

The Academic Policies and regulations of Lake Superior State University which are intended to guide students through an orderly and successful pursuit of their academic goals, describe the necessary actions and procedures for which students are responsible. They outline the students' expectations and rights while enrolled as a university student. Advisors, department heads and personnel of university offices will help students to understand these policies and regulations; however, it is each student's individual responsibility to comply with them.

THE ACADEMIC YEAR

Lake Superior State University is on a semester system. (Previous to Fall Semester 1991 it was on a quarter system.) The academic year consists of a Fall Semester (late August through December) and a Spring Semester (January through April or early May). Fall and Spring Semesters consist of fifteen weeks of instruction followed by a week for final examinations. During the Summer Semester (May through early August) most courses are conducted during an eight week period which includes two days for final examinations. Specific dates for each semester are found in the University Calendar located elsewhere in this book.

ACADEMIC CREDIT

In a lecture/recitation type course students receive one credit for each fifteen hours of classroom instruction. (For example, a three-credit course of this type might be scheduled 9:00 to 9:50 AM Monday, Wednesday and Friday. An "hour"

period is usually only 50 minutes long, with ten minutes allowed for students to move from class to class.)

Courses including laboratory, field work or other non-lecture formats may be scheduled for more than one hour per week per credit. In general, one credit requires an average of three hours of the student's time per week for the semester. In lecture/recitation courses this would normally be accomplished with one hour of classroom attendance and two hours of preparation or study.

An average student credit load per semester is sixteen credits. One hundred twenty four credits is the minimum number required for a baccalaureate degree. Some programs require more than this minimum.

CLASSIFICATION OF STUDENTS

Students are assigned to one of four class levels as follows: 0 to 25 credits = Freshman; 26 to 55 credits = Sophomore; 56 to 87 = Junior; 88+ = Senior.

POLICIES

STUDENT CURRICULUM CHOICE AND ADVISING

Students are encouraged to select a major program upon admission to the University. The academic department offering the chosen program is called the "major department". The department head of the major department assigns an academic advisor to each of the students. An advisor assists students in course selection each semester, in understanding program and university requirements and regulations, in evaluating academic progress, and in other matters related to successful academic achievement. Lake Superior State University is firmly committed to providing students personalized advising and support. Students are encouraged to actively seek help from their instructors, advisors, department head, Counseling Center, and any other faculty, staff or office which they believe might be of assistance. The Counseling Center provides academic tutoring as does the Native American Center and academic departments. These services are usually provided without charge to enrolled students. Additional information concerning advising services is listed under testing and counseling service in this catalog.

Students who are undecided about their choice of a major program are classified as majoring in Liberal Arts, an associate degree program,

and assigned a provisional academic advisor until another major is chosen.

Students may change their major curriculum by processing a Curriculum Change Card through the Registrar's Office. The Registrar's Office, Counseling Center and departmental offices can provide students with the card and instructions for processing it. Curriculum Change cards must be filed with the Registrar's Office each time a curriculum change is made so that advisor materials, grade reports and graduation information will be sent to the correct department and advisor. Students will be assigned a new advisor when a curriculum change is made. Students may request a change of advisor by asking their major department head to make such change.

SEMESTER COURSE SELECTION

Each semester the Scheduling Office publishes a Course Schedule listing all courses offered during the semester along with related information such as days and hour of course offering, instructor and the final examination time. This booklet is available several weeks before the semester begins and contains timely and important information for students. Students are responsible for reading each semester's Course Schedule and adhering to its instructions. Course Schedules and

scheduling materials are available from all departmental offices and the Scheduling Office.

After academic advising, students schedule courses by submitting required materials to the Scheduling Office according to the time schedule described in the Course Schedule. After scheduling courses, students have a limited period of time to pay tuition and related fees. At the end of this period deregistration occurs. Deregistration means that students' registration in all classes is canceled. Students who are deregistered will usually find fewer available classes from which to choose when rescheduling.

Several factors assist or limit student course selections. Placement examinations for mathematics and English are administered by the Counseling and Testing Center located in Brown Hall. These examinations are required of all students before they schedule their first courses in mathematics or English.

MAXIMUM STUDENT CREDIT LOAD is twenty credits per semester, with the exception that students having a 3.00 cumulative grade point average may take additional credit with written approval of their major department head. Students on academic probation should not take more than fifteen credits per semester.

PREREQUISITES. Students must satisfy prerequisites, and any other stated conditions before enrolling in a course or have permission from an instructor to waive the prerequisites. Enrollment in a course may be revoked (with an N grade) if it is found during the regular drop period that the proper

prerequisites have not been met. Responsibility rests with students to be certain that they have the approved prerequisites.

Permission to take any course out of sequence is seldom granted even to exceptional students, since electing a course for which one is not prepared imposes an additional burden not reflected in the total number of credits being carried. Students must earn passing grades in a prerequisite course before taking the next course in sequence. For some courses a C (2.00) grade or better is required. Exceptions may be made only by department heads or the course instructor. Students who receive a D grade in a prerequisite course or a course in the major are strongly advised (and may be required) to repeat the course, and raise the D, before continuing.

REPEATS. Students may not repeat a course by enrollment or examination if they have passed a course for which the repeated course is a prerequisite. Exceptions may be granted by the department head with the concurrence of the Registrar.

CHANGES IN COURSE SCHEDULE. A period of time is provided at the beginning of each semester for students to add or delete courses or reschedule all classes after having been deregistered. Courses deleted during this period will not appear on a student's permanent record (transcript). The add/delete period for a full semester course begins on the first day of the semester, and ends on the sixth university business day. For courses which span less than a full semester, a shorter add/delete period may be established. During the add/delete period schedule changes are initiated at departmental offices which

maintain current records of class availability. In some cases faculty permission will be required for course changes. Detailed information on adding or deleting classes is provided to students in the Course Schedule booklet each semester. **A STUDENT'S ADD OR WITHDRAWAL FROM A COURSE IS NOT OFFICIALLY COMPLETED UNLESS THE APPROPRIATE FORM IS FILED WITH THE SCHEDULING OFFICE.** Students are advised to retain the official receipt they are given upon completion of an add or drop procedure.

LATE ADDS. Students requesting to add courses after the end of the add/delete period must obtain permission and a special form for this purpose from the Registrar's Office, obtain the written approval of the instructor, and then return the form to the Registrar's Office. A service charge will be charged for this procedure. **Students are responsible for all class work missed previous to adding a class.**

NON-ATTENDANCE AT FIRST CLASS. Students scheduled for a course, but not attending the first class meeting, may be deleted by the instructor during the delete period. In this case, the instructor shall submit a delete form and notify the student.

DROPPING COURSES AFTER THE ADD/DELETE PERIOD. Students may drop a course during the first five weeks (twenty five school days) of a full semester course. For courses running less than a full semester the semester Course Schedule booklet will contain official dates each semester. (The time period for dropping will be equal to a third of the course

instructional period.) A student's record shall indicate an N grade for each course officially dropped during this period. Forms for the procedure are available in departmental, Scheduling and Registrar's Offices.

After the five-week drop period, drops will be allowed only for extenuating circumstances. The student must receive the instructor's recommendation and the approval of the Registrar. Forms may be obtained at the Registrar's Office.

CLASS ATTENDANCE

Students at Lake Superior State University should be sufficiently mature to attend classes without being required to do so. Students must decide for themselves when it is necessary to be absent. In making such a decision, they must understand that instructors are authorized to lower grades if they believe a student's absence requires this action. The policy on attendance reads as follows:

1. Absences will be handled according to the instructor's discretion, consistent with departmental policy.
2. Instructors may report consecutive or excessive absences to the Executive Vice President.
3. Participation in an official University function shall be considered an excused absence when approved by the Vice President of Academic Affairs. Students shall not be penalized for participation in such a function; but students are responsible for work missed and must confer with their instructor on this matter.

COMPLETE WITHDRAWAL FROM THE UNIVERSITY

Full time students who withdraw from the University during the semester should report in person to the Counseling Center and complete a withdrawal form for the Registrar's office. The Registrar will authorize the appropriate refund, if any. Refunds will be mailed after the end of the refund period.

Proper clearance of University obligations assures that students can later receive transfer of credits. Students with a hold on their transcript will not receive a transcript of credits until clearance is complete.

THE GRADING SYSTEM

GRADE POINT AVERAGE (GPA). To compute the grade point average for a semester, divide the total points earned by the total credits carried. Credits carried include those failed or earned but not credits for Credit/No Credit courses. To figure the cumulative grade point average divide the total points earned by the total credits carried in all semesters. When a course is repeated, count only the credits carried and the points of the last grade earned. Thus, successfully repeating courses in which students initially earned a D or F is an effective way for them to improve their cumulative GPA. A cumulative grade point average of 2.00 for all credits carried is required for graduation. Further, the student must compile a 2.00 grade point

GRADES AND GRADE POINTS

Grades awarded are:

Grade	Grade Points per Credit
A - Excellent	4
B - Good	3
C - Average	2
D - Inferior	1
F - Failure	0
I - Incomplete	0
N - No Grade	0
Z - Deferred	0
CR - Credit	0
NCR - No Credit	0

average for all departmental courses required in the student's major and minor(s).

Incomplete grades (I): An incomplete grade is given only when students, because of circumstances beyond their control, are unable to complete a segment of the course. It must be made up by the date specified by the instructor which must be within a maximum of two semesters in residence, or else the incomplete grade becomes a failure. Summer semesters are not counted unless a student is enrolled for classes during the summer.

Deferred grades (Z): Deferred grades are given in those special courses where work is planned to extend beyond a single semester.

GRADE REPORTS. Reports concerning grades and credits are sent to each student after each semester. These reports are mailed to home addresses.

DEAN'S LIST. Students who complete twelve or more credits in a semester with a grade point average of 3.50 or higher will be placed on the dean's list for that semester, acknowledging their outstanding achievement.

ACADEMIC PROBATION

Students at Lake Superior State University enjoy a considerable degree of self-determination; they decide for themselves when and how long to work on each assignment. The best way to succeed in this task is to work out a weekly schedule with two hours of study time earmarked as preparation for each one-hour class. (In a few cases, the instructor may suggest some other division of time.)

Most students are able to maintain good work in all their courses. A few fall short of satisfactory performance. For them, a system of academic probation is used.

Academic probation is considered a warning to students that their scholastic performance is below the University's minimum requirements. During this period, students should determine for themselves whether to continue their programs as planned.

No student while on probation shall carry more than 15 credits per semester exclusive of band and recreational activities. The Executive Vice-president, in consultation with the student's advisor, may impose restrictions on the student's extra-curricular activities.

It is the responsibility of students to familiarize themselves with all academic regulations including those relating to probation, and to keep informed as to their academic standing. The rules governing academic probation, dismissal, and reinstatement follow.

1. Students will be on academic probation if their cumulative grade point average is in the "on probation" category.

2. Students whose cumulative grade point average at the conclusion of a semester falls into the dismissal range of the academic standing table will be dismissed.
3. After a first or second dismissal a student has the following options:
 - a. Allow two semesters (summer may be counted for one semester) to elapse before re-enrollment or
 - b. Petition the Scholastic Standards Committee for immediate readmittance. This action is initiated with the Registrar. The Committee can permit early readmittance with specific conditions required of the student or deny the student's request. Subsequent to the Committee's denial the student can further appeal to the Vice President for Academic Affairs, whose decision is final.
4. Students who continue after a dismissal will be dismissed again after any semester in which their cumulative grade point average falls in the dismissal category. The Registrar may allow the student to continue "on probation" with the record showing "on probation" instead of "dismissal", if the student's record has shown improvement during the semester and student has a 2.00 grade point average in courses carried for that semester.
5. Students dismissed a third time will not be reinstated without the permission of the Vice President for Academic Affairs. Three semesters must elapse from the time of dismissal before the

Academic Standing Table

Full and Part-time Students

Academic Probation and Dismissal Policy

Cumulative Semester Credits Carried at LSSU	Minimum for Good Standing	Cumulative Grade Point Average On Probation	Dismissal
1 - 18	1.81 *	less than 1.81	Not subject to Dismissal
19 - 25	1.81	1.41 - 1.80	1.40 or less
26 - 40	1.86	1.51 - 1.85	1.50 or less
41 - 55	1.91	1.61 - 1.90	1.60 or less
56 - 72	1.93	1.71 - 1.92	1.70 or less
73 - 87	1.95	1.81 - 1.94	1.80 or less
88 +	1.97 **	1.91 - 1.96	1.90 or less

*Students will not be dismissed for academic deficiencies until they have enrolled in at least 19 semester credits at Lake Superior State University.

**A cumulative grade point average of 2.00 for all credits carried at Lake Superior State University, and a cumulative grade point average of 2.00 for all courses required in the student's major and minor is necessary for graduation.

student may petition for readmittance. Summer may be counted for one semester.

- The Scholastic Standards Committee may, on the recommendation of a department head require students to withdraw from any course or courses in which their preparation, progress, effort or conduct is deemed unsatisfactory and may on the recommendation of the Vice President of Academic Affairs and/or Executive Vice President dismiss students from the University if their background, overall academic accomplishment, conduct or attitude toward their work is deemed unsatisfactory.

CREDIT/NO CREDIT COURSES

To encourage intellectual exploration, students may enroll in some courses on a credit/no credit basis for which either a grade of CR or

NCR is given. To be eligible for this option students must be in good academic standing, not on academic probation. Only one such course per semester is permitted and no more than twelve semester credits in such courses may be presented toward a student's degree requirements. Additionally, this credit/no credit option may not be selected in courses which satisfy major, minor or general education requirements. Students must apply at the Registrar's Office during the six-day add period if they want to enroll in a graded course under the credit/no credit policy. This option may not be changed after the six-day add period. Academic performance at the level of 2.00 or higher is required for the credit, CR, grade. Instructors are not advised of a student's option to be graded credit/no credit.

Certain courses are always offered with a credit/no credit grading format. Such courses have this information in their official course

descriptions and course syllabi. The above policy and limitations do not apply to these courses.

CREDIT BY EXAMINATION

There are three examination processes by which a student may earn credit for individual courses or general education requirements; Advanced Placement, CLEP and departmental examinations. Processes for taking Advanced Placement and CLEP examinations are described in the Admissions section of this Catalog. Students must be admitted to a degree program before being eligible to receive credit by examination. A maximum of 30 credits may be earned by examination. CLEP examinations, if available, will be used to determine whether credit shall be granted. Departments may provide their own examinations for certain courses. Students should inquire at the academic department offering the course whether a departmental examination is available. If an examination is available, the department head's written approval to take the examination must be obtained. An application form for credit by examination with explanation of the necessary procedural steps, may be obtained from the department head or the Registrar's Office. The fee amount will be equivalent to that for CLEP exams and students will not be charged tuition for the credits earned. An examination grade of 2.00 or better is required for credit to be earned. Course and credit earned by examination shall be recorded on the student's transcript with the grade marked as CR. Some universities may not accept for transfer, credit earned by departmental examination.

TRANSCRIPTS

Students desiring transcripts of their Lake Superior State University records must present or send a written request to the Registrar's Office. Information such as name (at enrollment), ID number, dates of attendance is necessary. A fee may be charged for each copy of the record.

The official record of the student's academic progress (transcript) will be forwarded only to those places or persons requested in writing by the student. Only "student copy" transcripts will be issued directly to a student. Students with financial or other obligations to the University will not receive a transcript until all obligations are cleared.

THE PRIVACY ACT

Section 438 of the General Education Provisions Act, as amended, sets forth the requirements to be met by an educational institution to protect the privacy of students. This Act is called the Family Educational Rights and Privacy Act and shall be referred to hereafter as the Act. The Act generally governs access to student educational records and the release of such records. The Act also requires that institutions of higher education must provide students access to official records directly related to the student and an opportunity for a hearing to challenge such records on the grounds that they are inaccurate, misleading or inappropriate. Educational institutions must also obtain written consent before

releasing personally identifiable data about students from records to other than a specified list of exceptions. In addition, students must be notified of these rights.

In accordance with provisions of the Act and the regulations enacted by the Department of Health, Education and Welfare, Lake Superior State University has adopted the following policies and procedures:

Section 1. General Policy on Access and Disclosure

Lake Superior State University shall not as a matter of policy or practice:

1. Deny or prevent students at the university the right to inspect or review the educational records of such students, or
2. Permit the release of educational records contrary to the provisions of the Family Educational Rights and Privacy Act and the policies and procedures set forth in the following sections.

Section 2. Notification to Students

Under the provisions of the Act, the university must annually notify students of their rights and the institution policies pertaining to the Act. In addition, notice must be given to the location where the policy can be obtained as well as to inform the students of the right to file complaints with the Department of Health, Education and Welfare concerning alleged failures by the University to comply with the Act. In accordance with these requirements the annual notice

regarding students rights, the location of copies of the university's policies setting forth these rights, as well as the right to file complaints with the Family Educational Rights and Privacy Act Office, shall be published in the University Catalog. The annual letter to students will notify students of Directory information.

The Registrar, located in the Fletcher Center, is designated as the Hearing Officer for the Act and shall also be responsible for implementing the notification requirements and distribution of copies of the policies and procedures.

Section 3. Education Records Defined

"Education records" means those records which:

1. Are directly related to a student
2. Are maintained by the university or its agent.

The term does not include:

1. Records of institutional, supervisory, and administrative personnel which
 - a. Are in the sole possession of the maker thereof, and
 - b. Are not accessible or revealed to any other individual except a substitute.

A *"substitute"* is defined as one who performs on a temporary basis the duties of the individual who made the record and does not refer to an individual who permanently succeeds the maker

- of the record in his or her position.
2. Records of the law enforcement unit of the university (Security Department) which are:
 - a. Maintained apart from the university's educational records;
 - b. Maintained solely for law enforcement purposes; and
 - c. Not disclosed to individuals other than law enforcement officials of the same jurisdiction; provided, that educational records maintained by the university are not disclosed to the personnel of the law enforcement unit.
 3. Records relating to an individual who is employed by the university which:
 - a. Are made and maintained in the normal course of business;
 - b. Relate exclusively to the individual in that individual's capacity as an employee; and
 - c. Are not available for use for any other purpose.
 - d. This paragraph (3) does not apply to records relating to an individual in attendance at the university who is employed as a result of his or her status as a student.
 4. Records relating to an eligible student which are:
 - a. Created or maintained by a physician, psychiatrist, psychologist, or other recognized professional or paraprofessional acting in his or her professional or paraprofessional capacity, or assisting in that capacity;

- b. Created, maintained, or used only in connection with the provision of treatment to the student; and
 - c. Not disclosed to anyone other than individuals providing the treatment; provided, that the records can be personally reviewed by a physician or other appropriate paraprofessional of the student's choice. For the purpose of this definition, "treatment" does not include remedial educational activities or activities which are part of the program of instruction at the university.

5. Records of the university which contain only information relating to a person after that person is no longer a student at the university. (An example of these records would be information collected by the university pertaining to the accomplishments of its alumni.)

Section 4. Rights to Inspect and Review Education Records

A student who is or has been in attendance at Lake Superior State University shall have the right to inspect and review the educational records of the student subject to the limitations set forth in Section 3 and 13.

The educational record recorded by the student will be provided within a reasonable period of time dependent upon the availability of the record and the workload of the department maintaining the record. In no case will the record be provided more than 45 days after the date of the receipt of the request.

The right to review educational records includes the right to a response from Lake Superior State University to reasonable requests for explanation and interpretations of the subject record.

Section 5. Procedures for Inspection and Review of Records

A student must submit a written request for the inspection and review of educational records or the release of such records, where permitted, to third parties. (See Section 10A for release of records to third parties.) The request must be submitted to the appropriate officer responsible for the record. (See Section 7 for list of officials maintaining educational records.)

The written request under this section must contain:

1. A description of the information requested.
2. The date, if any, that the information is required.
3. The student's signature.
4. The date the request is filed.

Section 6. Copies of Records: Fees for Copies

Copies of educational records will only be provided under the Act under the following conditions:

1. Where failure to provide a copy would effectively prevent a student from exercising the right to inspect and review the educational record. (Examples of when this provision would be

effective would be absence from the State or a confining illness.) If the student will return to the residence occupied while in attendance at the university or be within 30 miles of the campus and is not physically incapacitated during the 45-day compliance period, copies shall not be provided but the right of inspection shall be exercised.

Under this provision, the student must submit a written request (see Section 10A) specifying the record to be disclosed, and the reason that a personal inspection of the record cannot be made during the 45-day compliance period. The university will review these requests on a case-by-case basis to determine if copies are required as opposed to personal inspection.

2. On request, under the provisions of Section 10B regarding records to officials of another educational institution in which the student is enrolled or seeks or intends to enroll.
3. On request, or with the consent of the student, under the provisions of Section 10A, regarding information released with the approval of the university to third parties.

The university shall not charge a fee for copies of records provided under the Act. There shall not be a charge for search, retrieval or inspection of the record. Copies of grades provided under these provisions will not carry the university seal or official signature of approval.

Section 7. Listing of Location of Education Records

The following is a list of the records considered educational in nature under the Act and their locations listed by Office, Type of Record, Responsible Official, and Location.

Admissions; Academic file,
Financial; Dean of Admissions;
Fletcher Center
Career Advising and Placement;
Academic, Personal, evaluations;
Director; Brown Hall
Continuing Education; Academic;
Director; Fletcher Center
Employee Relations; Work Eval-
uation, Employment; Director;
Administration Building
Financial Aid; Financial, Academic,
Personal evaluation, Employ-
ment; Director; Fletcher Center
Graduate Office; Academic,
Financial; Director; Foundation
House
Registrar; Academic (Complete and
official academic record)
Personal, Veterans' Affairs;
Registrar; Fletcher Center
Residence Halls; Personal; Housing
Manager; Brady Hall
Residence Halls and Student Life;
Discipline; Coordinator of
Residential and Student Life
Programming; Fletcher Center
Student Accounts; Financial;
Director Business Operation;
Administration Building
Academic Areas, Academic; Depart-
ment Heads.

Note: All academic records are partial records with the exception of the Office of the Registrar as noted above.

Section 8. Disclosure of Restricted Information to University Officials

Personally identifiable information from the education records of a student may be disclosed without the prior consent of the student to university officials who have a legitimate educational interest in the information. The university officials must demonstrate a need to obtain the information consistent with their official functions and the request must be consistent with normal professional practices and legal requirements.

The disclosure of personally identifiable student information under the above conditions will not be disclosed to any other party without the prior written consent of the student, except that such information may be used by the appropriate officials or agents of the university for the purpose for which the disclosure was made.

Section 9. University Officials

For the purpose of those procedures and policies, "university officials" are defined to be those individuals who have demonstrated a need to require certain student records consistent with their official university responsibilities and consistent with professional practices.

University Officials include: Members of the faculty, members of the professional, executive and administrative staff, excluding all members of the Department of Security, departmental secretaries, students properly appointed as members of a hearing panel or screening committee, representatives of the State Auditor General when

The right to review educational records includes the right to a response from Lake Superior State University to reasonable requests for explanation and interpretations of the subject record.

Section 5. Procedures for Inspection and Review of Records

A student must submit a written request for the inspection and review of educational records or the release of such records, where permitted, to third parties. (See Section 10A for release of records to third parties.) The request must be submitted to the appropriate officer responsible for the record. (See Section 7 for list of officials maintaining educational records.)

The written request under this section must contain:

1. A description of the information requested.
2. The date, if any, that the information is required.
3. The student's signature.
4. The date the request is filed.

Section 6. Copies of Records: Fees for Copies

Copies of educational records will only be provided under the Act under the following conditions:

1. Where failure to provide a copy would effectively prevent a student from exercising the right to inspect and review the educational record. (Examples of when this provision would be

effective would be absence from the State or a confining illness.) If the student will return to the residence occupied while in attendance at the university or be within 30 miles of the campus and is not physically incapacitated during the 45-day compliance period, copies shall not be provided but the right of inspection shall be exercised.

Under this provision, the student must submit a written request (see Section 10A) specifying the record to be disclosed, and the reason that a personal inspection of the record cannot be made during the 45-day compliance period. The university will review these requests on a case-by-case basis to determine if copies are required as opposed to personal inspection.

2. On request, under the provisions of Section 10B regarding records to officials of another educational institution in which the student is enrolled or seeks or intends to enroll.
3. On request, or with the consent of the student, under the provisions of Section 10A, regarding information released with the approval of the university to third parties.

The university shall not charge a fee for copies of records provided under the Act. There shall not be a charge for search, retrieval or inspection of the record. Copies of grades provided under these provisions will not carry the university seal or official signature of approval.

Section 7. Listing of Location of Education Records

The following is a list of the records considered educational in nature under the Act and their locations listed by Office, Type of Record, Responsible Official, and Location.

Admissions; Academic file,
Financial; Dean of Admissions;
Fletcher Center

Career Advising and Placement;
Academic, Personal, evaluations;
Director; Brown Hall

Continuing Education; Academic;
Director; Fletcher Center

Employee Relations; Work Eval-
uation, Employment; Director;
Administration Building

Financial Aid; Financial, Academic,
Personal evaluation, Employ-
ment; Director; Fletcher Center

Graduate Office; Academic,
Financial; Director; Foundation
House

Registrar; Academic (Complete and
official academic record)
Personal, Veterans' Affairs;
Registrar; Fletcher Center

Residence Halls; Personal; Housing
Manager; Brady Hall

Residence Halls and Student Life;
Discipline; Coordinator of
Residential and Student Life
Programming; Fletcher Center

Student Accounts; Financial;
Director Business Operation;
Administration Building

Academic Areas, Academic; Depart-
ment Heads.

Note: All academic records are partial records with the exception of the Office of the Registrar as noted above.

Section 8. Disclosure of Restricted Information to University Officials

Personally identifiable information from the education records of a student may be disclosed without the prior consent of the student to university officials who have a legitimate educational interest in the information. The university officials must demonstrate a need to obtain the information consistent with their official functions and the request must be consistent with normal professional practices and legal requirements.

The disclosure of personally identifiable student information under the above conditions will not be disclosed to any other party without the prior written consent of the student, except that such information may be used by the appropriate officials or agents of the university for the purpose for which the disclosure was made.

Section 9. University Officials

For the purpose of those procedures and policies, "university officials" are defined to be those individuals who have demonstrated a need to require certain student records consistent with their official university responsibilities and consistent with professional practices.

University Officials include: Members of the faculty, members of the professional, executive and administrative staff, excluding all members of the Department of Security, departmental secretaries, students properly appointed as members of a hearing panel or screening committee, representatives of the State Auditor General when

performing their legally required duties, legal, insurance, or collection representatives of the university when performing their university-related duties requiring student record information in connection with a claim or legal matter.

Section 10. Disclosure of Personally Identifiable Information

A. Prior Consent for Disclosure Required

The university shall obtain the written consent of the student before disclosing personally identifiable information from the education records of a student to third parties other than directory information as set forth in Section 11 or as provided in Part B of this section. (Consent is not required where the disclosure is to the student.)

If the university consents to the release of personally identifiable student information to third parties under this section (10A) at the written request of the student, the university will provide the student with a copy of such record.

The written consent required under this section (10A) must be signed and dated by the student and shall include:

1. A specification of the record to be disclosed
2. The purpose of the disclosure
3. The party or class of parties to whom disclosure may be made
4. A statement granting consent for the release of the information.

B. Prior Consent for Disclosure Not Required

The university may transfer or disclose the educational records of a student, without prior written consent, on request to the officials of another educational institution in which the student is enrolled or seeks or intends to enroll.

The university, upon request, will provide the student with a copy of the transferred educational records.

Information from the educational records of a student may be disclosed, without prior written consent, if the disclosure is:

1. To Federal and State authorities as provided by the Act or other legal authority.
2. In connection with financial aid for which a student has applied or has received; provided that the information may be disclosed only:
 - a. To determine the eligibility of the student for financial aid, and
 - b. To determine the amount of aid,
 - c. To determine the conditions which will be imposed regarding financial aid,
 - d. To enforce the terms or conditions of the financial aid.
3. To organizations conducting studies on behalf of educational agencies or institutions for the purpose of developing, validating, or administering predictive tests, administering student aid programs; and improving instruction; provided that the studies are conducted in a manner which will not permit the

personal identification of students by persons other than the representatives of the organization and that the information will be destroyed which it is no longer needed for the purpose for which the study was conducted.

4. To accrediting organizations in order to carry out their accrediting functions.
5. To comply with a judicial order or lawfully issued subpoena; provided that Lake Superior State University will make a reasonable effort to notify the student of the order or subpoena in advance of compliance.
6. The appropriate parties in an emergency to protect the health or safety of the student or other individuals.

Section 11. Directory Information

The Family Educational Rights and Privacy Act permits the disclosure of certain personally identifiable information from the educational record of a student if that information is designated as directory information as defined by the Act.

In order to release such information the university is required to provide public notice of the following:

1. The categories of personally identifiable information designated as directory information.
2. The right of the student to refuse to permit the designation of any or all of the categories with respect to that student.
3. The period of time within which the student must inform the university in writing that such

directory information is not to be released.

In compliance with these provisions, the university will announce its intention to release directory information each fall in the annual letter. Students will be advised that written requests to prohibit or restrict the use of such directory information should be addressed by the last day to add classes to: Registrar's Office in the Fletcher Center

The university considers the following to be directory information: Name, address, telephone number, date and place of birth, major field of study, participation in officially recognized activities and sports, height and weight of members of the athletic teams, dates of attendance, degrees, honors and awards received, including scholarships, and most recent previous educational agency or institution attended by student

In the event that this list is altered or expanded, these provisions will be amended in accordance with the Act.

Section 12. Record of Disclosures Required to be Maintained

Lake Superior State University shall for each request and each disclosure of personally identifiable information from the education records of a student maintain a record kept with the education records of the student which indicates:

1. The parties who have requested or obtained information.
2. The legitimate educational interests the parties had in obtaining the information.

A record is not required for disclosures to a student, disclosures

pursuant to the student's written consent when such consent is specific as to the party or parties, disclosures to university officials as set forth in Section 9, or to disclosures of directory information as provided in Section 11.

The record of disclosures may be inspected by: The student, the university official and his or her assistants responsible for the custody of the records, and university officials authorized in Section 9 and those persons outside the university as authorized in Section 10 for the purpose of auditing the record keeping procedures of the institution.

Section 13. Limitation on the Right to Inspect and Review Records

The university is not required to permit a student to inspect or review the following records:

1. Financial records and statements of parents or any information contained therein.
2. Confidential letters and statements of recommendation placed in the student record prior to January 1, 1975; provided that such letters and statements were solicited with written assurance of confidentiality or sent and retained with a documented understanding of confidentiality. The documents must be used only for the purposes specifically intended.
3. Confidential letters and statements of recommendation and statements for which the student has waived the right to inspection as set forth in Section 16 and placed in a student's file after January 1, 1975 respecting:

- a. Admission, or
- b. An application for employment, or
- c. The receipt of an honor or honorary recognition

4. Those records which are defined not to be education records as set forth in Section 3.

If the educational record of a student contains information on more than one student, the requesting student may review or inspect or be informed of only the specified information which pertains to the student making the inquiry.

Section 14. Request to Amend Educational Records

A student who believes that information in the student's educational records is inaccurate or misleading or violates the privacy or other rights of the student may request that the university amend such records.

The procedures regarding an amendment to a student record are as follows:

1. The student must submit a written request to amend the record in question to the university office responsible for establishing the content of the record.
2. The written request must specify the information to be amended and the basis for requesting a change in the record.
3. The written request should also set forth the corrective action recommended.
4. The university official responsible for establishing the content of the record in question

within 14 calendar days will inform the student, in writing, that the record will be amended or that the request has been denied. If additional times is required due to the circumstances of the case, the student will be advised of the time period required to resolve the issue.

5. If the record is to be amended, corrective action will occur within 14 calendar days of the date of notice to the students.
6. If the university official responsible for establishing the content of the educational record denies the request to amend the record, the written notice of this decision will advise the student of the right to a hearing.

Section 15. Right to a Hearing

The Act provides an opportunity for a hearing in order to challenge the content of a student's educational record to insure that the record does not contain inaccurate or misleading information or is in violation of the privacy or other rights of the student. This procedure may not be utilized to challenge grades awarded to students. The following procedure will be implemented after the decision of denial is made by the official responsible for maintaining the record.

Procedure of Hearing

A student desiring a hearing on the decision of denial to amend the record by the official establishing such records must:

1. Submit a written request for a hearing to the Hearing Officer, the Registrar, Fletcher Center.

2. Designate in the request:

Student's name and identification number, date request is made, specific information on the record challenged, basis for amending record, summary statement of previous action taken to amend record including names of individuals contacted and from whom communications have been received.

The Hearing Officer will within 7 calendar days of receipt of the request for hearing, notify the student of the date, time and location of the hearing. At least 72 hours notice will be provided to the parties prior to the hearing.

The student shall be afforded a full and fair opportunity to present evidence relevant to the question of whether the record in question is inaccurate, misleading or in violation of the privacy or other rights of the students.

The student may be assisted or represented by individuals of the student's choice and at the student's expense, including an attorney.

The Hearing Officer shall make a decision on the appeal within 7 calendar days of the last day of the hearing. The decision shall be in writing and shall be based solely upon the evidence presented at the hearing. The written decision to the student shall include a summary of the evidence and reasons for the decision.

If, as a result of the hearing, the Hearing Officer decides that the information is in whole or in part inaccurate, misleading or is in violation of any of the student's rights, the record in question will be

amended within 7 calendar days of the decision.

If, as a result of the hearing, the Hearing Officer determines that the record should not be amended, the student shall be informed of the right to place in the education record a statement commenting upon the information and setting forth the reasons for disagreeing with the university's decision. Any explanation placed in the record of the student under this provision shall:

1. Be maintained as a part of the record as long as the record or the contested portion thereof is retained by the university, and
2. Be disclosed by the university, along with the contested record to any party receiving such record.

Section 16. Waivers

A student may waive any right under the Act. The waiver shall not be valid unless it is in writing and signed by the student. The University may not require that a

student waive any right under the Act. This requirement does not, however, preclude the university from requesting such a waiver.

An applicant for admission or a student in attendance may waive the right to inspect and review confidential letters and statements of recommendation. The waiver may apply to such letters or statements only if it is in writing and signed by the student regardless of age, and if:

1. The applicant or student is, upon request, notified of the names of all individuals providing the letters or statements;
2. The documents are used only for the purpose originally intended; and
3. Such waiver is not required as a condition of admission or receipt of any service or benefit from the university.

A waiver may be revoked but such action must be in writing and filed with the office in possession of the waiver.

NOTES

NOTES

STUDENT

OF BEHAVIOR

MEMBERSHIP IN THE UNIVERSITY COMMUNITY carries with it both privileges and responsibilities. The University cannot accept acts that interfere with the basic process of the academic enterprise, nor acts which interfere with the rights of other members of its community. Following are the basic regulations which govern the behavior and conduct on the Lake Superior State University campus:

1. ASSEMBLY: No person, or persons, shall assemble in a manner which obstructs the free movement of persons about the campus, or the free and normal use of University buildings and facilities, or prevents or obstructs the normal operation of the University.

2. ALCOHOL AND DRUGS:

Any student found guilty of being under the influence of drugs, or possessing, or selling drugs or narcotics will be subject to immediate dismissal from the University. Any student who disregards the laws of the State regarding drinking as a minor is subject to disciplinary action including fines, or dismissal for repeated offenses. A student of 21 years of age who purchases alcoholic beverages for minors, or who participates in any way, faces not only legal action from the State but additional penalty from the University.

The laws of the State of Michigan prohibit the sale of alcoholic beverages on any unlicensed premise. No alcohol may be offered for sale on any unlicensed portion of

the University campus, and no hidden fee (such as admissions charges, charges for food, etc.) may be used to hide or conceal a charge for alcoholic beverages. Any organization, group, or individual offering alcohol to others anywhere on the campus shall be required to follow provisions of the University's alcohol policy, distributed annually to all campus residents. Violators may suffer loss of campus privileges, disciplinary action by the University, and prosecution by civil authorities.

3. CHEATING AND PLAGIARISM:

The assumption of the academic contract is that the student does his or her own work: any breach of the contract is considered cheating. The faculty member who detects a student cheating may take appropriate action, such as assigning a failing grade for the entire course.

A student who cheats is subject to dismissal from the University. If, in the opinion of the faculty member involved, such action is warranted, he or she will notify the chairman of the scholastic standards committee and the student to that effect in writing. The scholastic standards

STANDARDS

AND CONDUCT

committee will then conduct a hearing in such a manner that the student is given due process. If the committee decides that dismissal is warranted, the student shall have five school days to appeal that decision to the president of the University.

4. COMPLIANCE WITH UNIVERSITY OFFICIALS: Students are expected to comply with the directions of University officials who are acting in accordance with the performance of their duties. Failure to comply with such directions shall be considered a serious disciplinary violation.

5. FINANCIAL OBLIGATIONS: A student's fees, loans, fines, driving and parking penalties, etc. are his or her responsibilities and must be paid when due. Delay in attention to financial responsibilities may require some or all of the following actions by the University: it may withhold official transcripts, prohibit further registration, remove registration if already granted, withhold further forms of financial aid, and in severe cases, seek legal action from outside agencies, including the State of Michigan itself.

6. FIREARMS AND EXPLOSIVES: Explosives, firecrackers, concealed weapons and similar items are not permitted on campus. Firearms are permitted, but must be registered and stored by the office of campus security. Any student who keeps firearms anywhere in the

dormitory system will face dismissal from the University.

7. GUEST SPEAKERS: Only student organizations formally recognized by the University may invite speakers to the campus. Reservations for rooms or lecture halls for guest speakers are made through the director of student activities.

8. HOUSING: University housing regulations are published annually in the Housing Handbook. Students failing to comply with these regulations may suffer a variety of disciplinary penalties, including separation from the housing system or separation from the University itself.

9. I.D. CARDS: All students enrolled in this institution are issued an identification card to facilitate recognition for the library, for cashing checks, for campus voting, for admission to campus activities, etc. Misuse or alteration of the University identification card, current or expired, is considered a serious offense subject to disciplinary action.

10. PARKING: All students who operate motor vehicles on campus must register them each year (normally accomplished during registration). Annual registration decals will be issued upon payment of fees and evidence of a valid operator's license. All vehicles (with decals attached) must be parked in

areas assigned. Parking and traffic ordinances will be enforced and violators will be assessed fines and may have their campus registration and campus driving privileges revoked. Special parking arrangements can be made for health and personal hardship reasons at the Administration Building Parking Office. Parking and traffic violations are civil infractions and may be referred to 91st District Court.

11. RECORDS: It is the specific responsibility of the student to give honest and complete replies to all questions included in application forms, financial aid forms, and in all other University documents. Failure to give correct and complete information can result in cancellation of the student's registration. Forgery or alteration on or of any University document or record can result in the separation of the student from the University.

2. STUDENT NOTICES:

Student notices, posters, etc. must be prepared for posting by the Center for Student Services before being placed on bulletin boards. Maintenance personnel have been instructed to remove all unauthorized material from bulletin boards each day. Normally posters and notices will not exceed 17" by 22" in size.

13. STUDENT

ORGANIZATIONS: No student organizations may use campus facilities to solicit funds, or schedule activities unless such organizations have been approved by the University. Approval of University clubs and their operations must be in accordance with University policies. No organization which practices either racial or sexual discrimination will receive support, either directly or indirectly from the University.

14. THEFT: Property of the University, as well as that of individuals, must be respected. Theft of any kind, whether of money or of other property, is prohibited. The destruction or mutilation of books, magazines, or other library material will not be tolerated. Theft of, damage to, or destruction of the property of others is considered a serious offense against the University community, and will result in the separation of the student from the University.

15. TREATMENT OF OTHERS: Abuse, either physical or verbal, of any person on University-owned or controlled property, or at University-sponsored or supervised functions, will result in disciplinary action by the University. No conduct will be permitted which threatens or endangers the health or safety of any person on the University campus or at University related activities.

Lake Superior State University and its Board of Regents subscribe to the principles of equal opportunity and non-discrimination and complies with all applicable federal and state laws and regulations prohibiting discrimination, including harassment. The University is committed to the protection of the rights of all individuals within the University community, the equal and fair treatment of all individuals, and to the elimination of barriers that would prevent individuals from reaching their highest potential

It is the responsibility of all employees, students and members of the University community to uphold this commitment in the daily activities of University life

this commitment in the daily activities of University life

Sexual harassment is a form of discrimination based on sex, and as such falls under the University's commitment to non-discrimination. Violations of this policy will receive prompt disciplinary action, up to and including dismissal, as warranted by the facts of the individual case. Sexual harassment is defined as unwelcome sexual advances, requests for sexual favors, and other unwelcome verbal or physical conduct or communication of sexual nature.

PENALTIES

ANY OR ALL of the following penalties may be assigned those few students who violate the University's standards of behavior and conduct:

1. Reprimand
2. Restitution
3. Monetary fines or work penalties
4. Loss of course credit or reduction in academic grades
5. Probation
6. Suspension
7. Expulsion

Generally, disciplinary actions do not become a part of the student's academic record. The exceptions are in cases of suspension or expulsion, which may be recorded on the student's permanent transcript.

PROCEDURES

POSSIBLE VIOLATIONS of the University's standards of behavior and conduct shall be considered by either the University hearing officer, the executive vice-president, or the

All-Campus Judicial Committee. It is the responsibility of the executive vice-president to designate the appropriate hearing officer or group in such cases. Instances involving possible academic cheating or plagiarism will be considered by the appropriate instructor and/or the Scholastic Standards Committee.

Situations involving possible violations of the University's standards shall be handled according to the following process. At a minimum, the process will include:

1. A notice to the student of the charges involved and of the individual or office bringing those charges.
2. An opportunity for the student to respond to the charges, and to request a formal hearing on them if desired.
3. A hearing at which the student has the right to examine and confront evidence against him, confront and question those bringing the charge, and introduce any persons he or she wishes to speak on his or her behalf. While students may bring those persons they wish to a disciplinary hearing, they may not be actively represented by legal counsel. University hearings are fact-finding procedures, not courts of law, and are not governed by either courtroom rules or courtroom procedures.
4. A notification to the student of the hearing body's or hearing officer's decision. It is the responsibility of the executive vice-president to originate such notification, except when the

Scholastic Standards Committee is the hearing body. In these cases, notification is the responsibility of the chairman of that committee.

5. A notification to the student of his or her right of appeal to the president of the University. Such appeals must be made within forty-eight hours of the time notification is received.

NOTES

ADMISSIONS

FRESHMEN

Prospective freshmen still in high school may make application to Lake Superior State University any time during their final year of high school. Applications for admission are processed continuously and students are notified as quickly as possible. A final transcript of courses completed during the final year must be submitted to the Admissions Office promptly after completion of the school year. An official score report from American College Testing (ACT) must also be submitted prior to class registration.

Prospective freshmen who have already graduated from high school, but have not attended any college or university, must have an official transcript sent directly from their high school to the Admissions Office. The transcript must include all courses taken, starting with grade nine, and graduation certification. Admitted applicants who graduated from high school fewer than 28 months prior to the date they wish to enter the University must submit their scores from American College Testing (ACT) prior to registering for classes.

Individuals who apply during their final year of high school are considered for admission according to the following guidelines. The primary factor in evaluating an application for admission is the individual's grade point average in academic subjects only. The grade point average for each applicant is

recalculated, starting with grade nine, and includes only academic courses such as English, biology, chemistry, physics, algebra, geometry, trigonometry, senior math, social studies, and foreign languages. Seventy-five percent of the freshmen entering LSSU have an overall high school grade point average of 2.56 or higher. The top 25 percent of the entering freshmen have an overall high school grade point average of 3.28 or higher. Secondary factors which may also influence the admissions decision are the number of academic courses an applicant has completed, the trend from year to year of the applicant's grades, class rank, and recommendations. ACT scores are rarely a factor in the admissions decision.

All credentials should be submitted to the Admissions Office at least three weeks before the intended semester of entry. However, if all available spaces become filled processing of applications will end at an earlier date.

To qualify for admission as freshmen, applicants are expected to be graduates of accredited secondary schools. Any student graduating from a non-accredited school should contact the Dean of Admissions for an explanation of the testing procedure used to evaluate an applicant who has attended a non-accredited school.

Students denied admission may reapply for admission after attending another accredited college of their choice and earning at least thirty

semester (45 quarter hours) of transferable credit. The evaluation for admission is then based upon the college record rather than the high school record.

TRANSFER STUDENTS

Transfer students must possess a 2.00 cumulative college grade point average and be eligible to return to their former college(s) unless they have completed their required course work.

In order to comply with the recently enacted federal regulation commonly referred to as "Ability to Benefit" the University requires all transfer applicants who are U.S. residents and have not completed an associate degree prior to enrolling at Lake Superior State University to provide any one of the following:

an official high school transcript including evidence of graduation

2. satisfactory GED scores
3. a satisfactory score on one of the tests approved by the U.S. Department of Education to meet the terms of the "Ability to Benefit" regulation. Contact the University's Financial Aid Office or Admissions Office for a listing of the approved tests.

All required official transcripts from high school, if required, and each college attended must be requested at the time an application for admission is submitted. Official transcripts may be obtained from the respective high school's guidance office or colleges' Registrar's Office. College transcripts must bear the registrar's signature and raised seal or stamp of

Admissions File

Application materials from prospective freshmen to complete their application for admission file include:

A completed *application* for admission form which is available at the Admissions Office of Lake Superior State University or at your school guidance office.

A non-refundable *application processing fee* of \$20 (U.S. funds) must be submitted before an application will be processed. Make check or money order (not cash) payable to Lake Superior State University.

An complete, *official transcript* of your high school credits or GED score report.

A report of your scores from *American College Testing (ACT)*, which should be taken before graduation from high school. ACT registration materials are available at your guidance office. ACT scores are generally used for counseling and placement purposes.

All veterans must submit an official, certified copy of *separation form DD214* with their application.

The *health record* form, which is sent to admitted students must be completed by the student or by the student's parent and returned to the University's Health Services Office as soon as possible.

Enter your *social security* number in the appropriate space in your application. It will serve as your permanent student number. If you do not wish to provide this number, an alternate student number will be assigned. However, please be aware the agency processing financial aid applications will not process any aid application which does not include the student's social security number. Students who do not have a Social Security number or have lost their Social Security card should contact the Social Security Administration promptly. Canadian applicants should not use their Social Insurance number. A nine-digit student number will be assigned to Canadians and other foreign students by the Admissions Office.

the college to be considered official. Transcripts must be mailed to the Admissions Office at Lake Superior State University directly from the issuing institution. All transcripts become the property of Lake Superior State University and are not returnable. Students whose last names have changed since they last attended another institution must indicate this when requesting transcripts from high schools or colleges. Each transcript should bear the student's current name.

The application and all required transcripts should be submitted at least thirty days prior to the beginning of the intended semester of entry. However, if all available spaces become filled processing of applications will end at an earlier date.

Transfer applicants denied admission because their college grade point average is less than 2.0 on a scale of 4.0 are encouraged to reapply if, after taking additional college course work, their cumulative grade point average improves to more than 2.0.

CREDIT EVALUATIONS:

No official evaluation of transfer credit can be made until an applicant is accepted for admission, because the process is very time consuming. However, be assured every effort will be made to provide an evaluation of transfer credit as quickly as possible after admission.

Students planning to transfer to Lake Superior State University can, by reviewing the course descriptions included in the Lake Superior State University catalog, arrive at a

AMERICAN COLLEGE TESTING (ACT)

All entering freshmen who will enroll within 28 months of high school graduation and have not attended another college must take the American College Test. The results should be forwarded to Lake Superior State University (code number 2031) prior to registering for classes.

United States residents applying for academic scholarships at Lake Superior State University must take the ACT no later than February of their senior year and have results forwarded to Lake Superior State University prior to the April 1 scholarship application deadline.

Transfer students entering Lake Superior within 28 months of high school graduation and having less than 15 semester or 23 quarter hours of credit must also take the ACT prior to the beginning of classes in August. Transfer students required to take the ACT are encouraged to take it early enough for the results to be available to the University when they schedule their first semester's classes.

Canadian students who enter the University within 28 months of high school graduation are required to take the ACT. Completion of OAC credits does not exempt Ontario students from this requirement.

ACT scores are used primarily for counseling and placement purposes and are not normally used as admissions criteria. However, the ACT may be required prior to making an admissions decision if additional information is deemed necessary.

The ACT is given nationally five times a year at many locations, including our campus. Information bulletins and registration forms for the ACT are available at high school counseling offices by writing American College Testing Program, P.O. Box 168, Iowa City, Iowa 52243, or by contacting the Lake Superior State University Counseling and Testing Center.

reasonably close approximation of the amount of transfer credit they may expect to receive.

While making this informal evaluation, students should keep in mind transfer credit is granted for courses which are substantially equivalent in content, length, and prerequisites to the courses offered at this University.

D grades will be transferred only for individuals meeting both of the following conditions:

1. having a 2.00 or higher cumulative grade point average; and
2. upon initial application being eligible for, or being granted, unconditional admission as a full-time student on the basis of their college or university academic records elsewhere.

Some courses with D grades accepted as transfer credit in accordance with the stipulations in the preceding paragraph may not apply to all departments. Some academic departments do not accept transferred D's as replacements for courses required as part of the departmental major. In those cases, the departmental major courses involved must be repeated. However, courses not accepted by a department may be applied as elective credit where possible.

ELECTIVE CREDIT: If a course taken at another institution is not offered at the University, elective credit may be granted for that course. Elective credits may be applied toward the number of credits required to receive a degree but may not be used to satisfy any specific course requirement.

PROVISIONAL CREDIT:

Credit earned at any post-secondary institution not listed as accredited in the American Council of Education's publication, *Accredited Institutions of Post-secondary Education*, is granted provisionally. Only after students demonstrate satisfactory progress in their chosen academic program at Lake Superior State University do provisional credits become part of students' permanent records.

MACRAO AGREEMENT:

Community colleges graduates granted admission to the University who possess baccalaureate-oriented associate of arts or science degrees, with the MACRAO stamp on their transcripts, will be recognized as having completed the general education requirements at Lake Superior State University. Graduates of Michigan and other community colleges with other associate degrees, e.g., applied science, applied business, applied technology, and applied health will be required to complete all remaining Lake Superior State University general education requirements.

Students who transfer to Lake Superior State University will be required to satisfy all conditions of their selected majors and minors as well as degree requirements.

Thirty (30) semester hours is the minimum number of credits to complete an academic major at Lake Superior State University. Some departments require more. The minimum number of credits in a major that must be earned at Lake Superior State University varies.

Before enrolling, students should contact the academic department which includes the intended major to determine this number.

RESIDENCY

REQUIREMENT: There is no limit on the number of transfer credit from other institutions. However, bachelor's degree candidates must earn at least 32 of their final 40 credits and at least 50 percent of their departmental required 300/400 level credits in Lake Superior State University courses. Regional Center students must earn at least 32 of their final 64 credits and at least 50 percent of their departmental required 300/400 level credits in Lake Superior State University courses. Associate degree and certificate candidates must earn 16 of their final 20 credits in Lake Superior State University courses.

Initial transfer credit evaluations indicating which Lake Superior State University courses and how many credits will be granted to the student are completed by either the Admissions or Registrar's offices. These initial evaluations are subject to review and possible modification by the head of the academic department offering the equivalent course. The academic department head's decision on courses and amounts of transfer credits granted may be appealed to the Vice President for Academic Affairs by the transfer student.

FORMER STUDENTS

Former full-time Lake Superior State University students who interrupted their enrollment for one or more semesters, except summer, must apply for re-admission prior to the semester of intended re-entry. Students apply by obtaining a re-admission application form from the Admissions Office. There is no application processing fee for

students seeking readmission. However, applicants who have attended another college since leaving Lake Superior State University must have an official transcript sent from the college attended and meet the terms of the University's transfer student admissions policy.

GUEST STUDENTS

A student who is regularly enrolled at another college or university may be admitted to Lake Superior State University as a guest student. A guest admission is normally valid for only one semester. However, under extenuating circumstances this may be extended for one additional semester by submitting another guest application. Any student intending to enroll for more than one semester must submit an application for admission as a transfer student. Guest student applications may be obtained from the Admissions Office at Lake Superior State University or any other college or university in Michigan. Guest students assume full responsibility for determining whether courses taken at Lake Superior State University will apply to their programs of study at the college from which they intend to graduate.

CANADIAN STUDENTS

Lake Superior State University welcomes applications from Canada.

Ontario students who apply during their final year of high school are considered for admission using the following guidelines. The primary factor in evaluating an application for admission is the individual's grade point average in academic

Lake Superior

"A" Level & OAC "G" Level Equivalent Letter Grade

80-99	90-99	A
70-79	80-89	B
60-69	70-79	C
50-59	60-69	D
	50-59	F

subjects only. The grade point average for each applicant is recalculated, starting with grade nine and including only academic subjects. If a list of the Ontario secondary school OAC, "A" and "G" level courses included in this academic subjects average is not available at your guidance office, one may be obtained by writing the Dean of Admissions at Lake Superior State University.

The Admissions Office uses two grading scales when evaluating an Ontario secondary school applicant, since "A" level courses are considered more demanding and their content more appropriate preparation for university-level courses than are "G" level courses. "B" level courses are never included in the recalculated academic grade point average.

Secondary factors which may also influence the admissions decision are the number of academic courses an applicant has completed, the trend from year to year of the applicant's grades, and recommendations.

Beginning with students seeking admission for August 1992, a report of ACT scores will be required from all Ontario secondary school students. ACT scores are used for counseling and placement purposes, rather than as a factor in the admissions decision.

Additional information for Ontario secondary school students is available in a booklet titled *Informational Handbook for Ontario Students and Guidance Counselors* published by the Admissions Office.

Canadian applicants from provinces other than Ontario are also most welcome and will be evaluated on the basis of the education system in their provinces.

ONTARIO GRADE 13/OAC COURSES

Students who completed grade 13 or OAC courses no later than the summer of 1990 receive transfer credit at the University for each course in which a final mark of at least 60% was earned.

Transfer credit will not be granted for OAC courses completed after the summer of 1990. However, completion of OAC courses prepares some students to earn transfer credit through testing. Up to 30 semester hours of transfer credit may be earned by achieving satisfactory scores on CLEP tests and departmental examinations given on the campus. If information about CLEP tests and departmental tests offered by the University is not available at your high school guidance office, please contact the Admissions Office.

FOREIGN STUDENTS *(NON-CANADIAN)*

The University makes every effort to meet the needs of foreign students who give evidence of adequate academic preparation and sufficient competency in English.

Six months to one year before the beginning of the desired semester of entry, the student should write to the Dean of Admissions requesting application materials. Applicants must satisfy entrance requirements comparable to those required for United States students. All credentials written in a language other than English must be accompanied by certified English translations.

No student should plan to come to Lake Superior State University with less than sufficient funds in the hope of obtaining financial assistance upon arrival. No foreign student scholarships are available, and employment opportunities for foreign students are restricted by government regulations. A notarized financial statement will be required before Form I-20 (required to obtain a student visa) will be issued. This statement must include the amount of money available per year and the source(s). Inclusion of false information in the financial statement is grounds for dismissal.

Applicants should not consider themselves admitted to the University until they have provided all documents which the University requires and received an official letter granting admission. Following the letter granting admission, the Certificate of

Eligibility (Form I-20) will be sent, as required by the U.S. Immigration and Naturalization Service.

A health record form will be sent to students granted admission. This form must be completed and returned to the University's Health Service Office prior to registration.

Foreign students are required to purchase a health and accident insurance policy for each year in residence. This cost is approximately \$600 per year for a single student. The policy is offered by GM Underwriters, Inc.

The University's English language proficiency requirement for admission may be satisfied in any of three ways:

1. By achieving a score of 550 or above on the Test of English as a Foreign Language (TOEFL) administered in most countries. Information regarding this test can be obtained by writing to: TOEFL, Box 6151, Princeton, New Jersey, 08541-6151, U.S.A. or from any United States Information Service Center;
2. By completing Level 109 at any ELS Language Center located in the United States. Information regarding ELS Centers can be obtained by writing to: ELS Language Centers, 5761 Buckingham Parkway, Culver City, California, 90230, U.S.A.
3. By completing two years of study at a school, college, or university located in an English speaking country.

PART-TIME

ENROLLMENT

Students wishing to attend on a part-time basis may enroll for up to eleven credits per semester in courses for which they have sufficient academic background. Unless students have special permission from their principal, part-time enrollment is limited to those whose high school class has already graduated. Part-time students not seeking a degree or certificate, are not required to apply formally for admission prior to enrollment.

A course request and part-time student enrollment form must be completed during the registration period for each semester of attendance. These forms are available through the University's Scheduling and Continuing Education offices.

Should a part-time student later desire full-time enrollment (12 or more credits per semester), or elect to seek degree/certificate status, the student must submit a completed application for admission form with a \$20 non-refundable application processing fee, have the required official transcripts sent to the Admissions Office; and meet all admission requirements for Lake Superior State University.

Part-time students are not officially assigned to faculty advisors. However, they are encouraged to seek assistance in selecting courses from the appropriate academic departments.

Some who have been denied admission are permitted by the Admissions Committee to attend the University as non-admitted part-time

students, then later ask to be reconsidered for admission. The grades earned as part-time students become an additional factor when reconsidering the students' applications for admission.

It is the responsibility of students electing to attend the University part-time, seeking reconsideration for admission, to make certain they are aware of all the conditions for reconsideration the Admissions Committee has established. Upon request, the Admissions Office will provide a sheet titled "Reconsideration for Admission to Lake Superior State University (LSSU) on the Basis of Part-Time Study" which details the requirements attached to this opportunity.

The requirements for using part-time enrollment at the University as a method for being reconsidered for admission are:

1. In one semester, the student must take nine to eleven credits of academic subjects only. Recreational activities, skill courses such as keyboarding, and remedial courses such as Intermediate Algebra are not considered academic courses for this purpose.
2. The student must earn a final grade of at least "C" in every course, and may not withdraw from or drop a course after the standard drop-add period. A student receiving an "I" grade will not be eligible for reconsideration until the "I" has been changed to a standard grade (A,B, or C) by the instructor.
3. If a student has been academically dismissed from

another college or university, at least 12 months must have passed before the start of the term for which reconsideration for admission is being sought.

As soon as the grades are available for the semester, the student may make an appointment to see the Dean of Admissions to be reconsidered for admission.

CONCURRENT ENROLLMENT FOR HIGH SCHOOL STUDENTS

Recognizing some talented high school students may benefit from taking university courses while still enrolled full-time in high school, Lake Superior State University permits selected high school students to take specific courses at the University on a part-time basis.

These students must receive written permission from both their high school principal and their parents. Also, they must possess an appropriate academic record. Generally, a 3.0 or higher grade point average or demonstrated exceptional aptitude in specific subject areas is required to be eligible for concurrent enrollment. Prior to a student registering for any class a Concurrent Enrollment Request form must be requested from the Scheduling Office. A parent of the student must complete the form, get the required signatures, and return the form to the Scheduling Office.

Students no longer enrolled in high school whose high school class has not yet graduated are ineligible to enroll as part-time students until their high school class has graduated.

GENERAL INFORMATION

Students may apply for admission any time during their final year in high school. All credentials must be submitted at least three weeks prior to the beginning of the semester for which the student intends to enroll. However, if all available spaces become filled, application processing will be stopped at an earlier date. A \$20 non-refundable application fee must be sent with the application.

Applications for admission for prospective freshmen are available upon request from the Admissions Office at Lake Superior State University or at most high school guidance offices. An official transcript of high school credit must

be sent directly from the school to the Admissions Office. Upon receipt and evaluation of the application and transcript of high school credits, the Admissions Committee will notify each student promptly of its decision on the application for admission and provide instructions concerning subsequent procedures.

PLACEMENT TESTING

Entering freshmen are required to take placement tests in English, mathematics, and reading. The tests are given during the *Fall Class*

COLLEGE ENTRANCE EXAMINATION BOARD ADVANCED PLACEMENT PROGRAM

Advanced Placement examinations are administered each May at high schools to seniors who have taken specific advanced level courses in high school.

Lake Superior State University grants credit in selected courses for Advanced Placement examinations, without an essay section, passed with a score of 3 or higher. The grading scale is from a low of 1 to a high of 5.

If an essay is part of an individual Advanced Placement test, it must also be submitted to the University for evaluation. To receive credit, the essay must be satisfactory and the student must have a minimum score of 3 on the test.

A list of courses for which the University currently grants credit may be obtained from either the Registrar's Office or the University's Counseling and Testing Center.

Scheduling and Parents' Programs each July. The results are used to help place students in the appropriate fall semester courses. Students unable to participate in the July testing and class scheduling will do both during orientation in late August.

ENGLISH: Individuals with a high placement score will be invited to enroll in Honors English. Students whose English placement test scores indicate a deficiency in English will complete the course EN091, Basic English, before enrolling in EN110, Freshman Composition.

READING: Students who are deficient in reading achievement will be urged to enroll in a one-credit course, SA105, Development of Reading Abilities.

MATHEMATICS: One or more freshman-level mathematics courses may be waived for students whose placement test results demonstrate

excellent preparation in mathematics. Students whose mathematics placement scores indicate a deficiency will be placed, depending on their scores, in either MA091, Basic Mathematics or MA092, Intermediate Algebra.

CREDIT BY EXAMINATION

Students may earn up to one year of academic credit (thirty semester hours) at Lake Superior State University by examination.

The University grants credit by examination to entering students for satisfactory results from the College Entrance Examination Board's Advanced Placement Program, the College Level Examination Program (CLEP) tests, and departmental exams created by the University's individual academic departments. Students already attending the University may earn credit through both CLEP and departmental exams.

Before credits by examination, or transfer credits from other sources, will be entered on students' permanent academic records in the registrar's office, they must:

1. Apply, and be admitted, to the University under the criteria for full time students;
2. Enroll, either full time or part time.

A description of each examination program follows:

COLLEGE LEVEL EXAMINATION PROGRAM (CLEP)

Students may take CLEP exams either at the University's Counseling and Testing Center in Brown Hall or at other testing centers. CLEP exams are given at the University each month except February and December, and elsewhere on scheduled dates. CLEP exam scores for students entering fall semester should be reported to the Registrar's Office no later than July 30 to be considered for advanced placement. To meet this date, a student taking the exams elsewhere should be tested no later than the month of May. Interested students should contact the Counseling and Testing Center at Lake Superior State University for complete information about the program, for test sites, and for test dates. The current University policy governing granting of credit through CLEP is as follows:

1. If a transcript indicating CLEP credit is received from a potential student, an official copy of the CLEP score report form will be required.

2. If any prospective student, accepted for admission, submits an official CLEP score report form, the scores will be evaluated by the Registrar's Office to determine if credit shall be given in the appropriate subject areas.

CLEP GENERAL Examinations: A student or prospective student may elect to write any or all tests comprising the general examination, except mathematics, under the following conditions:

1. To be eligible for consideration for credit, a student must have been granted admission to Lake Superior State University and an official score report must be on file. (Exception: President's Achievement Award participants).
2. Credit for the CLEP general examination will be granted as follows:

English Composition: Students successfully passing the English general examination will receive credit for EN110 & EN210, or for either of the courses for which the student has not previously received credit. A maximum of 6 semester hours of English composition can be earned through a combination of the CLEP general examination and previously earned credit.

Humanities: Students successfully passing the humanities general examination will receive a maximum of eight semester hours in humanities electives, toward general education requirements. If students previously have received credit in humanities courses or courses which substitute for humanities,

a maximum of 8 semester hours can be earned through a combination of the CLEP general examinations and previously earned credit.

Social Science: Students successfully passing the social science general examination will receive a maximum of eight semester hours in those social science elective courses specified in the general education requirements, provided these are courses for which credit has not already been received.

Natural Science: Students successfully passing the natural science general examination will receive a maximum of eight semester hours in those natural science elective courses specified in the general education requirements, provided these are courses for which credit has not already been received. Students who have earned previous

college-level physical or biological science credits must apply these credits against their general education requirements before any CLEP natural science general examination credits will be granted to fulfill the general education requirements.

3. CLEP general examination credit may not be used to repeat courses previously taken unless permission is granted from the academic department offering the course.
4. Grades for general examinations, where credit is granted, will be recorded as credit (cr), without grade points.
5. Credit for CLEP general examination will be granted as follows for each test showing a composite score at the fiftieth percentile based on college sophomore norms published by the Educational Testing Service.

<u>Test</u>	<u>Score</u> <u>Equiv. Reg.</u>	<u>Course</u>	<u>Cr.</u> <u>Hrs.</u>
English			
Composition	500	EN110 & EN210	6
Humanities	500	HU Electives	8
Social Science	500	SS Electives	8

CLEP SUBJECT Examinations:

1. Credit may be earned for individual courses by successfully passing CLEP subject examinations.
2. CLEP subject examinations may not be used to repeat any course(s) previously taken unless special permission is granted from the academic department offering the course.

3. A current listing of approved CLEP subject examinations and acceptable minimum scores may be obtained from the either the Registrar's Office or the University's Counseling and Testing Center.

CREDIT BY EXAMINATION

Departments may provide their own examinations for certain courses.

Students should inquire at the academic department offering the course whether a departmental examination is available. If an examination is available, the department head's written approval to take the examination must be obtained. An application form for credit by examination with explanation of the necessary procedural steps, may be obtained from the department head or the Registrar's Office. The fee amount will be equivalent to that for CLEP exams and students will not be charged tuition for the credits earned. An examination grade of 2.00 or better is required for credit to be earned. Course and credit earned by examination shall be recorded on the student's transcript with the grade marked as CR. Some universities may not accept for transfer credit earned by departmental examination.

HEALTH RECORD FORM

Everyone entering the University for the first time is required to complete a health record form, which is mailed to admitted students. The health record form should be completed by the student and/or a parent and returned to the Health Service Office in the envelope provided.

Health record forms are not considered as criteria for admission to the University. The information helps the University's Health Service better serve the needs of individual students.

FALL CLASS SCHEDULING AND PARENTS' PROGRAM

Each July, the University offers a program for entering freshmen and

their parents. The purpose is twofold. First, it enables new freshmen to take placement tests, meet with academic advisors, schedule fall semester classes and buy books prior to the orientation program. Second, it provides an opportunity for parents to meet University administrators and, through an informative program, gain a better understanding of the array of services Lake Superior State University furnishes.

Entering transfer students should attend the Transfer Student Scheduling program in the spring or, at a later date, make individual appointments for advising and scheduling conferences with their academic advisors.

ENTERING STUDENT ORIENTATION PROGRAM

All new fall semester students are required to be present on campus during orientation, prior to the start of classes. Program activities help students become acquainted with the campus and community and provide a basis for a smooth transition to university work. Included in the activities are placement examinations, consultations with departmental advisors and faculty members (for those who did not attend the July program), and lectures and conferences covering various phases of academic and extra-curricular activities. A separate orientation program is provided for transfer students.

Note: Information in the admissions section of the catalog is for information only and not part of an enrollment contract.

STUDENT SERVICES

THE UNIVERSITY RECOGNIZES the value of a well-rounded program for student development, and encourages students to participate in student activities. Students should carefully consider their choice of activities according to their special interests. There are opportunities to participate in the programs of the honorary, social, and professional organizations, special interest clubs, student publications, intramural, and intercollegiate activities.

Formation of clubs, of such personal interest groups as camera and amateur radio clubs, and of musical, dramatic, and other organizations is encouraged. Intramural athletics are stressed, and varsity teams representing Lake Superior State University compete in several athletic conferences.

Students are encouraged to take part in outdoor activity. Good hunting and excellent fishing are found within a few miles of the University. Favorite winter sports are skating, hockey, snowshoeing, tobogganing, ice fishing and skiing.

THE H. THAYER FLETCHER CENTER houses a variety of offices providing services to students: scheduling, admissions, financial aids, placement, continuing education and the registrar, among others. It is named after a man who visited the campus one summer day in 1973 while back in his home town for a few days "to arrange for some scholarships." He set up a \$25,000 fund to be paid in at \$5,000 a year for five years. Upon his death in 1979 the University learned that he had left the bulk of his estate to expand this scholarship fund to almost more than

a quarter of a million dollars. **AN IMPORTANT PHASE** of college life consists of development in "human relations." Learning to live and work with others, and the development of leadership qualities, are largely the result of student participation in a wide variety of student activities at Lake Superior State University.

STUDENT SENATE

THE GOVERNING BODY for many student activities is the Student Senate. All students are eligible for election to Senate membership and are encouraged to participate in this active student organization. The Senate each spring selects its future officers. It meet regularly during the academic year. Some annual events sponsored by the Senate: Winter Carnival and various lectures, motion pictures and entertainments.

RECOGNIZED ORGANIZATIONS

STUDENT ATHLETIC: Ski Club, Skating Club, Cheerleaders, Nordic Ski Club, and Judo Club.

STUDENT PROFESSIONAL: Accounting Club, American Society of Mechanical Engineers (ASME), Technology Club, Society of Manufacturing Engineers, Phi Beta Lambda (Business), Lambda Sigma Beta (Business), Student Nursing Club, Institute of Electrical Electronic Engineers (IEEE), Geology Club, Data Processing Club, French Club, Criminal Justice Association, Biological Society, Political Science Club, Semper Fidelis Society (U.S. Marine Corps), Chemistry Club, Psychology Club, Math Club, Phi Sigma (Business), Society of Automotive Engineers, Association of Computing Machinery, Environmental Awareness Club, Hospitality Club, and Recreation Club.

STUDENT RELIGIOUS: Inter-Varsity Christian Fellowship, Baptist Student Union, His House, Newman Association, Campus Crusade for Christ, and Anchor House.

SPECIAL STUDENT: Alpha Kappa Chi, Associated Women and Men Student (AWMS), Canadian Club, Big Brothers and Big Sisters, Alpha Chi (National Academic Honorary), Alpha Phi Sigma (National Criminal Justice Honor Society), Science Fiction Club, Karate Club, Delta Sigma Phi, Chess Club, Forensic Club, Republican Forum, Young Democrats, Returning Students Organization, Students in Free Enterprise, Tau Kappa Epsilon, Delta Phi Epsilon, Theta Xi, Student Senate, Zeta Chi Epsilon, Inter Greek Council, Tau Alpha Phi, and Veterans' Club.

STUDENT MUSIC: LSSU Band, The Jazz Band, and Pep Band.

COMMUNICATIONS: The Compass (weekly student newspaper), The Almanac (annual directory and data source), Sports Press Books (annual), Anchor yearbook, and WLKR (student radio station).

LODGING/FOOD

MODERN HOUSING facilities are available for both men and women. All students (enrolled for 12 hours or more) attending Lake Superior State University must comply with this housing policy:

All unmarried, non-veteran students (enrolled for 12 hours or more) who are within twenty-seven calendar months of the date of their graduation from high school (for this purpose, all high school graduation dates shall be assumed to be June in any given year) must reside in University residence hall, with the following exceptions:

STUDENTS living with their parents within reasonable commuting distance.

STUDENTS exempted by the housing director when residence hall space is filled.

STUDENTS with unusual financial or health problems who are exempted by the executive vice-president.

To permit adjustments to local housing problems, the University reserves the right to assign all students within the residence halls. Room, residence hall, and apartment preferences are considered according to the dates of receipt of application, with freshmen ordinarily given priority in residence hall assignments

and upperclassmen being given priority in apartment assignments.

The University recognized that the need for an exception to the policy stated above may occasionally arise. Student requests for permission to live off campus will be considered by the executive vice-president.

Should a student request permission to live off campus for financial reasons, the executive vice-president shall apply the following criteria to his or her request:

"FINANCIAL hardship" shall be defined for this purpose as a situation in which the total resources of the student and family added to the total financial aid available from the University do not equal the dollar amount budgeted by the financial aids office as the minimum required for on-campus residency. In such a situation, the student will be considered to face two alternatives: a.) withdrawing from the dormitory or b.) withdrawing from the University.

AN EXAMPLE OF a student who might be released from the dormitory under the above definition would be one whose financial situation changed suddenly during the year (perhaps due to the death of a parent) and who applies for assistance, after the aids program is depleted.

A complete and modern cafeteria is located in Canusa Hall. The Cisler Center has a snack bar, informal lounges and recreational areas.

A number of modern student apartments are available on campus. Married students or groups of single students desiring living accommodations should contact the housing manager.

The Osborn Hall dormitory and the Student Village dormitory were constructed with a loan from the Federal Government which is to be repaid from the room rentals. The University Board of Control in obtaining this loan agreed to provide for maximum occupancy and use of the building. As a result, the University reserves the right to transfer students from Brady Hall or from off-campus housing to the Townhouses, Osborn Hall or the Student Village during the year. To avoid unnecessary inconvenience, such transfers are normally made between terms.

COUNSELING/ TESTING

ALL STUDENTS are encouraged to avail themselves of the counseling and testing services. Several professional counselors are available at the student counseling center to assist students with their academic, personal, or vocational problems.

A complete vocational testing and counseling program, which has proven throughout the years to be invaluable in helping students assess their interests and potentials, is available to all students to help them decide upon their educational and career goals.

The counseling center is equipped with career information, college undergraduate and graduate catalogs, applications for all Michigan colleges and universities, etc.

The center maintains a complete file of individual test folders, which includes all orientation test results for our students. Those who wish to have their scores interpreted may make an appointment with a counselor at the counseling center.

If the results are inconclusive you may wish to submit application for the complete vocational testing battery.

Tutoring services are also offered through the counseling center. Student tutors are available to help individually those students who request special help in their courses. No fee is charged for this service.

Growth group sessions are scheduled periodically for students who are interested in personal and social growth through the group dynamics of interpersonal relationships. Anyone interested in participating should stop by the counseling center.

The student counseling center is open Monday through Friday from 8 a.m. to 5 p.m. For an appointment call extension 452 or just drop in.

HEALTH SERVICE

THE UNIVERSITY'S health service entitles full-time students to consultation and advice, a medical examination by appointment, minor treatment and first aid. A physician is in attendance at the health center at definite hours.

The University makes available to all students a comprehensive plan of insurance covering medical expenses for a period of one year from the date of enrollment. An agent of the insurance company will be on hand to answer any questions and settle claims that may occur during the school year. Materials will be sent to the students prior to enrollment explaining the plan and costs involved.

All students from countries other than the United States and Canada are required to carry health insurance as a condition of

enrollment. Students who choose not to carry the program offered by the University must furnish proof that they have purchased an equivalent program of American health insurance. In either case, proof of insurance shall be required before registration is permitted.

CAREER PLANNING/ PLACEMENT

LAKE SUPERIOR State University maintains a centralized career planning and placement service for alumni and graduates.

The function of the office of career planning and placement is to assist students to develop realistic career goals and in locating suitable and desirable employment. This is done by arranging interviews with representatives of schools, business, industry, and government agencies; by mailing employment credentials for graduates to prospective employers; by notifying graduates of employment opportunities; and by vocational counseling.

In addition to assisting graduate and currently enrolled undergraduate students, this office maintains an active file of available alumni candidates. Alumni desiring to become, or to remain, active candidates must contact the office in writing for re-enrollment each year.

Assistance in finding part-time and summer jobs is maintained and made available to all students. Several bulletin boards listing current part-time jobs are maintained to keep registrants informed. Regular contact is maintained with employers both on and off campus in an effort to promote their interest in employing Lake Superior State University students.

ATHLETICS

The mission of intercollegiate athletics at Lake Superior State University is to provide a broad based, meaningful opportunity for the student-athlete to compete while providing safety in travel, competition and practice. In addition, the athletic program provides the rest of the student body, campus community, local community and alumni an opportunity to follow the University.

Lake Superior State University offers varsity intercollegiate athletics at the NCAA Division II level in the following sports: Men's and Women's Basketball, Cross Country, Track, Tennis, Women's Volleyball and Softball and Men's Golf and Wrestling. In addition, Lake Superior State University sponsors NCAA Division I Ice Hockey.

The University is a member of the Great Lake Intercollegiate Athletic Conference (GLIAC) in it's Division II sports, while holding membership in the Central Collegiate Hockey Association (CCHA) in Ice Hockey.

The President, with assistance of the Executive Vice-President, has the same control over the athletics program that he/she exercises elsewhere in the University.

The Intercollegiate Athletic Council, composed of faculty and staff of the University, approve academic eligibility requirements, scheduling of athletic events, athletic grant-in-aid policies and institutional positions on legislative matters acted upon at annual NCAA conventions.

The Athletic Director reports directly to the Executive Vice-President on the day to day operation of the Intercollegiate Athletic Program. Initial and continuing eligibility for intercollegiate competition requires compliance with NCAA Bylaws Article 14. Interested individuals should contact the athletic department to ascertain the necessary information. All student-athletes are required to maintain a minimum grade point average, carry a required number of courses and make satisfactory progress towards a Baccalaureate Degree.

NOTES

COSTS

University fees and assessments are subject to change by the University Board of Regents.

APPLICATION FEE OF \$20 (in United States funds) must accompany each application for admission to Lake Superior State University. Fee is non-refundable; does not apply towards tuition or other fees. The tuition schedule shown applies to on-campus instruction and at residence centers.

A. RESIDENTS of Michigan including students from Northern Ontario qualifying under the Reciprocity Agreement: Enrollment fee of \$26 per student (not refundable). Credit hour cost \$102.75 per hour for enrollment of 1 through 12 hours and for each additional credit hour in excess of 17. Total tuition cost per full-time resident student is \$2518.00 per academic year.

B. NON-RESIDENTS of Michigan: Enrollment fee of \$26 per student (not refundable). Credit hour cost \$202.25 per hour, for enrollment of 1 through 12 hours and for each additional credit hour in excess of 19. Total tuition cost per full-time, non-resident student is \$4906.00 per academic year.

Michigan Residence

DEFINITION OF MICHIGAN RESIDENCY:

As a state-supported institution, Lake Superior State University complies with the following definitions and regulations governing resident status:

1. The residence of a student who is a minor follows that of parents or legal guardians, except that a minor student who comes to the University from another state or country cannot be registered as a resident of this state on the basis of having a resident of this state as a guardian, except on per-

mission of the University in each individual case.

2. A person who is at least 18 years of age at the time of initial registration and who has continuously resided in Michigan for at least six months immediately preceding the first day of classes, is a resident for tuition purposes provided he/she can provide evidence of Michigan residency. Such evidence should include, but is not limited to, changes in voter registration and vehicle registration.
3. Non-resident students who enter the state and immediately begin classes shall be eligible for reclassification to resident status after six months, provided they can provide evidence of a change in their residency status. Such evidence could include, but is not limited to, changes in voter and vehicle registration.
4. A Michigan resident absent from the state for periods of up to one

year shall not forfeit his or her residence for tuition purposes, provided that he or she has taken no action to become a resident of another state.

5. Initial decisions on classification, and requests for reclassification to become a resident student, will be made by and to the registrar. Students may appeal these decisions to the executive vice-president.
6. The residence of a student follows that of his or her spouse, except that a student who initially registers as a resident student may continue to register as a resident of Michigan although subsequently marrying a non-resident student or other non-resident.

Students on active duty in any of the armed services and stationed in the State of Michigan are exempt from payment of non-resident tuition.

8. Aliens lawfully admitted for permanent resident in the United States who have a permanent visa, their spouses and minor children, may register as residents of this state provided they have met the other requirements herein for residency.
9. Any full-time employee of the University, and those members of the teaching staff whose appointments require at least three contact hours of teaching each week in regularly assigned formal classes, and their dependents, may register as residents.

Any student who is in doubt of residence status should consult with

the registrar and have any questions settled prior to registration.

POLICY: TUITION/FEEES

ALL TUITION and fees are payable according to established due dates. Students who are delinquent in payment of any financial obligation are subject to enrollment cancellation until all amounts due the University have been paid, or until satisfactory arrangements have been made with the business office.

The registrar, on notice that a student is delinquent in payment, will deny registration to students delinquent in payments of fees and other University obligations. University services including transcripts will not be provided until financial obligations are paid. Registration is not complete until fees are paid. A check or draft returned to the University and not honored by the bank shall constitute non-payment and result in cancellation of registration.

Auditing: The cost for auditing courses is one-half the tuition charged for credit courses plus the full amount of enrollment and special fees.

Other Courses: A few courses have special fees. All registrations (including payment of fees) must be completed no later than six days after the beginning of regular instruction. No student may enroll for the semester after the six-day period has passed without special permission from the Registrar. A

service charge will be assessed for adding late.

Vehicles: Students operating or parking a car or other motor vehicle anywhere on campus must pay an annual vehicle registration fee. The fee will be refunded in whole or in part only under certain conditions.

Credit by exam: Credit by departmental examination can be available to students who are accepted as full-time. If a 2.00 or better is scored, the credit will be recorded on the student's transcripts. The only fee charged will be a fee equivalent to CLEP exams, with no tuition charged for credits earned.

Withdrawal: Students withdrawing from the University must complete a withdrawal form in the Student Services Building to initiate a refund. Authorized refunds apply

only to tuition and special course fees. For students on approved University financial aids, or aid through other agencies that mandate recovery of financial assistance, refunds will be in accordance with related requirements. Withdrawing students should check with the Director of Financial Aids. Refunds are made according to the following: During the first six days 100% refund on withdrawals. Seven through ten days 50% refund for students withdrawing completely from Lake Superior State University. No refunds for dropping one or two classes.

Transcript Fee: Each student or former student is furnished, without charge, one official transcript either before or after graduation. A charge of \$5 is made for each additional transcript.

SUMMARY OF EXPENSES

	RESIDENT INCL. N. ONT.	NON- RESIDENT
Tuition	\$ 2,518	\$ 4,906
Housing (damage) deposit (paid once)	75	75
Board and Room	3,625	3,625
Books and supplies (higher for first semester)	480	480
Total for year:	\$ 6,698	\$ 9,086

In addition to the books and supplies indicated above students enrolled in certain curricula may be required to have special materials and supplies which may be purchased at the University bookstore. Travel and miscellaneous personal expenses will vary between students in proportion directly related to their established standards of living.

ROOM & BOARD APPLICATIONS

HOUSING APPLICATIONS: Applications for housing must be made to the housing office. Students indicating interest in living on campus on their University admissions application will be sent housing information. Room assignments will be made upon receipt of the first room and board payment. Applications will be voided if first room and board payment is not received by June 14. If application is canceled by proper notification to the housing manager by June 14, all monies paid will be refunded. If cancellation is made between June 14 and the opening of the residence halls, LSSU will retain \$100.00. If cancellation is made after the halls open, a penalty of \$300.00 is charged. Students must be "accepted" by Admissions to live on campus.

ROOM AND BOARD: A variety of living environments are available on campus for students. Room and board costs for 1991-1992 are \$3,589.00 for the academic year plus a \$36.00 environmental fee. Payments are divided into nine installments.

DAMAGE DEPOSIT:

Students living on campus must pay a \$75.00 damage deposit prior to checking into the halls. This deposit will be retained as a guarantee against breakage or damage. It will be refunded, less charges for breakage or damage, when students leave on-campus housing.

REGULATIONS: To insure effective use of residence hall and cafeteria facilities and to promote development of desirable social qualities in students, certain regulations have been adopted to govern the conduct in the residence halls. Each student is given a copy of the regulations.

NOTES

FINANCIAL AIDS

THE UNIVERSITY STRIVES to reward the scholar and to meet the needs of the many students who apply for financial assistance. A combination of University, state and federal programs enable many students to receive a "financial aid package" which may include a combination of scholarship, loan, grant, and/or work assistance. Priority in aid awards will be to full-time undergraduate students.

All students should carefully consider the full cost of their education, parental support, and savings, including savings from summer employment, in determining their need for financial aid. Students with excellent high school or community college grades are encouraged to apply for scholarships regardless of need. Students with need will be considered for loans, grants, and/or employment on the basis of need established from the Financial Aid Form (FAF) or Family Financial Statement (FFS).

Applications for all financial aid programs are available from the office of student financial aid. The staff of this office will be happy to counsel with applicants and their parents concerning the costs of attending the University, availability of financial aid, and application procedures.

All applications for financial aid must be received by April 1. Financial Statements (FAF or FFS) must be postmarked on or before March 1.

Applying

PROSPECTIVE STUDENTS

wishing to apply for financial aid should complete the financial aid section of the application for admission; forms may be obtained from high school principals or counselors or by writing to: Student Financial Aid, Lake Superior State University, Sault Ste. Marie, MI 49783.

Students already enrolled may secure applications in the financial aids office.

Applications should be submitted to the University as soon as possible and must be on file by April 1 to be considered for the fall semester beginning in August.

SCHOLARSHIP

REQUIREMENTS: Incoming freshmen must be in the upper one-fourth of their graduating class and

have a 3.25 grade point average. The recipient of any award must be a full-time student (carrying 12 academic hours or more).

Scholarship awardees will be notified December 1 through May. Others, April 1 through June.

In most cases scholarship winners are selected on the basis of competitive examinations, scholastic records, and/or financial need. The American College Test is the University's primary test for scholarship applicants. Test results must be on file by April 1.

Students applying for assistance must have parents or guardian complete a Financial Aid Form (FAF). These forms are made available by the College Scholarship Service and may be obtained from local high school counselors or principals. The University will also accept the Family Financial Statement (FFS) from the American College Testing Program. Indicate on the form that a copy of the financial needs analysis report is to be sent to Lake Superior State University. The form must be mailed on or before March 1 to assure that financial needs analysis reports are received before the financial aid application deadline of April 1.

RETAINING AID *(SATISFACTORY PROGRESS POLICY)*

A POLICY of great importance to students receiving financial aid defines the rate of academic progress and success which must be met if financial aid is to be retained. If you are receiving any form of financial aid, please study the following section carefully:

Financial aid regulations require satisfactory progress for students to remain eligible for financial aid. Programs affected by this policy are: Pell Grant, Perkins Student Loan, College Work-Study, Supplemental Educational Opportunity Grant, the Stafford Student Loan Programs, Board of Regents Scholarships, Board of Regents Grant, Michigan Competitive Scholarship, and all other institutional scholarships and grants. The following is the minimum requirement for all types of financial aid; however, there are some types of aid, such as scholarships, with more stringent requirements:

EVERY STUDENT must maintain, at the end of each semester, a cumulative grade point average (GPA) of at least:

<u>Cumulative GPA</u>	<u>Credits Attempted</u>
1.70 as a freshman	0-25
1.86 as a sophomore	26-55
1.93 as a junior	56-87
1.97 as a senior	88+

APPLICATION OF POLICY

Freshman students not meeting the GPA requirement after Fall semester will be placed on Financial Aid Probation for one semester. The cumulative GPA after the probationary semester must satisfy the minimum GPA or the student will have their financial aid suspended. Students classified as a sophomore or higher will not have a probationary semester and must meet the schedule above.

In addition, each student must have earned the following number of credits at the end of each semester in

attendance in order to remain eligible for financial aid:

Full-Time Semester	Credits Earned	Full-Time Semester	Credits Earned
1	8	8	70
2	16	9	79
3	25	10	88
4	34	11	97
5	43	12	106
6	52	13	115
7	61	14	124
		15+	ineligible

Students enrolled for less than 6 credits do not have a term/semester added and those enrolled for 6 to 11 credits count as one-half semester.

Students are reviewed annually (at the completion of Winter Semester) in regards to credits completed. Students who do not meet the completion schedule are considered as not making satisfactory progress and their financial aid is suspended for subsequent semesters.

Once financial aid is suspended, both the GPA and credit completion criteria must be met in subsequent semesters before reinstatement of aid is possible.

If completion of "I" grades or other record changes warrant a reinstatement, a written notice from the Registrar's Office must be presented to the Financial Aid Office by the end of the semester following suspension of aid.

Summer school attendance may be used by the student to remove grade point or credit earned deficiencies. Students must file a request for reinstatement with the Financial Aid Office following the successful completion of a summer term.

FINANCIAL AID SUSPENSION

No aid, including but not limited to the Stafford Student Loan, Perkins Student Loan, College Work-Study, Supplemental Educational Opportunity Grant, Pell Grant, Michigan Competitive Scholarship, and Institutional Scholarships and Grants, will be granted once a student's eligibility is suspended. To remove financial aid suspension status, a student must have attained the minimum cumulative grade point average and credit earned requirements while not receiving financial aid processed through the University. Successful students then must advise the Financial Aid Office in writing that they meet the requirements for reinstatement.

TRANSFER STUDENTS

The requirements for transfer students are based on the number of full-time equivalent credits transferred to LSSU. For example, a student with 68 transfer credits must earn a G.P.A. of 1.93 or higher and must earn at least 16 credits after two semesters of study.

SCHOLARSHIP RENEWAL REQUIREMENTS

In addition to the credits completion schedule, scholarship winners must meet the following GPA requirements to maintain their awards:

BOARD OF REGENTS DISTINGUISHED*	BOARD OF REGENTS**
3.00 or better after two semesters of study	2.50 or better after two semesters of study
3.10 or better after four semesters of study	2.60 or better after four semesters of study
3.20 or better after six semesters of study	2.70 or better after six semesters of study

*Includes other institutional scholarships with a value of full-tuition or higher.

**Includes other institutional scholarships with a value of less than full tuition.

RIGHT TO APPEAL

A student whose aid is suspended may request reinstatement through the Financial Aid Committee. To obtain reinstatement, the student must effectively demonstrate that their poor performance was due to some unusual circumstance. Such requests should be in writing and addressed to the Executive Vice President.

Scholarships are awarded on academic excellence and may not be reinstated by appeal.

CONSUMER INFORMATION

AS AN APPLICANT and recipient of Federal financial student aid, you have certain rights and responsibilities. Knowing your rights and responsibilities will put you in a better position to make a decision about your goals and how you can best achieve them.

STUDENT RIGHTS:

You have the right to know:

1. What financial aid programs are available at your school. They are listed in the financial aid section of this Catalog.
2. Deadlines for submitting applications for each available financial aid program.
3. How financial aid will be distributed, how decisions on that distribution are made, and the basis for these decisions. (Contact financial aid office.)
4. How your financial need was determined. This includes how costs for tuition and fees, room and board, travel, books and

supplies, personal and miscellaneous expenses, etc., are considered in your budget. (See award letter.)

5. What resources (such as parental contribution, other financial aid, your assets, etc.) were considered in the calculation of your need. (Contact financial aid office.)
6. How much of your financial need as determined by the institution has been met. (Contact financial aid office.)
7. To request an explanation of the various programs in your student aid package.
8. Your school's refund policy. This is in the Catalog "costs" section.
9. What portion of the financial aid you receive must be repaid, and what portion is grant aid. If the aid is a loan, you have the right to know what the interest rate is, the total amount that must be repaid, the payback procedures, the length of time you have to repay the loan, and when repayment is to begin. (Contact financial aid office, see loan note.)
10. How the school determines whether you are making satisfactory progress, and what happens if you are not. This information is under "Retaining Financial Aid" in this section of the Catalog.
11. Handicapped students: Lake Superior State University programs are accessible to the handicapped. Further information is available from the director of counseling.

AND FINALLY:

You have the right to request:

12. An explanation of the various programs in your student aid package.
13. The names of associations, agencies or governmental bodies which approve, accredit or license the University programs and copies of the accreditation documents are to be available upon request. (See "Accreditation".)

STUDENT RESPONSIBILITIES:

1. You must complete all application forms accurately and submit them on time to the right place.
2. You must provide correct information. In most instances, misreporting information on financial aid application forms is a violation of law and may be considered a criminal offense which could result in indictment under the United States criminal code.

3. You must return all additional documentation, verification, corrections, and/or new information requested by either the financial aid office or the agency to which you submitted your application.
4. You are responsible for reading and understanding all forms you are asked to sign and for keeping copies of them.
5. You must accept responsibility for all agreements you sign.
6. You must perform the work that is agreed upon in accepting a work-study award.
7. You must be aware of and comply with deadlines for application or reapplication for aid.
8. Be aware of your school's refund procedures.
9. All schools must provide information to prospective students about the schools programs and performance. You should consider this information carefully before deciding to attend.

SCHOLARSHIPS, GRANTS

THE PRESIDENT'S ACHIEVEMENT AWARD:

Value: \$3000 per year for first place. \$2700 second and third place, full tuition fourth and fifth place, renewable for four years. Applicants must be high school graduates or near graduation in high schools in Michigan's upper and northern lower peninsulas.

Eligibility: Applicants must have a minimum 3.5 grade point average in high school or be selected as a National Merit Semi-Finalist. All qualified applicants will be invited to take a competitive examination on the Lake Superior State University campus to determine the scholarship recipient. Financial need will not be considered in awarding this scholarship.

**BOARD OF REGENTS
DISTINGUISHED
STUDENT**

SCHOLARSHIP*: Value: \$2700 per year, for study in any degree curriculum offered by the University. Applicants must be residents of Michigan, graduates or near-graduates of properly accredited high schools, have taken the ACT test, and rank in the upper one-quarter of their high school classes. Renewable up to four years. Students requesting a fifth year renewal must petition the financial aid committee, which may or may not authorize such a renewal.

**BOARD OF REGENTS
SCHOLARSHIP*:**

Value: variable up to full tuition per year, for study in any degree curriculum offered by the University. Applicants must be residents of Michigan, graduates or near-graduates of properly accredited high schools, have taken the ACT test, and rank in the upper one-quarter of their high school classes. Renewable up to four years. Students requesting a fifth year renewal must petition the financial aid committee, which may or may not authorize such a renewal.

**BOARD OF REGENTS
MICHIGAN JUNIOR AND
COMMUNITY COLLEGE**

SCHOLARSHIPS*: Value: variable up to full tuition per year, for study in any curriculum. Applicants must be residents of Michigan and must have graduated or intend to graduate from a recognized junior or community college in Michigan prior to enrollment at Lake Superior State University. Eligible applicants must be enrolling as at least juniors at Lake Superior State University and have a minimum Community

College grade point average of 3.0 or higher. Renewable for senior year.

**BOARD OF REGENTS
UNITED STATES AND
FOREIGN**

SCHOLARSHIPS*: Value: variable up to full tuition per year, for study in any degree curriculum offered by the University. Applicants must be from states other than Michigan or from foreign countries. Students must have a 3.5 GPA. Preference will be given to students from states adjacent to Michigan.

**BOARD OF REGENTS
SAULT STE. MARIE,
ONTARIO, SCHOLAR-**

SHIP: Value: variable up to full tuition per year, for study in any degree curriculum offered by the University. Applicants must be residents of Sault Ste. Marie, Ontario, and graduates of a Sault Ste. Marie, Ontario, high school. Scholarship is renewable up to four years. Students requesting a fifth year renewal must petition the financial aid committee, which may or may not authorize such a renewal.

*All Board of Regents Scholarships, subject to regular renewal criteria, are normally granted for 8 consecutive academic semesters, excluding summer. In cases where a student must temporarily leave school due to circumstances beyond his or her control, the financial aid committee will consider petitions for scholarship reinstatement. Circumstances where a scholarship reinstatement might be granted would normally include cases of accident or serious illness.

**ROBERT W. CURTIS-
AMERICAN SOCIETY
FOR METALS**

SCHOLARSHIP: Value: \$250 (Canadian funds) for study in an engineering or engineering

technology curriculum. To be awarded to Canadian citizens who have graduated from Ontario high schools. Must be in the upper half of the graduating class and submit references from two non-relatives.

CENTRAL SAVINGS BANK SCHOLARSHIP:

Value: tuition and books. Established in 1990 to assist majors in finance and economics. Students majoring in accounting or economics with a finance minor will be considered as a second priority. Preference to students who have graduated from high school in the Eastern Upper Peninsula or the Algoma District of Ontario who have an interest in seeking full-time employment in the field of banking in the Eastern Upper Peninsula. Applicants must have earned a 3.0 GPA after two or more semesters of study. A screening committee of five members composed of three members of the faculty of the Business and Economics Department, one Central Savings Bank representative and one person from the city government will review the qualified applicants at the conclusion of winter semester each year. Applicants must submit a resume and a transcript of grades. The committee will review the credentials of the applicants and invite the finalist for interviews. The committee will select the recipient and one alternate and recommend the selections to the full Financial Aid Committee for final approval. The recipient must maintain a grade point average consistent with the University policy for full tuition scholarships. The scholarship is renewable for a maximum of three years.

HUDSON, COATES, KLINE SCHOLARSHIP: **Value:** minimum \$2000. Established by the Hudson Foundation in memory of

Roberts P. Hudson, Claude W. Coates, and Robert C. Kline prominent Sault Ste. Marie attorneys. The Hudson Foundation ministers funds for educational and charitable purposes in Chippewa County Michigan. Awarded to a graduating Sault Area High School senior accepted for admission in any undergraduate degree program. Selections shall be based on high school grades, ACT test scores, class rank and financial need. The award is renewable for up to a total of four years subject to the recipient maintaining the academic standards required for distinguished scholarships.

FRANK AND GLADYS HOHOLIK

SCHOLARSHIP: **Value:** variable up to full tuition. Applicants may be entering freshmen, transfer students, or currently enrolled students who have completed three terms of instruction at Lake Superior State University. Applicants must demonstrate financial need. Recipients may request renewal of the scholarship for up to four years.

MICHAEL D. DELLA-MORETTA MEMORIAL

SCHOLARSHIP: In honor of Michael Della-Moretta, a 1977 graduate killed while serving as a navy pilot aboard the U.S. Carrier Independence off Iran in 1981. He once said the happiest years of his life were at Lake Superior State University. The value of the award is \$500 per year based on academic achievement and financial need. Preference given to Upper Peninsula residents with an interest in biological science.

DR. ARTHUR E. DUWE MEMORIAL

SCHOLARSHIP: Established by family and friends in memory of Dr. Arthur E. Duwe, Professor of Biology from 1968-1991.

Eligibility: Awarded to a senior Medical Technology student for his/her year of internship. If a qualified Medical Technology student is not available, the award may be given to a senior in Biology, Fisheries and Wildlife or Environmental Science. Students may be a Michigan resident or non-resident, enrolled full-time with a cumulative 3.0 or higher grade point average. Financial need is not a criteria for award consideration.

Selection: One recipient shall be selected each year from qualified applicants by faculty of the Biology and Chemistry Department. Interested applicants will apply for the scholarship during the spring semester of their junior year and the award will commence Fall Semester of the applicant's senior year. The recommendation of the academic department will be submitted to the Financial Aid Committee of Lake Superior State University for final approval.

BILL AYERS MEMORIAL

SCHOLARSHIP: Established as a memorial to Bill Ayers, former girls' basketball coach at Sault High School. Recipient must be a Sault High graduate and be accepted at Lake Superior State University. Qualified applicants are recommended by the High School Scholarship Committee to the University financial aid committee for final selection. Renewable up to four years.

EARL AND MINNIE WALKER ENDOWMENT

SCHOLARSHIP FUND: This scholarship fund was established in memory of Earl and Minnie Walker, long time residents and community leaders in Strong's, Michigan. The Walkers highly valued education, and encouraged their children and others to pursue a college education. The value of the award is variable up to full tuition. Awards are made on the basis of academic achievement and financial need. Open to incoming students and renewable for up to four years.

SOCIETY OF AMERICAN MILITARY ENGINEERS

SCHOLARSHIP: Value: \$300 for full-time students currently enrolled in engineering or engineering technology curricula. Application to be made to the head of the engineering technology department. Selection is made by the financial aid committee upon recommendation of the SAME executive committee.

SOO BOTTLING COMPANY

SCHOLARSHIP: Value: \$500. Established in 1987 by the Soo Bottling Company to recognize outstanding high school graduates from eastern Upper Peninsula high schools. One student from each of the eligible high schools will be awarded a scholarship in the spring of their senior year. The eligible high schools include: Brimley, Pickford, Newberry, Rudyard, St. Ignace, Engadine, Mackinac Island, Grand Marais, Cedarville, DeTour, Paradise and Sault Ste. Marie. Selection will be made on the basis of the student's high school grade point average, ACT test score and class rank. Recipients must enroll as full-time students at LSSU.

TRI-COUNTY WILDLIFE UNLIMITED SCHOLARSHIP: **Value:** \$1000. Established by the Tri-County Wildlife Unlimited Organization to assist qualified Fisheries and Wildlife students from the counties of Chippewa, Mackinac and Luce.

Eligibility: Awarded to a resident of the tri-county area who is classified as a sophomore or higher. Preference will be given to students enrolled in the Fisheries and Wildlife Program with a cumulative grade point average of 3.0 or higher. The scholarship is renewable for the senior year if the recipient maintains a cumulative grade point average equal to or greater than that required by University scholarship renewal policy.

Selection: One recipient shall be selected each year from qualified applicants by faculty of the Biology and Chemistry Department. Interested applicants will apply for the scholarship during the spring of their sophomore year and the award will commence Fall Semester of the applicant's junior year.

BOWATING BUSINESS AND PROFESSIONAL WOMEN'S SCHOLARSHIP:

Value: variable for a student who has returned to college after at least a two-year interruption and who has established a college cumulative 3.0 grade point average in two semesters of study. Restricted to applicants from Chippewa, Mackinac or Luce counties. Selection made in spring for the following academic year.

EDWARD C. AND HAZEL L. STEPHENSON FOUNDATION

SCHOLARSHIP: **Value:** variable up to \$500. Generally awarded during winter semester to students who have been enrolled at least two semesters at the University. Applicants may be enrolled in any degree curriculum and either resident or non-resident students. The financial aid committee may give preference to junior or senior students if the number of qualified applicants exceeds the funding available.

PHILIP A. HART MEMORIAL SCHOLARSHIP:

Value: These scholarships are for students whose ideals and goals reflect those of the late senator. Awards range in value from full tuition to the entire cost of education. Scholarships will be awarded annually in April and are renewable for up to four years.

Eligible are: Seniors of Michigan high schools, or graduates of Michigan community colleges planning to attend Lake Superior State University for the first time. Applicants must have a 3.0 cumulative grade point average in their current studies.

Successful applicants will have demonstrated interests in public service, as reflected through leadership roles and volunteer activities in school, community, and church. Candidates will be required to submit with their applications formal essays detailing their values, goals, and public service experience. Essays should attempt to answer this question: "How have my activities thus far related to the goals and the ideals of Senator Hart?"

Candidates will also be required to submit two letters of recommendation from individuals

acquainted with their leadership and/or public service activities. Deadline for receipt of all application materials is April 1.

TEMPIE DUBOW MEMORIAL SCHOLAR-

SHIP: Established in memory of Tempie Dubow, a 1973 nursing graduate and cheerleader. Value variable. Recipient recommended to the financial aid committee by the health sciences department.

449th BOMBARDMENT WING SCHOLARSHIP:

Value: \$1500. An endowment fund was established by officers, men and civilian employees of the 449th Bombardment Wing of Kincheloe Air Force Base as an expression of appreciation and friendship for the Tri-County area. Eligible applicants must be entering freshmen who have been graduated from high schools in Chippewa, Luce or Mackinac counties. Students' high school grade point averages, rank in class, and ACT test scores will be prime criteria in the selection of recipients.

FLETCHER SCHOLAR-

SHIP FUND: A native of Sault Ste. Marie, H. Thayer Fletcher founded the first endowment scholarship fund at Lake Superior State University. Remembering his talented high school classmates who, during the depths of the Depression, could not attend college, Mr. Fletcher was dedicated to helping today's worthy but needy young people. At his death, he bequeathed to Lake Superior State University nearly a half a million dollars for this purpose.

Value: Variable up to full tuition per year; for study in any degree curriculum offered by the University. Applicants must be Michigan or

Canadian residents, demonstrate financial need, and have attained "superior" grades in high school, in previous colleges, or at Lake Superior State University. Eligible applicants may be entering freshmen, transfer students or students who have attended Lake Superior State University three semesters as full-time students. Renewable up to four years. Apply to Lake Superior State University financial aid committee.

GEORG W. DELLIS MEMORIAL SCHOLAR-

SHIP: Value: full tuition. This scholarship was established in memory of Georg W. Dellis who had a short and successful business career and wished to help those qualified students in need of financial assistance to further their educations and professional careers. Applicants must have enrolled for one year at Lake Superior State University, have a minimum grade point average of 3.0, be a Michigan resident, have financial need, and be enrolled in the bachelor's program in business administration or in finance and economics. Scholarship is renewable if the successful recipient continues to meet eligibility criteria and has a grade point average equivalent to that required for a Board of Regents Distinguished Scholarship.

GUY ADDA MEMORIAL ENDOWED SCHOLAR-

SHIP: Established by family and friends of Guy Adda, a 1973 psychology and law enforcement graduate. Preference will be given to applicants from southeastern lower Michigan who have financial need. Selection will be based on the student's academic grade point average, ACT test scores and high school class rank. The award is renewable for up to four years.

FIRST NATIONAL BANK OF ST. IGNACE ENDOWED SCHOLAR-

SHIP: Established by the First National Bank of St. Ignace to assist a St. Ignace area student attending the University. Preference will be given to graduates of LaSalle High School of St. Ignace and selection will be based on the student's grade point average, ACT test score and high school class rank. Financial need is not a criteria and the award is renewable for up to a total of four years.

KURT AND MARY E. BRAMMER SCHOLAR-

SHIP: Established in 1981 by Kurt and Mary Brammer through a gift of 10,000 shares of L. E. Myers Corporation stock. The Brammers are summer residents of Neebish Island, childhood home of Mrs. Brammer. The value of the scholarship is full tuition. Qualified applicants will include high school seniors, transfer students, or currently enrolled Lake Superior State University students who apply after two semesters of full-time attendance. Awards to high school seniors will be based on student's ACT test score, grade point average and class rank. Awards to college transfer and currently enrolled students will be based on college grade point average. Scholarships may be renewed for up to four (4) years, provided student meets the University scholarship renewal criteria.

GEORGE AND VIRGINIA LAHODNY ENDOWMENT SCHOLARSHIP FUND:

The value of the award will be minimum of \$500 up to full tuition depending on the annual earnings of the fund. Qualified applicants will include

entering freshmen, community college graduates, or currently enrolled students who have completed three full-time semesters at Lake Superior State University. The Scholarships will be awarded on the following criteria: entering freshmen will be judged on the basis of their high school grade point average, ACT test score and rank in class; community college graduates will be considered on their community college grade point average; currently enrolled Lake Superior State University students will be considered on their Lake Superior State University grade point average. This will be a merit award and financial need shall not be a criteria. Scholarships shall be renewable on the basis of the student filing a renewable application annually and the maintenance of the same academic grade point average as is required for a Board of Regents Scholarship.

SAULT/LORETTO HIGH SCHOOL MEMORIAL

SCHOLARSHIP: Value: variable. Established in 1990 by a committee of Sault High/Loretto graduates to assist Sault High graduates attending Lake Superior State University. Applicants must be graduates of Sault High and enrolled full-time. Selection will be based on the student's grade point average, ACT test score and high school class rank. Financial need is not a criteria. If a graduating senior is not available for the scholarship, it may be awarded to a currently enrolled Lake Superior State University student who is a Sault High graduate.

GEOLOGY CLUB

SCHOLARSHIP: A fund created by the Geology Club annually awards scholarship to one

or more students majoring in geology. During the early weeks of spring semester a student (or students) will be selected to receive the award for spring term of the same year. Recipients must be juniors or seniors who have attended Lake Superior State University for at least two semesters, been active members of the Geology Club, and have an exceptionally good academic record in geology during this period. Candidates will be selected by the geology faculty.

JOHN KALESKY MEMORIAL ENDOWED SCHOLARSHIP FUND:

Value: \$900. Established by his family in memory of John F. Kalesky, a 1985 geology graduate. Awarded to a high school senior admitted into the geology program. Preference given to students with need. Selected on the basis of high school grades, ACT test scores and class rank. The award may be granted to a currently enrolled geology student after one year (twenty-six credits) of study at the University. Eligible University students must have a GPA of 3.0 or higher. The award is renewable subject to the recipient meeting the Board of Regents scholarship renewal criteria and filing a renewal financial aid application on time.

ERNEST KEMP ENDOWED SCHOLAR-

SHIP FUND: **Minimum value:** \$600. Established in the name of C. Ernest Kemp, a longtime professor of Geology and Dean Emeritus at the University. Professor Kemp was one of the original instructors of the then Sault Branch of Michigan Technological University in 1946 who retired in 1980. Awarded to a high school senior admitted in the geology program. Financial need is

not a criteria and the recipient will be selected on the basis of high school grades, ACT test scores and class rank. If an eligible high school senior is not available, the scholarship may be awarded to a geology major who has completed twenty-six or more credits at the University and has a 3.0 or higher University GPA. The award is renewable subject to the recipient meeting the Board of Regents scholarship renewal criteria and filing a renewal financial aid application on time.

DEPARTMENT OF MATHEMATICS

SCHOLARSHIP: A fund has been created for the purpose of annually awarding a monetary scholarship to a deserving mathematics major. During the early weeks of winter semester a student (or students) will be selected to receive the award for use in winter semester of the same year. The class level is open but the student must be majoring in mathematics. The recipient(s) will be nominated and chosen by a vote of the mathematics faculty.

CRIMINAL JUSTICE

SCHOLARSHIP: A fund is available to assist criminal justice juniors or seniors. Adjunct faculty member Patrick Shannon established the fund in 1984. Awards of \$400 are made every year to a deserving criminal justice student. Application is based on need and will be awarded for the fall semester. Nominations are made by the criminal justice faculty and confirmed by the financial aid committee.

SAM M. COHODAS ENDOWED SCHOLAR-

SHIP FUND: Established by Sam Cohodas through a gift of 132 shares of Tenneco Stock. Mr. Cohodas was a long time Upper

Peninsula businessman, philanthropist, and recipient of LSSU's 1987 Distinguished Citizen Award. Earnings from the fund shall be used for two scholarships awarded to Michigan Upper Peninsula high school seniors, selection based on high school grades, ACT test scores, class rank, character, leadership and financial need.

ALANA EITREM MEMORIAL ENDOWMENT FUND

AWARD: Established by family and friends in memory of Alana Eitrem, a Nursing student from 1984-1986. Eligible students must be admitted to the Nursing program, be a graduate of a Chippewa County high school, and be needy. The award is renewable if the recipient maintains a 2.00 grade point average and continues as an eligible nursing student.

**LSSU FOUNDATION
ENDOWED SCHOLAR-
SHIP FUND:** This fund was established in 1986 to assist academically qualified needy students.

Value: minimum \$300, for Michigan resident or non-resident students. For study in any curriculum; available to high school seniors, community college graduates, and LSSU students who are enrolled full-time and have earned 26 or more LSSU credits. The selection is made on the basis of student G.P.A., ACT test scores and class rank (upperclass students on G.P.A. only). Renewable. Selection by the financial aid committee.

RAYMOND CHELBERG OUTSTANDING

**SCIENCE/ATHLETE
SCHOLARSHIP FUND:** In memory of Prof. Raymond Chelberg, long time head of the University chemistry program. Awarded to outstanding science/athlete students at end of their junior year. Selection by athletic department in conjunction with academic department heads. Recipients must have at least 3.0 G.P.A., have demonstrated leadership abilities, major in a natural science and excel in at least one varsity sport.

**ANTHONY BOOTH/
ALFRED BRENNEN
ENDOWED SCHOLAR-
SHIP FUND:** In memory of Anthony D. Booth and Alfred John Brennen by the Denny Booth family. Awarded to graduates of Sault High School with minimum 3.0 G.P.A., demonstrated leadership, and needy. Renewable for a total of four years.

**CHIPPEWA-MACKINAC
AREA RETIRED SCHOOL
PERSONNEL SCHOLAR-
SHIP:** Value: \$400. For graduates or near graduates of area high schools or currently enrolled university students. Applicants may be enrolled in any degree curriculum, must have graduated from a Chippewa or Mackinaw County secondary school, and ranked in the upper one-third of their high school graduating class. Currently enrolled University applicants must have completed twenty-six hours of academic credit at Lake Superior State University and have obtained a minimum 3.00 cumulative grade point average. Applicants must also be needy and accepted for admission. Selections will be made in the spring for the following academic year by the Financial Aid Committee of the University. Recipients may reapply annually.

MEMORIALS

Substantial funds have been contributed to the University's endowment Scholarship Fund in memory of the following individuals:

Arvid Norlin
Donald Lenick
Donald Hastings
Viggo J. Thomsen
Orlando Pingatore
David Blair
Minnie Etta Shobbrook

Prof. Stephen P. Youngs
Franklin T. Otis
Linda Pike
Milton Bays
Beverly Brennen Booth
E.J. "Shine" Sundstrom

MILTON SCHERER MEMORIAL ENDOWED

SCHOLARSHIP: In memory of Milton Scherer, LSSU assistant professor of history and geography from 1948 to 1965. Awarded to sophomores majoring in history with minors in geography. Must have a cumulative 3.0 G.P.A. Qualified applicants are recommended by the Arts and Letters Department to financial aid committee. Renewable.

SMO FOUNDATION ENDOWED SCHOLAR-

SHIP: Established by Stanley Tomcyek family, native and longtime residents of Sault Ste. Marie. Applicants must be LSSU sophomores, majoring in pre-medicine or pre-pharmacy, resident of Chippewa, Mackinac, or Luce Counties, 3.50 college G.P.A., and needy. Renewable for the junior and senior year.

CHRISTOPHER W. REINKE ENDOWMENT

AWARD: Established by family and friends in memory of Chris Reinke, a Natural Resources Technology (NRT) student, 1986-87. The intent of the award is to assist an average Natural Resources Technology student with a grade point average between 2.0-3.0 and who, in the opinion of the NRT faculty, has a sincere interest and dedication in the NRT field. Preference will be given to those students with financial need. Selection by the Natural Resources Technology faculty at the end of winter semester of the freshman year to be used for the sophomore year only.

EUGENE L. WELCH ENDOWMENT SCHOLAR-

SHIP: Value: tuition and books. Established by Barbara Welch Buchanan of Richardson, Texas in

memory of Eugene L. Welch, a former Sault businessman who highly valued education for his family and encouraged others to pursue a college education. Applicants must be accepted for admission in any undergraduate program, be a resident of Michigan, and have financial need. The award is renewable up to four years if the recipient maintains the grades required for a Distinguished Scholarship.

C.G. "SANDY" SANDERSON ENDOWED SCHOLARSHIP: Established in memory of C.G. "Sandy" Sanderson, a local aviator-businessman and longtime Sault Ste. Marie resident. Mr. Sanderson's high regard for education can best be exemplified in a quote from a letter he wrote to his grandson, Terry, upon learning he was returning to Lake Superior State to complete his education. "Education cannot be taken from you nor can it be transferred, there is no reasonable way to measure its value. It will enhance your entire life."

Eligibility: Applicants must be a graduate of an Upper Peninsula high school, and selection will be made on the basis of the applicant's grade point average, ACT test score and class rank. Financial need will not be a consideration and students may be enrolled in any course of study.

CHASE S. AND STELLA B. OSBORN ENDOWED SCHOLARSHIP FUND:
Value: variable. Established through a bequest of Stella B. Osborn, wife of the former governor of Michigan, Chase S. Osborn. Award is based on GPA, ACT test, class rank, and financial need.

MICHIGAN COMPETITIVE SCHOLARSHIPS

THESE STATE scholarships range from \$100 to \$1,200 at Lake Superior State University. Applicants must:

1. have been continuous residents of Michigan for a 12-month period prior to July 1, 1991;
2. be a high school graduate;
3. participate in the National American College Test (ACT) and attain a qualifying score;
4. not have engaged in any university, normal school, junior college, or other advanced training following graduation from high school and prior to the qualifying examination;
5. have complied with all other provisions of the law and rules and regulations adopted by the authority; and
6. demonstrate financial need. Student must be in good standing, have at least a 2.00 grade point average and meet satisfactory progress requirements to renew a scholarship. High school seniors must obtain ACT test registration materials from their high school counselor and mail them prior to the deadline for the October ACT examination.

PELL Grants

FOR MOST students, Federal student aid begins with PELL Grants, which provide a foundation of financial assistance to which other forms of aid may be added. A

distinguishing feature of this program is its central concept of "entitlement," which guarantees that students who demonstrate need will receive a grant based on that need and on the cost of education at the post-secondary school they choose to attend.

PELL Grants for the award period (July 1, 1991 to June 30, 1992) will range up to \$2,400 as determined by a standard formula.

TO BE ELIGIBLE for a PELL Grant, students must:

1. be determined to have financial need based on the PELL Grant eligibility formula and the cost of their education;
2. be undergraduates accepted for admission and enrolled at least half-time in eligible programs at eligible institutions;
3. be U.S. citizens or permanent residents;
4. not have used their full eligibility for PELL Grants;
5. not in default on a Stafford or Perkins Student Loan, and not owe a refund for a PELL or S.E.O.G.;
6. maximum eligibility is limited to five academic years for first-time recipients in 1987-88 and after.

Although most students are paid their awards through the school, the U.S. Dept. of Education determines their eligibility. The University financial aid office uses a standard procedure established by the Dept. of Education to calculate the amount of the award.

STUDENT eligibility is determined on the basis of a formula developed annually by the Dept. of Education and reviewed by Congress. This formula is applied consistently to all applicants and takes into account indicators of financial strength such as income, assets, family size.

The formula uses the information provided on the application to produce eligibility index numbers. These numbers are not dollar figures, but are used, along with the cost of student education, to determine the actual amount of grants.

TO APPLY, applicants must complete Financial Aid Forms (FAF) or Family Financial Statements (FFS) or Application for Federal Student Aid (AFSA) and forward them to the processor listed on the form. Forms are available at high schools, colleges, and financial aid offices.

THE BOARD OF REGENTS GRANT Program provides financial assistance to both incoming students and currently enrolled students based upon financial need. Preference for the grant is given to those whose financial need is greater than one-half the cost of education. Recipients must be Michigan residents enrolled full-time.

SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANTS

THE HIGHER Education Act of 1965 created this program of financial assistance to college students from exceptionally needy

families. The Supplemental Educational Opportunity Grants may be used to meet all or part of student financial need (up to \$4000 in any one year), with the exact amount being proportional to the support that can reasonably be expected from their families.

Financial need is the primary consideration in the selection of grant recipients. Priority is given to Pell Grant recipients. Academically, it is only necessary to gain admission to the University in order to be eligible for the grant. Recipients are selected from among those applying for all forms of financial aid.

Recipients of this award must reapply each year and maintain the regular satisfactory progress standards in order to be considered for a renewal award.

MICHIGAN ADULT Part-time Grant: Established in 1986 to aid needy students who are enrolled for three to eleven credit hours; self-supporting, out of high school at least two years, Michigan residents for prior twelve months, U.S. citizens and making satisfactory academic progress. **Maximum grant:** \$600 per year; limited to two years of study.

**MICHIGAN
EDUCATIONAL
Opportunity Grant:**

Established in 1986, provides up to \$1000 a year to needy Michigan residents enrolled at least half-time. Eligible students must have been a Michigan resident for the past 12 months, making satisfactory academic progress and demonstrate financial need.

TUITION INCENTIVE PROGRAM (TIP): The TIP Program is a State of Michigan program that pays tuition and fees for students of lower-income families. Eligible students must be Michigan residents, have graduated from high school or obtained a GED after May 1, 1988 and before reaching age 20, be accepted for admission into an eligible program and file a TIP application. Applications are available from the Michigan Department of Social Services, high school guidance offices and college financial aid offices.

NOTES

LOANS

Perkins Loans (National Direct Student Loans)

THE PERKINS Student Loan program is for vocational, undergraduate, and graduate students who are enrolled at least half-time in a participating postsecondary institution and who need a loan to meet their educational expenses.

STUDENTS MAY

BORROW up to \$4,500 if they are enrolled in vocational programs or have completed less than two years of a program leading to a bachelor's degree; \$9,000 if they are undergraduates who have already completed two years of study toward a bachelor's degree (this total includes any amount borrowed under NDSL for the first two years of study); and \$18,000 for graduate or professional study (this total includes any Supplemental Educational Opportunity Grants they borrowed under NDSL for undergraduate study).

REPAYMENT begins six months (nine months for new borrowers after July 1, 1987) after students graduate or leave school for other reasons. Students may be allowed up to ten years to pay back the loan, and during the repayment period they will be charged five percent interest on the unpaid balance of the loan principal.

The amount of the repayment depends upon the size of the debt and ability to pay; but in most cases, students must pay at least \$30 a

month unless the school agrees to a lesser amount. This agreement for a lesser amount may be due to extraordinary circumstances such as prolonged unemployment.

DEFAULT: If students default on a Perkins Loan and the school is unable to collect, the Federal Government will take action to recover the loan. If such students are discharged in bankruptcy, become totally or permanently disabled or die, loan obligations will be canceled.

DEFERMENT of payments are available

1. for up to three years while borrowers are:
 - a. enrolled and in attendance at least a half-time student at an institution of higher education;
 - b. for any period not to exceed three (3) years during which they are:
 - (1) on full-time active duty as a member of the Armed Forces of the United States, the National Oceanic and Atmospheric Administration Corps, or as as as officer on full-time active duty in the Commissioned Corps of the United States Public Health Service,
 - (2) in service as a volunteer under the Peace Corps Act, ACTION, temporarily totally disabled or

- caring for a dependent who is disabled;
- c. for a period not in excess of two (2) years
 - (1) serving in a required internship;
 - d. for a period not in excess of one (1) year during which, if as a mother of preschool age children, a student has entered or reentered the work force, and is being paid at a rate which does not exceed \$1.00 above the minimum hourly wage established by section 6 of the Fair Labor Standards Act of 1938;
 - e. For a period not in excess of six (6) months
 - (1) that follows by six months or less a period during which the student was enrolled as at least a half-time student at an eligible institution; and
 - (2) during which time a student is pregnant, caring for a newborn baby, or caring for a child immediately after he or she was placed with the student through adoption and the student is neither attending an eligible institution of higher education nor gainfully employed; and
 - f. during a six (6) month period immediately following the expiration of any deferment provided in paragraph (A) through (E).
2. The Institution may, upon written request from the student, defer the scheduled repayments if it determines that the deferment is necessary to avoid a financial

hardship for the student. Interest, however, will continue to accrue.

CANCELLATION: Loans may be cancelled for:

1. certain types of teaching,
2. full-time employment in a Head Start program,
3. service in the Armed Forces of the United States in an area of hostility that qualifies for special pay under section 310 of Title 37 of the United States Code,
4. volunteer service under the Peace Corps Act or Domestic Volunteer Service Act of 1973 (ACTION programs), or
5. death or disability of the student,
6. full-time employment as a corrections or law enforcement officer.

STAFFORD STUDENT LOAN

STUDENTS MAY apply for a Stafford Student Loan after they have been admitted as full-time students at the University. Loans are made by participating banks and lending institutions. Under the plan, qualified students borrow from the lender of their choice on interim notes as needed for each university year.

To qualify for a loan, students must be United States citizens. Students may borrow up to \$2,625 the first two years of undergraduate study and \$4,000 each year for subsequent undergraduate study for a maximum of \$17,250. Eligibility is based on financial need.

Students must apply for Pell Grant consideration, using the Financial Aid Form, Family Financial Statement, or Application for Federal Student Financial Aid Programs Form prior to completing a Stafford Student Loan application.

All students are eligible for Federal Interest Benefits with the Federal government paying interest on the loan until six months after students graduate or cease to be at least half-time students.

Once enrolled at Lake Superior State University a student must meet the Satisfactory Progress Standards to be eligible for additional loans.

Repayment of principal and interest begins six months at eight (8) percent after students have graduated or reduced class hours to less than half-time. Interest rate increases to 10 percent beginning the fifth year of repayment. Applications are available at participating banks, credit unions, and savings and loan associations.

State Direct Loan Program

THE STATE direct loan program provides a source of guaranteed loans to students unable to secure loans from private lending sources.

Students accepted for admission, enrolled in good standing and making satisfactory progress may apply for loans to help pay educational expenses through the financial aid offices of schools they plan to attend.

The terms of the loan are the same as the Stafford Student Loan. (See above.)

Applications are available at the financial aid office.

Parent (PLUS) and Supplemental Loans (SLS)

PARENTS AND independent students may borrow up to \$4,000 per year or \$20,000 aggregate limit. The interest rate is based on 91-day treasury bill rates. Repayment begins within 60 days of disbursements. Applications are available at participating lenders. Maximum interest is 12 percent.

Nursing Student Loan

THE NURSING Education Loan Program provides loans of up to \$2500 per year to students enrolled in the bachelor's degree or completion nursing program. Eligible students must be United States citizens, enrolled more than half-time and demonstrate financial need greater than one-half the cost of education. Qualified applicants should apply at the financial aid office.

Canada Student Loans

THE PURPOSE of the Canada Student Loan Plan is to make bank loans available to Canadian students who need financial help to enable them to engage in full-time studies directed towards a degree at an institution of higher education.

To qualify for a loan, the student must:

1. be a Canadian citizen or have landed immigrant status at the time of application and have

lived in Canada for 12 consecutive months prior to the first day of the month of academic semester;

2. be a resident of a province that participates in the plan;
3. have attained a satisfactory scholastic standard;
4. be enrolled, or qualified to enroll in a postsecondary course of studies;
5. be a full-time student.

The loans are interest free as long as a student is full-time and until six months after graduation or termination of full-time studies. After the interest-free period has expired, students are responsible not only for the repayment of principal but also for the present payment of interest on the outstanding balance at a rate that is in effect for student loans at the time the loan is taken out.

APPLICATION forms are available from Student Awards Branch, Ministry of Colleges and Universities, Mowat Block, Queens Park, Toronto, ON M7A 2B4.

Short-Term Loan Funds

Several short-term loan funds are available. The purpose of these

funds is to provide students who are temporarily out of cash with a small loan to meet an immediate, temporary financial problem.

VALMA L. CURTIS Memorial Fund, **ROBERT P. AND ELLA B. HUDSON** Foundation, Inc. Loan Fund, **BEACH** Loan Fund, **DON LENICK** Memorial Loan Fund, **SHIRLEY LIGHT** Memorial Loan Fund, **STEINMAN** Loan Fund.

Generally, loans are granted not to exceed \$150 for a period of no longer than 30 days during the school year when classes are in session. These loans are signature loans and do not bear interest if repaid when due. A minimum \$5.00 service charge or one percent, whichever is greater, is assessed on all loans. Generally, loans must be repaid prior to the end of the semester in which they are issued.

DELINQUENT LOANS are subject to a ten percent late penalty charge. Loans are made to students properly enrolled in the current semester and are obtained through the student financial aid office. Loans of over \$150 will require a bank or institutional credit reference and a co-signer (may not be another student) 18 years of age or older. If repaid late, a 10 percent late charge will be assessed.

EMPLOYMENT

HOW TO APPLY

STUDENTS INTERESTED in employment on campus should make application at the office of employee relations. More than three

hundred positions are open on campus for full-time students.

Every effort is made to employ students in their major area of study, thereby providing a "learn while you earn" situation. On-campus jobs

include work in laboratories, libraries, maintenance, offices, switchboard and food service areas. A student can earn approximately \$1,400 during the school year and up to \$2,100 in the summer in one of the on-campus jobs.

It is recommended that students on academic probation do not continue or seek employment until probationary status has been corrected.

Federal College Work-Study

STUDENTS WHO need a job to help pay for some of their university expenses are potentially eligible for employment by Lake Superior State University under the federally supported Work-Study Program if they demonstrate financial need.

20-HOUR LOAD: Students may work up to 20 hours weekly while attending classes more than half-time. During the summer or other vacation periods when they do not have classes, students may work full-time (40 hours per week) under this program. In three months of summer employment under the Work-Study Program, an eligible student could earn approximately \$2,100.

PAY SCALE: The basic starting rate is \$4.25 per hour, although higher rates are paid for highly

specialized work. Preference is given to students who have high need.

RELATED

EMPLOYMENT: Work may be in the student's major area of study, thereby providing a "learn while you earn" situation. On-campus jobs include work in laboratories, libraries, maintenance, offices, storerooms, and food service areas.

Michigan Work-Study

UNDERGRADUATES who have been Michigan residents for at least twelve months, have financial need, are enrolled at least half-time and are making satisfactory academic progress may be eligible for employment under the Michigan work-study program established in 1986.

VOCATIONAL REHABILITATION

THE MICHIGAN Department of Education, Bureau of Rehabilitation, provides services and financial assistance to persons who have any disability that has interfered with, or may interfere with the individual's job performance. Students must apply for financial aid and have need.

Further information may be obtained by writing to Bureau of Rehabilitation, Michigan Department of Education, Lansing, Michigan 48933, or contact your nearest Michigan Employment Security Commission office.

AMERICAN INDIANS

BUREAU OF INDIAN AFFAIRS SCHOLARSHIP GRANT: Students who are members or eligible for membership in a federally recognized Indian tribe and with need may apply for Bureau of Indian Affairs Scholarship Grants by writing their Tribal education office for an application form. Eligible students may obtain up to full university expenses per year in scholarship grants if financial need is demonstrated. All applicants must have a copy of a Financial Aid Form, or Family Financial Aid Statement forwarded to the University.

BUREAU OF INDIAN AFFAIRS VOCATIONAL TRAINING ASSISTANCE: Indian students enrolled in certificate or associate degree programs are eligible for assistance to pay for tuition, books, and living expenses. Students must be members or eligible for membership in a federally recognized Indian tribe.

AWARDS are based on students' financial need. Applicants must complete the Financial Aid Form (FAF) or Family Financial Statement

(FFS). Application may be obtained by writing the Tribal Education Office.

NATIVE AMERICAN TUITION WAIVER: Value: full tuition for full- or part-time North American Indian students who can provide evidence of being one-quarter blood Native American Indian and Michigan residents.

INTERESTED APPLICANTS must have their tribal chairperson or tribal certification officer submit a certification of one-quarter blood quantum to the Michigan Commission on Indian Affairs, 300 E. Michigan Ave., P.O. Box 30026, Lansing, Michigan 48909, along with a letter indicating the college students plan to attend. The Michigan Commission on Indians will attach a certification letter to the tribal certification and forward it to the financial aid office at the University. The University will then issue a Native American Tuition Waiver in the amount of tuition for eligible students each semester. Students must be accepted for admission.

VETERANS

Veterans, Children of Deceased, or Totally Disabled Veterans

MICHIGAN PUBLIC ACT 245: Sons or daughters of a veteran who died of service-connected causes, may be eligible for

benefits under the Public Act 245. The benefits waive tuition until the student reaches 23 years of age. Those who believe they are eligible should request an application from the Michigan Veterans' Trust Fund, 1225 Grand Ave., Lansing, Michigan 48913. Recipients may be full- or part-time students.

Any student who believes they are eligible for educational assistance through any Veterans' Law should contact their area Veterans' office for information and applications. Veterans must be admitted into a degree program that has been approved by the State Approving Agency

Veterans' Standards of Progress

Information on Additional State Approving Agency Criteria: As of March, 1991, the last date of attendance for a class in which a failing grade was awarded will be reported as the first day of class for that semester unless the veteran provides a written statement declaring a different date to the Registrar's Office. If a veteran withdraws from a class and does not notify the Registrar's Office, LSSU will notify the U.S. Department of Veterans Affairs that the last date of attendance in each class was the first day of class. The Registrar's Office will indicate the amount of credit granted for previous training and notify the veteran.

UNDERGRADUATE PROGRAMS: Students receiving benefits under the Veterans Administration entitlements, who fall below a 2.00 cumulative grade point average and fail to improve their cumulative grade point average to a 2.00 or higher within two additional semesters, will be reported to the Veterans Administration. This action will result in termination of benefits by the Veterans Administration. When benefits are terminated, a veteran may reapply to the Veterans Administration after the cumulative

grade point average has been raised to a 2.00 or higher.

GRADUATE PROGRAM:

Veterans, and other eligible persons, enrolled in any graduate programs must meet the following standards of progress: A maximum of six semester credits of C grades in 600-level course will be allowed in veteran's overall program. Veterans failing to maintain 3.0 (4.0 basis) average will be referred to the Master of Business Administration Standards and Policy Committee to determine whether they should be permitted to continue in the program. Veterans receiving D grades in 500 or 600-level courses will be referred to Master of Business Administration Standards and Policy Committee immediately. A veteran may withdraw from a course any time prior to the end of the semester. Veterans dismissed from the Master of Business Administration program may petition the Master of Business Administration Standards and Policy Committee to be reconsidered, and at the time of dismissal the Veterans Administration will be notified of their unsatisfactory progress.

NOTES

GRADUATION PROCEDURES

DEGREE CANDIDACY PROCEDURE. Two semesters before students plan to complete degree requirements and graduate, they must submit to the Registrar's Office an appropriate departmental degree audit for each major and minor, and, a declaration of candidacy for degree. The necessary forms are available at students' major departmental office.

The departmental degree audit for a student's major or minor specifies all required courses which have been or must be completed. The audit must be signed by the department head of the department offering the major or minor program. Course substitutions and waivers of departmental degree program requirements may be granted only by the head of the department offering the major or minor program. Exceptions to specific General Education requirements may be granted only by the Scholastic Standards Committee. Such exceptions are infrequently made. A petition for exceptions to General Education requirements is initiated with the Registrar.

The Registrar's Office checks students' degree audits, after which a preliminary verification of the degree audit is sent to each student and respective department head. Students are responsible for examining this verification and requesting clarification of anything which is not consistent with their records or understanding.

From the declaration of candidacy for degree forms submitted by students, the Registrar's Office creates a potential graduate list for

each semester. The names of students who are listed in the annual commencement program are also compiled from declaration of candidacy forms. Students will not be listed in the commencement program unless their degree candidacy form is filed with the Registrar's Office six weeks prior to commencement. Students are expected to attend commencement exercises unless excused by the Registrar's Office. Students completing degree requirements during the summer may participate in commencement the previous semester if their degree candidacy form is received six weeks prior to commencement.

After grades are received in the Registrar's Office at the end of each semester, degree audits will be updated for all students completing credit and who have a degree candidacy form on file. When all requirements specified on the degree audit are fulfilled the department head and Registrar give a final approval. Names of these graduates are then sent by the Registrar to the President for Board of Regents approval. Subsequently, a diploma is provided to each student.

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After grades are received in the Registrar's Office at the end of each semester, degree audits will be updated for all students completing credit and who have a degree candidacy form on file. When all requirements specified on the degree audit are fulfilled the department head and Registrar give a final approval. Names of these graduates are then sent by the Registrar to the President for Board of Regents approval. Subsequently, a diploma is provided to each student.

NOTES

DIPLOMA CHARGE. There is no charge for the first diploma from Lake Superior State University. A fee is charged for replacement diplomas.

Students completing graduation requirements in the fall semester or summer, or who otherwise need documentation of completion before their diploma is available, will receive a letter from the Registrar certifying that they have completed degree requirements. Additionally, official university transcripts will be sent to any employer, graduate university, or elsewhere, as requested by the graduate. Official transcripts will not be mailed to students.

GRADUATION WITH HONORS. Honors graduates must earn at least 32 credits at Lake Superior State University. All credits with grade points completed at other colleges will be figured in computing grade point averages for honors diplomas and medallions at Lake Superior State.

Students who earn 3.50 to 3.69 will graduate cum laude; 3.70 to 3.89, magna cum laude; 3.90 to 4.00, summa cum laude. Honors earned shall not be higher than those for which a student qualifies on basis of courses taken at Lake Superior State University.

Graduation diplomas with honors will be awarded to baccalaureate and associate and certificate recipients. Honors medallions will be awarded only to baccalaureate and associate degree recipients who graduate summa cum laude

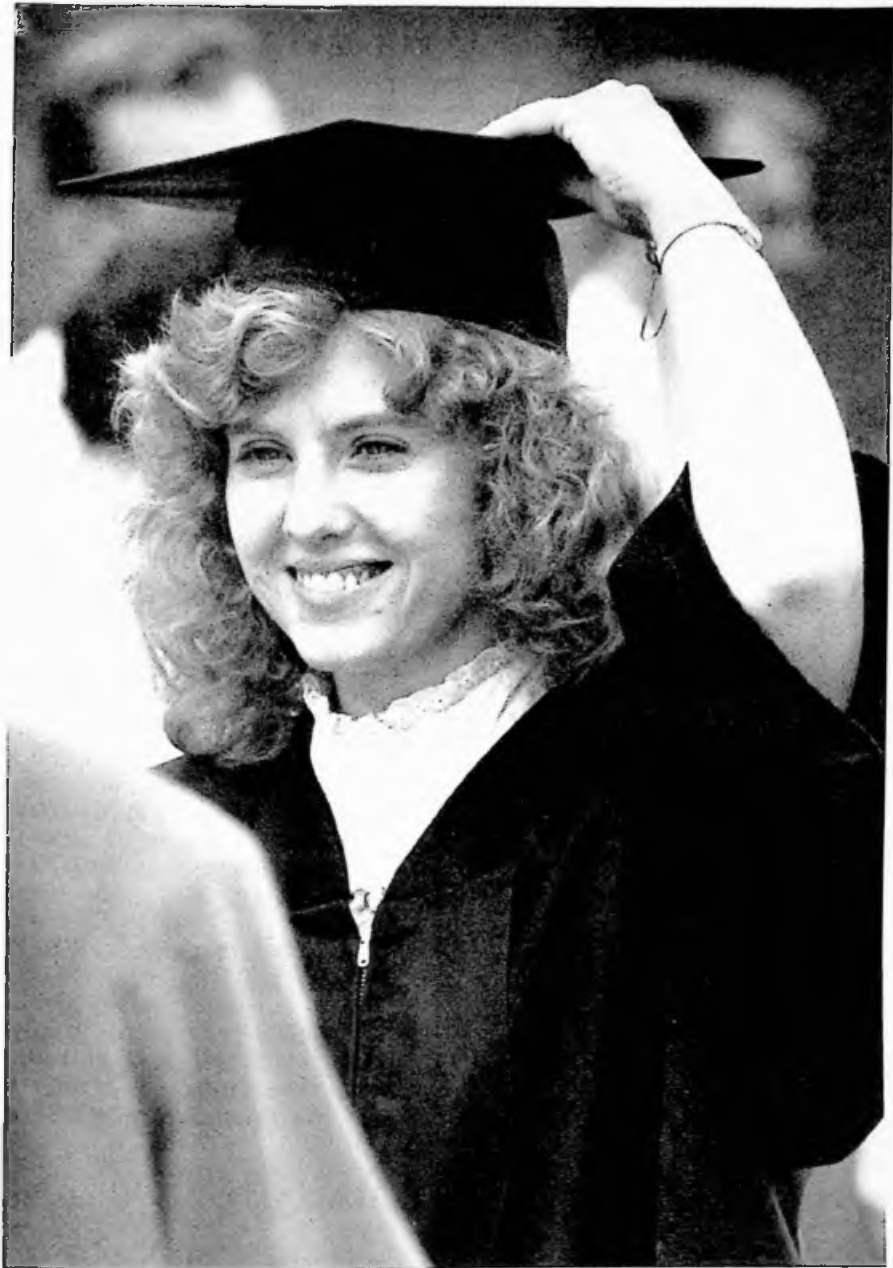


Photo by Liz Raffaele

DEGREE REQ

LAKE SUPERIOR STATE UNIVERSITY offers bachelor's (also called baccalaureate) degrees, associate degrees, and certificates. These degrees are offered in a wide variety of academic programs. Each academic department has a set of specific courses and other requirements for each of its degree programs. These are stated later in this Catalog in the various departmental sections. However, some requirements for bachelor's degrees are of a general nature, applying to all such degrees. These are discussed below.

BACHELOR'S DEGREES. A minimum of 124 credits is required for a bachelor's degree. Some programs require more than this number of credits. Requirements are of five categories: general education, bachelor of arts or bachelor of science requirements, departmental requirements, competency requirements in mathematics and writing, and residency.

ASSOCIATE DEGREES AND CERTIFICATES. See the appropriate departmental section of this Catalog for the specific requirements. A minimum of 62 credits is required for an associate degree. Competency in mathematics and writing is required for an associate degree. There is also a residency requirement.

MINORS. Academic minor programs are also offered in a wide variety of disciplines. A minimum of 20 credits is required for a minor, and some require more. See departmental sections for specific minor program requirements.

GENERAL EDUCATION (35 credits)

General Education consists of courses required of all students regardless of their specialized area of study. The purpose of general education is to develop skills and knowledge useful for all students, regardless of

their career choices. Requirements in English and speech enhance fundamental skills of writing and speaking. Requirements in humanities, natural sciences, and social sciences broaden intellectual perspective and familiarize students with fundamental fields of human knowledge. The recreational activity requirement lays the foundation for a lifetime of activity that will promote health and well-being.

ENGLISH (6 credits) - EN110 and EN205, EN210 or EN215

SPEECH (3) - SD101. Quarter course SD110 or an equivalent two-semester credit speech course is sufficient if completed prior to Sept. 1991.

HUMANITIES (8) - any HU course or courses, or any of the courses AT250, 251; FR251; GN241, MU220, 221, 260; PL204, 205, 302; SD251, 252; or SP261, 305, 306; any second year foreign language course; with a maximum of four semester credits per discipline or

UIREMENTS

total in foreign languages (excluding HU) allowed to count for this requirement.

SOCIAL SCIENCE (8) - Any combination of courses in economics (EC), geography (GG, except GG106 and GG108; history (HS), political science (PS), psychology (PY) or sociology (SO) for which credit adds to eight semester credits.

NATURAL SCIENCE (8) - At least one course from each of the following two categories: Life Sciences - BL105, 110, 111, 121, 122, 204; NS103 Physical Sciences - CH105, 108, 115, GE111, 112, 114; GG106, 108; NS101, 102, 105, 107, 119; PH221, 222, 231

RECREATIONAL ACTIVITIES - Any two different 100 level recreational activities (RA) courses (excluding RA130). (One credit from either RA210 or RA211 may be used.)

NOTE. Transfer students should refer to the Admission section of this catalog for an explanation of the MACRAO agreement as it applies to General Education requirements.)

BA and BS Requirements (8 credits)

Bachelor of Arts Degree - one year of a modern foreign language (If taken at LSSU, this would be

FR151-2 or 251-2; GN141-2; SP161-2 or 261-2)

Bachelor of Science Degree - at least eight semester credits, in addition to courses used for general education requirements above, from categories of social science, natural science (see above) or mathematics (MA).

DEPARTMENTAL REQUIREMENTS

Each program has a set of specific course requirements determined by the department offering the degree program. See departmental sections for these requirements.

ELECTIVES

Elective courses are chosen to obtain credit beyond that of specified requirements. Free electives refer to courses which students may select completely of their own choice. Designated electives refer to courses selected from a list specified by the department

COMPETENCY IN MATHEMATICS

Students seeking associate or bachelor's degrees are required to demonstrate competence in mathematics at approximately the level of basic algebra. Both the Counseling and Testing center and the Department of Computer, Geologic, and Mathematical Sciences administer the minimum

competency algebra examination. Students can satisfy the mathematics competency requirement in the following ways: (1) score 15 or higher on the intermediate algebra placement examination, given at the time the student enters the University, (2) pass the algebra competency examination, or (3) complete a Lake Superior State University mathematics course at MA091 or higher.

Transfer students who have previously completed a course equivalent to MA092, with a grade of 2.00, or higher, or a higher level math class (specifically excluding MA207) will have satisfied the University's mathematics graduation requirement. The student's transfer credit evaluation form must indicate that LSSU's mathematics competency requirement has been satisfied.

Students are required to complete mathematics competency (by course or exam) during the first 56 credits earned. A student reaching the 56 credit limit without competency shall enroll in MA091 until passed and be limited to a maximum of 13 credits per semester, including MA091, until competency is accomplished.

Transfer students entering LSSU with 40 or more transfer credits shall complete mathematics competency during the first 20 credits they earn at LSSU or be subject to the enrollment restrictions stated above.

COMPETENCY IN WRITING

The Writing Competency Examination demonstrates a student's ability to read and write critically at a level deemed appropriate for undergraduate work. Effective Fall Semester 1991 it will be given at the end of the sophomore English course

(EN205, EN210 or EN215) as a "rising Junior test" before students begin upper level courses with disciplinary writing emphasis.

The test consists of a read/respond format in which a passage is supplied and students use it as the basis for the essay. At least three topics from across the curriculum will be available for each test. Students will have three hours to complete the test. The rising Junior test will be given during the final exam week of EN205, EN210 or EN215 at scheduled group times in place of the final examination. All other test sessions must be scheduled by individuals through Brown Hall.

The test is a university graduation requirement and will be graded pass/repeat by the faculty using criterion-referenced scoring methods. Students who must repeat the examination may retake the test one time at the counseling center after one month. Students who do not pass the test before Junior level (56 credits) must enroll in EN091, an intensive review of English, and will be limited to 13 semester credits, including EN091, until satisfying the requirement.

Transfer students who enter Lake Superior State University prior to fall semester 1992 with EN205, 210, or 215 credit must pass the examination within the first two semesters of attendance at Lake Superior State University. If they fail the first attempt, they may retake the examination after one month. If they do not pass the examination within two semesters, they must repeat EN205, 210 or 215.

Transfer students who enter Lake Superior State University in fall semester 1992 or later having completed the equivalent of the General Education English sequence must

take the competency examination before beginning their second semester. Transfer students who do not pass the test before their senior year (88 semester credits) must enroll in, EN091, an intensive review of English and will be limited to 13 semester credits, including EN091, until satisfying the requirement. Transfer students on a 3+1 program must take the test before the beginning of their first semester. Arrangements will be made, if possible, to administer the test on the campus of the institution from which students are transferring.

WAIVER OF COMPETENCY REQUIREMENTS

Effective Fall semester 1991 the mathematics and/or writing competency graduation requirement(s) will be waived only on the basis of having a certifiable learning disability or neurological medical condition. Students must be certified by a licensed psychologist or neurologist as having a substantial disability in the learning process.

Students potentially eligible for a waiver are required to initiate their appeal through the University Counseling Center. Those students who obtain the necessary certification must provide the University Counseling Center with documentation of such. The Counseling Center shall then notify the Registrar's Office of the waiver. Enrollment restrictions stated above, as appropriate, continue in effect until a student has provided this documentation to the Counseling Center.

RESIDENCY RE- QUIREMENTS

Bachelor's degree candidates must earn at least 32 of their final 40 credits and at least fifty percent of their departmental required 300/400 level credits in courses offered by Lake Superior State University. Regional Center students must earn

at least 32 of their final 64 credits and at least fifty percent of their departmental required 300/400 level credits in courses offered by the University. Associate degree and certificate candidates must earn 16 of their final 20 credits in such courses. For a minor, students must earn at least 6 of the required credits in such courses.

EXCEPTIONS TO GRADUATION RE- QUIREMENTS

Exceptions to specific General Education requirements may be granted only by the Scholastic Standards Committee. Such exceptions are infrequently made. A petition for exceptions to General Education requirements is initiated with the Registrar.

Course substitutions and waivers of departmental degree program requirements may be granted only by the head of the department offering the program (major or minor).

Normally, students will graduate under the program degree requirements in effect and published in the Catalog at the time they are admitted into the given degree program, provided their enrollment at the University is continuous. If enrollment is interrupted, or if students select a new major, they will be required to satisfy program requirements in effect at the time they re-enter or officially change to the new major. If program requirements are revised during student's enrollment, they will be allowed to graduate under the new requirements providing they can meet such requirements in their entirety.

The University reserves the right to change the requirements for graduation at any time as a means of keeping pace with educational developments affecting the various curricula. As such changes are made, they may at the discretion of the University be applied to students already enrolled. In such cases reasonable and prudent effort will be made to provide students the benefit of the new educational program without imposing undue hardship.

MULTIPLE MAJORS

Students earning a bachelor's degree at Lake Superior State University may do so with more than one major by completing all requirements of each desired major program. Before graduation students must file a degree audit approved by the appropriate department head for each major.

MULTIPLE DEGREES

Students desiring to earn more than one bachelor's degree from Lake Superior State University must complete all program requirements for the additional degree, including at least 32 additional credits of which at least 21 must be from courses offered by Lake Superior State University.

Students earning a bachelor's degree from Lake Superior State University who desire an associate degree must complete all requirements for the associate degree program at the time they are completing the bachelor's degree requirements.

Students earning an associate from Lake Superior State University who desire an additional associate degree must complete all requirements for the additional degree, including 16 additional credits of which 12 must be from courses offered by Lake Superior State University.

ADDITIONAL DEGREES FOR GRADUATES OF OTHER UNIVERSITIES

Students who have earned a bachelor's degree at another accredited institution who desire a bachelor's degree from Lake Superior State University must complete all requirements of an approved degree schedule including at least 32 additional credits in courses offered by Lake Superior State University. The degree schedule must be approved by the major department head, Registrar and Vice President for Academic Affairs. Students should initiate the approval process with the department head at the time of or before commencing study toward the additional degree. The schedule elected shall consist mainly of minor, major and cognate courses. Courses considered essential to the degree but not previously elected may, at the option of the department head, be required even though the total may exceed 32 credits. Lake Superior State University general education requirements will be considered completed if the student has earned a bachelor's degree at any United States accredited university or an honors bachelor's degree from an accredited Canadian university. Mathematics and writing competency requirements must be met.

Students who have earned a bachelor's degree or associate degree at another accredited institution and who desire an associate degree from Lake Superior State University, must complete all requirements of an approved degree schedule including at least 16 additional credits in courses offered by Lake Superior State University. The degree schedule process is identical to that described above for an additional bachelor's degree. The schedule elected shall

consist mainly of major and cognate courses. Courses considered essential to the degree but not previously elected may, at the option of the department, be required even though the total may exceed 16 credits.

INDIVIDUALIZED STUDIES DEGREE

In addition to the baccalaureate degrees described in departmental sections, Lake Superior State also offers Bachelor of Arts and Bachelor of Science in Individualized Studies degrees, for students who desire an unusually specialized program. The individualized studies program requires that students complete (1) a minimum of 124 credits, (2) general education requirements of the University, (3) 24 credits at the 300/400 level and (4) mathematics and writing competency. A 2.00 overall grade point average is required.

Degree program approval by the Individualized Studies Committee is required. At least 30 credits must be completed after approval has been received. For further information on the approval process, students should contact the Chairperson of the Individualized Studies Committee. (This person's name can be obtained from the Vice President of Academic Affairs office.)

ASSOCIATE IN LIBERAL ARTS

An Associate Degree in Liberal Arts is offered for students interested in a general two-year program. Requirements and a sample curricular plan are listed in the Department of Arts and Letters section of this catalog.

NOTES



ARTS & LETTERS

ENGLISH • SPANISH • SPEECH • ART • JOURNALISM
HUMANITIES • DRAMA • MUSIC • PHILOSOPHY
FRENCH • HISTORY • GERMAN

ARTS & LETTERS

ARTS AND LETTERS FACULTY: Department Head, Assoc. Prof. Thomas E. Schirer; Profs. John C. Cullen, Daniel Doirity, Richard Jennings, Hellmuth Kornmueller, Leon Linderoth, E. Gary Toffolo, John Wilkinson; Assoc. Profs. William Dickinson, Georgegeen Gaertner, Bari Lynn Gilliard, Robert M. Money, James W. T. Moody, John R. Stevens; Asst. Prof. George Blackwood, Charles Cullum, Marcel Pichot, Diana Pingatore; Instructor: Laura McGowan

The load of Liberal Arts

In an age and an economy devoted to mass activity and group conformity, the unique discipline of humane enlightenment traditionally associated with a study of the Liberal Arts bears an increasingly heavy load. Two related arts are our special concern: one is that of teaching, the other that of communicating with the larger public beyond these walls. Both require a concern for the truthful and accurate use of language - for truth, indeed, rather than indifferent "information." Both require an exercise of feeling and imagination as much as of thought. Both are concerned to discover and encourage whatever creative aptitudes may be latent in each student.

Our aim is knowledge, not pedantry; our prime responsibility is to foster the free mind, the exploring spirit -- and to insure them every reasonable liberty of expression. Since it is the purpose of many studies to remind us that we are neither apes, nor ants, such a purpose may be better served in a small community, such as ours, avowedly dedicated to the pursuit of a liberal education, than in some large institutions whose very size prohibits individual attention or concern. A four-year curriculum leads to the bachelor of arts degree in English Language and literature or to the bachelor of arts or bachelor of science degree in history. A suggested curriculum is outlined; however, students should plan

individual programs of study in consultation either with assigned advisers, or with department head. Electives are available throughout the University; in liberal arts these include not only additional courses in English and history or sequences in the modern foreign languages, but also in speech, journalism, drama, music, art, and philosophy. Leading authorities recognize that a sound liberal arts education is often the most satisfactory preparation for successful training and accomplishment in many vocational and professional areas. Upon completion of their degree program, students will be prepared either to pursue career in fields such as communications, industry, and

government, or to embark upon graduate studies which will qualify them for professions in fields such as teaching.

ENTRANCE REQUIREMENTS:
To qualify for admission as freshmen, applicants must be

graduates of accredited secondary schools with above average standing in their classes. Secondary school preparation should include a four-year curriculum of at least 15 units of acceptable entrance credits. Three units of English are required.

BACHELOR OF ARTS ENGLISH LANGUAGE AND LITERATURE

REQUIREMENTS: Students must complete, in addition to general education requirements, 70 semester hours of credit in the courses specified below, or their equivalents, plus sufficient additional hours of free electives to make up a required total of 124 hours. Candidates in English must complete one minor in an area to be approved by the head of the department.

I. Required Courses:

EN231 American Lit I	3
EN232 American Lit II	3
EN233 English Literature I 3	
EN234 English Literature II 3	
EN420 Hist. & Structure of English	3
EN421 Hist. of Literary Criticism	3
EN430 Chaucer	3
EN431 Milton & the Metaphysical Poets	3
EN432 Shakespeare	3
Second year of a modern foreign language	8
(EN215 is strongly recommended.)	

II. 9 semester hours must be selected from:

EN220 Advanced Composition	3
1) -OR-	
EN221 Creative Writing	
EN330 Devel. Novel in Engl. & Amer. I	
2) -OR-	3
EN331 Devel. Novel in Engl. & Amer. II	
EN332 The Short Story	
3) -OR-	3
EN333 Studies in the Drama	

III. 6 elective semester hours must be selected from: EN220, 221, 320, 330, 332, 333, 334, 433, 450, or HU256

FIRST YEAR: BACHELOR OF ARTS, ENGLISH LANGUAGE AND LITERATURE

FALL

EN110 Freshman Comp.*	3
1st Yr. For. Lang. I	4
Minor	4
NS Gen. ED.	4
R.A. Elective	1
	16

*May be taken Fall or Spring Semester

SPRING

SD101 Fundamentals of Speech	3
1st Yr. For. Lang. II	4
Minor	4
SS Gen. Ed.	4
	15

SECOND YEAR

EN215 Intro to Lit & Res.	3
2nd Yr. For. Lang. I	4
EN231 American Lit. I	3
EN233 English Lit. I	3
Minor	4
	17

EN220 Advanced Composition	
or	
EN221 Creative Writing	3
2nd Yr. For. Lang.	4
EN232 American Literature II	3
EN234 English Literature II	3
R.A. Elective	1
	14

3RD YEAR

EN330 Devel. Novel Eng. & Amer. I	
or	3
EN332 The Short Story	
EN420 Hist. & Struct. Eng. Language	3
HU Gen. Ed.	4
NS Gen. Ed.	4
	<u>14</u>

EN331 Devel. Novel Eng. & Amer. II	
or	3
EN333 Studies in the Drama	
EN Elective	3
Minor	4
HU Gen. Ed.	4
	<u>14</u>

4TH YEAR

EN431 Milton & Meta. Poets	3
EN430 Chaucer	3
Free Elective	3
SS Gen. Ed	4
Minor	4
	<u>17</u>

EN421 Literary Criticism	3
EN Elective	3
EN Elective	3
Free Elective	4
Free Elective	4
	<u>17</u>

BACHELOR OF ARTS/SCIENCE HISTORY

REQUIREMENTS for the bachelor of arts: 1) the bachelor of arts general education requirements of the University. 2) One year of foreign language or its equivalent. 3) HS101, 102 History of World Civilization sequence; or HS131, 132 United States History sequence. 4) 16 semester hours of 300 or 400 level history courses. 5) HS496 Historical Methods and HS497 Senior Seminar in History. 6) Additional history electives to total 30 semester hours. 7) GG106 Physical Geography and GG201 World Regional Geography. 8) 4 semester hours selected from: GG306, 321, 322, 323, 325, 360, or EC201. 9) one minor (20 semester hours). Total department credits required: 70 semester hours.

REQUIREMENTS for the bachelor of science: This degree includes categories 1,3,4,5,6,7,8 and 9 above but excludes 2. However, in place of the foreign language the student must take a minimum of 8 semester hours of social sciences, natural sciences, or mathematics beyond the general education and major requirements. Total department credits required: 70 semester hours.

FIRST YEAR: BACHELOR OF ARTS OR SCIENCE, HISTORY

FALL

EN110 Freshman Comp#	3
SD101 Fund of Speech	3
NS Elective	4
HS101 Hist World Civ I	
or	4
HS131 U.S. History I	
R.A. Elective	<u>1</u>
	<u>15</u>

SPRING

HU Elective	4
Minor	4
NS Elective	4
HS102 Hist World Civ II	
or	4
HS132 U.S. History II	
R.A. Elective	<u>1</u>
	<u>17</u>

SECOND YEAR

GG106 Physical Geography	4
History Elective	4
EN210 or 215#	3
Cognate*	4
	<u>15</u>

GG201 World Reg Geography	4
History Elective	4
HU Elective	4
Cognate*	4
	<u>16</u>

*May be taken Fall or Spring Semester

THIRD YEAR

300 Level History Elective	4	300 Level History Elective	4
Minor	4	Minor	4
GG306,321,322,323,325,360; or EC201	4	Free Elective	4
Free Elective	4	Minor	4
	<u>16</u>		<u>16</u>

FOURTH YEAR

HS496 Historical Methods	2	HS497 Sr. Seminar in History	2
400 Level History Elective	4	400 Level History Elective	4
Minor	4	Minor	4
Free Elective	5	Free Elective	4
	<u>15</u>		<u>14</u>

*The cognate requirement is simply the BA/BS differentiation. Students who want a bachelor of arts degree should take 8 semester hours (one year) of a foreign language to fulfill this requirement. Students who want a bachelor of science degree should select 8 semester hours of social sciences, natural sciences or mathematics beyond the general education and major requirements.

ASSOCIATES DEGREE LIBERAL ARTS

THIS DEGREE is offered to students who complete the general education requirements of the University, any minor presently offered, free electives -- for a total of 62 hours' credit (minimum), and demonstrate competency in mathematics and writing. Consult departmental offerings for selection of a minor and electives.

NOTE: Once you have chosen a minor, contact the department which offers it in order to be assigned an advisor. The department offering your minor will both advise you and conduct your degree audit before graduation.

FIRST YEAR: ASSOCIATE DEGREE IN LIBERAL ARTS

FALL

EN110 Freshman Composition*	3
Social Science Gen. Ed.	4
Minor Course	4
Elective	4
	<u>15</u>

SPRING

SD101 Fundamentals of Speech	3
Social Science Gen. Ed.	4
Natural Science Gen. Ed.	3
RA Elective	1
	<u>15</u>

*May be taken Fall or Spring Semester

SECOND YEAR

EN210 or 215#	3
Humanities Gen. Ed.	4
Natural Science Gen. Ed.	3
RA Elective	1
	<u>15</u>

Natural Science Gen. Ed.	3
Humanities Gen. Ed.	4
Minor Course	8
Elective	2
	<u>17</u>

COURSES SELECTED for credits toward the general education requirements are not generally accepted for a major or minor. However, some exceptions are made and the specific exceptions will be noted in the Catalog or should be discussed with departmental advisors. It is advisable to complete general education requirements first, as any changes in the choice of a major area of study will not appreciably affect the program for the first two years. Students will graduate under the requirements in effect upon entering (not to exceed five years).

MINOR COURSE OF STUDIES

ART: Students must complete 20 semester hours of credit. The following courses are required for an art minor: AT110, 111, 210, 211, 250, 251.

BUSINESS FRENCH: Students must complete 20 semester hours of credit in addition to the basic requirements of FR151, 152, or their equivalents. Required courses: FR251, 252, 351, 352, 353, 354.

COMMUNICATION: Students must complete 22 semester hours of credit in addition to basic requirements of Composition and Speech (SD101). Required courses: SD201, 202, 302, 307 or 308, 320, 325, BA231.

ENGLISH LANGUAGE AND LITERATURE: Students must complete 20 semester hours of credit in addition to basic requirements of Composition and Speech. The 20 hours of credit must include English Literature I and II (EN233, 234), with the balance selected from these courses or their equivalents: EN220, 221, 231, 232, 320, 330, 331, 332, 333, 334, 420, 421, 430, 431, 432, 450, 433, HU256.

FRENCH LANGUAGE AND LITERATURE: Students must complete 20 semester hours of credit in addition to the basic requirements of FR151, 152, or their equivalents. Required courses: FR251, 252, 351, 352, 355, 356.

HISTORY: Minor must include 20 history credits as well as one course to be selected from: GG306, 321, 322, 323, 325, or 360. Required courses: HS101, 102, History of World Civilization sequence, or HS131,132, U.S. History sequence; HS 496 Historical Methods, 8 credits from 300/400 level courses.

HUMANITIES: Students must take 24 semester credit hours of credit. Required courses: HU251, 252 Humanities sequence (8 semester credit hours). Sixteen credits from the areas of study listed below, of which at

least 6 but not more than 8 credits must be taken in one discipline, with no more than 3 credits in studio or performing classes, the remaining credits to be distributed in at least three of the following areas: Spanish Literature in Translation (class is taught in English), History of Drama, Music, Mythology, Philosophy, Art, World Literature, Film, Second year of a foreign language (provided it is not offered in satisfaction of any other requirement).

JOURNALISM: Students must complete 20 semester hours of credit in addition to basic requirements of Composition and Speech. Required courses: JR210, 211, 310, 410, 411. Elective courses: JR311, EN220, EN221, MK287, JR413.

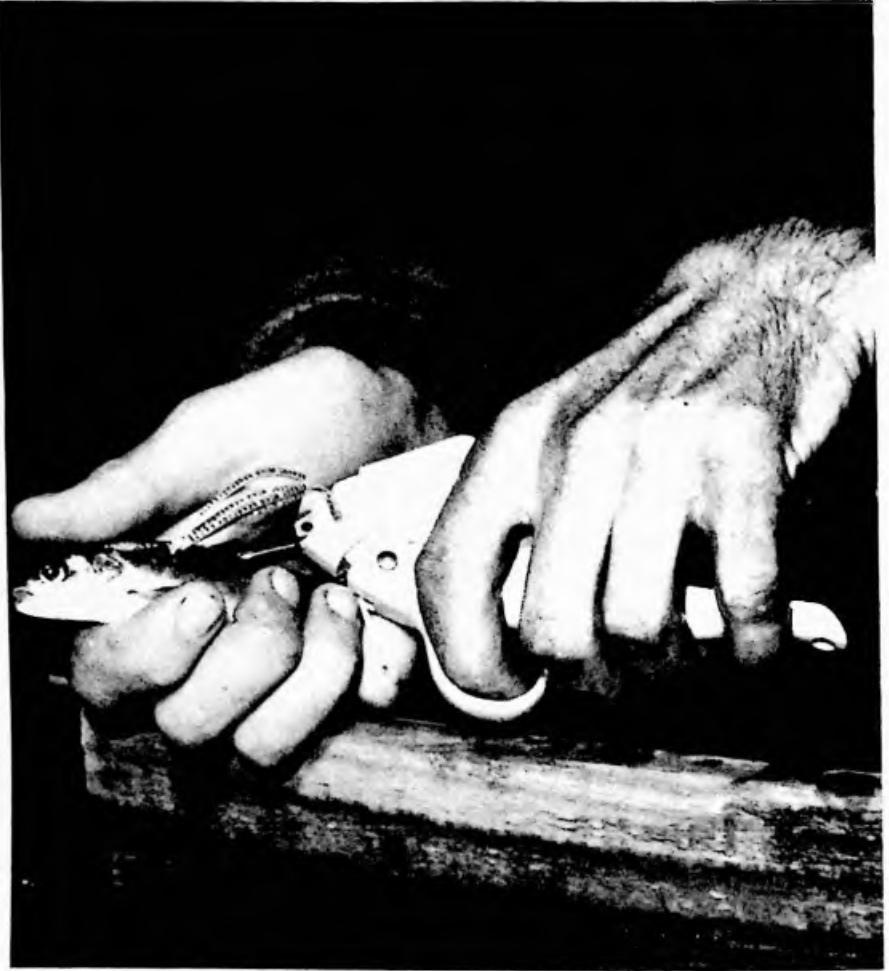
JOURNALISM/WRITING: Students must complete 24 semester hours of credit in addition to basic requirements of Composition and Speech. Required courses: EN220, EN221, SD307, JR210, JR211. Elective courses: JR410, JR411, JR311, EN320, JR310, JR413.

PUBLIC RELATIONS: Students must complete 20 semester hours of credit in addition to basic requirements of Composition and Speech (SD101). Required courses: SD202 or SD302, SD307 or SD308, SD320, SD325, PS325, JR210, SD161.

SPEECH AND DRAMA: Students must complete 20 semester hours of credit in addition to Composition and Speech (SD101) from speech and drama offerings, or their equivalents. Those who wish both a major in English language and literature and a minor in speech and drama must take additional credit in English for any of the advanced courses which overlap in both programs.

WRITING: Students must complete 20 semester hours of credit in addition to Composition and Speech. Required courses: EN220, EN221, SD307, JR210, JR211. Elective courses: JR413, JR310, EN320, MK287.

Photo by Liz Raffaele



BIOLOGY & CHEMISTRY

BIOLOGY & CHEMISTRY · 98

BIOLOGY & CHEMISTRY

FACULTY: Department Head, Assoc. Prof. Patrick W. Brown; Profs. Melvin L. Anderson, David J. Behmer, Purna Chandra, Charles W. Jones, John W. Lehman, Steven J. Person, and Bryce E. Smith; Assoc. Profs. R. Steven Furr, William L. Haag, and Vernie Knudson; Asst. Profs. Gerald H. Johnson, Dennis Merkel, John H. Roesse, Deborah Stai, and Margaret Weck. Manager of Vermilion Station, Thomas Allan.

BIOLOGICAL SCIENCES

BIOLOGICAL SCIENCES prepare students for careers in research and in applied aspects of life sciences as well as providing a background in biology for a career or further studies in allied sciences. Four-year programs lead to bachelor of science degrees in biological sciences, fisheries and wildlife management, environmental science and medical technology; bachelor of arts degree in biology; and two associate degrees: natural resources technology and water quality technology. Students electing to pursue four-year degree programs have the opportunity of changing their majors to one of the other biology degree programs without losing credits or having to make up deficiencies. Students working toward these four-year degree programs have the same basic first year of courses.

BACHELOR OF ARTS/SCIENCE Biology

Lake Superior State University is ideally located for field studies of terrestrial and aquatic resources. Students electing a variety of courses in ecology and applied ecology can qualify for state and federal positions in fisheries biology, wildlife biology, and other related fields. Laboratory courses give students knowledge and techniques necessary for many technical positions with industry and governmental agencies.

Students interested in research positions in environmental science, marine biology, microbiology, physiology, fish and wildlife biology

and numerous other fields can receive a strong undergraduate background at Lake Superior State University that will enable them to pursue a career or graduate education elsewhere. Admission requirements for professional and graduate universities vary throughout the United States and Canada. Students planning post-baccalaureate education should plan with their advisor to insure that these requirements are met.

ENTRANCE REQUIREMENTS:
To qualify for admission as freshmen, applicants must be

graduates of accepted secondary schools with above average standing in their class. Their secondary school preparation should include a four-year curriculum of at least 15 units of acceptable entrance credits. The following subjects must be included in these credits: one unit of beginning algebra, one unit of advanced algebra, one unit of chemistry and three units of English. In addition, one biology unit and one unit of geometry or trigonometry are highly recommended. Students not meeting these requirements may enter on a provisional basis. Ontario Grade 13 students are required to take departmental competency examinations before credit will be granted in biology and chemistry. Substitution for courses required as part of biology degree requirements must be approved by the department head.

Honors Program

This program is a research sequence open to biology, chemistry and environmental science majors with a minimum overall GPA of 3.5 through the first semester of the junior year. Majors electing this sequence will select an instructor as their supervisor. An undergraduate research project will be outlined in consultation with the supervising instructor and submitted to the department for approval. The outline must be approved before the first term of the senior year. At the end of the seventh week of the spring term during the senior year, the students will forward an abstract of their work to the department head and during the tenth week of the same semester will submit the final copy of their research papers in publishable form, for departmental approval. All grades for this sequence will be deferred until the

final semester. Eight credit hours of honors credit will be substituted for 8 hours of electives upon successful completion of the research sequence. The special problem sequence will not be open to students electing the honors program research sequence. The completed research may be used for Senior Thesis.

Special Problems

In biology, chemistry, environmental science: Students desiring to enroll in BL, CH, EV Special Problem courses will be granted permission to take the course(s) provided the following conditions are in existence at the time of petition: (A) junior or senior standing; (B) With overall GPA of at least 2.5; (C) No I grades on transcript. Students meeting these requirements must petition department faculty with a detailed one-page outline of work and date to be completed. Request for more than four hours will result in a proportionate reduction in an 18-hour load; e.g. with BL400 for six credits, the balance of courses must not exceed 12 credits for the term. The faculty preceptor must endorse the petition with his signature and the date the project is to be completed.

NOTES

BACHELOR OF ARTS BIOLOGY

Biology (28 credits)	
BL110	General Zoology 4
BL111	General Botany 4
BL204	General Microbiology 4
BL220	Genetics 3
BL221	Genetics Lab 1
BL337	General Ecology 3
BL395	Sci. Writ. & Present. 1
BL420	Popul. Genetics & Evol. 3
BL499	Senior Thesis 1
BL330	Animal Physiology 4
	or
BL315	Plant Physiology 4
Chemistry (17 credits)	
CH115	General Chemistry I 5
CH116	General Chemistry II 4
CH225	Organic Chemistry I 4
CH226	Organic Chemistry II 4

Other Departments (24 credits)	
CS100	Intro. to Microcomp. 3
MA111	College Algebra 3
MA112	Calc. Bus. & Life Sci. 4
MA207	Prin. Stat. Methods 3
EN210	Research Paper Proc. 3
	Foreign Language 8

Additionally, a student is required to:

1. take 6-8 semester credits of BL electives with at least 1 course numbered 300 or higher, and
2. satisfy General Education requirements (Natural Science requirements are met by above classes) such that 124 semester credits are earned.

FIRST YEAR: BACHELOR OF ARTS, BIOLOGY

FALL

BL110	General Zoology 4
CH115	General Chem. I 5
MA111	College Algebra 3
EN110	Freshman Comp. 3
RA	Elective 1
	<u>16</u>

SPRING

BL111	General Botany 4
CH116	General Chemistry 4
MA112	Calculus for Bus. & LS.4
SD101	Fund. of Speech 3
RA	Elective 1
	<u>16</u>

SECOND YEAR

CH225	Organic Chem. I 4
MA207	Statistical Methods 3
CS100	Intro. Micro. Appl. 3
	Humanities Elective 4
BL	Elective <u>3-4</u>
	17-18

CH226	Organic Chemistry II 4
EN210	Res. Paper Process 3
BL204	General Microbiology 4
	Humanities Elective 4
	<u>15</u>

THIRD YEAR

BL337	General Ecology 3
	Foreign Language 4
BL220	Genetics 3
BL221	Genetics Lab 1
SS	Elective 4
	<u>15</u>

	Foreign Lang. II 4
	SS Elective 4
BL315	Plant Physiology 4
	or
BL330	Animal Physiology 4
BL395	Sci. Writ. & Presen. 1
	Free Elective <u>3</u>
	16

FOURTH YEAR

BL	Elective 6
	Free Elective 6-9
SS	Elective 4
	<u>16-19</u>

BL499	Senior Thesis 1
BL420	Pop. Gen. & Evolution 3
	Free Elective <u>9-12</u>
	13-17

BACHELOR OF SCIENCE BIOLOGY

Biology (49 credits)	
BL110 General Zoology	4
BL111 General Botany	4
BL204 General Microbiology	4
BL220 Genetics	3
BL221 Genetics Lab	1
BL280 Biometrics	3
BL337 General Ecology	3
BL395 Sci. Writ. & Present.	1
BL420 Pop. Genetics & Evol.	3
BL499 Senior Thesis	1
BL315 Plant Physiology	4
or	4
BL330 Animal Physiol.	18
BL Electives	18
(including at least 2 courses numbered 300 or higher)	
Chemistry (21 credits)	
CH115 General Chemistry I	5
CH116 General Chemistry II	4

CH225 Organic Chemistry I	4
CH226 Organic Chemistry I	4
CH351 Intro. Biochemistry	4
Other Departments (24 credits)	
CS100 Intro. to Microcomp.	3
MA111 College Algebra	3
MA112 Calc. Bus. & Life Sci.	4
MA207 Prin. Stat. Methods	3
PH221 Elem. Physics I	4
PH222 Elem. Physics II	4
EN210 Res. Paper Process	3

Additionally, a student is required to satisfy General Education requirements (Natural Science requirements are met by above classes) and free electives such that 127 semester credits are earned.

FIRST YEAR: BACHELOR OF SCIENCE, BIOLOGY

FALL

BL110 General Zoology	4
CH115 Chemistry I	5
MA111 College Algebra	3
Soc. Sci. Elective	4
RA Elective	1
	17

SPRING

BL111 Gen. Botany	4
CH116 Gen. Chemistry II	4
MA112 Calc for Bus. & Life Science	4
EN110 Freshman Comp.	3
RA Elective	1
	16

SECOND YEAR

CH225 Organic Chem. I	4
BL Elective	3-4
MA207 Prin. Stat. Meth.	3
Humanities Elec.	4
CS100 Intro. Micro. Appl.	3
	17-18

CH226 Organic Chem. II	4
BL204 Gen. Microbiology	4
BL280 Biometrics	3
Humanities Elective	4
EN210 Res. Paper Process	3
	18

THIRD YEAR

BL220 Genetics	3
BL221 Genetics Lab	1
BL337 Gen. Ecology	3
PH221 Elemts. Physics I	4
Free Elective	3
CH351 Intro. Biochem.	4
	18

BL315 Plant Physiology	4
or	4
BL330 Animal Physiology	3
BL Elective	3
PH222 Elements Physics II	4
Social Science Elective	4
BL395 Sci. Wrtg. & Pres.	1
	16

FOURTH YEAR

BL Elective	6-8
BL420 Pop. Gen. & Evol.	3
Free Electives	6
	15-17

BL499 Senior Thesis	1
BL Electives	6-8
Free Elective	7
	14-16

Environmental Science

Students aspiring to become environmental scientists must possess a deep and lasting concern for the ecosystem, acquire a comprehensive knowledge of environmental issues, and develop the scientific skills needed to solve environmental problems and deal intelligently with our natural resources. They should also acquire the technical and communicative skills needed to deal with business, industrial and government leaders whose activities affect the environment.

ENTRANCE REQUIREMENTS:

Those planning to enroll in the environmental science curriculum at

Lake Superior State University should have completed at least 15 units of acceptable entrance credits at an accredited secondary school with above average standing in their class. These credits must include one unit of beginning algebra, one-half unit of advanced algebra, one unit of geometry, one unit of chemistry or physics, and three units of English. One unit of biology and a year of senior math are highly recommended.

Environmental Science is a comparatively new field that is still evolving. It offers careers to technicians, engineers and research scientists in a wide variety of specialties. The curriculum is a four-year program to prepare students for careers directed toward the maintenance of a healthful environment for humans and other living organisms.

BACHELOR OF SCIENCE ENVIRONMENTAL SCIENCE

Biology, and Environmental Science (34 credits)

BL110	General Zoology	4
BL111	General Botany	4
BL230	Introduction to Soils	3
BL337	General Ecology	3
EV101	Intro to Env. Sci.	3
EV249	Water Pol. Cont.	3
EV288	Environ. Microbiol.	4
EV311	Environmental Law	2
EV313	Solid & Haz. Waste	3
EV395	Sci. Writ. & Pres.	1
EV499	Senior Thesis	1
ID300	Man & Environment	3

Chemistry (23 credits)

CH115	General Chem. I	5
CH116	General Chem. II	4
CH225	Organic Chem. I	4
CH226	Organic Chem. II	4
CH231	Quantitative Anal.	3
CH232	Instrumental Anal.	3

Other Departments (31 credits)

CS100	Introduction to Microcomputers.	3
MA111	College Algebra	3

MA112	Calc. for Bus. & Life Sciences	4
MA207	Prin. Stat. Methods	3
PH221	Elem. Physics I	4
PH222	Elem. Physics II	4
PH311	Hydrology	3
EN205	Tech. Rept. Writing	3
GE111	Geology I	4

Restricted Electives (students select one of the following--minimum 3 credits)

BL130	Remote Sensing	3
CH353	Intro. Toxicology	3
EV405	Special Problems	4
EN305	Adv. Tech. Rept. Writ.	3
GE112	Physical Geology II	4
GG108	Earth, Sun, and Weath.	3
TC103	Surveying	3

Additionally, a student is required to satisfy General Education requirements (Natural Science requirements are met by above classes) and free electives such that 124 semester credits are earned.

FIRST YEAR: BACHELOR OF SCIENCE, ENVIRONMENTAL SCIENCE

FALL

CH115 General Chem. I	5
BL110 General Zoology	4
MA109 Trigonometry	2
MA111 College Algebra	3
EV101 Intro. Env. Science	3
	<u>17</u>

SPRING

CH116 Gen. Chem. II	4
BL111 General Botany	4
EN110 Freshman Comp. I	3
MA112 Calc. for Bus. & Life Sciences	4
RA Elective	<u>1</u>
	<u>16</u>

SECOND YEAR

CH225 Organic Chem. I	4
PH221 Elem. Physics I	4
GE111 Geology I	4
EN205 Tech. Rep. Writing	3
RA Elective	<u>1</u>
	<u>16</u>

CH226 Organic Chem. II	4
PH222 Elem. Physics II	4
EV249 Water Poll. Control	3
MA207 Prin. Stat. Meth.	3
CS100 Intro. Micro. Appl.	<u>3</u>
	<u>17</u>

THIRD YEAR

BL337 General Ecology*	3
SD101 Fund. of Speech	3
CH231 Quant. Analysis	3
Free Elective	3
Soc. Sci. Elective	<u>3</u>
	<u>15</u>

ID300 Man & Environment	3
EV395 Scientific Writing	1
CH232 Instr. Analysis	3
*BL230 Intro. to Soils	3
Soc. Sci. Elective	3
Free Elective	<u>3</u>
	<u>16</u>

FOURTH YEAR

EV313 Solid & Hazardous Waste*	3
EV288 Environmental Microbiology	4
Soc. Sci. Elective	3
Humanities Elective	<u>4</u>
	<u>14</u>

EV311 Environmental Law*	2
EV499 Senior Thesis	1
PH311 Hydrology	3
Humanities Elective	4
Free Elective	3
Designated Elective	<u>3</u>
	<u>16</u>

*Taken in alternate years

**Student will be offered chance to have course waived by examination

NOTES

FISHERIES & WILDLIFE

Fisheries and wildlife courses place strong emphasis on understanding organisms in their habitats. Fisheries and wildlife courses blend a conceptual understanding of fish and wildlife populations with practical knowledge of relevant lab and field techniques. Students work with, and must learn to identify, a wide variety of plants, fish, birds, and mammals.

Students graduating from the rigorous curriculum requirements in the fisheries and wildlife degree can meet the qualifications of state and

federal government agencies as technicians and biologists. To qualify for any type of position as a wildlife biologist with a federal agency, a minimum of 9 credits is needed in botany. Other career opportunities include positions as naturalists, conservation officers, and related professions. The rigorous curriculum provides an extremely competitive background for admittance to graduate school. All students majoring in fisheries and wildlife management are encouraged to consider pursuing a graduate degree.

ENTRANCE REQUIREMENTS:
Same as biology.

BACHELOR OF SCIENCE FISHERIES AND WILDLIFE MANAGEMENT

Biology (58 credits)	
BL110 General Zoology	4
BL111 General Botany	4
BL202 Field Botany	3
BL220 Genetics	3
BL239 Biology & Management of Wildlife	2
BL272 Freshwater Fish Culture	2
BL280 Biometrics	3
BL288 Environ. Microbiol.	4
BL310 Ichthyology	3
BL312 Ornithology	3
BL337 General Ecology	3
BL395 Sci. Writ. & Pres.	1
BL411 Mammalogy	3
BL432 Fish. Ecology & Management	3
BL437 Plant Ecology	3
BL439 Wildlife Ecology & Management	3
BL445 Limnology	3
BL499 Senior Thesis	1
BL230 Intro. to Soils	3
or	
BL275 Aquatic Entomology	3

BL330 Animal Physiology	4
or	
BL315 Plant Physiology	4
Chemistry (17 credits)	
CH115 General Chem. I	5
CH116 General Chem. II	4
CH225 Organic Chem. I	4
CH226 Organic Chem. II	4
Other Departments (20 credits)	
CS100 Introduction to Microcomputers	3
MA111 College Algebra	3
MA112 Calculus for Bus. & Life Science	4
MA207 Prin. Stat. Methods	3
EN210 Research Paper Proc.	3
PH221 Elem. of Physics I	4

Additionally, a student is required to satisfy General Education requirements such that 129 semester credits are earned.

FIRST YEAR: BACHELORS OF SCIENCE, FISHERIES AND WILDLIFE MANAGEMENT

FALL

BL110 General Zoology	4
CH115 General Chem. I	5
MA111 College Algebra	3
Soc. Sci. Elective	4
RA Elective	<u>1</u>
	17

SPRING

BL111 General Botany	4
CH116 General Chem. II	4
MA112 Calculus for Bus. & Life Science	4
EN110 Freshman Comp.	3
RA Elective	<u>1</u>
	17

SECOND YEAR

CH225 Organic Chem. I	4
BL288 Env. Microbiology	4
MA207 Prin. Stat. Meth.	3
BL202 Field Botany	3
CS100 Intro. Micro. Appl.	<u>3</u>
	17

CH226 Organic Chem. II	4
BL239 Wildlife Biology & Management	2
BL280 Biometrics	3
BL315 Plant Physiology	
or	4
BL330 Animal Physiology	
EN210 Res. Paper Process	<u>3</u>
	16

THIRD YEAR

BL312 Ornithology	3
BL337 General Ecology	3
BL310 Ichthyology	3
Humanities Electives	4
SD101 Fund. of Speech	<u>3</u>
	16

BL220 Genetics	3
BL272 Fish Culture	2
BL230 Intro. to Soils	
or	3
BL275 Aquatic Entomology	
Humanities Elective	4
Free Electives	3
BL395 Sci. Writ. & Pres.	<u>1</u>
	16

FOURTH YEAR

Free Electives	6
BL432 Fish. Ecology & Management	3
BL439 Wildlife Ecology	3
PH221 Elements of Phys.	<u>14</u>
	16

BL437 Plant Ecology	4
BL411 Mammalogy	3
BL445 Limnology	3
BL499 Senior Thesis	1
Soc. Sci. Elective	<u>4</u>
	15

Medical Technology

Medical technologists perform most of the clinical tests conducted in hospital, clinical and health laboratories. Pharmaceutical

manufacturers employ medical technologists in connection with the development of drugs and the search for sera and vaccines. Students may obtain the bachelor of science degree in medical technology by completing the specified three-year sequence at the University (see medical technology bachelor of science

requirements) followed by 12 months training at an affiliated hospital. Students may elect any NAACLS accredited hospital (whose program is approved as satisfactory by the biological sciences department head. Lake Superior State University does not assume responsibility for obtaining an affiliation at an approved hospital. Graduates of this program are eligible to take an examination for certification as a registered medical technologist.

ENTRANCE REQUIREMENTS:
To qualify for admission as

freshmen, applicants must be graduates of accredited secondary schools with above average standing in their class. Their secondary school preparation should include a four-year curriculum of at least 15 units of acceptable entrance credits. The following subjects must be included in these credits: one unit of beginning algebra, one unit of geometry, one-half unit of advanced algebra, one unit of chemistry or physics (preferably chemistry) and three units of English. One unit of biology is highly recommended. Students not meeting these requirements may enter on a provisional basis.

BACHELOR OF SCIENCE MEDICAL TECHNOLOGY

Biology (56 credits)

BL110	General Zoology	4
BL204	General Microbiology	4
BL220	Genetics	3
BL243	Vertebrate Anatomy	4
BL330	Animal Physiology	4
BL422	Parasitology	4
	or	3
BL480	Microbiol. & Biotech.	4
BL423	Immunology	4
BL460	Medical Tech. Intern.	30

Chemistry (23 credits)

CH115	General Chem. I	5
CH116	General Chem. II	4
CH225	Organic Chem. I	4
CH226	Organic Chem. II	4

Chemistry (cont)

CH231	Quantitative Analysis	3
CH232	Instrumental Analysis	3

Other Departments (16 credits)

CS100	Introduction to Microcomputers	3
MA111	College Algebra	3
MA112	Calculus for Bus. & Life Science	4
MA207	Prin. Stat. Methods	3
EN210	Research Paper Proc.	3

Additionally, a student is required to satisfy General Education requirements (Natural Science requirements are met by required classes) such that 128 semester credits are earned.

*Calendar year

FIRST YEAR: BACHELOR OF SCIENCE, MEDICAL TECHNOLOGY

FALL

BL110	General Zoology	4
CH115	General Chem. I	5
MA111	College Algebra	3
EN110	Freshman Comp.	3
RA	Elective	1
		<hr style="width: 100%;"/>
		16

SPRING

CH116	General Chem. II	4
MA112	Calculus for Bus. & Life Science	4
SD101	Fund. of Speech	3
CS100	Intro. Micro. Appl.	3
RA	Elective	1
		<hr style="width: 100%;"/>
		15

SECOND YEAR

CH225 Organic Chem. I	4
MA207 Prin. Stat. Meth.	3
BL243 Vertebrate Anat.*	4
Humanities Elective	4
EN210 Res. Paper Process	<u>3</u>
	18

CH226 Organic Chem. II	4
BL330 Animal Physiology*	4
BL204 Gen. Microbiology	4
Humanities Elective	<u>4</u>
	16

THIRD YEAR

BL422 Parasitology*	
or	3
BL480 Ap. Micr. & Biotech.*	
CH231 Quant. Analysis	3
Soc. Sci. Elective	4
Free Electives	<u>6</u>
	16

BL220 Genetics	3
BL423 Immunology	4
CH232 Instrument. Analys.	3
Soc. Science Elective	4
Free Electives	<u>3</u>
	17

FOURTH YEAR

BL460 Med. Tech.	15
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BL460 Med. Tech. Intern.	15
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NOTE: The 3 + 1 nature of the program forces these students to take 300 and 400 level courses in an earlier year. Alternate year offerings will also affect the precise year in a student's program in which she can take a particular course.

*Indicates courses offered in alternate years.

Pre-professional: Medicine, Dentistry, Veterinary Medicine

Applicants to a professional school are seldom accepted with only three years of undergraduate credit, therefore, pre-medical, pre-veterinary medicine or pre-dental students are encouraged to remain four years and complete the requirements for the bachelor of science or bachelor of arts degree in biological sciences. A survey of medical school admission requirements for the United States and Canada as published by the Association of American Medical Colleges shows that the Lake Superior State University bachelor of science degree in biological sciences meets the most stringent requirements.

BOARD: The pre-professional advisory board, made up of

representatives from the biology and chemistry department including two professional advisors, will:

1. review the performance of all students indicating an interest in medicine, veterinarian medicine or dentistry at the end of their sophomore year;
2. indicate to the student before their junior year, where possible, the advisability of remaining in the program;
3. meet with and interview all students from which MCAT, VAT, DAT or OCAT scores have been received;
4. make appropriate recommendation to the indicated

medical, veterinary or dental universities based upon:

- a. personal knowledge of student's performance while at Lake Superior State University;

- b. interview performance;

- c. grade point average;

- d. and MCAT, VAT, DAT or OCAT scores.

Pre-Pharmacy (Transfer Program)

The two-year course of study outlined below is a guide for those who plan to apply for admission and transfer to a three-year professional pharmacy curriculum at another institution. In Michigan, such programs are offered at Ferris State University, University of Michigan, and Wayne State University. For further information and planning, students are advised to consult catalogs from these or other institutions. Generally, application for admission to a professional pharmacy curriculum must be submitted after completing the first

year of pre-pharmacy. Generally, students must have a cumulative grade point average of 2.00 as well as grades of C or better in sciences and mathematics. Students entering Ferris State University with one year of high school physics may pass a physics proficiency examination in lieu of the year of college Physics. If the latter courses are not taken, a sequence of humanities or behavioral science courses is recommended. The following suggested schedule, for instance, is recommended and meets all requirements for admission to the School of Pharmacy of Ferris State University.

FIRST YEAR: PRE-PHARMACY

FALL

CH115 Gen Chem. I	5
BL110 Gen Zoology	4
MA111 College Algebra	4
PY101 Intro to Psychol.	4
	<u>16</u>

SPRING

CH116 Gen. Chem. II	4
BL111 Gen. Botany	4
MA112 Calc. Bus. & Life Sci.	4
or	4
MA151 Calculus I	
EN110 Fresh. Composition	3
EC201 Prin. Macroecon.	3
	<u>18</u>

SECOND YEAR

CH225 Organic Chem. I	4
BL121 Human Anatomy & Physiology	3
PH221 Elem. Physics I*	4
EN210 Rese. Paper Proc.	3
PS110 Intro. Amer. Gov.	4
	<u>18</u>

CH226 Organic Chem. II	4
BL122 Human Anatomy & Physiology	4
PH222 Elem. Physics II	4
BL330 Animal Physiology	4
	<u>16</u>

*At Ferris State University, the Physics requirement may be fulfilled in other ways. Consult the Ferris State University catalog.

Forestry (Transfer Program)

Students may receive a bachelor of science in forestry from the University of Michigan by attending Lake Superior State University for three years then transfer to U. of M. for the fourth year. A summer program at U. of M.'s Camp Filbert Roth is also required. To transfer after three years to University of Michigan students must maintain a minimum 2.5 GPA. No D grades can be transferred. A minimum of

90 semester hours that are applicable toward the degree should be completed at Lake Superior State University. Physical education classes may not be included. Arrangements can be made to attend Lake Superior State University for one or two years before transferring to other colleges to complete the bachelor's degree in forestry.

ENTRANCE REQUIREMENTS:
Same as biology.

BACHELOR OF SCIENCE Conservation Law Enforcement

Laws enacted to protect our natural resources, and federal restrictions on the rate of consumption of our renewable resources, have created a demand for highly qualified enforcement officers. Lake Superior State University, with its unique location in the heart of resource diversity, offers a bachelor of science degree in conservation law enforcement.

Students completing the associate degree in natural resources technology can elect to continue their education by taking the required courses in criminal justice to earn, at the end of four years, the

bachelor of science in conservation law enforcement. Graduates of this program are able to compete for openings in the Michigan Department of Natural Resources, the United States Forest Service and the National Park Service. This program also provides students with requirements for certification as police officers in Michigan.

ENTRANCE REQUIREMENTS:
Are the same as for the natural resource technology program. For additional information regarding the first two years of this program, please consult the natural resources technology section of this catalog.

BACHELOR OF SCIENCE Parks and Recreation, Management Concentration

The increased interest nationally in parks, from small city parks to large national parks, has created a demand for people who can manage both our natural resources as well as the people who want to benefit from

them. Lake Superior State University offers a bachelor of science in Recreation Management with a Parks and Recreation Management concentration. Students completing the associate degree in

natural resources technology can elect to continue their education by taking the required courses in recreation to earn, at the end of four years, a bachelor of science in recreation management with a parks and recreation concentration. The land management and resource development skills acquired in this curriculum will qualify students to pursue a wide variety of career options with the various state

Departments of Natural Resources, the National Park Service, various municipal parks or in the area of outdoor education and interpretation. Entrance requirements are the same as for the natural resource technology program. For additional information regarding the first two years of this program, please consult the natural resources technology section of this catalog.

CHEMISTRY

The associate degree in chemistry provides the fundamentals required for additional studies of chemistry that can be completed at another

university. The strong quantitative orientation would provide a strong background for a student to pursue a bachelor's degree in chemistry or physics.

ASSOCIATE DEGREE CHEMISTRY

Chemistry (23 credits)

CH115 General Chem. I	5
CH116 General Chem. II	4
CH225 Organic Chem. I	4
CH226 Organic Chem. II	4
CH231 Quant. Anal.	3
CH232 Instr. Anal.	3

Other Departments (37 credits)

CS100 Intro. to Microcomp.	3
EN110 English Comp. I	3

EN205 Technical Rept. Writ.	3
MA151 Calculus I	4
MA152 Calculus II	4
MA251 Calculus III	4
PH231 Elem. Physics I	5
PH232 Elem. Physics II	5
SD101 Fund. of Speech	3
SS Elective	3

Students are required to take a total of 63 semester credits.

FIRST YEAR: ASSOCIATE DEGREE CHEMISTRY

FALL

CH115 General Chem. I	5
MA151 Calculus I	4
EN110 Freshman Comp.	3
SD101 Fund. of Speech	3
	15

SPRING

CH116 General Chem. II	4
MA152 Calculus II	4
CS100 Intro. Micro. Appl.	3
SS or HU Elective	3
Free Elective	3
	17

SECOND YEAR

CH225 Organic Chem. I	4
CH231 Quant. Analysis	3
PH231 General Physics I	5
EN205 Tech. Rpt. Writing	3
	15

CH226 Organic Chem. II	4
CH232 Instrumental Anal.	3
PH232 Gen. Physics II	5
MA251 Calculus III	4
	16

Natural Resources Technology

This program trains technicians as aides to fish and wildlife biologists and for careers in parks, forest fire control, forestry, and conservation law enforcement. The associate degree curriculum includes two academic years. The enrollment into this program is limited.

ENTRANCE REQUIREMENTS:

To be considered for admission as freshmen, applicants must be graduates of accredited secondary

schools with above average standing in their class. Their secondary school preparation should include a four-year curriculum of at least 15 units of acceptable entrance credits. The following should be included in these credits: one unit of beginning algebra, one unit of laboratory science (biology, chemistry or physics--preferably biology) and three units of English. Applicants who do not meet the above requirements may be considered on the basis of equivalent courses and/or satisfactory scores on the American College Test (ACT).

ASSOCIATE DEGREE Natural Resources Technology

Resource Technology, Biology, and Chemistry (33 credits)

RT101	Intro. Natur. Resour.	3
RT102	Methods in Nat Res.	1
RT206	Wildlife Mgmt. Tech.	2
RT207	Biol. & Mgmt. Fish	3
RT275	Soil Management	4
RT284	Prin. of Forestry	4
RT286	Limnological Tech.	4
BL130	Remote Sensing	3
BL239	Wildlife Biol. & Mgmt	2
CH108	Applied Chemistry	4
ID300	Man & Environment	3

Other Departments (26 credits)

RC201	Intro. Rec./Services	3
MA109	Trigonometry	2
CS100	Intro. to Microcomp.	3
EN110	English Comp. I	3
EN205	Technical Rept. Writ.	3
HE181	First Aid	1
TC103	Surveying	3
TC104	Sm. Eng./Safety	3
RA	Electives	2
SD101	Fund. of Speech	3

Students are required to take three additional free elective credits for a total of 62 semester credits.

FIRST YEAR: ASSOCIATES DEGREE, Natural Resources Technology

FALL

EN110	Freshman Comp.	3
RT101	Intro. to Nat. Res.	3
RT102	Meth. in Nat. Res.	1
MA109	Trigonometry	2
CS100	Intro. Micro. Appl.	3
RC101	Intro. Rec./Services	3
RA	Elective	1
		<u>16</u>

SPRING

TC104	Small Engine Safety	3
BL130	Remote Sensing	3
CH108	Applied Chemistry	4
SD101	Fund. of Speech	3
HE181	First Aid	1
RA	Elective	1
		<u>15</u>

SECOND YEAR

RT275	Soil Management	4
RT284	Prin. Forestry	4
RT207	Biol. & Mgt. Fish	3
RT286	Limnological Tech.	4
		<u>15</u>

BL239	Nat. Hist. Wildlife	2
RT206	Wildf. Mgmt. Tech.	2
ID300	Man & Environment	3
TC103	Surveying	3
EN205	Tech. Rep. Writing	3
	Elective	3
		<u>16</u>

Water Quality Technology

This program offers training for vocations as technicians in hydrology, water supply technology, waste-water treatment and water pollution control. Applicants should have an aptitude for chemistry and a concern for environmental quality. The employment and salaries for graduates of this program have been excellent.

ENTRANCE REQUIREMENTS:

To be considered for admission as freshmen, applicants must be graduates of accredited secondary

schools with above average standing in their class. Their secondary school preparation should include a four-year curriculum of at least 15 units of acceptable entrance credits. The following subjects should be included in these credits: one unit of beginning algebra, one unit of geometry, one unit of chemistry, and three units of English. One unit of biology is recommended. Applicants who do not meet the above requirements may be considered on the basis of equivalent courses and/or satisfactory scores on the American College Test (ACT).

ASSOCIATE DEGREE Water Quality Technology

Resource Technology, Biology, and Chemistry (36 credits)

RT102	Methods in Nat. Res.	1
RT207	Bio. & Mgmt of Fish	3
RT275	Soil Management	4
RT285	Water Quality Intern.	4
RT286	Limnological Tech.	4
RT287	Indust. Wastewat. Trt.	3
EV101	Intro. Environ. Sci.	3
EV249	Water Pollution	3
EV288	Environ. Microbiol.	4
CH108	Applied Chemistry	4
ID300	Man & Environment	3

Other Departments (22 credits)

MA109	Trigonometry	2
CS100	Intro. to Microcomp.	3
EN110	English Comp. I	3
EN205	Technical Rept. Writ.	3
TC103	Surveying	3
TC104	Small Eng./Safety	3
RA	Electives	2
SD101	Fund. of Speech	3

Students are required to take four additional free elective credits for a total of 62 semester credits.

FIRST YEAR: ASSOCIATES DEGREE, WATER QUALITY TECHNOLOGY

FALL

RT102	Meth in Nat. Res.	1
EN110	Freshman Comp.	3
EV101	Intro Environ. Sci.	3
CS100	Introduction to Microcomputers	3
MA109	Trigonometry	2
SD101	Fund. of Speech	3
RA	Elective	1
		<u>16</u>

SPRING

TC103	Surveying	3
CH108	Applied Chemistry	4
TC104	Small Eng./Safety	3
	Elective	4
RA	Elective	1
		<u>15</u>

SECOND YEAR

RT275	Soil Management	4
RT286	Limnological Tech.	4
EV288	Env. Microbiology	4
RT207	Bio. & Mgt. Fish	3
		<u>15</u>

EV249	Water Pollution	3
ID300	Man & Environment	3
RT287	Indus. Wastewater	3
RT285	Water Qual. Intern.	4
EN205	Tech. Rpt. Writing	3

BIOLOGY MINOR

This supportive minor is open to all students. Requires a minimum of 21 credit hours of Biology courses.

Biology (21 credits)		
BL110	General Zoology	4
BL111	General Botany	4
BL220	Genetics	3
BL221	Genetics Lab	1
BL337	Ecology	3
BL	Electives 200+ level	6

CHEMISTRY MINOR

CHEMISTRY: Requires a minimum of 20 credit hours of chemistry courses.

Chemistry (20-21 credits)		
CH115	General Chem. I	5
CH116	General Chem. II	4
CH225	Organic Chem. I	4
CH226	Organic Chem. II	4
CH231	Quant. Analysis	3
	or	
CH351	Intro. Biochem.	4

NOTES



BUSINESS & ECONOMICS

BUSINESS & ECONOMICS · 115

BUSINESS & ECONOMICS

FACULTY: Assoc. Prof. Bruce T. Harger, head; Prof. Madan Saluja; Assoc. Profs. Mary L. Adams, Donner Dowd, John Erkkila, Robert C. Gaertner, John S. Hudson, Jean Lundin, Ann B. Marinoni, Charles Meiser, Daniel Mugavero, Karl (Jim) Sherman; Asst. Prof. Valerie Filek; Instructor Linda Schmitigal.

Well-rounded professional education for careers in fields of business

THE OBJECTIVE of the department of business and economics is to provide a well-rounded professional education. At a minimum, such an education should allow the student the opportunity to develop:

- Understanding and appreciation of the historical evolution of the modern business culture.
- Awareness of social and economic forces shaping its future dimensions.
- Ability to recognize and promote ethical and social values.
- Understanding of major functional areas of business with some opportunity for specialization for a career in business.
- Preparation for advanced study.

BACHELOR OF SCIENCE ACCOUNTING

The discipline of accounting provides financial and other information essential to the efficient conduct and evaluation of the activities of any organization. **The information** which accounting provides is essential for

1. effective planning, control and decision making by management,

2. discharging the accountability of organizations to investors, creditors, government agencies, taxing authorities, association members, contributors to non-profit institutions and others.

Accounting includes the development and analysis of data,

the testing of their validity and relevance, and the interpretation and communication of the resulting information to intended users. The data may be expressed in monetary or other quantitative terms, or in symbolic or verbal forms. **This program** is primarily for those students who may desire

1. to enter the field of public accounting, or
2. a more intensive study of accounting.

The program meets the State of Michigan educational requirements, qualifying students to sit for the certified public accountant's examination.

Business Core (44 Credits)	
AC132 Prin of Acct I	4
AC133 Prin of Acct II	4
BA211 Business Statistics	3
BA231 Business Communications	3
BA254 Business Law I	3
BA466 Business Policy	3
DP264 Intro to Data Proc	3
EC201 Prin of Macroeconomics*	3
EC202 Prin of Microeconomics*	3
FN341 Managerial Finance	4
MK281 Marketing Prin and Strat	4
MN370 Managerial Prin and Human Resource Concepts	4
MA111 College Algebra**	3

Major Requirements (38 credits)	
AC232 Intermediate Acct I	4
AC233 Intermediate Acct II	4
AC332 Cost Accounting I	4
AC333 Cost Accounting II	4
AC334 Acct Information Systems	3
AC432 Advanced Accounting I	3
AC433 Advanced Accounting II	3
AC421 Fed Taxation Acct I	3
AC422 Fed Taxation Acct II	3
AC427 Auditing	4
BA255 Business Law II	3

*May count toward Social Science General Education Requirement
 **May count toward B.S. Degree Requirement

General Education Requirements and sufficient elective credits must be completed such that at least 128 semester credits have been earned.

FIRST YEAR: BACHELOR OF SCIENCE, ACCOUNTING

FALL

AC132 Prin Accounting I	4
MA111 College Algebra	3
EN110 Freshman Comp*	3
DP264 Intro Data Proc	3
NS Elective	<u>3</u>
	16

SPRING

AC133 Prin of Acct II	4
SD101 Fund of Speech	3
NS Elective	3
HU Elective	4
Soc Sci Elective	<u>3</u>
	17

SECOND YEAR

AC232 Intermediate Acct I	4
BA254 Bus Law I	3
EC201 Principles of Macroeconomics	3
EN210 or 215 Res Pap/Lit*	3
HU Elective	<u>4</u>
	17

AC233 Inter Accounting II	4
BA255 Business Law II	3
EC202 Principles of Microeconomics	3
BA231 Business Comm	3
BA211 Business Statistics	<u>3</u>
	16

THIRD YEAR

AC332 Cost Accounting I	4
FN341 Mgr Finance	4
MK281 Marketing Principles & Strategies	4
NS Elective	3
RA Elective	1
	<u>16</u>

AC333 Cost Accounting II	4
MN370 Management Prin & Human Resource Conc	4
AC334 Acct Info Syst	3
NS/MA/SS Elective	3
RA Elective	1
	<u>15</u>

FOURTH YEAR

AC421 Fed Tax Acct I	3
AC432 Adv Accounting I	3
AC427 Auditing	4
Electives	6
	<u>16</u>

AC422 Fed Tax Acct II	3
AC433 Advanced Acct II	3
BA466 Business Policy	3
Electives	6
	<u>15</u>

*English Composition may be taken either Fall or Spring semester

BACHELOR OF SCIENCE BUSINESS ADMINISTRATION

Requires successful completion of a four-year curriculum of 128 semester hours as prescribed in the following pages. The degree in business administration provides the student with a broad background in general business. Students select a second major area of concentration in one of several areas of specialization:

1. Accounting
2. Management
3. Office Administration
4. Marketing
5. Computer Information Systems Management
6. Hospitality
7. General Business

Accounting Concentraion

Prepares students for careers in industrial or governmental accounting or administrative careers in business or government. The program is flexible, enabling students to select many elective courses. This program does not meet the State of Michigan requirements qualifying a student to sit for the Certified Public Accountant's exam. Students desiring to become Certified Public Accountants or those desiring greater depth in accounting studies should refer to the bachelor of science program.

Business Core (44 Credits)

AC132 Prin of Acct I	4
AC133 Prin of Acct II	4
BA211 Business Statistics	3
BA231 Business Communications	3
BA254 Business Law I	3
BA466 Business Policy	3

DP264 Intro to Data Processing	3
EC201 Prin of Macroeconomics	3
EC202 Prin of Microeconomics	3
FN341 Managerial Finance	4
MK281 Mktg Prin and Strategy	4
MN370 Mgmt Prin & HR Conc	4
MA111 College Algebra	3

*May count toward Social Science General Education Requirement

**May count toward B.S. Degree Requirement

Major Requirements (29 credits)			
AC232 Inter Acct I	4	AC334 Acct Info Systems	3
AC233 Inter Acct II	4	AC421 Fed Tax Acct I	3
AC332 Cost Accounting I	4	AC427 Auditing	4
AC333 Cost Accounting II	4	BA255 Business Law II	3

General Education Requirements and sufficient elective credits must be completed such that at least 128 semester credits have been earned.

FIRST YEAR: B.S. IN BUSINESS ADMINISTRATION-ACCOUNTING

FALL

AC132 Prin Accounting I	4
MA111 College Algebra	3
EN110 Freshman Comp*	3
NS Elective	3
DP264 Intro Data Process	3
	<u>16</u>

SPRING

AC133 Prin Acct II	4
SD101 Fund of Speech	3
NS Elective	3
HU Elective	4
Soc Sci Elective	3
	<u>17</u>

SECOND YEAR

AC232 Intermed Acct I	4
BA254 Business Law I	3
EC201 Prin of Macro	3
EN210 or 215 Res Pap/Lit*	3
HU Elective	4
	<u>17</u>

AC233 Inter Acct II	4
BA255 Business Law II	3
EC202 Prin of Micro	3
BA231 Business Comm	3
BA211 Business Statistics	3
	<u>16</u>

THIRD YEAR

AC332 Cost Accounting I	4
FN341 Managerial Finance	4
MK281 Marketing Principles & Strategies	4
NS Elective	3
RA Elective	1
	<u>16</u>

AC333 Cost Accounting II	4
MN370 Management Prin & Human Resource Conc	4
NS/MA/SS Elective	3
Electives	3
RA Elective	1
	<u>15</u>

FOURTH YEAR

AC421 Fed Tax Acct I	3
AC427 Auditing	4
Electives	9
	<u>16</u>

AC334 Acct Info Syst	3
BA466 Business Policy	3
Electives	9
	<u>15</u>

*English composition may be taken either Fall or Spring semester

□ Computer Information Systems Management concentration

The CISM area of concentration is an integrated program of management and computer information systems. It provides a broad study of business management with the opportunity to extend this study by elective courses. The curriculum includes a strong emphasis on computer-based information systems including systems analysis, systems design, database systems, systems management and computer programming. The COBOL (Common Business Oriented Language) is studied in depth, with an emphasis on program design. COBOL is also used as the host language in the study of database program development. Students have an introduction to RPG (Report Program Generator), and they may elect to study other programming languages.

Career oriented: Although graduates should expect to begin their careers as programmer/analysts, their background prepares them to develop professionally along alternative career paths including systems analysis, systems design, programming project management, systems development management, and information systems department management.

Business Core (44 Credits)		
AC132	Prin of Acct I	4
AC133	Prin of Acct II	4
BA211	Business Statistics	3
BA231	Business Comm	3
BA254	Business Law I	3
BA466	Business Policy	3
DP264	Intro to Data Proc	3
EC201	Prin of Macroeconomics	3
EC202	Prin of Microeconomics	3
FN341	Managerial Finance	4
MK281	Mktg Prin & Strategy	4
MN370	Mgmt Prin & HR Conc	4
MA111	College Algebra	3

*May count toward Social Science General Education Requirement

**May count toward B.S. Degree Requirement

Major Requirements (41 credits)		
DP275	COBOL Prog I	3
DP276	COBOL Prog II	3
DP269	RPG II Prog	3
DP366	Database Prog Dev	3
DP368	Sftwre and Hrdwre Conc	3
DP461	Sys Anal and Design I	3
DP462	Sys Anal and Design II	3
DP469	Info Resource Mgmt	3
List A/B	elective	6
List A	electives	6
Business	elective	2
MN461	Management Simulation	3
PY101	or 228 or 383 or 396*	3-4

General Education Requirements and sufficient elective credits must be completed such that at least 128 semester credits have been earned.

List A Electives

AS305	Introd Automated Systems
DP467	Distributed Data Processing
DP367	Decision Support and Expert Systems
DP468	EDP Audit and Controls
DP466	Advanced Database Concepts
ID399	Internship in Data Processing

List B Electives

CS111	Intro to Computer Science I
CS112	Intro to Computer Science II
CS321	Computer Graphics
CT235	Microprocessor Fundamentals
DP151	Computer Applications
DP165	APL Programming
DP240	Desktop Publishing and Presentations I
DP245	Desktop Publishing and Presentations II
DP268	PL/I Programming
DP225	Word Processing Techniques
DP230	Word Processing Applications
MN464	Organizational Behavior in Business
MN471	Production and Operations Management
OA111	Keybdg/Doc Formatting
OA112	Keyboard Skillbuilding

FIRST YEAR: B.S. IN BUSINESS ADMINISTRATION- COMPUTER INFORMATION SYSTEMS MANAGEMENT CONCENTRATION

FALL

AC132 Prin Acct I	4
EN110 Freshman Comp*	3
MA111 College Algebra	3
NS Elective	3
PY Designated Elective	3
	16

SPRING

AC133 Prin Acct II	4
DP264 Intro Data Processing ³	3
SD101 Fund of Speech	3
HU Elective	4
NS Elective	3
	17

SECOND YEAR

EN210 or 215 Res Pap/Lit*	3
DP275 COBOL I	3
MK281 Mktg Prin & Strat	4
EC201 Macroeconomics	3
BA254 Bus Law I	3
	16

DP276 COBOL II	3
DP269 RPG II	3
List B Elective	3
EC202 Microeconomics	3
BA231 Bus Comm	3
RA Elective	1
	16

THIRD YEAR

DP366 Database Prog Dev	3
List A Elective	3
MN370 Management Principles & Human Resources Conc	4
NS Elective	3
HU Elective	4
	17

DP368 Software/Hardware	3
List B Elective	3
BA211 Bus Statistics	3
MA/NS/SS Elective	3
Free Elective	3
RA Elective	1
	16

FOURTH YEAR

DP461 Systems An Des	3
List A Elective	3
FN341 Mgr Finance	4
Business Elective	2
Free Elective	3
	15

DP462 Sys Anal & Des	3
DP469 Info Resource Mgt	3
MN461 Mgt Simulation	3
Free Elective	3
BA466 Business Policy	3
	15

*English composition may be taken either Fall or Spring semester

□ General Business option

The Program provides a well-rounded professional education in business administration. Breadth of preparation rather than specialization is emphasized; however, the student will be able to focus on areas of concentration through selection of business electives.

Business Core (44 Credits)

AC132 Principles of Accounting I	4
AC133 Principles of Accounting II	4
BA211 Business Statistics	3
BA231 Business Communications	3

BA254 Business Law I	3
BA466 Business Policy	3
DP264 Intro to Data Processing	3
EC201 Prin of Macroeconomics	3
EC202 Prin of Microeconomics	3

FN341 Managerial Finance	4
MK281 Mktg Prin and Strategy	4
MN370 Mgmt Prin and HR Conc	4
MA111 College Algebra	3

*May count toward Social Science General Education Requirement
 **May count toward B.S. Degree Requirement

Major Requirements (32 credits)	
AC332 Cost Accounting I	4
BA255 Business Law II	3
MN464 Organizational Behavior in Business	4

Seven (7) business electives, five (5) of which must be at 300 or 400 level 21

General Education Requirements and sufficient elective credits must be completed such that at least 128 semester credits have been earned.

FIRST YEAR: BACHELOR OF SCIENCE DEGREE, BUSINESS ADMINISTRATION-GENERAL BUSINESS

FALL

EN110 Freshman Comp*	3
AC132 Prin Accounting I	4
MA111 College Algebra	3
NS Elective	3
SD101 Fund of Speech	<u>3</u>
	16

SPRING

AC133 Prin Acct II	4
DP264 Intro Data Proc	3
NS Elective	3
HU Elective	4
RA Elective	<u>1</u>
	15

SECOND YEAR

EN210 or 215 Res Pap/Lit*	3
BA254 Business Law I	3
EC201 Prin of Macro	3
MK281 Mkt Prin & Stat	4
Business Elective	3
RA Elective	<u>1</u>
	17

BA255 Business Law II	3
EC202 Principles of Microeconomics	3
BA231 Bus Comm	3
BA211 Business Statistics	3
Business Elective	<u>3</u>
	15

THIRD YEAR

MN370 Management Principles & Human Resource Conc	4
AC332 Cost Accounting I	4
NS Elective	3
Business Elective	3
Elective	<u>3</u>
	17

FN341 Mgr Finance	4
HU Elective	4
MN464 Orgizational Behavior in Business	4
Business Elective	<u>3</u>
	15

FOURTH YEAR

Business Electives	6
Soc Sci Elective	3
NS/SS/MA Elective	3
Electives	<u>4</u>
	16

BA466 Business Policy	3
Business Elective	3
Electives	<u>11</u>
	17

*English composition may be taken either Fall or Spring semester.

☐ Hospitality concentration

The hospitality, tourism and travel industry is expanding at a rapid rate around the world, and skilled employees are in great demand. The program is interdisciplinary in nature and emphasizes the business administration approach to studying hotel and restaurant management, and travel/tourism. A student may choose one of the following four areas of specialization:

1. Hotel/Restaurant Management (in conjunction with Sault College)
2. Hospitality/Recreation
3. Hospitality/Foreign Language
4. Hospitality/Administration

☐ Hospitality/Administration

Business Core (44 Credits)

AC132	Prin of Acct I	4
AC133	Prin of Acct II	4
BA211	Business Statistics	3
BA231	Bus Communications	3
BA254	Business Law I	3
BA466	Business Policy	3
DP264	Intro to Data Processing	3
EC201	Prin of Macroeconomics*	3
EC202	Prin of Microeconomics*	3
FN341	Managerial Finance	4
MK281	Mktg Prin and Strategy	4
MN370	Mgmt Prin and HR Conc	4
MA111	College Algebra**	3

Major Requirements (48 credits)

HS102	His of World Civ II**	4
GG306	Cultural Geography*	3
AC332	Cost Accounting I	4
MK287	Adv Theory and Practice	3
MK480	Marketing Research	3
MN464	Org Behavior in Bus	4
HT121	Intro to Hosp Industry	4
HT231	Destinations - World	3
HT231	Destinations - Electives	3
HT321	Trvl-Trsm Plng & Dev I	3
HT322	Trvl-Trsm Plng & Dev II	3
HT421	Travel-Tourism Cases	3
HT441	Internship - Trvl & Trsm	8

*May count toward Social Science General Education Requirement

**May count toward B.S. Degree Requirement

General Education Requirements and sufficient elective credits must be completed such that at least 128 semester credits have been earned.

FIRST YEAR: BUSINESS ADMINISTRATION- HOSPITALITY/ADMINISTRATION CONCENTRATION

FALL

HT121	Intro Hospitality	4
AC132	Prin Accounting I	4
RA	Elective	1
MA111	College Algebra	3
NS	Elective*	4
		<u>16</u>

SPRING

SD101	Fund of Speech	3
AC133	Prin Accounting II	4
RA	Elective	1
EN110	Freshman Comp	3
NS	Elective*	4
		<u>15</u>

SECOND YEAR

EN210 or 215	Res Pap/Lit	3
HT231	Dest - World	3
BA254	Business Law I	3
MK281	Mktg Principles	4
EC201	Macroeconomics	3
		<u>16</u>

BA231	Bus Comm	3
HS102	Hist of Wrld Civ II	4
BA211	Bus Statistics	3
GG306	Cultural Geography	3
EC202	Microeconomics	3
		<u>16</u>

THIRD YEAR

HU Elective*	4
MN370 Management Principles & Human Resource Conc	4
HT231 Destinations	2
HT321 Trvl-Trsm Plng I	3
DP264 Intro Data Proces	3
	<u>16</u>

HU Elective*	4
MK287 Advertising	3
HT322 Travel-Tourism Planning II	3
Electives	6
	<u>16</u>

FOURTH YEAR

HT441 Intership	4
HT231 Destinations	1
AC332 Cost Accounting I	4
HT421 Trvl-Trsm Cases	3
FN341 Managerial Finance	4
	<u>16</u>

HT441 Internship	4
BA466 Business Policy	3
MK480 Mktg Research	3
MN464 Organizational Behavior in Business	4
Elective	3
	<u>17</u>

*Suggested humanities and natural science electives are art and music appreciation, BL105 and physical geography.

□ Hospitality/Foreign Language

Business Core (44 Credits)	
AC132 Prin of Acct I	4
AC133 Prin of Acct II	4
BA211 Business Statistics	3
BA231 Business Communications	3
BA254 Business Law I	3
BA466 Business Policy	3
DP264 Intro to Data Proc	3
EC201 Principles of Macroeconomics*	3
EC202 Principles of Microeconomics*	3
FN341 Managerial Finance	4
MK281 Mktg Prin and Strategy	4
MN370 Mgmt Prin and HR Conc	4
MA111 College Algebra**	3

Major Requirements (46 credits)	
HS102 Hist of World Civ II**	4
GG306 Cultural Geography*	3
SP261 Second Year Spanish I***	4
or	
FR251 Second Year French I***	4
SP262 Second Year Spanish II***	4
or	
FR252 Second Year French II***	4
HT121 Intro to Hosp Industry	4
HT231 Destinations - World	3
HT231 Destinations - Electives	4
HT321 Trvl-Trsm Plng & Dev I	3
HT322 Trvl-Trsm Plng & Dev II	3
HT421 Travel - Tourism Cases	3
HT441 Internship-Trvl & Trsm	8
SP or FR 300 level elective	3

*May count toward Social Science General Education Requirement

**May count toward B.S. Degree Requirement

***May count a maximum of 4 semester credits toward Humanities General Education requirement.

General Education Requirements and sufficient elective credits must be completed such that at least 128 semester credits have been earned.

FIRST YEAR: BACHELOR OF SCIENCE DEGREE, BUSINESS ADMINISTRATION, HOSPITALITY/FOREIGN LANGUAGE

FALL

HT121 Intro Hospitality	4
NS Elective*	4
AC132 Prin Accounting I	4
MA111 College Algebra	3
RA Elective	1
	<u>16</u>

SPRING

SD101 Fund of Speech	3
EN110 Freshman Comp	3
AC133 Prin Accounting II	4
HS102 Hist of Wrlld Civ II	4
RA Elective	1
	<u>15</u>

SECOND YEAR

EN210 or 215 Res Pap/Lit	3
2nd yr Foreign Language	4
HT231 Dest - World	3
NS Elective*	4
DP264 Intro Data Proc	3
	<u>17</u>

Elective	3
MK281 Marketing Principles & Strategy	4
2nd Yr Foreign Language	4
BA231 Bus Comm	3
EC202 Microeconomics	3
	<u>17</u>

THIRD YEAR

MN370 Management Principles & Human Resource Conc	4
EC201 Macroeconomics	3
HT231 Destinations	2
HT321 Trvl-Trsm Plng I	3
3rd Yr Foreign Language	3
	<u>15</u>

HU Elective*	4
GG306 Cultural Geography	3
HT322 Travel-Tourism II Planning	3
Electives	6
	<u>16</u>

FOURTH YEAR

HT441 Internship	4
BA254 Business Law I	3
BA211 Business Stat	3
Elective	2
HT231 Destinations	2
HT421 Trvl-Trsm Cases	3
	<u>17</u>

HT441 Internship	4
BA466 Business Policy	3
FN341 Managerial Fin	4
Electives	4
	<u>15</u>

*Suggested humanities and natural science electives are art and music appreciation, BL105 and physical geography.

Hospitality Hotel/Restaurant Management Concentration

Business Core (44 Credits)

AC132 Prin of Acct I	4
AC133 Prin of Acct II	4
BA211 Business Statistics	3
BA231 Bus Comm	3
BA254 Business Law I	3
BA466 Business Policy	3
DP264 Intro to Data Proc	3
EC201 Prin of Macroeconomics*	3
EC202 Prin of Microeconomics*	3

FN341 Managerial Finance	4
MK281 Mktg Prin and Strategy	4
MN370 Mgmt Prin and HR Conc	4
MA111 College Algebra**	3

Major Requirements (48 credits)

HS102 Hist of World Civ II	4
GG306 Cultural Geography	3
HT121 Intro to Hosp Industry	4
HT291 Hotel and Rest Mgmt	37

*May count toward Social Science General Education Requirement

**May count toward B.S. Degree Requirement

General Education Requirements and sufficient elective credits must be completed such that at least 128 semester credits have been earned.

**FIRST YEAR: B.S. DEGREE, BUSINESS ADMINISTRATION,
HOSPITALITY HOTEL/RESTAURANT MANAGEMENT**

FALL

EN110	Freshman Comp*	3
MA111	College Algebra	3
AC132	Prin Accounting I	4
HT291	Hotel & Rest Mgt	3
HT121	Intro Hospitality	4
		<u>17</u>

SPRING

SD101	Fund of Speech	3
HS102	Hist of World Civ	4
RA	Elective	1
AC133	Prin Accounting II	4
HT291	Hotel & Rest Mgt	5
		<u>17</u>

SECOND YEAR

HU	Elective*	4
HT291	Hotel & Rest Mgt	10
DP264	Intro Data Proc	3
		<u>17</u>

RA	Elective	1
EN210 or 215	Res Pap/Lit	3
HT291	Hotel & Rest Mgt	10
		<u>14</u>

THIRD YEAR

MN370	Mgt Prin & HR Conc	4
NS	Elective*	4
EC201	Macroeconomics	3
HT291	Hotel & Rest Mgt	5
		<u>16</u>

NS	Elective*	4
EC202	Microeconomics	3
MK281	Mktg Prin & Strat	4
HT291	Hotel & Rest Mgt	4
		<u>15</u>

FOURTH YEAR

BA211	Business Stat	3
BA254	Business Law I	3
BA231	Business Comm	3
	Electives	6
		<u>15</u>

GG306	Cultural Geography	3
BA466	Business Policy	3
FN341	Managerial Finance	4
HU	Elective**	4
	Elective	3
		<u>17</u>

*English composition may be taken either Fall or Spring semester

**Suggested humanities and natural science electives are art and music appreciation, BL105 and physical geography.

(Hotel-Restaurant Management courses must be approved by coordinator of hospitality and taken at Sault College or transferred).

□ Hospitality/Recreation Concentration

Business Core (44 Credits)

AC132	Principles of Accounting I	4
AC133	Principles of Accounting II	4
BA211	Business Statistics	3
BA231	Business Communications	3
BA254	Business Law I	3
BA466	Business Policy	3
DP264	Intro to Data Proc	3

EC201	Prin of Macroeconomics*	3
EC202	Prin of Microeconomics*	3
FN341	Managerial Finance	4
MK281	Mktg Prin and Strategy	4
MN370	Management Principles and Human Resource Concepts	4
MA111	College Algebra**	3

Major Requirements (48 credits)

HS102 History of World Civ II**	4
GG306 Cultural Geography*	3
HE181 First Aid	1
RC101 Intro to Rec & Leisure Serv	3
RC105 Program Dev Leadership in Recreation/Leisure Services	3
RC295 Practicum	2
RC390 Rec Ldrship Apprenticeship	1

RC482 Admin of Rec/Leisure Service	3
HT121 Intro to Hosp Industry	4
HT231 Destinations - World	3
HT231 Destinations - Electives	4
HT321 Trvl-Trsm Plng/Dev I	3
HT322 Trvl-Trsm Plng/Dev II	3
HT421 Trvl-Trsm Cases	3
HT441 Internship - Trvl and Trsm	8

*May count toward Social Science General Education Requirement

**May count toward B.S. Degree Requirement

General Education Requirements and sufficient elective credits must be completed such that at least 128 semester credits have been earned.

**FIRST YEAR: B.S. DEGREE, BUSINESS ADMINISTRATION,
HOSPITALITY/RECREATION**

FALL

NS Elective*	4
RA Elective	1
MA111 College Algebra	3
AC132 Prin Accounting I	4
HT121 Intro Hospitality	4
	<hr/>
	16

SPRING

EN110 Freshman Comp	3
SD101 Fund of Speech	3
NS Elective*	4
RA Elective	1
AC133 Prin Accounting II	4
	<hr/>
	15

SECOND YEAR

EN210 or 215 Res Pap/Lit Res	3
HT231 Destinations - World	3
RC101 Int to Rec & Leisure	3
EC201 Macroeconomics	3
DP264 Intro Data Proces	3
	<hr/>
	15

HS102 History of World Civ II 4	
MK281 Mktg Prin & Strategy	4
EC202 Microeconomics	3
RC105 Prog Dev & Leadership 3	
Elective	3
	<hr/>
	17

THIRD YEAR

HU Elective*	4
BA231 Bus Communications	3
HT231 Destinations	2
HT321 Travel-Tourism Plan I	3
RC295 Practicum	2
HE181 First Aid	1
	<hr/>
	15

HU Elective*	4
MN370 Management Principles & Human Resource Conc	4
HT322 Travel Tourism Plan II	3
GG306 Cultural Geography	3
HT231 Destinations	2
	<hr/>
	16

FOURTH YEAR

RC482 Adm of Rec & Leisure	3
BA211 Bus Statistics	3
BA254 Business Law I	3
HT421 Travel-Tourism Cases	3
HT441 Internship	4
RC390 Rec Leader App	1
	<hr/>
	17

BA466 Business Policy	3
FN341 Managerial Finance	4
Electives	6
HT441 Internship	4
	<hr/>
	17

*Suggested humanities and natural science electives are art and music appreciation, BL105 and physical geography.

□ Management concentration

A broad survey of all phases of business operations for students

1. planning to operate their own business who seek a broad business background;
2. preparing for jobs in large organizations with training programs in which specialization is taught after employment; and
3. those who desire a general business background at the undergraduate level prior to taking more specialized graduate work. This program provides breadth of preparation rather than specialization but with sufficient flexibility to permit students to emphasize such professional fields as personnel management, production management, or the broad aspects of management philosophy and practice.

Business Core (44 Credits)	
AC132 Prin of Acct I	4
AC133 Prin of Acct II	4
BA211 Business Statistics	3
BA231 Bus Comm	3
BA254 Business Law I	3
*BA466 Business Policy	3
DP264 Intro to Data Proc	3
EC201 Principles of Macroeconomics*	3
EC202 Principles of Microeconomics*	3
FN341 Managerial Finance	4
MK281 Mktg Prin and Strategy	4
MN370 Mgmt Prin and HR Conc	4
MA111 College Algebra**	3

Major Requirements (38 credits)	
BA255 Business Law II	3
AC332 Cost Accounting I	4
MN469 Collective Bargaining	3
MN451 Labor Law	4
MN461 Management Simulation	3
MN464 Org Behav in Business	4
MN471 Prod & Operations Mgmt	5
Business electives	12
*May count toward Social Science General Education Requirement	
**May count toward B.S. Degree Requirement	
General Education Requirements and sufficient elective credits must be completed such that at least 128 semester credits have been earned.	

FIRST YEAR: BACHELOR OF SCIENCE DEGREE, BUSINESS ADMINISTRATION-MANAGEMENT CONCENTRATION

FALL

EN110 Freshman Comp*	3
AC132 Prin Accounting I	4
MA111 College Algebra	3
NS Elective	3
SD101 Fund of Speech	3
	16

SPRING

AC133 Prin Accounting II	4
DP264 Intro Data Proc	3
NS Elective	3
HU Elective	4
RA Elective	1
	15

SECOND YEAR

EN210 or 215 Res Pap/Lit*	3
BA254 Business Law I	3
EC201 Macroeconomics	3
MK281 Mktg Prin & Strat	4
Elective	3
	16

BA255 Business Law II	3
EC202 Microeconomics	3
BA231 Bus Comm	3
BA211 Business Stat	3
Elective	3
RA Elective	1
	16

THIRD YEAR

AC332 Cost Accounting I	4
Soc Sci Elective	3
MN370 Mgt Prin & HR Conc	4
NS Elective	3
Business Elective	3
	<u>17</u>

FN341 Managerial Finance	4
Business Elective	3
Elective	3
HU Elective	4
NS/MA/SS Elective	3
	<u>17</u>

FOURTH YEAR

MN451 Labor Law	4
MN464 Org Behav in Bus	4
MN471 Prod Opr Mgt	5
Business Elective	3
	<u>16</u>

MN469 Collective Barg	3
BA466 Business Policy	3
Business Elective	3
MN461 Mgmt Simulation	3
Elective	3
	<u>15</u>

*English composition may be taken either Fall or Spring semester

Marketing concentration

Marketing prepares students for a career in problem solving/sales, advertising, distribution, marketing research and product development, consumer services, marketing management, and other careers. Through proper selection of courses, students may place emphasis upon preparation for a career in:

1. sales and sales management;
2. retail management;
3. purchasing and industrial procurement; or
4. international business, or may choose to obtain a broad background in the field as preparation for a career with a marketing organization which provides its own training program.

Business Core (44 Credits)

AC132 Principles of Accounting I	4
AC133 Principles of Accounting II	4
BA211 Business Statistics	3
BA231 Business Communications	3
BA254 Business Law I	3
BA466 Business Policy	3
DP264 Intro to Data Processing	3
EC201 Prin of Macroeconomics	3
EC202 Prin of Microeconomics	3
FN341 Managerial Finance	4
MK281 Mktg Prin and Strategy	4
MN370 Mgmt Principles and Human Resource Conc	4
MA111 College Algebra**	3

Major Requirements (31 credits)

BA255 Business Law II	3
MN464 Organ Behavior in Bus	4
MK283 Principles of Selling	3
MK285 Retail Management	3
MK287 Adv Theory and Practice	3
MK480 Marketing Research	3
MK486 International Marketing	3
MK Electives	9

*May count toward Social Science General Education Requirement

**May count toward B.S. Degree Requirement

General Education Requirements and sufficient elective credits must be completed such that at least 128 semester credits have been earned.

FIRST YEAR: BACHELOR OF SCIENCE, BUSINESS ADMINISTRATION-MARKETING

FALL

EN110 Freshman Comp*	3
AC132 Prin Accounting I	4
MA111 College Algebra	3
NS Elective	3
SD101 Fund of Speech	3
	16

SPRING

AC133 Prin Acct II	4
DP264 Intro Data Proc	3
NS Elective	3
HU Elective	4
RA Elective	1
	15

SECOND YEAR

EN210 or 215 Res Pap/Lit*	3
BA254 Business Law I	3
EC201 Macroeconomics	3
MK281 Mktg Prin & Strat	4
MK283 Selling	3
	16

MK287 Advertising	3
BA255 Business Law II	3
EC202 Microeconomics	3
BA231 Bus Comm	3
MK285 Retail Mgmt	3
RA Elective	1
	16

THIRD YEAR

MN370 Management Prin & Human Resource Conc	4
MK Elective	3
BA211 Business Stat	3
NS Elective	3
HU Elective	4
	17

FN341 Managerial Fin	4
MK Elective	3
Soc Sci Elective	3
Electives	6
	16

FOURTH YEAR

MK486 International Mktg	3
MK Elective	3
SS/NS/MA Elective	3
Electives	7
	16

MN464 Org Beh in Bus	4
BA466 Business Policy	3
MK480 Marketing Res	3
Electives	6
	16

*English composition may be taken either Fall or Spring semester

□ Office Administration concentration

Prepares students for positions as office managers, administrative assistants, word (information) processing specialists, or records managers. Responsible office administration positions are going more to those with university training. These individuals have, in addition to office skills, training in business administration, social science, business communications, economics, computerized office systems, information processing and records management which helps them to function effectively.

Office Administration Concentration

Business Core (44 Credits)

AC132	Principles of Accounting I	4
AC133	Principles of Accounting II	4
BA211	Business Statistics	3
BA231	Business Communications	3
BA254	Business Law I	3
BA466	Business Policy	3
DP264	Intro to Data Processing	3
EC201	Prin of Macroeconomics	3
EC202	Prin of Microeconomics	3
FN341	Managerial Finance	4
MK281	Mktg Prin and Strategy	4
MN370	Mgmt Principles and Human Resource Concepts	4
MA111	College Algebra**	3

Major Requirements (44 credits)

PY228	Organizational Behavior**	3
BA201	Professional Development	3
BA226	Records Management	3
BA255	Business Law II	3
DP225	Word Proc Techniques	3
DP230	Word Proc Applications	3
MN464	Organ Behavior in Bus	4
OA111	Keybrdg/Doc Formatting I	3
OA112	Keyboard Skillbuilding	2-4
OA113	Document Formatting II	2
OA121	Shorthand I	3
OA221	Shorthand/Mchn Transaction	3
	Business Electives***	7-9

*May count toward Social Science General Education Requirement

**May count toward B.S. Degree Requirement

General Education Requirements and sufficient elective credits must be completed such that at least 128 semester credits have been earned.

***Business Electives (7-9)

MN451	Labor Law	4
MN469	Coll Bargaining	3
AC421	Fed Taxation Acct I	3

DP151	Comp Applications	1-4
BA261	Business Skills	1-4
OA227	Med Office Proc	3
OA228	Legal Office Proc	3

FIRST YEAR: B.S., BUSINESS ADMINISTRATION-OFFICE ADMINISTRATION CONCENTRATION

FALL

AC132	Prin Accounting I	4
OA111	Keyboarding	3
OA112	Skillbuilding	2
OA121	Shorthand I	3
EN110	Freshman Comp*	3
RA Elective		<u>1</u>
		16

SPRING

AC133	Prin Accounting II	4
OA112	Skillbuilding	2
OA113	Formatting II	2
BA201	Prof Development	3
SD101	Fund of Speech	3
NS Elective		<u>3</u>
		17

SECOND YEAR

EN210 or 215	Res Pap/Lit*	3
DP225	Word Proc Tech	3
BA254	Business Law I	3
EC201	Macroeconomics	3
OA221	Transcription	<u>3</u>
		15

BA231	Bus Comm	3
DP230	Word Proc App	3
BA255	Business Law II	3
EC202	Microeconomics	3
BA226	Records Mgmt	3
RA Elective		<u>1</u>
		16

THIRD YEAR

MA111 College Algebra	3	NS Elective	3
PY228 Org Behavior	3	BA211 Bus Statistics	3
DP264 Intro Data Proc	3	MN464 Organizational Behavior in Business	4
MK281 Mktg Prin & Strat	4	Designated Bus Elect	3
MN370 Management Principles & Human Resource Conc	4	Elective	2
	<u>17</u>		<u>15</u>

FOURTH YEAR

HU Elective	4	BA466 Business Policy	3
Designated Bus Elect	2	HU Elective	4
Elective	3	Designated Bus Elect	2
FN341 Managerial Fin	4	Elective	4
NS Elective	3	SS/MA/NS Elective	3
	<u>16</u>		<u>16</u>

*English composition may be taken either Fall or Spring Semester

BACHELOR OF SCIENCE FINANCE and ECONOMICS

THE STUDY of finance and economics affords an opportunity for the student to acquire a general knowledge of business and economic systems. Specialized courses are included to develop ability in the use of the tools of economic and financial theory and analysis. To deal with the advances in sophistication and rigor in this discipline, students are required to take calculus. The program prepares students for careers in business, government service, education, and graduate study.

Business Core (44 Credits)

AC132 Principles of Accounting	4
AC133 Principles of Accounting II	4
BA211 Business Statistics	3
BA231 Business Communications	3
BA254 Business Law I	3
BA466 Business Policy	3
DP264 Intro to Data Processing	3
EC201 Prin of Macroeconomics	3
EC202 Prin of Microeconomics	3
FN341 Managerial Finance	4
MK281 Mktg Prin and Strategy	4
MN370 Mgmt Principles and Human Resource Concepts	4
MA111 College Algebra	3

Major Requirements (41 credits)

BA255 Business Law II	3
EC304 Money, Banking and Monetary Policy*	3
EC305 Public Finance	3
EC408 International Economics**	3
EC308 Inter Microeconomics	3
EC309 Inter Macroeconomics	3
FN446 Fin Anal and Policy	4
FN448 Investment Strategy	4
MA112 Calc for Bus & LS**	4
EC/FN/AC Electives	11

*May count toward Social Science General Education Requirement

**May count toward B.S. Degree Requirement

General Education requirements and sufficient elective credits must be completed such that at least 124 semester credits have been earned.

FIRST YEAR BACHELOR OF SCIENCE, FINANCE AND ECONOMICS

FALL

EN110 Freshman Comp*	3
MA111 College Algebra	3
NS Elective	4
AC132 Prin Accounting I	4
RA Elective	1
	<u>15</u>

SPRING

SD101 Fund of Speech	3
MA112 Calculus for Business & Life Science	4
NS Elective	4
AC133 Prin Accounting II	3
RA Elective	1
	<u>15</u>

SECOND YEAR

EN210 or 215 Res Pap/Lit*	3
HU Elective	4
EC201 Macroeconomics	3
BA254 Business Law I	3
DP264 Data Processing	3
	<u>16</u>

BA211 Bus Statistics	3
HU Elective	4
EC202 Microeconomics	3
BA255 Business Law II	3
Free Elective	3
	<u>16</u>

THIRD YEAR

FN341 Managerial Fin	4
EC309 Intermediate Macroeconomics	3
BA231 Bus Comm	3
Free Electives	6
	<u>16</u>

FN448 Invest Strategy	4
EC304 Money, Banking & Monetary Policy	3
MK281 Mktg Prin & Strat	4
EC/FN/AC Elective	4
	<u>15</u>

FOURTH YEAR

EC308 Intermediate Microeconomics	3
EC408 Int'l Economics	3
MN370 Management Principles & Human Resource Conc	4
EC/FN/AC Elective	3
Free Elective	3
	<u>16</u>

EC305 Public Finance	3
FN446 Fin Anal & Policy	4
BA466 Business Policy	3
EC/FV/AC Elective	4
RA Elective	1
	<u>15</u>

*English composition may be taken either Fall or Spring semester

ASSOCIATE DEGREE BUSINESS ADMINISTRATION

This Program prepares students for entry level positions in industry and government requiring two years of college level business preparation. The program is oriented toward marketing and should be of special interest to individuals seeking careers in marketing or as management trainees in retail organizations. The degree program is transferable into a four-year program in Business Administration.

ASSOCIATE DEGREE, BUSINESS ADMINISTRATION

General Education Requirements

EN110	Freshman Composition	3
EN210	Research Paper Process	
	or	3
EN215	Intro to Lit and Res	
SD101	Fundamentals of Speech	3
PY101	Foundations of Psychology	
	or	3
PY228	Organizational Behavior	
RA	Recreational Activity elective	1
RA	Recreational Activity elective	1
EC202	Prin of Microeconomics	3

Departmental Requirements

AC132	Principles of Accounting I	4
BA231	Business Communications	3
BA254	Business Law I	3
BA255	Business Law II	3
FN245	Prin of Finance	
	or	3-4
FN341	Mgr Finance	
MK281	Mktg Prin and Strategy	4
MK283	Principles of Selling	3
MK285	Retail Management	3
MK287	Adv Theory and Practice	3
MN370	Mgmt Principles & Human Resource Concepts	4
BA105	Business Mathematics	3
DP151	Computer Applications	3

Sufficient elective credits must be completed such that at least 62 semester credits have been earned.

FIRST YEAR: ASSOCIATE, BUSINESS ADMINISTRATION

FALL

AC132	Prin Accounting I	4
EN110	Freshman Comp	3
PY101 or PY228		3
BA105	Business Math	3
Elective		3
		<u>16</u>

SPRING

SD101	Fund of Speech	3
MK287	Adv Thry & Pract	3
MK285	Retail Management	3
EC202	Microeconomics	3
DP151	Electives	3
		<u>15</u>

SECOND YEAR

MK283	Prin of Selling	3
MK281	Mktg Prin & Strat	4
EN210 or 215 Res Pap/Lit		3
FN245	Prin of Finance	3
BA254	Business Law I	3
		<u>16</u>

MN370	Mgmt Principles & Human Resource Conc	4
BA231	Bus Comm	3
RA	Elective	1
RA	Elective	1
BA255	Business Law II	3
Electives		3
		<u>15</u>

*English composition may be taken either Fall or Spring semester.

ASSOCIATE DEGREE BUSINESS DATA PROCESSING

This Program is designed to provide students with a knowledge of data processing techniques that will enable them to apply these techniques to a wide range of business problems. The program provides the student with an understanding of the basic functional areas of business; an ability to operate and program data processing equipment; a basic understanding of the fundamentals of accounting and mathematics as they apply to computer usage; and preparation for advanced study. After completing this program, the student may transfer into the corresponding four-year program without loss of

credit. The Program is intended to prepare students for entry-level employment in the data processing field.

General Education Requirements

EN110	Freshman Composition	3
EN210	Research Paper Process	
	or	3
EN215	Intro to Literature & Research	
SD101	Fundamentals of Speech	3
EC201	Principles of Macroeconomics	
	or	3
EC202	Principles of Microeconomics	
PY101	Found of Psychology	
	or	4
PY228	Organizational Behavior	
	or	4
PY383	Industrial Psychology	
	or	3-4
PY396	Tests and Measure	
RA	Recreational Activity elective	1
HU	Humanities elective	3-4

Departmental Requirements

AC132	Principles of Accounting I	4
AC133	Principles of Accounting II	4
BA231	Business Communications	3
MN370	Mgmt Principles & Human Resource Concepts	4
MK281	Mktg Prin and Strategy	4
DP264	Intro to Data Processing	3
DP275	COBOL Programming I	3
DP276	COBOL Programming II	3
DP269	RPG II Programming	3
DP366	Database Prog Devel	3
DP368	Sftwr and Hrdwr Concepts	3
DP	elective	3

Sufficient elective credits must be completed such that at least 63 semester credits have been earned.

FIRST YEAR: ASSOCIATE, BUSINESS DATA PROCESSING

FALL

EN110	Freshman Comp*	3
AC132	Prin Accounting I	4
DP264	Intro Data Proces	3
DP275	COBOL I	3
SD101	Fund of Speech	3
		<u>16</u>

SPRING

AC133	Prin Accounting II	4
DP276	COBOL Prog II	3
DP269	RPG II	3
PY	Designated Elective	3-4
	Free Elective	3
		<u>16-17</u>

SECOND YEAR

EN210 or 215	Res Pap/Lit*	3
MK281	Mktg Prin & Strat	4
DP366	Database Prog Dev	3
MN370	Management Principles & Human Resource Conc	4
RA	Elective	1
		<u>15</u>

HU	Elective	3-4
BA231	Bus Comm	3
DP368	Sftwr/Hrdwr Conc	3
EC201	Macroeconomics	
	or	3
EC202	Microeconomics	
DP	Elective	3
		<u>15-16</u>

*English Composition may be taken either Fall or Spring semester

ASSOCIATE DEGREE OFFICE ADMINISTRATION

This Program is designed for students seeking a career as an administrative assistant, word processors, corresponding secretary, or office supervisor. Good basic writing skills are required.

General Education Requirements		
EN110	Freshman Composition	3
EN210	Research Paper Process	
	or	3
EN215	Intro to Literature & Research	3
SD101	Fundamentals of Speech	3
	General education electives	6

Departmental Requirements		
BA201	Professional Development	3
BA226	Records Management	3
BA231	Business Communications	3
BA121	Introduction to Business	3
BA105	Business Mathematics	3
DP225	Word Proc Techniques	3
DP230	Word Proc Applications	3
DP264	Intro to Data Processing	3
OA111	Keybrdg/Doc Formating I	3
OA112	Keyboard Skillbuilding	2-4
OA113	Document Formatting II	2

OA121	Shorthand I	3
OA221	Shrthnd/Mach Trans	3
AC132	Principles of Accounting I	
	or	4
OA119	Accounting Procedures	

Business Electives (6-8) From		
OA227	Medical Office Procedures	3
OA228	Legal Office Procedures	3
MN370	Mgmt Principles & Human Resource Concepts	4
MK281	Mktg Prin & Strategy	4
DP151	Computer Applications	1-3
BA261	Business Skills	1-3
FN245	Principles of Finance	3
BA254	Business Law I	3

Sufficient elective credits must be completed such that at least 64 semester credits have been earned.

FIRST YEAR: ASSOCIATE, OFFICE ADMINISTRATION

FALL

OA111	Keyboarding	3
OA112	Skillbuilding	2
OA121	Shorthand I	3
EN110	Freshman Comp	3
BA105	Business Math	3
BA121	Intro to Business	3
		17

SPRING

OA112	Skillbuilding	2
OA113	Formatting II	2
DP264	Intro to Data Proc	3
BA201	Prof Development	3
SD101	Fund of Speech	3
	Designated Bus Elective	3
		16

SECOND YEAR

EN210 or 215	Res Pap/Lit	3
DP225	Word Proc Tech	3
OA119	Accounting Proc	
	or	4
AC132	Prin Accounting I	
OA221	Shthnd Mach Trans	3
	General Ed Elective	3
		16

BA231	Business Comm	3
DP230	Word Proc Appl	3
BA226	Records Mgmt	3
	Designated Business Elective	3
	General Ed Elective	3
		15

ASSOCIATE DEGREE TECHNICAL ACCOUNTING

This Program is designed for the student who does not plan to go to college for four years but desires a working knowledge in the field of accounting. The program provides students with knowledge in the accounting techniques used in modern business. Emphasis is on business administration courses in addition to accounting such as economics, business law, data processing, and business communications. After completing this program, the student may transfer to the four year program without loss of credit.

General Education Requirements	
EN110 Freshman Composition	3
SD101 Fundamentals of Speech	3
EN210 Research Paper Process	3
or	3
EN215 Intro to Literature & Research	3
MA092 Intermediate Algebra	3
or	3
MA111 College Algebra	3
EC201 Principles of Macroeconomics	3
or	3
EC202 Principles of Microeconomics	3
General Education Elective	3

Departmental Requirements	
AC132 Principles of Accounting I	4
AC133 Principles of Accounting II	4
AC232 Intermediate Accounting I	4 ✓
AC233 Intermediate Accounting II	4 ✓
AC332 Cost Accounting I	3
DP264 Intro to Data Processing	3 ✓
BA231 Business Communications	3 ✓
BA254 Business Law I	3 ✓
AC421 Federal Taxation Acct I	3 ✓
DP151 Computer Applications	2 ✓
FN245 Prin of Finance	3-4 ✓
or	3-4 ✓
FN341 Mgr Finance	3-4 ✓

Sufficient elective credits must be completed such that at least 64 semester credits have been earned.

FIRST YEAR: ASSOCIATE, TECHNICAL ACCOUNTING

FALL

AC132 Prin Accounting I	4
EN110 Freshman Comp	3
Electives	6
MA111 College Algebra*	3
	16

SPRING

BA254 Business Law I	3
AC133 Prin Accounting II	4
SD101 Fund of Speech	3
DP264 Intro Data Proc	3
Elective	3
	16

SECOND YEAR

AC232 Intermed Acctg I	4
AC332 Cost Accounting I	4
AC421 Fed Tax Acct I	3
EN210 or 215 Res Pap/Lit	3
FN245 Prin of Finance	3
	17

AC233 Inter Acct II	4
BA231 Bus Comm	3
EC201 Prin of Macroeconomics	3
or	3
EC202 Prin of Microeconomics	3
General Education Elective	3
DP151 Electives	2
	15

*College Algebra recommended; intermediate algebra required; MA092 credit does not apply toward 64 credits for degree.

MINOR COURSE OF STUDY

Nine minors are offered in the Department of Business and Economics. Course requirements are set out below. Elective courses are to be chosen in consultation with advisors.

ACCOUNTING-FINANCE MINOR

Total Credits Required: 24

Required Courses:

AC132 Prin of Acct I	4
AC133 Prin of Acct II	4
FN341 Managerial Finance	4
AC and FN electives	12

DATA PROCESSING MINOR

Total Credits Required: 23

Required Courses:

EC201 Principles of Macroeconomics	3
or	3
EC202 Principles of Microeconomics	3
OA119 Accounting Procedures	4
DP264 Intro to Data Processing	3
MN370 Management Principles & Human Resource Conc	4
DP275 COBOL Programming I	3
DP276 COBOL Programming II	3
DP269 RPG II Programming	3
or	3
DP366 Database Prog Development	3

ECONOMICS MINOR

Total Credits Required: 21

Required Courses:

EC201 Prin of Macroeconomics	3
EC202 Prin of Microeconomics	3
EC308 Inter Microeconomics	3
EC309 Inter Macroeconomics	3
EC Electives	9

ECONOMICS-FINANCE MINOR

Total Credits Required: 28

Required Courses:

AC132 Prin of Acct I	4
AC133 Prin of Acct II	4
EC201 Prin of Macroeconomics	3
EC202 Prin of Microeconomics	3
FN341 Managerial Finance	4
EC or FN electives	10

GENERAL BUSINESS MINOR

Total Credits Required: 26

Required Courses:

AC132 Prin of Accounting I	4
or	4
OA119 Accounting Procedures	4
MN370 Management Principles & Human Resource Conc	4
MK281 Mktg Prin & Strat	4
EC201 Prin of Macroeconomics	3
EC202 Prin of Microeconomics	3
FN245 Principles of Finance	3-4
or	3-4
FN341 Managerial Finance	4-5
Business Electives	4-5

HOSPITALITY AND TRAVEL/TOURISM MINOR

Total Credits Required: 20

Required courses:

HT121 Intro to Hospitality Ind	4
HT231 World Destination	3
HT231 Destination Elective	4
HT321 Trvl/Trsm Plng/Dev I	3
HT322 Trvl/Trsm Plng/Dev II	3
HT421 Trvl & Trsm Cases	3

INDUSTRIAL RELATIONS MINOR

Total Credits Required: 29

Required Courses:

EC201 Prin of Macroeconomics	3
EC202 Prin of Microeconomics	3
BA254 Business Law I	3
MN370 Management Principles & Human Resource Conc	4
MN451 Labor Law	4
MN469 Collective Bargaining	3
PY228 Organizational Behavior	3
PY396 Tests and Measurements	3
PY203 Counseling Theory and Process	3
or	3
PY383 Industrial Psychology	3

MARKETING MINOR

Total Credits Required: 22

Required Courses:

MK281	Mktg Prin & Strat	4
MK283	Princ of Selling	3
MK287	Adv Thy & Pract	3
MK384	Physical Distribution	
	or	3
MK386	Materials Mgmt	
MK	Electives	6
EC202	Prin of Microeconomics	3

OFFICE ADMIN MINOR

Total Credits Required: 25

Required Courses:

OA121	Shorthand I	3
OA221	Shrhnd/Mach Trans	3
DP225	Word Proc Techniques	3
BA226	Records Management	3
DP230	Word Proc Applications	3
BA121	Intro to Business	3
DP264	Intro to Data Processing	3
OA119	Accounting Procedures	
	or	4
AC132	Principles of Accounting I	

NOTES



Photo by Liz Raffaele

COMPUTER, GEOLOGIC AND MATHEMATICAL SCIENCES

COMPUTER, GEOLOGIC AND MATHEMATICAL SCIENCES

DEPARTMENTAL FACULTY: Head, Prof. Gary Thesing; Profs. Bernard Arbic, Lewis Brown, David Knowles, Thomas Mickewich, Charles R. Mullin, Paul Wilson and Richard Zabelka; Assoc. Profs. Thomas Boger, Mieczyslaw Gutowski; Asst. Profs. Janina Gutowska, Galen Harrison and Randall Suggitt; Instrs. Kenneth Hatfield, Mark Terwilliger; Dean Emeritus C. Ernest Kemp.

COMPUTER SCIENCE

In recent years, a quiet revolution has taken place. The computer has moved out of the back room of large corporations and research institutions into the front offices and living rooms of modern society. Computer scientists work at the leading edge of this revolution, developing software systems that allow us to utilize the electronic hardware the engineers have built. The work is challenging, and often frustrating, but is ultimately very rewarding.

THE DEPARTMENT offers a Bachelor of Science In Computer and Mathematical Sciences that combines a study of digital computing with the study of mathematical concepts. The resulting program provides students with considerable versatility and potential for future endeavors in which practical quantitative skills are important. A **MINOR** in computer science is also available to provide excellent support and value to most majors offered at the University.

ENTRANCE REQUIREMENTS:

To qualify for admission to the program in computer and mathematical sciences, applicants must satisfy University admission requirements as described in the Admissions section of this Catalog. (This information is also included in the Viewbook.)

Secondary school academic subjects should include: Three units of English, two units of algebra, one unit of geometry. It is strongly recommended that applicants have a fourth unit of college-preparatory mathematics which includes one-half unit of trigonometry. A unit of chemistry or physics is also recommended.

Completion of the program may require more than four years for students who do not meet all entrance requirements.

For students with college-level achievement, the opportunity will be offered, by means of examination, to obtain course credit or placement into an advanced course.

BACHELOR OF SCIENCE COMPUTER AND MATHEMATICAL SCIENCES

Computer Science (24 credits)

CS111 Intro to Comp Sci I	3
CS112 Intro to Comp Sci II	3
CS205 Comp Org and Arch	3
CS212 File & Database Mgmt	3
CS333 Systems Programming	3
CS334 Operating Systems Conc	3
CS411 Prog Language Concepts	3
CS418 Software Engineering	3

Mathematics (22 Credits)

MA151 Calculus I	4
MA152 Calculus II	4
MA215 Fund Conc of Math	3
MA216 Disc Math. & Prob Solv	3
MA261 Intro to Num Methods	2
MA305 Computational Lin Alg	3
MA308 Prob and Math. Statistics	3

Computer Science or Mathematics Electives (6 credits)

CS340 Computer Simulation	3
or	
MA401 Mathematical Modeling	
CS401 Automata, Lang & Computability	3
or	
MA341 Abstract Algebra I	

Additionally, a student is required to satisfy one of the following:

1. A minor (from any discipline), or
2. Thirty six or more credits at the 300 or 400 levels (from any discipline, including CS and MA courses required above).

Elective credits, approximately twenty six, and General Education requirements must be completed such that at least 124 semester credits have been earned.

A sample four-year schedule of courses for this program follows. Numerous options for completing the program are possible and students will select these with assistance of their advisor.

FIRST YEAR: BACHELOR OF SCIENCE, COMPUTER & MATHEMATICAL SCIENCES

FALL

CS111 Intro. to C.S. I	3
MA151 Calculus I	4
EN110 Freshman Comp.*	3
Soc. Sci. Elective	4
RA Elective	1
	15

SPRING

CS112 Intro. to C.S. II	3
MA152 Calculus II	4
Soc. Sci. Elective	4
RA Elective	1
Elective	3
	15

SECOND YEAR

CS205 Comp Org & Arch	3
MA215 Fund. Conc. Math	3
EN210 Res Pap Process**	3
Nat. Sci. Elective	4
CS210 COBOL Prog***	3
	16

CS212 File & Dtbse Mgmt	3
MA216 Disc Mth Prb Solv	3
Nat. Sci. Elective	4
SD101 Fund. of Speech	3
Elective	3
	16

THIRD YEAR

CS333 Systems Prog	3
MA261 Numerical Meth	2
Humanities Elective	4
Electives	7
	16

CS334 Operating Sys Conc	3
MA305 Comp Linear Alg	3
Humanities Elective	4
Electives	6
	16

FOURTH YEAR

CS418 Software Eng.	3
CS321 Comp Graphics ***	3
MA308 Prob & Math Stats	3
MA341 Abstract Algebra I	
or	3
CS401 Automata, Lang. & Computability	
Elective	$\frac{3}{15}$

CS411 Prog. Lang. Conc.	3
CS340 Computer Simulation	
or	3
MA401 Math Modeling	
Electives	$\frac{9}{15}$

*EN110 may be taken in Spring semester

**EN205 or EN215 also acceptable

***Suggested electives

GEOLOGY

SINCE THE BEGINNING of the solar system our earth has been developing. Our present environment is the result of the cumulative interaction of many dynamic physical, chemical and biological processes.

GEOLOGY deals with the dynamic earth, its physical makeup, and its physical and organic history. It involves the study of changes which have taken place and the forces which cause, and are now causing, these changes. By drawing on concepts of biology, chemistry, mathematics and physics geologists attempt to understand the physical environment in which we live and from which we derive most of the natural resources essential to our civilization. Our civilization requires many

non-renewable natural resources in order to survive. Since the turn of the century, we have used more and more of these resources at an ever-increasing rate and now have critical supply problems. Our demands upon the environment have significantly changed the earth around us, and, if we are to survive, we must live within the constraints imposed by nature. Geologists study and understand these constraints. They must apply their knowledge to achieve harmony between the human race and its environment.

BACHELOR OF SCIENCE GEOLOGY

GEOLOGY HAS A BROAD scientific base in mathematics, physics, biology and chemistry as well as emphasizing fundamentals

of geologic science and geophysics. Increases in the demand for energy fuels and mineral products result in an expansion of opportunities for graduates in geology. Students contemplating careers in geology should, upon graduating, expect to travel, often to remote and uninhabited areas. Most of the jobs entail outdoor field work, often under difficult conditions.

Other new fields are now requiring geologists, such as NASA, EPA, and companies and agencies involved with environmental concerns. The geological environment of Lake Superior State University provides unexcelled opportunities for field study of classic sections illustrating Precambrian stratigraphy, structure, intrusions, and metamorphism and undisturbed Paleozoic sedimentary formations. Proximity to deposits of iron, copper, uranium, dolomite and the Michigan oil and gas fields as well as other minerals is an additional advantage. Students are eligible to participate in the department's active research in micropaleontology (conodonts).

ENTRANCE REQUIREMENTS:
To qualify for admission to the program in geology, applicants must

Geology (54 Credits)

GE111	Phys Geology I	4
GE112	Phys Geology II	4
GE215	Historical Geo	3
GE216	Struct Geo & Geo Grphcs	4
GE221	Crystalgrphy & Mnrlgy	4
GE222	Mnrlgy & Petrography	4
GE321	Optical Mnrlgy	3
GE422	Ign and Metamor. Petro.	3
GE423	Sed Petrography	3
GE351	Invert Paleontology I	3
GE352	Invert Paleontology II	3
GE436	Field Geology	6
GE461	Strigrphy & Sedimentation	4
GE471	Economic Geo I	3
GE472	Economic Geo II	3

satisfy University admission requirements as described in the Admissions section of the Catalog. (This information is also included in the Viewbook.)

Secondary school academic subjects should include: Three units of English, two units of algebra, one unit of geometry, and one unit of chemistry and physics. One-half unit of trigonometry is highly recommended.

Completion of the program may require more than four years for students who do not meet all entrance requirements.

For students with college-level achievement, the opportunity will be offered, by means of examination, to obtain course credit or placement into an advanced course.

Support courses (33 to 36 Credits)

CH115	General Chemistry I	5
CH116	General Chemistry II	4
CS100	Intro Microcomp Appls.	
	or	3
CS111	Intro. to Computer Science I	
MA207	Princ of Stat Methods	3
MA140 & MA141	Alg, Tch Clc I	7
	or	
MA151 and MA152:	Clc I & II	8
NS103	Env Biology	3
PH221 & PH222:	Ele of Phy I&II	8
	or	
PH231 & PH232:	Gen Phy I&II	10

Free elective credits, approximately eleven, and General Education requirements must be completed such that at least 125 semester credits have been earned.

sample four-year schedule of courses for this program follows. Numerous options for completing the program are possible and students will select these with assistance of their advisor.

FIRST YEAR: BACHELOR OF SCIENCE, GEOLOGY

FALL

EN110 Freshman Comp.*	3
MA140 Algebra for Tech.**	
or	3-4
MA151 Calculus I	
GE111 Physical Geology I	4
Soc. Sci. Elective	4
	<u>14-15</u>

SPRING

MA141 Technical Calculus I	
or	4
MA152 Calculus II	
GE112 Physical Geo II	4
Soc. Sci. Elective	4
CS100 or CS111	3
	<u>15</u>

SECOND YEAR

EN210 Res. Paper Process	3
GE215 Historical Geology	3
GE221 Cryst & Mnrlgy	4
CH115 Chemistry I	4
RA Elective	1
	<u>15</u>

GE216 Structural Geology	4
GE222 Miner. & Pet.	4
CH116 Chemistry II	4
RA Elective	1
NS103 Env Biology	3
	<u>16</u>

THIRD YEAR

GE351 Invert. Paleo. I	3
PH221 Elements of Phy I	
or	4-5
PH231 General Physics I	
Humanities Elective	4
SD101 Fund. of Speech	3
MA207 Prin of Stat Meth	3
	<u>17-18</u>

GE321 Optical Mineralogy	3
PH222 Elements of Phy II	
or	4-5
PH232 General Physics II	
GE352 Invtbrt Paintgy II	3
Humanities Elective	4
Elective	3
	<u>17-18</u>

SUMMER:

GE436 Field Geology	6
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FOURTH YEAR

GE422 Igneous & Met Pet	3
GE461 Strat. and Sedmt	4
GE471 Economic Geo I	3
Electives	6
	<u>16</u>

GE423 Sedimentary Pet	3
GE472 Economic Geo II	3
Electives	9
	<u>15</u>

*EN110 may be taken in Spring Semester

**MA109 Trigonometry and Vectors is required for students without high school trigonometry credit.

BACHELOR OF SCIENCE GEOLOGY: ENVIRONMENTAL GEOLOGY

Geology (33 Credits)

GE111 Physical Geology I	4
GE112 Physical Geology II	4
GE215 Historical Geology	3
GE216 Struct. Geol./Geol. Gr.	4
GE221 Cryst. & Mnrlgy	4
GE222 Mnrlgy & Petrography	4
GE436 Field Geology	6
GE461 Strat. & Sedimentation	4

Support Courses (56 to 59 Credits)

CH115 General Chemistry I	5
CH116 General Chemistry II	4
CH225 Organic Chemistry I	4
CH226 Organic Chemistry II	4
CH231 Quantitative Analysis	3
CH232 Instrumental Analysis	3
CS100 Intro Microcomp Appls	
or	3
CS111 Intro Comp Sci I	

Support Courses (cont)	
MA140,MA141: Alg. Tech Calc I	7-8
or	
MA151,MA152: Calculus I & II	
MA207 Prin. of Stat. Methods	
or	
MA308 Probability & Math. Stat.	3

NS103 Env Biology	3
NS107 Phy Geo Lndfrms & Soils	3
PH221,PH222: Ele of Phy I & II	
or	8-10
PH231,PH232: Gen. Physics I & II	
PH311 Princ of Hydrology	3
PH312 Grndwater Hydrology	3

Free elective credits, approximately eleven, and General Education requirements must be completed such that at least 125 semester credits have been earned.

sample four-year schedule of courses for this program follows. Numerous options for completing the program are possible and students will select these with assistance of their advisor.

FIRST YEAR: BACHELOR OF SCIENCE, GEOLOGY: ENVIRONMENTAL GEOLOGY OPTION

FALL

MA140 or MA151*	3-4
EN110 Fresh Comp**	3
GE111 Physical Geo I	4
Soc. Sci. Elective	4
RA Elective	<u>1</u>
	15-16

SPRING

MA141 or MA152	4
GE112 Physical Geo II	4
NS103 Env Biology	3
SD101 Fund. of Spch	3
RA Elective	<u>1</u>
	15

SECOND YEAR

EN205 Bsc Tch Rpt Wrt	3
CH115 Gen Chemistry I	5
GE215 Historical Geo	3
GE221 Cryst & Mnrlgy	<u>4</u>
	15

CS 100 or 111 Intro Comp	3
CH116 Gen Chemistry II	4
GE216 Strct Geo/Grphcs	4
GE222 Mnrlgy & Pet	<u>4</u>
	15

THIRD YEAR

CH225 Org Chemistry I	4
Humanities Elective	4
PH221 or PH231 (Phy)	4-5
Soc. Sci. Elective	<u>4</u>
	16-17

CH226 Org Chemistry II	4
Humanities Elective	4
PH222 or PH232 (Phy)	4-5
PH311 Prin of Hyd	<u>3</u>
	15-16

SUMMER:

GE436 Field Geology	6
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FOURTH YEAR

PH312 Grmdwtr Hyd	3
CH231 Quant Anal	3
MA207 or MA308 (Stat)	3
Electives	<u>7</u>
	16

CH232 Inst Anal	3
NS107 Lndfrms & Soils	3
GE461 Strat. and Sed.	4
Electives	<u>6</u>
	16

*MA109 Trigonometry and Vectors is required for students without high school trigonometry credit.

**EN110 may be taken in Spring Semester

BACHELOR OF SCIENCE, DUAL MAJOR ENVIRONMENTAL SCIENCE AND GEOLOGY WITH ENVIRONMENTAL GEOLOGY OPTION

Departmental Requirements (119-122) BL110 General Zoology 4 BL111 General Botany 4 BL230 Intro. to Soils 3 BL337 Gen. Ecology 3 CH115 Gen. Chemistry I 5 CH116 Gen. Chemistry II 4 CH225 Organic Chemistry I 4 CH226 Organic Chemistry II 4 CH231 Quantitative Analysis 3 CH232 Instrumental Analysis 3 CS100 Intro Microcomp Appl 3 EV101 Intro. to Env Science 3 EV249 Water Poll Control 3 EV288 Env Microbiology 4 EV311 Environmental Law 2 EV313 Solid & Hazardous Waste 3 EV395 Scientific Wrtg & Pres 1 EV499 Senior Thesis 1 GE111 Physical Geology I 4	GE112 Physical Geology II 4 GE215 Historical Geology 3 GE216 Struct Geol/Geol Graphics 4 GE221 Cryst & Mineralogy 4 GE222 Mnrlgy & Petrography 4 GE436 Field Geology 6 GE461 Strat & Sedimentation 4 ID300 Man & Environment 3 MA109 Trigonometry and Vectors 2 (may be waived by exam) MA111 Col Alg & MA112 Calc. for Bus. & Life Sc. 7-8 or MA 151-152 Calculus I and II MA207 Prin. Statistical Methods 3 PH221-PH222 Ele of Phy I and II 8-10 or PH231-PH232 General Physics I and II PH311 Principles of Hydrology 3 PH312 Groundwater Hydrology 3
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Nine credits of free electives and three credits of designated electives are required. GE112 serves as a designated elective for the Environmental Science major. A minimum of 153 semester credits is required for the dual major.

Below is a **sample** five-year schedule of courses for the double major in Environmental Science and Geology: Environmental Geology Option.

FIRST YEAR: BACHELOR OF SCIENCE, DUAL MAJOR: ENVIRONMENTAL SCIENCE AND GEOLOGY WITH ENVIRONMENTAL GEOLOGY OPTION

<i>FALL</i>	<i>SPRING</i>
CH115 Gen. Chemistry I 5	CH116 Gen. Chemistry II 4
BL110 General Zoology 4	BL111 General Botany 4
MA109 Trig. & Vectors 2	EN110 Fresh Composition 3
MA111 Coll Alg 2	MA112 Calc for Bus & Life Sci 4
or 3-4	or 4
MA151 Calculus I	MA152 Calculus II
EV101 Intro Env. Sci. 3	RA Elective 1
17-18	16

SECOND YEAR

CH225	Org. Chem I	4	CH226	Org. Chem. II	4
PH221	Ele. Physics I		PH222	Ele. Physics II	
	or	4-5		or	4-5
PH231	Gen. Physics I		PH232	Gen. Physics I	
GE111	Physical Geo I	4	GE112	Physical Geo II	4
EN205	Tch Rep Wrtg	3	EV249	Wtr. Poll Control	<u>3</u>
RA	Elective	<u>1</u>			15- <u>16</u>
		16- <u>17</u>			

THIRD YEAR

BL337	Ecology	3	EV311	Envir. Law**	2
CH231	Quant. Analysis	3	CH232	Inst. Analysis	3
GE215	Historical Geo	3	GE216	Struct Geol/Graph**	4
CS100	Intro Mcrocmp App	3	BL230	Intro. Soils	3
	Soc. Sci. Elective	<u>3</u>	MA207	Prin. Stat. Meth	<u>3</u>
		15			15

FOURTH YEAR

EV313	Sld & Haz Waste**	3	EV395	Sci. Wrtg. & Pres.	1
GE221	Cryst & Mnrlgy	4	GE222	Mineralogy & Pet.	4
SD101	Fund. of Speech	3	PH311	Hydrology**	3
	Soc. Sci. Elective	3		Soc. Sci. Elective	3
	Elective	<u>3</u>		Elective	<u>3</u>
		16			14

SUMMER:

GE436	Field Geology	6
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FIFTH YEAR

EV288	Envir Microbio	4	ID300	Man & Envir.	3
PH312	Grndwtr Hydrol.**	3	EV499	Senior Thesis	1
	Elective	3	GE461	Stratig. & Sed.**	4
	Humanities Elective	<u>4</u>		Humanities Elective	<u>4</u>
		14			12

*Prerequisite for PH221; may be waived by examination.

**Alternate year courses.

MATHEMATICS

A MOST PRODUCTIVE TOOL: Mathematics is the foundation of the sciences and the technology largely responsible for our present standard of living. Mathematics is one of the most productive tools yet discovered for unraveling the mysteries of our

universe. In some instances, it is the only language in which some ideas can be expressed. Courses offered in this discipline provide the foundation for future work in mathematics. Our teaching objectives are twofold: to give students an understanding of mathematics, and to impart an understanding of the many ways in which this tool may be used.

ENTRANCE REQUIREMENTS:

To qualify for admission to the program in mathematics, applicants must satisfy University admission requirements as described in the Admissions section of the Catalog. (This information is also included in the Viewbook.)

Secondary school academic subjects should include: Three units of English, two units of algebra, one unit of geometry. It is strongly recommended that applicants have a fourth unit of college-preparatory

mathematics which includes one-half unit of trigonometry. A unit of chemistry or physics is also recommended.

Completion of the program may require more than four years for students who do not meet all entrance requirements.

For students with college-level achievement, the opportunity will be offered, by means of examination, to obtain course credit or placement into an advanced course.

BACHELOR OF SCIENCE, MATHEMATICS

Departmental Requirements (54 credits)

CS111	Intro. Computer Science I	3
MA151	Calculus I	4
MA152	Calculus II	4
MA215	Fund. Concepts of Math	3
MA216	Disc Math & Prob Solv	3
MA251	Calculus III	4
MA261	Intro. to Num Methods	2
MA305	Comp Linear Algebra	3

MA308	Prob and Math. Statistics	3
MA341	Abstract Algebra I	3
MA421	Real Analysis I	3
MA401	Mathematical Modeling	3
	or	
MA411	Advanced Calculus	3
PH231	General Physics I	5
PH232	General Physics II	5

Six credits from MA courses numbered 300 or above. Additionally, a student is required to satisfy one of the following:

1. a minor (from any discipline), or
2. Thirty six or more credits at the 300 or 400 levels (from any discipline, including MA courses required above).

Free electives, approximately twenty five credits, and General Education requirements must be completed such that at least 124 semester credits have been earned.

A sample four-year schedule of courses for this program follows. Numerous options for completing the program are possible and students will select these with assistance of their advisor.

FIRST YEAR: BACHELOR OF SCIENCE, MATHEMATICS

FALL

EN110 Fresh Comp.*	3
MA151 Calculus I	4
Soc. Sci. Elective	4
Elective	4
	<u>15</u>

SPRING

CS111 Intro to Comp Sci I	3
MA152 Calculus II	4
Soc. Sci. Elective	4
RA Elective	1
Elective	4
	<u>16</u>

SECOND YEAR

MA215 Fund Conc Math	3
MA261 Num Methods	2
EN210 Res Pap Process**	3
Humanities Elective	4
RA Elective	1
Elective	3
	<u>16</u>

MA216 Dis Mth Prb Slv	3
MA251 Calculus III	4
Humanities Elective	4
SD101 Fund. of Speech	3
Elective	3
	<u>17</u>

THIRD YEAR

MA305 Comp Lin Alg	3
MA341 Abstract Alg. I	3
PH231 General Physics I	5
Elective	4
	<u>15</u>

MA310 Differential Eqs.	3
Natural Sci. Elect. (life)	4
PH232 General Physics II	5
Elective	4
	<u>16</u>

FOURTH YEAR

MA308 Prob & Math Stat	3
MA421 Real Analysis I	3
Electives	9
	<u>15</u>

MA401 Math Modeling	3
MA Elective	3
Electives	9
	<u>15</u>

*EN110 may be taken in Spring Semester

**EN205 or EN215 also acceptable

MINOR COURSES OF STUDY

COMPUTER SCIENCE MINOR

For a minor in computer science a total of 21 semester credits must be selected as follows:

CS111 Intro to Comp Sci I	3
CS112 Intro to Comp Sci II	3
CS205 Comp Org & Arch	3
CS212 File & Dtbse Mgmt	3

Plus three additional CS courses at the 300 or 400 level 9

Note: The mathematics prerequisite for CS111 implies that at least one mathematics course at the 100 level or above must be taken. Some CS elective courses may have additional mathematics requirements.

GEOLOGY MINOR

For a minor in geology a total of 23 semester credits must be selected as follows:

GE111 Phys Geo I	4
GE112 Phys Geology II	4
GE215 Historical Geology	3
GE216 Struct Geo/Geo Grph	4
GE221 Cryst & Mineralogy	4
GE222 Mnrlgy & Petrography	4

MATHEMATICS MINOR

For a minor in mathematics a total of at least 22 semester credits must be selected as follows:

CS111	3
MA151,152 or MA141,142	8
MA207 or MA308	3
MA215 or MA401	3
MA261 or MA305	2-3

Plus three MA elective credits from MA215, MA216 or any MA course numbered 250 or above 3

(Note that MA141 and MA151 have prerequisites which may effectively add credits to the above when these are chosen.)

NOTES



Photo by Liz Raffaele

ENGINEERING TECHNOLOGY

ENGINEERING TECHNOLOGY

FACULTY: Patrick Grounds, Department Head; Assoc. Profs. Ray Adams, Lawrence H. Bolio, D. L. Carstens, John T. Madl, David M. McDonald, Charles L. Weber, and Paul R. Duesing; Assistant Profs. Steven Gerrish, Alan Niemi, Keith E. Schwiderson, Lester Spencer, James Devaprasad, and Mike Wagner.

THE ENGINEERING TEAM: Most activities involving engineering have increased in complexity so that a team of engineering professionals is required. The size and cost of engineering endeavors have dictated the employment of professional engineers, engineering technologists, technicians and skilled craftsmen as a team. Bachelor of science degrees in engineering technology are offered at LSSU along with associate degrees in engineering technology. LSSU offers the first two years of a professional engineering program after which a student can transfer to a school of engineering. LSSU does not offer training in the skilled trades.

PROGRAMS

The education of engineering technologists focuses on application and implementation of current technologies. Engineering technology programs strive to balance the theoretical and practical aspects of engineering science. Typical job responsibilities of engineering technologists include product and process design, system design and implementation, and operations management. Graduates with bachelor of science degrees are adequately prepared for graduate studies in engineering technology.

ACCREDITATION All of the programs in Engineering Technology, both 4-year and 2-year, are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering

and Technology. The U.S. Department of Education formally recognizes this boards exclusive jurisdiction for accreditation of engineering and engineering technology education.

B.S. IN ENGINEERING TECHNOLOGY: LSSU offers Bachelor of Science degrees (4-year) programs in Electrical, Mechanical and Automated Systems Engineering Technology. These programs teach mathematics through calculus with laboratory applications.

A.D. IN ENGINEERING TECHNOLOGY: LSSU offers Associate degrees (2 year) programs in Electrical, Mechanical, Computer, and Drafting and Design Engineering Technology. These degrees qualify the graduate as a technician. A one-year certificate is also offered in Drafting and Design.

ENGINEERING TRANSFER:

The first two years of a professional engineering degree may be taken at LSSU if you are well prepared in mathematics. It is recommended that you contact the engineering school that you would like to transfer to early in your freshman year at LSSU. Each school of engineering has somewhat different requirements which will affect the exact program you take at LSSU.

Transfer Students: An evaluation of all previous course work will be made upon receipt of application.

Entrance Requirements: To qualify for admission as freshmen in engineering technology, applicants

must be graduates of accredited secondary schools with above average standing in their class. The secondary school preparation should include a four-year curriculum of at least 15 units of acceptable entrance credits. The following subjects must be included in these credits: one unit of beginning algebra, one unit of advanced algebra, and one unit of science with laboratory. An additional unit of trigonometry or geometry is strongly recommended.

Transfer of LSSU credits to engineering schools. Most engineering technology credits earned at LSSU will not transfer to professional engineering schools due to the mathematics requirements of each program.

BACHELOR OF SCIENCE Automated Systems Engineering Technology

THIS PROGRAM combines the disciplines of mechanical, electrical, computer, and manufacturing engineering technologies in preparing students for modern manufacturing and production career responsibilities.

The capstone program assumes a two-year background in an appropriate engineering technology or pre-engineering curriculum. Graduates will be prepared to design, integrate, and program various systems for automated manufacturing. Technical courses in the final two years will be based upon the student's previous background and are designed to

produce a well-rounded and versatile engineering technologist.

Students from community colleges with a background in an engineering technology curriculum can usually transfer directly into the third year of the automated systems program. Most community college programs have transfer curriculum agreements available

BACHELOR OF SCIENCE IN AUTOMATED SYSTEMS ENGINEERING TECHNOLOGY

(Following A Computer Engineering Technology Associate Degree)

Automated Systems Core Courses

(34 Credits)

AS315	Prog Logic Cont	3
AS325	Robotics in Manuf	4

AS365	Comp Control Concepts	3
AS425	Machine Vision	3
AS455	Automatic Controls	4
AS465	Sensor Tech & Appl	4

AS475 Automated Manuf Sys	3
AS485 Automated Sys Proj	3
MT331 Quality Control	3
MA240 Math. for AS	3

Support Courses (6 Credits)	
MT112 Manufacturing I	3
MT316 Stat & Str of Mat	3

In addition to the courses listed above and the CET associate degree courses, general education requirements and nine free electives must be completed for a total of at least 129 semester credits.

FIRST YEAR: BACHELOR OF SCIENCE IN AUTOMATED SYSTEMS ENGINEERING TECHNOLOGY

(and a Computer Engineering Technology Associate Degree)

FALL

MA140 Algebra for Tech	3
MA109 Trig & Vectors	2
EN110 Freshman Compos	3
CS111 Intro Comp Sci I	3
ET115 Elec Circuits I	5
	<u>16</u>

SPRING

SD101 Speech	3
MA141 Tech Calculus I	4
DT125 Electronic Drafting	2
CS112 Intro Comp Sci II	3
ET124 Electronics I	4
	<u>16</u>

SECOND YEAR

PH221 Elmts of Physics I	4
Soc Sci Elec	4
CT235 Microproc Fund	4
EN205 Tech Rep Writ	3
RA Elective	1
	<u>16</u>

PH222 Elmts of Physics II	4
CT224 Digital Electronics	4
CT236 Microcont Appl	5
MA142 Tech Calculus II	4
	<u>17</u>

THIRD YEAR

AS315 Prog Log Control	3
Free Elective	3
AS325 Robotics in Manuf.	4
MT316 Stat & Str of Mat	3
MA240 Math Auto Sys	3
	<u>16</u>

AS365 Comp Cont Conc	3
Biology	3
AS455 Automatic Controls	4
Humanities	4
RA Elective	1
	<u>15</u>

FOURTH YEAR

AS465 Sensor Tech Appl	4
AS425 Machine Vision	3
Humanities	4
MT112 Manuf Proc I	3
Free Elective	3
	<u>17</u>

AS475 Auto Mfg Sys	3
AS485 Auto Sys Proj	3
Social Science	4
MT331 Quality Control	3
Free Elective	3
	<u>16</u>

BACHELOR OF SCIENCE IN AUTOMATED SYSTEMS

(Following an Electrical Engineering Technology Associate Degree)

Automated Systems Core Courses (30 Credits)

AS325 Robotics in Manuf	4
AS365 Comp Cont Conc	3
AS425 Machine Vision	3
AS455 Automatic Controls	4
AS465 Sensor Tch & Appl	4
AS475 Automated Manuf Sys	3
AS485 Automated Sys Proj	3
MT331 Quality Control	3
MA240 Math for Auto Sys	3

Support Courses (13 Credits)

MT112 Manufacturing I	3
MT316 Stat & Str of Mat	3
MA142 Technical Calculus II	4

In addition to the courses listed above and the EET associate degree courses, general education requirements and nine free electives must be completed for a total of at least 130 semester credits.

FIRST YEAR: BACHELOR OF SCIENCE IN AUTOMATED SYSTEMS

(and an Electrical Engineering Technology Associate Degree)

FALL

MA140	Alg for Tech	3
MA109	Trig & Vectors	2
EN110	Fresh Comp	3
CS100	Intro Micro Appl	3
ET115	Elec Circ I	5
		<u>16</u>

SPRING

SD101	Fund of Speech	3
MA141	Tech Calculus I	4
DT125	Elect Drafting	2
ET116	Elect Circ II	4
ET124	Electronics I	4
		<u>17</u>

SECOND YEAR

ET244	Elect Machinery	4
PH221	Elmts of Physics I	4
ET224	Electronics II	4
CT235	Microproc Fund	4
		<u>16</u>

Soc Sci	Elective	4
PH224	Phy for Elct Tch	4
EN205	Bsc Tch Rep Writ	3
CT224	Digital Electronics	4
		<u>15</u>

THIRD YEAR

MA142	Tech Calculus II	4
	Free Elective	3
AS325	Robotics in Mfg	4
MT316	Stat & Str Mat	3
MA240	Math for Auto Sys	3
		<u>17</u>

AS365	Comp Cont Conc	3
	Biology	3
AS455	Automatic Cont	4
	Humanities	4
	Recreational Act.	1
	Recreational Act.	1
		<u>16</u>

FOURTH YEAR

AS465	Sensor Tech Appl	4
AS425	Machine Vision	3
	Humanities	4
MT112	Manuf Proc I	3
	Free Elective	3
		<u>17</u>

AS475	Auto Mfg Systems	3
AS485	Auto. Sys Proj	3
	Social Science	4
MT331	Quality Control	3
	Free Elective	3
		<u>16</u>

BACHELOR OF SCIENCE IN AUTOMATED SYSTEMS

(Following a Mechanical Engineering Technology Associate Degree)

Automated Systems Core Courses (33 Credits)

AS315	Prog Log Cont	3
AS325	Robotics in Manuf	4
AS365	Comp Control Conc	3
AS425	Machine Vision	3
AS455	Automatic Controls	4
AS465	Sensor Tech & Appl	4
AS475	Automated Manuf Sys	3
AS485	Automated Sys Proj	3
MT331	Quality Controls	3
MA240	Math for Automated Sys	3

Support Courses (10 Credits)

ET302	Electricity II	3
NS103	Env Biology	3
MA142	Tech Calculus II	4

In addition to the courses listed above and the MET associate degree courses, general education requirements and nine free electives must be completed for a total of at least 129 semester credits.

FIRST YEAR: BACHELOR OF SCIENCE AUTOMATED SYSTEMS

(and an Associate Degree in Mechanical Engineering Technology)

FALL

EN110	Freshman Comp.	3
MA140	Algebra for Tech.	3
MA109	Trig. & Vectors	2
ME104	Technical Drawing	4
MT112	Mfg. Processes I	3
MT100	Intro. Mech. Sys.	2
		<u>17</u>

SPRING

SD101	Fund. of Speech	3
MA141	Tech Calculus I	4
ME124	Basic CAD	3
MT113	Manuf Proc II	3
CH108	Applied Chemistry	4
		<u>17</u>

SECOND YEAR

PH221	Elemts of Physics I	4
MT220	Statics	3
ET201	Appl. Elect. I	3
	Social Science Elective	4
EN205	Tech. Rept. Writ.	3
		<u>17</u>

PH222	Elemts of Physics II	4
MT241	Str of Materials	4
MT253	Eng Materials	4
CT265	Intro to Tch Prog	3
		<u>15</u>

THIRD YEAR

MA142	Tech Calculus II	4
MA240	Math for Auto Sys	3
AS315	Prog Logic Cont	3
	Free Elective	3
AS325	Robotics in Mfg	4
		<u>17</u>

AS365	Comp Cont Conc	3
AS455	Automatic Cont	4
ET302	Appl Elect II	3
	Humanities	4
	Free Elective	3
		<u>17</u>

FOURTH YEAR

AS465	Sensor Tech Appl	4
AS425	Machine Vision	3
	Recreational Act.	1
	Humanities	4
	Free Elective	3
		<u>15</u>

AS475	Auto Mfg Sys	3
AS485	Auto Sys Proj	3
MT331	Quality Control	3
	Social Science	4
	Recreational Act.	1
		<u>14</u>

BACHELOR OF SCIENCE ELECTRICAL ENGINEERING TECHNOLOGY

THIS PROGRAM prepares students for employment in production, maintenance and design activities or as field representatives in electrical or electronic related firms.

Electrical and electronics course work provides a background in the fundamentals of circuits. Added training in electronics leads to work in advanced circuits and automatic controls. A communica-

tions option may also be selected which uses transform calculus studied earlier.

Many students graduating from a community college with an

associates degree in electronics can transfer directly into the third year of the program. 128 credit hours

are required for graduation. Sample transfer programs are available for many Michigan community colleges.

Electrical Engineering Technology
(41 credits)

ET115	Electrical Circuits I	5
ET116	Electrical Circuits II	4
ET124	Electronics I	4
ET224	Electronics II	4
ET244	Elect. Mach.	4
ET334	Network Anal. I	4
ET335	Network Anal. II	4
ET345	Anal. Cir. Design	4
ET435	Communications I	
	or	4
ET445	Ind. Electronics	
ET436	Communications II	
	or	4
ET446	Control Systems	

Elective Credits
(3 credits)

Non-EET Technical Elective	3
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Support Courses (54 credits)

AS365	Comp. Control Concepts	3
CS100	Intro. Microcomp.	3
CT224	Digital Elect.	4
CT235	Micro. Fund.	4
CT335	Digital Design	4
DT125	Electronic Drafting	2
EN110	Fresh. Comp.	3
EN205	Basic Tech. Report Writ.	3
HE181	First Aid	1
MA109	Trig. & Vectors	2
MA140	Algebra for Tech.	3
MA141	Tech. Calc. I	4
MA142	Tech. Calc. II	4
MT316	Statics & Strength	3
NS103	Environ. Biology	3
PH221	Elmts. of Phys. I	4
PH222	Elmts. of Phys. II	
	or	4
PH224	Topics in Phy for EET	

In addition to the courses listed above, general education requirements and nine free electives must be completed for a total of at least 128 semester credits.

FIRST YEAR: BACHELOR OF SCIENCE, ELECTRICAL ENGINEERING TECHNOLOGY

FALL

CS100	Intro Micro	3
EN110	Freshman Comp	3
ET115	Elect Circ I	5
MA109	Trig & Vectors	2
MA140	Algebra for Tech	<u>3</u>
		<u>16</u>

SPRING

SD101	Fund. of Speech	3
ET116	Elect Circ II	4
ET124	Electronics I	4
DT125	Elect Drafting	2
Social Science Elective		<u>4</u>
		<u>17</u>

SECOND YEAR

CT235	Micro Fund	4
ET224	Electronics II	4
PH221	Elmts of Physics I	4
ET244	Elect Machinery	<u>4</u>
		<u>16</u>

CT224	Digital Electronics	4
EN205	Bsc Tch Rep Writ	3
MA141	Tech. Calculus I	4
PH224	Phys for Elect Tech	
	or	4
PH222	Elmts of Physics II	<u>15</u>

THIRD YEAR

CT335	Digital Design	4
ET334	Network Anal I	4
MA142	Tech. Calculus II	4
MT316	Statics	3
HE181	First Aid	<u>1</u>
		<u>16</u>

AS365	Comp Cont Conc	3
ET335	Network Anal II	4
ET345	Analog Circ Dsgn	4
NS103	Env. Biology	3
Elective		<u>3</u>
		<u>17</u>

FOURTH YEAR

Humanities Elective	4
ET435 Comm. I	
or	4
ET445 Industrial Elect.	
Social Science Elective	4
Elective	3
Recreational Act.	1
	<hr/>
	16

Humanities Elective	4
ET436 Comm. II	
or	4
ET446 Control Syst.	
Recreational Act.	1
Non-EET Tech. Elective	3
Elective	3
	<hr/>
	15

BACHELOR OF SCIENCE MECHANICAL ENGINEERING TECHNOLOGY

THIS PROGRAM prepares graduates for career responsibilities in machine design, manufacturing, and thermal sciences.

The curriculum provides a broad base for job preparation and stresses topics which are current in today's technical environment. Graduates have found employment in product design, manufacturing, plant engineering, inspection, production supervision, and sales and service. Students graduating from community

colleges with an associate degree in mechanical engineering technology can usually transfer into this program and receive a bachelor of science degree in mechanical engineering technology in two years. Many community college programs in Michigan have transfer articulation agreements with Lake Superior State University.

Mechanical Engineering Technology (56 Credits)

ME104 Tech. Drawing	4
ME124 Basic CAD	3
MT100 Intro. to Mech. Syst. & Computer Programmig	2
MT112 Manf. Proc.	3
MT113 Manf. Proc. II	3
MT220 Statics	3
MT241 Strength of Materials	4
MT253 Engr. Mat.	4
MT310 Kinematics	3
MT311 Dynamics	3
MT331 Quality Control	3
MT341 Fluid Mech.	3
MT371 NC/CNC Manf. Proc.	3
MT410 Mech. Design I	4
MT411 Mech. Design II	4
MT430 Thermo.	3
MT431 Thermo. & Heat Trans.	4

Support Courses (50 Credits)

AS315 Prog. Logic Cont.	3
CH108 Applied Chemistry	4
CT265 Intro. Tech. Prog.	3
EC302 Manager. Econ.	4
EN110 Freshman Comp.	3
EN205 Basic. Tech. Report Writ.	3
ET201 Appl. Elect. I	3
ET302 Appl. Elec. II	3
MA109 Trig. & Vectors	2
MA140 Algebra	3
MA141 Tech. Calc. I	4
MA142 Tech. Calc. II	4
PH221 Elmts. Phys. I	4
PH222 Elmts. Phys. II	4
SD101 Speech	3

In addition to the above courses, general education requirements and nine free electives must be completed for a total of 132 semester credits.

FIRST YEAR: BACHELOR OF SCIENCE, MECHANICAL ENGINEERING TECHNOLOGY

FALL

MA109 Trig & Vectors	2
MA140 Algebra for Tech	3
EN110 Freshman Comp	3
ME104 Tech Drawing	4
MT112 Mfg Processes I	3
MT100 Mech Sys & Comp	2
	17

SPRING

SD101 Fund of Speech	3
MA141 Tech Calc I	4
ME124 Basic CAD	3
MT113 Mfg Processes II	3
CH108 Appl Chemistry	4
	17

SECOND YEAR

PH221 Elmts of Physics I	4
MT220 Statics	3
ET201 Electricity I	3
Soc Sci Elective	4
EN205 Tech Rep Wrtg	3
	17

PH222 Elmts of Physics II	4
MT241 Str of Materials	4
MT253 Eng Matls	4
CT265 Intro to Tech Prog	3
	15

THIRD YEAR

AS315 Prog Logic Contr	3
MA142 Tech Calculus II	4
MT310 Kinematics	3
MT371 NC/CNC Man Proc	3
Free Elective	3
	16

MT331 Quality Control	3
MT341 Fluid Mech	3
MT311 Dynamics	3
ET302 Applied Elect II	3
Bio Free Elective	3
Phy Ed Elective	1
	16

FOURTH YEAR

MT410 Machine Design I	4
MT430 Thermodynamics	3
Free Elective	3
Humanities	4
Free Elective	3
	17

MT411 Machine Design II	4
MT431 Thermo-Heat Trans	4
Humanities	4
EC302 Managerial Econ	4
Phy Ed Elective	1
	17

BACHELOR OF SCIENCE GENERAL ENGINEERING

(for transfer)

THIS CURRICULUM is for students who plan to transfer to engineering after two years at Lake Superior State University.

ENTRANCE REQUIREMENTS:

To qualify for admission as freshmen, applicants must be graduates of accredited secondary

schools with above average standing in their class. Their secondary school preparation should include a four-year curriculum of at least 15

units of acceptable entrance credits. The following subjects should be included in these credits: one unit of beginning algebra, one unit of geometry, one-half unit of advanced algebra, one-half unit of trigonometry, one unit of chemistry or physics, and three units of

English. Recommended: a fourth year of senior mathematics.

CURRENT CATALOGS for many colleges and universities offering engineering programs are on file in the Engineering Technology Department or the Admissions Office.

FIRST YEAR: BACHELOR OF SCIENCE, GENERAL ENGINEERING

FALL

EN110 Freshman Comp.	3
MA151 Calculus I	4
ME104 Technical Drawing	4
CH115 Gen Chem I	5
RA Elective	<u>1</u>
	17

SPRING

CS100 Intro to Comp Appl	3
MA152 Calculus II	4
ME124 Basic CAD	3
CH116 Gen Chem II	4
RA Elective	<u>1</u>
	15

SECOND YEAR

EN210 Res Paper Process	3
EC201 Prin Macroecon	3
PH231 General Physics I	4
MA207 Prin Stat Meth	3
Elective	<u>4</u>
	17

MA310 Diff Equations	3
EC202 Prin Microecon	3
PH232 Gen. Physics II	4
MA251 Calculus III	<u>4</u>
	14

ASSOCIATE DEGREE COMPUTER ENGINEERING TECHNOLOGY

THIS PROGRAM prepares graduates for the opportunities brought about by the impact of digital and microprocessor electronics on many of today's technical disciplines. It is also an option for Lake Superior State University students seeking the Bachelor of Science in Automated Systems Engineering Technology or Electrical Engineering Technology.

THIS PROGRAM emphasizes the hardware and machine-level software aspects of digital computing systems. Graduates will be prepared for such opportunities as field engineering (installation and maintenance of digital equipment), applications of computers to industrial control and data acquisition, and development of new devices, systems and test equipment.

THE FIRST YEAR encompasses basic concepts in circuit analysis and devices, computer science, mathematics, and oral and graphic communication skills. **THE SECOND YEAR** covers such topics as the internal organization and operation of digital computing equipment, including programming and application of microprocessors, microcontrollers and programmable integrated circuit logic devices

Computer Engineering Technology	
(13 Credits)	
CT224 Digital Elect	4
CT235 Micro Fund	4
CT236 Microcont Appl	5
Support Courses (43 Credits)	
ET115 Electrical Circuits I	5
ET124 Electronics I	4
DT125 Electronic Drafting	2
CS111 Intro Comp Sci I	3
CS112 Intro Comp Sci II	3
EN110 Fresh Composition	3
EN205 Bsc Tech. Report Writing	3
MA109 Trig. & Vectors	2

MA140 Algebra	3
MA141 Technical Calculus I	4
PH221 Elements of Physics I	4
PH222 Elements of Physics II	4
or	
PH224 Phys Topics for EET	4
SD101 Speech	3
Elective Credits (8 Credits)	
Recreational Activities	1
Social Science	4
Technical Elective	3

A total of 64 semester credits is required.

FIRST YEAR: ASSOCIATE DEGREE, COMPUTER ENGINEERING TECHNOLOGY

FALL

CS111 Intro to Cmp Sci I	3
EN110 Freshman Comp	3
ET115 Elect Circ I	5
MA109 Trig & Vectors	2
MA140 Algebra for Tech	3
	<u>16</u>

SPRING

CS112 Intro to Cmp Sci II	3
DT125 Elect Drafting	2
ET124 Electronics I	4
MA141 Tech Calc I	4
SD101 Fund of Speech	3
	<u>16</u>

SECOND YEAR

CT235 Micro Fund	4
EN205 Res Paper Process	3
Recreational Act	1
PH221 Elmts of Physics I	4
Soc Sci Elective	4
	<u>16</u>

CT224 Digital Electronics	4
CT236 Microcont Appl	5
PH222 Elmts of Physics II*	4
Tech Elective*	3
	<u>16</u>

*Students planning to continue for the BSASET Program should take MA142.

**Students planning to continue for either the BSEET or BSASET Program should take PH224.

ASSOCIATE DEGREE DRAFTING AND DESIGN ENGINEERING TECHNOLOGY

THIS TWO-YEAR PROGRAM combines drafting skills and engineering-related knowledge to develop technologists capable of working with engineers in the design and drafting of products. Students become proficient in both manual engineering drawing and computer-aided drafting (CAD). Instruction and laboratory experiences are provided in tool design, jig and fixture design, and die design. Additional knowledge is gained in problem solving, computer-usage and manufacturing processes. Graduates are employed as draftpersons, tool and die designers, product technologists and development specialists in the creation and use of production machinery.

**Drafting and Desing Engineering Technology
(11 CREDITS)**

DT214	Advanced (CAD)	3
DT261	Tool Dsgn & Insp Meth	3
DT262	Jig, Fixture & Die Design	5

Support Courses (50 CREDITS)

CS100	Intro to Micro Appl	3
EN110	Fresh. Comp.	3
EN205	Bsc Tch Rep Wrtg	3
ET201	Appl. Elect. I	3
MA109	Trig. & Vectors	2
MA140	Algebra for Tech.	3
MA141	Tech. Calc. I	4
ME104	Tech. Drawing	4

Support Courses (cont)

ME124	Basic CAD	3
MT100	Intro. to Mech. Sys. & Computer Programming	2
MT112	Manf. Proc. I	3
MT113	Manf. Proc. II	3
MT316	Statics & Strength	3
PH221	Elmts. Phys. I	4
PH222	Elmts. Phys. II	4
SD101	Speech	3

Elective Credits (3 CREDITS)

Social Science	3
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A total of 64 semester credits is required.

**FIRST YEAR: ASSOCIATE DEGREE, DRAFTING AND
DESIGN ENGINEERING TECHNOLOGY**

FALL

EN110	Freshman Comp.	3
MA109	Trig. & Vectors	2
MA140	Algebra for Tech.	3
ME104	Tech. Drawing	4
MT100	Mech Sys Cmp Prg	2
MT112	Mfg Processes I	3
		<u>17</u>

SPRING

CS100	Intro Micro Appl	3
Soc Sci	Elective	3
MA141	Tech. Calculus I	4
ME124	Basic CAD	3
MT113	Mfg. Processes II	3
		<u>16</u>

SECOND YEAR

EN205	Tech. Report Writ.	3
DT261	Tool Dsgn Insp Mtd	3
ET201	Applied Elect I	3
PH221	Elem of Phys I	4
SD101	Fund. of Speech	3
		<u>16</u>

DT214	Advanced CAD	3
DT262	Jig Fix & Die Dsgn	5
MT316	Stat & Str Mat	3
PH222	Elem of Phys II	4
		<u>15</u>

*MET Students should take MT220 Statics & MT241 Strength of Materials

**ASSOCIATE DEGREE
ELECTRICAL ENGINEERING
TECHNOLOGY**

THIS PROGRAM prepares technicians for direct employment into most phases of the electrical and electronic industry. Their careers will normally begin with a supportive role on the engineering team, working directly with experienced engineers, scientists, and technologists.

THE CURRICULUM provides the tools necessary for analysis of basic electronic circuits, a comprehensive understanding of

some of the more important electronic devices and instruments, and a strong base in fundamentals. Courses in electrical theory are

accompanied by extensive laboratory exercises to provide opportunity for work with test apparatus, and to

reinforce theories presented in classroom discussion.

Electrical Engineering Technology
(21 credits)

ET115 Electrical Circuits I	5
ET116 Electrical Circuits II	4
ET124 Electronics I	4
ET224 Electronics II	4
ET244 Elect. Mach.	4

Elective Credits
(4 credits)

Social Science Elective	4
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A total of 64 semester credits is required.

Support Courses (39 credits)

CS100 Intro to Micro	3
CT224 Digital Elect.	4
CT235 Micro. Fund.	4
DT125 Electronic Drafting	2
EN110 Fresh. Comp.	3
EN205 Bsc Tch Rep Wrtg	3
MA109 Trig. & Vectors	2
MA140 Algebra	3
MA141 Tech. Calc. I	4
PH221 Elmts. of Phys. I	4
PH222 Elmts. of Phys. II	4
or	4
PH224 Top in Phys for EET	3
SD101 Speech	3

FIRST YEAR: ASSOCIATE DEGREE, ELECTRICAL ENGINEERING TECHNOLOGY

FALL

CS100 Intro Micro	3
EN110 Freshman Comp.	3
ET115 Electrical Cir. I	5
MA109 Trig. & Vectors	2
MA140 Algebra for Tech.	3
	<u>16</u>

SPRING

SD101 Fund of Speech	3
ET116 Elect Circ II	4
ET124 Electronics I	4
DT125 Elect Drafting	2
Social Science Elective	4
	<u>17</u>

SECOND YEAR

CT235 Microproc Fund	4
ET224 Electronics II	4
PH221 Physics I	4
ET244 Elect Machinery	4
	<u>16</u>

CT224 Digital Electronics	4
EN205 Bsc Tch Rep Wrtg	3
MA141 Tech. Calculus I	4
PH224 Phys for Elect Tech	4
or	4
PH222 Elem. of Phys. II	4
	<u>15</u>

**ASSOCIATE DEGREE
MECHANICAL ENGINEERING
TECHNOLOGY**

THIS PROGRAM prepares graduates for work as draftsmen, product designers, machine designers, instrument technicians, and development and installation specialists in the creation and use of all types of production machinery.

Requirements for the Associate Degree in Mechanical Engineering Technology are the same as the first two years of the Bachelor of Science Degree in Mechanical Engineering Technology. Thus, the graduate of this program has the option of

seeking employment as a technician, or continuing his or her education by transferring directly into the third year of the Bachelor of Science in Mechanical Engineering Technology or Automated Systems Engineering Technology.

Mechanical Engineering Technology (26 Credits)

ME104	Tech. Drawing	4
ME124	CAD	3
MT100	Intro. to Mech. Syst. & and Comp. Prog.	2
MT112	Manf. Proc.	3
MT113	Manf. Proc. II	3
MT220	Statics	3
MT241	Strength of Materials	4
MT253	Engr. Mat.	4

Elective Credits (*4 Credits)
Social Science *4

*May be 3 credit hours for Associate Degree

Support Courses (36 Credits)

CH108	Applied Chemistry	4
CT265	Intro. Tech. Prog.	3
EN110	Freshman Comp.	3
EN205	Bsc Tch Rep Wrtg	3
ET201	Appl. Elect. I	3
MA109	Trig. & Vectors	2
MA140	Algebra for Tech.	3
MA141	Tech. Calc. I	4
PH221	Elmts. Phys. I	4
PH222	Elmts. Phys. II	4
SD101	Speech	3

A total of 65 credits is required.

FIRST YEAR: ASSOCIATE DEGREE, MECHANICAL ENGINEERING TECHNOLOGY

FALL

MA109	Trig & Vectors	2
MA140	Algebra for Tech	3
EN110	Freshman Comp	3
ME104	Tech Drawing	4
MT112	Mfg Processes I	3
MT100	Mech Sys & Comp	2
		<u>17</u>

SPRING

SD101	Fund of Speech	3
MA141	Tech Calc. I	4
ME124	Basic CAD	3
MT113	Mfg Processes II	3
CH108	Appl Chemistry	4
		<u>17</u>

SECOND YEAR

PH221	Elmts of Physics I	4
MT220	Statics	3
ET201	Electricity I	3
Soc Sci	Elective	4
EN205	Tech. Report Writ.	3
		<u>17</u>

PH222	Elmts of Physics II	4
MT241	Str of Mat	4
MT253	Eng Matls	4
CT265	Intro to Tech Prog	3
		<u>15</u>

**CERTIFICATE
COMPUTER DRAFTING**

THIS ONE-YEAR PROGRAM prepares students for employment in computer-aided drafting (CAD) departments within engineering companies where graduates work directly with experienced technologists and engineers to produce state-of-the-art CAD drawings.

Computer Drafting Courses (9 credits)	
DT132 Const Sketch & Draw	3
DT214 Advanced (CAD)	3
ME124 Basic (CAD)	3
Support Courses (23 credits)	
CS100 Intr to Micro Comp App	3
EN110 Freshman Comp.	3

MA109 Trig. and Vectors	2
ME104 Tech Drawing	4
SD101 Speech	3
MT100 Intro to Mech Syst	2
MT112 Manf Proc (I)	3
MT113 Manf Proc (II)	3

A total of 32 semester credits is required.

FIRST YEAR: CERTIFICATE, COMPUTER DRAFTING

FALL

EN110 Freshman Comp.	3
MA109 Trig. & Vectors	2
ME104 Technical Drawing	4
ME124 Basic CAD	3
MT100 Mech Sys & Comp	2
MT112 Manuf Proc I	3
	<u>17</u>

SPRING

CS100 Intro to Micro Appl	3
DT132 Cnstr Sket & Draw	3
DT214 Advanced CAD	3
SD101 Fund. of Speech	3
MT113 Manuf Proc II	3
	<u>15</u>

NOTES



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HEALTH SCIENCES

HEALTH SCIENCES

FACULTY: Department Head, Assoc. Prof. Mae E. Markstrom; Prof. Carole Connaughton; Assoc. Profs. Alice I. Halsey, Carol A. Campagna; Asst. Profs. Donna M. Anleitner, Shirley Proctor Bingham, Elizabeth M. Hellow, Gerald H. Johnson, Ruth K. Johnston-Pike, and Elena J. Wentz.

THE DEPARTMENT OF HEALTH SCIENCES offers a bachelor of science degree in nursing which is based on the belief that nursing is goal-oriented, directed toward assisting human beings in health promotion, maintenance, restoration, and rehabilitation. The program is based upon human needs theory throughout the life cycle and is built on a liberal arts foundation in the belief that all aspects of society must be considered influential factors in the health of human beings.

ACCREDITATION: The Bachelor of Science in Nursing Program is approved by the Michigan Board of Nursing and is accredited by the National League for Nursing.

COURSES OFFERED by the department are in nursing and health sciences. Nursing courses, excluding interdisciplinary elective nursing courses, provide the core content of the nursing major and are limited to students accepted into the nursing programs. Health science courses provide a wide range of knowledge and skills useful for

preparation in related health careers and in the delivery of health services in the community.

CLINICAL EXPERIENCES: The nursing program is unique in its international affiliation. Clinical nursing experience is obtained at hospitals and community agencies in Sault Ste. Marie, Ontario, as well as at health care and community agencies in Sault Ste. Marie, Michigan, and the surrounding area. The LSSU Wellness C.A.R.E. Center provides opportunities for practice in a nurse-managed community nursing center.

BACHELOR OF SCIENCE NURSING

THE DEPARTMENT OF HEALTH SCIENCES offers two curricular tracks to the bachelor of science degree in nursing: the four-year program and the two-year completion program for the registered nurse.

THESE PROGRAMS provide students with the opportunity to acquire knowledge, values and skills necessary for the practice of professional nursing. They offer them the opportunity to:

DEMONSTRATE skills of critical thinking and decision making in nursing practice. **PROMOTE** the health of individuals, families, groups and communities in a variety of settings. **ASSIST** clients of all ages in their adaptation to actual and potential stressors. **DEMONSTRATE** independent use of the nursing process in health promotion, maintenance, restoration, and rehabilitation. **INTEGRATE** professional values into nursing practice. **PRACTICE** within the ethical, moral and legal parameters of the nursing profession. **DEMONSTRATE** responsibility and accountability for evaluating the effectiveness of one's nursing practice. **EVALUATE** nursing research findings for possible utilization in nursing practice. **INTEGRATE** leadership and

management skills into the nursing role. **SYNTHESIZE** theoretical/empirical knowledge from nursing, the physical and behavioral sciences, and humanities in nursing practice. **COLLABORATE** with the health care team and consumer to improve health care service, using knowledge of the political system. **INCORPORATE** the nursing roles of advocate, caregiver, health educator and change agent into the delivery of health care.

COURSE DISTRIBUTION requirements facilitate development of liberal backgrounds in physical science, social science and humanities. The curriculum lays a scientific basis for expanding roles in nursing practice. The nursing curriculum provides an interdisciplinary major and does not require a minor to meet graduation requirements. Students interested in a minor should refer to the appropriate Catalog section. A total of 128 credits is required to complete a Bachelor of Science Degree in Nursing.

□ B.S. NURSING FOUR-YEAR PROGRAM

PRE-NURSING ENTRANCE REQUIREMENTS: To qualify for admission to the pre-nursing program, applicants must satisfy University admission requirements described in the admission section of the Catalog. (This information is also included in the Viewbook.)

For students with college-level achievement, the opportunity will be offered, by means of examination, to obtain course credit or placement into an advanced course.

High school academic subjects should include a minimum of one

unit of biology, one of chemistry, three of English and two of algebra. Additional science and mathematics courses are highly recommended.

ENTRANCE REQUIREMENTS TO NURSING: Following successful completion of the pre-

nursing requirements, students will be admitted to this program based upon academic achievement and competency in mathematics. Entrance into nursing requires a cumulative grade point average of 2.5 or above in nursing, nursing support, and English courses. Required academic courses are separated into two groups:

1. Nursing support courses (anatomy and physiology, microbiology, life chemistry, psychology and sociology courses); and
2. General education requirements (English, humanities, speech and recreation activity).

A grade of C or above is required in all nursing, nursing support courses and English courses. A grade of D in other general education or elective courses is accepted. Mathematics proficiency at the MA092 level is required prior to entering the junior year of the nursing program. Students selected for nursing must complete all pre-nursing course requirements satisfactorily to remain on the accepted list. A maximum of 45 students with the highest grade point average will be accepted.

TRANSFER CREDIT will be granted on an individual basis. Only those courses in which the student

Nursing (57 credits)

NU110 Intro to Prof Nrsng I	1
NU211 Intro to Prof Nrsng II	3
NU212 Health Appraisal	3
NU213 Fund of Nursing	5
NU325 Parent/Newborn Nrsng	5
NU326 Parent/Child Nrsng	6
NU327 Adult Nursing I	8
NU431 Adult Nursing II	8
NU432 Community Hlth Nrsng	5
NU433 Mntl Hlth Nrsng	5
NU434 Nrsng Research	3
NU435 Mgmt in Nursing	3
NU436 Cntmpry Iss in Nrsng	2

received a grade of C or better are transferrable. Credits for baccalaureate nursing courses and pharmacology are transferrable for five years.

Time requirements for program completion is four academic years; however, completion may require more than four years for students who do not meet all entrance requirements.

Progression and readmission policies are detailed in the Baccalaureate Nursing Student Handbook.

Students are responsible for transportation to and from clinical agencies, as well as additional costs incurred by enrollment in the nursing program. Costs, academic and general information are listed in the Baccalaureate Nursing Student Handbook.

LICENSURE: Graduates of this program are eligible to write the NCLEX-RN examination administered by the Michigan Board of Nursing for licensure as a Registered Nurse (R.N.) Canadian students must pass the NCLEX-RN examination prior to applying for licensure in Ontario.

Requirements for the Bachelor of Science Degree in Nursing Four-Year Program are as follows:

Health Sciences (10 credits)

HE208 Nutrition	2
HE209 Pharmacology	3
HE232 Pathophysiology	3
HE235 Comp Appl in Hlth Sci	2

Other Disciplines (15 credits)

BL121 Human Anat & Phys I	3
BL223 Clinical Microbiology	3
CH104 Life Chemistry I	3
MA207 Prin of Stat Meth	
or	
PY210 Statistics	3
SO326 Soc of Aging & Aged	3

General Education (37 credits)	
PY101 Found of Psych	4
PY155 Lfspn Devel	3
SO101 Intro to Soc	3
BL122 Human Anat/Phys I	4
CH105 Life Chemistry II	4
Additional credits to meet degree requirements	19

General Electives (9 credits)	9
Total credits:	128

A sample four-year schedule of courses for this program follows. The planned sequence of courses may be modified to meet the needs of individual students.

FIRST YEAR: BACHELOR OF SCIENCE, NURSING: FOUR-YEAR PROGRAM

FALL

EN110 Freshman Comp	3
PY101 Intro Psych	4
SO101 Intro Soc	3
SD101 Fund. Speech	3
BL121 Human Anat./Phys.	3
RA Elective	1
	<u>17</u>

SPRING

Humanities	4
NU110 Intro Prof Nrsng I	1
CH104 Life Chem I	3
BL122 Hmn Anat/Phys II	4
PY155 Lfspn Devel	3
HE208 Nutrition	2
	<u>17</u>

SECOND YEAR

EN210 Res Pap Process	3
NU211 Intro Prof Nrsng II	3
CH105 Life Chemistry II	4
NU212 Health Appraisal	3
HE232 Pathophysiology	3
	<u>16</u>

BL223 Microbiology	3
Humanities	4
NU213 Fund of Nursing	5
HE209 Pharmacology	3
RA Elective	1
	<u>16</u>

THIRD YEAR

SO326 Sociology of Aging	3
NU325 Prnt/Nwbrn Nrsng	5
NU326 Prnt/Chld Nrsng	6
Elective	3
	<u>17</u>

PY210 Statistics	
or	3
MA207 Prin Stat Meth	
NU327 Adult Nursing I	8
HE235 Cmp App Hlth Sci	2
Elective	3
	<u>16</u>

FOURTH YEAR

NU431 Adult Nursing II	8
NU434 Nursing Research	3
NU435 Mgmt. in Nursing	3
	<u>14</u>

NU432 Comm Hlth Nrsng	5
NU433 Mntl Hlth Nrsng	5
NU436 Cntrmpy Issues in Nrsng	2
Elective	3
	<u>15</u>

□ B.S. NURSING: COMPLETION PROGRAM FOR R.N. STUDENTS

ENTRANCE REQUIREMENTS: To qualify for admission to the R.N. Completion Program, applicants must satisfy University admission requirements as described in the admission section of the Catalog. (This information is also included in the Viewbook.)

For students with college-level achievement, the opportunity will be offered, by means of examination, to obtain course credit or placement into an advanced course.

Applicants must be graduates of a state or provincial approved associate degree or diploma nursing program with a cumulative grade point average of 2.5 in all nursing, nursing support, and English courses. Nursing support courses include: chemistry, anatomy and physiology, microbiology, psychology, and sociology courses. Credit may be granted for basic nursing courses, nutrition, and pharmacology upon writing the required NLN challenge tests within 5 years prior to admission and achieving scores at the 50 percentile or above. NLN tests may be repeated once; students must enroll in the course if not successful on second writing. Psychomotor skills validation and mathematics proficiency at the MA092 level are also required. Students may be admitted to the University at any point, but may not be admitted to nursing core courses until they have fulfilled the above requirements.

REQUIRED ADMISSION CREDENTIALS: Submit to Admissions Office: standard LSSU admission application; transcripts from previous nursing school(s) and college(s). Submit to Department of Health Sciences: work experience and reference list; copy of current Michigan or Ontario professional nursing license; NLN test scores for

Mobility Profile II (Book 1), Nursing of Childbearing Family, and Nursing of Children. All credentials must be on file preceding semester of entry.

TRANSFER CREDITS: Transfer credit may be granted on an individual basis for equivalent general education and support courses. Only those courses in which students received a grade of C or better may be transferred. Credit for pharmacology and baccalaureate nursing courses are accepted for five years after completion of course. A maximum of 32 semester hours credit in basic nursing courses may be transferred.

Time required for completion will depend upon the number of transfer credits and credits received by examination. Most registered nurses can complete the program in two years.

Progression and readmission policies are detailed in the Baccalaureate Nursing Student Handbook.

Students are responsible for transportation to clinical agencies and additional costs incurred by enrollment in the nursing program. Costs, academic and general information are listed in the Baccalaureate Nursing Student Handbook.

Requirements for the Bachelor of Science Degree in Nursing (RN Completion Program) are as follows:

Nursing (57 credits)		Other Disciplines (15 credits)	
NU213 Fundamentals of Nursing**	5	BL121 Human Anat/Phys I	3
NU325 Parent/Newborn Nursing	5	BL223 Clinical Microbiology	3
NU326 Parent/Child Nursing	6	CH104 Life Chemistry I	3
NU327 Adult Nursing I**	8	MA207 Prin of Stat Meth	
NU431 Adult Nursing II**	8	or	3
NU361 Trans to Prof Nrsng	3	PY210 Statistics	
NU356 Health Appraisal/Promotion through Lifespan	6	SO326 Soc of Aging & Aged	3
NU432 Comm Hlth Nrsng	5		
NU433 Mental Health Nursing	5	General Education (37 credits)	
NU434 Nursing Research	3	PY101 Found of Psych	4
NU435 Management in Nursing	3	SO101 Intro to Soc	3
		BL122 Human Anat/Phys II	4
		CH105 Life Chemistry II	4
Health Sciences (10 credits)		Additional credits to meet degree requirements	22
HE208 Nutrition*	2	General Electives	9
HE209 Pharmacology**	3	Total credits:	128
HE232 Pathophysiology**	3		
HE235 Comp Appl in Hlth Sci	2		

**Challenge examinations available

A sample two-year schedule of courses for this program follows. The planned sequence of courses may be modified to meet individual needs.

☐ BACHELOR OF SCIENCE IN NURSING COMPLETION PROGRAM FOR THE REGISTERED NURSE

Prerequisite courses for entrance to program:		NLN Challenge Exams	
BL121 Hmn Anat/Phys I	3	NU213 Fund of Nrsng	5
BL122 Hmn Anat/Phys II	4	NU325 Pmt/Nwbrn Nrsng	5
BL223 Microbiology	3	NU326 Prmt/Chld Nrsng	6
EN110 Freshman Comp	3	NU327 Adult Nrsng I	8
EN210 Res Paper Proc	3	NU431 Adult Nrsng II	8
HE208 Nutrition	2		<u>32</u>
HE209 Pharmacology	3		
PY101 Intro. Psychology	4		
SO101 Intro. Sociology	3		
	<u>28</u>		

FIRST YEAR: BACHELOR OF SCIENCE, NURSING: COMPLETION PROGRAM

FALL		SPRING	
NU361 Trans to Prof Nrsng	3	CH104 Life Chemistry I	3
SO326 Soc of Aging/Aged Humanities	4	NU362 Health Appr./Prom. through the Lifespan	6
SD101 Fund. of Speech	3	HE235 Comp Appl Hlth Sci	2
RA	1	HE232 Pathophysiology	3
Elective	3	Elective (Soc. Sci.)	3
	<u>17</u>		<u>17</u>

SECOND YEAR

CH105 Life Chemistry II	4	NU434 Nursing Research	3
NU432 Comm Hlth Nrsg	5	NU435 Mgmt in Nursing	3
NU433 Mntl Hlth Nrsg	5	Humanities	4
PY210 Statistics		Electives	6
or	3	RA Elective	1
MA207 Prin of Stat Meth			<u>17</u>
	<u>17</u>		

NOTES

SOCIAL SCIENCES



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CRIMINAL JUSTICE/FIRE SCIENCE

CRIMINALISTICS • CORRECTIONS • FIRE SCIENCE
CONSERVATION LAW ENFORCEMENT • LOSS CONTROL
LAW ENFORCEMENT • PUBLIC SAFETY



RECREATION STUDIES

EXERCISE SCIENCE • RECREATION MANAGEMENT
THERAPEUTIC RECREATION • PHYSICAL EDUCATION



SOCIAL SCIENCE

EARLY CHILDHOOD EDUCATION • EDUCATION
GEOGRAPHY • HUMAN SERVICES • LEGAL ASSISTANT STUDIES
POLITICAL SCIENCE • PSYCHOLOGY • SOCIAL SCIENCES
SOCIOLOGY • SUBSTANCE
ABUSE PREVENTION AND TREATMENT

SOCIAL SCIENCES

FACULTY: Department Head, Assoc. Prof. Margaret A. Malmberg; Profs. William N. Castor; Richard C. Crandall; Gary R. Johnson; Thomas M. Kelly; Susan H. Ratwik; Timothy Sawyer; Assoc. Profs. Sally Childs; Richard T. Conboy; Leslie A. Dobbertin; Terry L. Heyns; James Madden; Nancy L. Voight; Asst. Profs. Carol S. Andary, Gerald F. Dobbertin; James Blashill; Elizabeth A. Foley; Michael J. Gibson; Debra McPherson; Patrick J. Sweet; Instructors Thomas Borrelli, David J. Cotner; Randell L. Gardiner, Gary A. Rackliffe, Stephen R. Yanni.

THIS DEPARTMENT encompasses a variety of disciplines and programs, including Criminal Justice and Recreation Studies (each described subsequently in greater detail). Programs described here include early childhood education, education, geography, human services, legal assistant studies, substance abuse prevention and treatment, political science, psychology and sociology. These are quite diverse in their perspectives and methods, but all are concerned with either the scientific study of human behavior or the development of human potential, or both.

OFFERINGS: There are a variety of majors, minors, and associate degrees. Some programs give students specific employable skills upon graduation. Others are broader, so that upon graduation students may have the option of further education in graduate school or law school, or of entering careers in fields such as politics, teaching, social services, administration, and business. Each area of study is described in greater detail below, including requirements for majors, minors and associate degrees.

ENTRANCE REQUIREMENTS: To qualify for admission as freshmen, applicants must be graduates of accredited secondary schools with above average standing

in their class. Their secondary school preparation should include a four-year curriculum of at least 15 units of acceptable entrance credits. Two major sequences and two minor sequences should be included in the 15 units for graduation. Individual disciplines within the department may have additional entrance requirements.

EDUCATION

Lake Superior State University is currently working in cooperation with Michigan State University to develop an integrated BA/MA program in education. The program emphasizes a combination of preparation in the student's discipline and education course work

that is coordinated with extensive work in schools. The program as it is being developed will include a BA or BS from LSSU and graduate course work from MSU, all of which will be completed in the Sault Ste. Marie area.

Disciplinary majors and minors that will lead to teaching certification are being developed by a number of academic departments.

CHILD CARE CENTER

A campus Child Care Center provides full or part-time care for children, aged two through five, of students and staff. The Center, licensed by the State of Michigan Department of Social Services,

provides developmentally sound experiences for the whole child across a range of social, emotional, physical and cognitive dimensions. It is a place where young children can develop a strong relationship with both adults and children. Each morning and afternoon under the supervision of an experienced staff, child development students plan and supervise large group, art, snack and small group experiences for the children. A significant portion of each day is devoted to exploratory play. During exploratory play children may move throughout the various learning areas of the Center, electing to participate in any one of the wide variety of activities and interact with learning materials. The Child Care Center is located on the south edge of the Library parking lot.

NOTES

CRIMINAL JUSTICE/FIRE SCIENCE

FACULTY: Coordinator of Criminal Justice, Asst. Prof. James Blashill, Coordinator of Corrections, Asst. Prof. Elizabeth Foley, Assoc. Profs. James Madden, Terry Heyns, Asst. Prof. Patrick Sweet.

PROGRAMS INCLUDE: Criminal justice baccalaureate degrees with emphasis in: conservation law, corrections, criminalistics, generalists, law enforcement, loss control, and public safety. Fire Science baccalaureate degrees with emphasis in engineering technology, hazardous materials, and generalists. **TWO YEAR ASSOCIATE DEGREES** in corrections, fire science, and law enforcement.

CRIMINAL JUSTICE

MICHIGAN LAW ENFORCEMENT OFFICERS TRAINING COUNCIL

(MLEOTC) CERTIFICATION: Students enrolled in the conservation law enforcement, criminalistics, law enforcement, or public safety criminal justice baccalaureate degrees may be eligible for MLEOTC Certification. Upon graduation, these students may be eligible for employment with local law enforcement agencies in Michigan without further training.

MICHIGAN CORRECTIONS OFFICER TRAINING COUNCIL

CERTIFICATION: Students enrolled in the associate or baccalaureate degrees will also take

the five courses necessary for this certification.

CANADIAN STUDENTS may substitute CJ202 Canadian Criminal Law and CJ406 Advanced Canadian Jurisprudence for CJ319 Substantive Criminal Law and CJ409 Procedural Law. PS160 Introduction to Canadian Government may be substituted for PS110 Introduction to US Government.

ENTRANCE REQUIREMENTS:

To qualify for admission as freshmen, applicants must meet the minimum criteria of Lake Superior State University. Criminalistics and fire science students must have completed two units of algebra and at least one laboratory course, preferably chemistry, in high school.

BACHELOR OF SCIENCE CRIMINAL JUSTICE/CONSERVATION LAW

General Education Requirements (27* credits)

Major Requirements (39 credits)

CJ101	Intro to Crim Just	3
CJ102	Police Process	3
CJ201	Firearms Training	1
CJ308	Adv Firearms Training***	1
CJ313	Crisis Inter Dev Beh**	3
CJ319	Subst Criminal Law***	3
CJ343	Investigation**	3
CJ344	Criminalistics***	3
CJ401	Senior Seminar	3
CJ402	Crim Just Internship	3-9
CJ407	Police Operations I***	5
CJ408	Police Operations II***	5
CJ409	Proc Criminal Law***	3

Support Courses (53 credits)

BL130	Intro to Remote Sensing	3
BL239	Nat Hist of Wildlife	2
CH108	Applied Chemistry	4
CS100	Intro Microcomp Appl	3
HE181	First Aid	1

HE190	Prehospital Emrg Care & Crisis Intervention I***	3
HE191	Prehospital Emrg Care & Crisis Intervention II***	2
ID300	Man & His Environment	3
MA109	Trigonometry & Vectors**	2
RC101	Intro Rec/Leisure Serv	3
RT101	Intro Nat Resources Tech	3
RT102	Meth in Nat Resources	1
RT206	Wildlife Mgmt Tech	2
RT207	Bio & Mgmt of Fishes**	3
RT275	Soil Management	4
RT284	Principles of Forestry	4
RT286	Limnological Tech**	4
TC103	Surveying	3
TC104	Industrial Safety & Small Engine Mechanics	3

Electives (9 credits)

*8 Hours Included in Support Courses.
 **B.S. Requirement
 ***MLEOTC Courses

FIRST YEAR: BACHELOR OF SCIENCE, CRIMINAL JUSTICE/CONSERVATION LAW

FALL

EN110	Freshman Comp	3
RT101	Intro to Nat Res	3
RT102	Meth in Nat Res	1
RC201	Intro Rec/Serv	3
MA109	Trigonometry	2
CS100	Intro Microcomp	3
PE	Elective	1
		<u>16</u>

SPRING

TC104	Sm. Eng./Safety	3
BL130	Remote Sensing	3
CH108	Applied Chemistry	4
SD101	Speech	3
HE181	First Aid	1
PE	Elective	1
		<u>15</u>

SECOND YEAR

RT275	Soil Management	4
RT284	Prin Forestry	4
RT207	Bio & Mgt Fish	3
RT286	Limnological Tech	4
		<u>15</u>

BL239	Nat Hist Wildlife	2
RT206	Wildlife Mgmt Tch	2
ID300	Man & Env	3
TC103	Surveying	3
EN205	Tech Rep Wrtg	3
Elective		3
		<u>16</u>

THIRD YEAR

Humanities Elective	4
Soc. Science Elective	4
CJ101 Intro to Crim Just	3
CJ102 Police Process	3
CJ201 Firearms	1
	<u>15</u>

Humanities Elective	4
Soc. Science Elective	4
CJ402 Internship	3
Electives	6
	<u>17</u>

FOURTH YEAR

CJ319 Substantive Law*	3
CJ343 Investigation*	3
CJ401 Seminar	3
CJ407 Police Operations I**	5
HE190 Prehospital Emrg Care & Crisis Intervention I*	3
	<u>17</u>

CJ308 Adv Firearms*	1
CJ313 Crisis*	3
CJ344 Criminalistics*	3
CJ408 Police Oper II**	5
CJ409 Procedural Law*	3
HE191 Prehospital Emrg Care & Crisis Intervention	2
	<u>17</u>

*MLEOTC Course

**MLEOTC Students Only

BACHELOR OF SCIENCE CRIMINAL JUSTICE/CORRECTIONS

General Education Requirements (27* credits)

Major Requirements (62 credits)

CJ101 Intro to Crim Just	3
CJ102 Police Process	3
CJ106 Juvenile Justice	3
CJ110 Intro to Corrections	3
CJ130 Client Rel in Corr	3
CJ140 Corr Client Growth & Development	3
CJ220 Institutional Corr	3
CJ240 Comm Based Corr	3
CJ250 Correctional Law	3
CJ319 Substantive Criminal Law or	3
CJ202 Canadian Criminal Law	3
CJ321 Eth Issues in Pub Safety	3
CJ330 Correctional Casework	3

CJ401 Senior Seminar	3
CJ402 Crim Just Internship Minor	3-9 20

Support Courses (20 credits)

PS160 Intro Can Govt/Pol or	3-4
PS110 Intro Amer Govt/Pol	3
PS120 Legal Processes	3
PY101 Intro to Psych	4
PY259 Abnormal Psychology**	3
SO214 Criminology*	3
SO226 Races & Minorities**	3

Electives (15 credits)

*8 Hours Included in Support Courses.
**B.S. Requirement.

FIRST YEAR: BACHELOR OF SCIENCE, CRIMINAL JUSTICE/CORRECTIONS

FALL

CJ101 Intro to Crim Just	3
CJ102 Police Process	3
CJ110 Intro to Corrections	3
EN110 Eng Composition	3
Elective	3
	<u>15</u>

SPRING

CJ106 Juvenile Justice	3
PS160 Intro to Can Govt or	3-4
PS110 Intro to Amer Govt	3
CJ130 Client Growth	3
SD101 Speech	3
Elective	3
	<u>15-16</u>

SECOND YEAR

CJ140	Correction Client	3
CJ240	Comm Based Corr	3
EN210	Res Pap Proc	3
PY101	Intro to Psych	4
	Elective	<u>2</u>
		15

PS120	Legal Proc	3
CJ220	Inst Corrections	3
PY259	Abnormal Psych	3
	Humanities Elective	4
	Natural Science	<u>4</u>
		17

THIRD YEAR

CJ250	Corr Law	3
SO214	Criminology	3
	Natural Science	4
	Recreation Activities	1
	Elective	3
	Minor	<u>3</u>
		14

CJ330	Corr Casework	3
CJ321	CJ/FS Ethics	3
SO226	Races & Minorities	3
	Humanities Elective	4
	Recreation Activities	<u>1</u>
		14

FOURTH YEAR

CJ401	Seminar	3
CJ319	Subst Crim Law	
	or	3
CJ202	Canadian Law	
	Minor	<u>10</u>
		16

CJ402	Internship	3
	Elective	4
	Minor	<u>8</u>
		15

BACHELOR OF SCIENCE CRIMINAL JUSTICE/CRIMINALISTICS

General Education Requirements (19' credits)

Major Requirements (42 credits)

CJ101	Intro to Crim Just	3
CJ102	Police Process	3
CJ201	Firearms Training	1
CJ308	Adv Firearms Training**	1
CJ313	Crisis Int Dev Beh**	3
CJ319	Subst Criminal Law**	3
CJ321	Eth Issues in Pub Safety	3
CJ343	Investigation**	3
CJ344	Criminalistics**	3
CJ401	Senior Seminar	3
CJ402	Crim Just Internship	3-9
CJ407	Police Operations I**	5
CJ408	Police Operations II**	5
CJ409	Procedural Criminal Law**	3

Support Courses (57 credits)

BL110	General Zoology	4
BL111	General Botany***	4

CH115	General Chemistry I***	5
CH116	General Chemistry II	4
CH225	Organic Chemistry I	4
CH226	Organic Chemistry II	4
CH231	Quantitative Analysis	3
CH232	Instrumental Analysis	3
CH351	Introductory Biochemistry	4
HE190	Prehospital Emrg Care & Crisis Intervention I**	3
HE191	Prehospital Emrg Care & Crisis Intervention II**	2
NS101	Conceptual Physics	3
PS110	Intro Amer Govt/Pol	4
PY101	Intro to Psychology	4
PY259	Abnormal Psychology	3
SO214	Criminology	3

Electives (9 credits)

*16 Hours Included in Support

**MLEOTC Courses

***B.S. Requirement

FIRST YEAR: BACHELOR OF SCIENCE, CRIMINAL JUSTICE/CRIMINALISTICS

FALL

CJ101 Intro to Crim Just	3
CJ102 Police Process	3
CH115 Prin of Chem I	4
EN110 Eng Composition	3
PY101 Intro to Psych	4
	17

SPRING

CH116 Princ of Chem II	4
PS110 Intro to Amer Govt	4
SD101 Speech	3
Elective	3
Physical Education	1
	15

SECOND YEAR

CH225 Org Chemistry I	4
CH231 Quant Anal	3
BL110 Zoology	4
CJ201 Firearms	1
EN210 Res Pap Proc	3
	15

CH226 Org Chemistry II	4
CH232 Inst Anal	3
BL111 Botany	4
PY259 Abnormal Psych	3
Recreation Activities	1
	15

THIRD YEAR

CH351 Biochemistry	4
Humanities Elective	4
Recreation Activities	1
Elective	6
	15

NS101 Comc Phy	3
SO214 Criminology	3
CJ321 CJ/FS Ethics	3
CJ402 Internship	3-9
Humanities Elective	4
	16

FOURTH YEAR

CJ319 Substantive Law*	3
CJ343 Investigation*	3
CJ401 Seminar	3
CJ407 Police Oper I**	5
HE190 PEC & CI I*	3
	17

CJ308 Adv Firearms*	1
CJ313 Crisis Intervention*	3
CJ344 Criminalistics*	3
CJ408 Police Oper II**	5
CJ409 Procedural Law*	3
HE191 PEC & CI II*	2
	17

*MLEOTC Course

**MLEOTC Students Only

BACHELOR OF SCIENCE CRIMINAL JUSTICE/GENERALIST

General Education Requirements (27* credits)

Major Requirements (42 credits)

CJ101 Intro to Crim Just	3
CJ102 Police Process	3
CJ110 Intro to Corrections	3
CJ401 Senior Seminar	3
Other CJ Classes***	5

Support Courses** (19 credits)

PS110 Intro to Amer Govt/Pol	4
PS120 Legal Processes	3

PY101 Intro to Psych	4
PY259 Abnormal Psychology***	3
SO214 Criminology***	3
SO226 Races & Minorities***	3

Electives*** (36 credits)

*8 Hours Included in Support Courses.

**At Least 20 Hours of Support or Electives at 300-400 Level.

***B.S. Requirement.

****Min 23 credit hours at 300-400 level

FIRST YEAR: BACHELOR OF SCIENCE, CRIMINAL JUSTICE/GENERALIST

FALL

CJ101 Intro to Crim Just	3
CJ102 Police Process	3
EN110 Eng Composition	3
CJ Elective	3
Elective	3
	<u>15</u>

SPRING

PS110 Intro to Amer Govt	4
PS120 Legal Process	3
SD101 Speech	3
CJ Elective	3
Recreation Activities	1
	<u>14</u>

SECOND YEAR

CJ110 Intro to Corrections	3
EN210 Res Pap Proc	3
PY101 Intro. to Psych	4
Humanities Elective	4
CJ Elective	3
	<u>17</u>

PY259 Abnormal Psych	3
Humanities Elective	4
Natural Science	4
CJ Elective	3
Elective	3
	<u>17</u>

THIRD YEAR

SO226 Races & Minorities	3
Recreation Activities	1
CJ Elective	6
Elective	5
	<u>15</u>

SO214 Criminology	3
Natural Science	4
Electives	9
	<u>16</u>

FOURTH YEAR

CJ401 Seminar	3
Electives	6
Electives	6
	<u>15</u>

CJ Electives	9
Electives	6
	<u>15</u>

BACHELOR OF SCIENCE CRIMINAL JUSTICE/LAW ENFORCEMENT

General Education Requirements (27* credits)

Major Requirements (46 credits)	
CJ101 Intro to Crim Just	3
CJ102 Police Process	3
CJ106 Juvenile Justice	3
CJ110 Intro to Corrections	3
CJ201 Firearms Training	1
CJ206 On Campus Internship	3
CJ212 Loss Control	3
CJ313 Crisis Int of Dev Beh	3
CJ319 Substantive Criminal Law	3
or	3
CJ202 Canadian Criminal Law	3
CJ321 Eth Issues in Pub Safety	3
CJ343 Investigation	3
CJ344 Criminalistics	3
CJ401 Senior Seminar	3
CJ402 Crim Just Internship	3-9

CJ409 Procedural Criminal Law	3
or	
CJ406 Adv Can Jurisprudence	3
FS101 Intro to Fire Science	3
Support Courses (21 credits)	
HE181 First Aid	1
PS160 Intro. to Can Govt/Pol	3-4
or	
PS110 Intro to Amer Govt/Pol**	3
PS120 Legal Processes**	3
PY101 Intro to Psych	4
PY259 Abnormal Psychology	3
SO214 Criminology	3
SO226 Races & Minorities	3

Electives (30 credits)
 *8 Hours Included in Support Courses
 **B.S. Requirement

FIRST YEAR: BACHELOR OF SCIENCE, CRIMINAL JUSTICE/LAW ENFORCEMENT

FALL

CJ101 Intro to Crim Just	3
CJ102 Police Process	3
CJ110 Intro to Corrections	3
EN110 Eng Composition	3
Elective	4
	16

SPRING

CJ106 Juvenile Justice	3
PS160 Intro to Can Govt	3-4
or	3-4
PS110 Intro to Amer Govt	3
PS120 Legal Process	3
SD101 Speech	3
Elective	3
	15-16

SECOND YEAR

CJ201 Firearms	1
CJ212 Loss Control	3
EN210 Res Pap Proc	3
FS101 Intro to Fire Sci	3
PY101 Intro to Psych	4
Recreation Activities	1
	15

CJ206 LE/LC Internship	3
PY259 Abnormal Psych	3
SO214 Criminology	3
Humanities Elective	4
Natural Science	4
	17

THIRD YEAR

CJ343 Investigation	3
SO226 Races & Minorities	3
Humanities Elective	4
Natural Science	4
Elective	2
	16

CJ313 Crisis Intervention	3
CJ321 CJ/FS Ethics	3
CJ344 Criminalistics	3
HE181 First Aid	1
Elective	4
	14

FOURTH YEAR

CJ401 Seminar	3
CJ319 Subst Law	3
or	3
CJ202 Canadian Law	3
Electives	8
Recreational Activities	1
	15

CJ402 Internship	3-9
CJ409 Crim Proc	3
or	3
CJ406 Canadian Juris	3
Electives	9
	15

CERTIFICATION CRIMINAL JUSTICE/LAW ENFORCEMENT

General Education Requirements (27* credits)

Major Requirements (57 credits)

CJ101 Intro to Crim Just	3
CJ102 Police Process	3
CJ106 Juvenile Justice	3
CJ110 Intro to Corrections	3
CJ201 Firearms Training	1
CJ206 On Campus Internship	3

CJ212 Loss Control	3
CJ308 Adv Firearms Training**	1
CJ313 Crisis Inter of Dev Beh**	3
CJ319 Subst Criminal Law**	3
CJ321 Eth Issues in Pub Safety	3
CJ343 Investigation**	3
CJ344 Criminalistics**	3
CJ401 Senior Seminar	3
CJ402 Crim Just Internship	3-9

CJ407	Police Operations I**	5
CJ408	Police Operations II**	5
CJ409	Procedural Criminal Law**	3
FS101	Intro to Fire Science	3

PS120	Legal Processes	3
PY101	Intro to Psych	4
PY259	Abnormal Psychology***	3
SO214	Criminology**	3
SO226	Races & Minorities***	3

Support Courses (25 credits)

HE190	Prehospital Emrg Care & Crisis Intervention I	3
HE191	Prehospital Emrg Care & Crisis Intervention II**	2
PS110	Intro to Amer Govt/Pol	4

Electives (15 credits)

*8 Hours Included in Support Courses

**MLEOTC Courses

***B.S. Requirement

FIRST YEAR: CERTIFICATE, CRIMINAL JUSTICE/LAW ENFORCEMENT

FALL

CJ101	Intro to Crim Just	3
CJ102	Police Process	3
CJ110	Intro to Corrections	3
EN110	Eng Composition	3
Elective		3
		<u>15</u>

SPRING

CJ106	Juvenile Justice	3
PS110	Intro to Amer Govt	4
PS120	Legal Process	3
SD101	Speech	3
Elective		3
		<u>16</u>

SECOND YEAR

CJ201	Firearms	1
CJ212	Loss Control	3
EN210	Res Pap Proc	3
FS101	Intro to Fire Sci	3
PY101	Intro to Psych	4
Recreation Activities		1
		<u>15</u>

CJ206	LE/LC Internship	3
PY259	Abnormal Psych	3
SO214	Criminology	3
Humanities Elective		4
Natural Science		4
		<u>17</u>

THIRD YEAR

SO226	Races & Minorities	3
Humanities Elective		4
Natural Science		4
RA150	Indiv Phys Fitness	1
Electives		2
		<u>14</u>

CJ321	CJ/FS Ethics	3
CJ402	Internship	3
Electives		7
		<u>13</u>

FOURTH YEAR

CJ319	Substantive Law*	3
CJ343	Investigation*	3
CJ401	Seminar	3
CJ407	Police Oper I**	5
HE190	Pec & CI I*	3
		<u>17</u>

CJ308	Advanced Firearms*	1
CJ313	Crisis Intervention*	3
CJ344	Criminalistics*	3
CJ408	Police Oper II**	5
CJ409	Procedural Law*	3
HE191	Pec & CI II*	2
		<u>17</u>

*MLEOTC Course

**MLEOTC Students Only

BACHELOR OF SCIENCE CRIMINAL JUSTICE/LOSS CONTROL

General Education Requirements (27* credits)

Major Requirements (49 credits)

CJ101	Intro to Crim Just	3
CJ102	Police Process	3
CJ110	Intro to Corrections	3
CJ201	Firearms Training	1
CJ206	Law Enf/Loss Cont Intern	3
CJ212	Loss Control	3
CJ306	Security Systems	3
CJ319	Substantive Criminal Law	
	or	3
CJ202	Canadian Criminal Law	
CJ341	Fire/Arson Investigation	3
CJ343	Investigation	3
CJ344	Criminalistics	3
CJ401	Senior Seminar	3
CJ402	Crim Just Internship	3-9
CJ409	Procedural Criminal Law	
	or	3
CJ406	Adv Can Jurisprudence	
FS101	Intro to Fire Science	3

FS111	Hazardous Materials	3
FS321	Industrial Fire Protection	3

Support Courses (35 credits)

DP264	Intro to Data Processing	3
HE181	First Aid	1
MN370	Management Principles & Human Resource Concepts	4
MN451	Labor Law	4
PS110	Intro to Amer Govt/Pol	4
PS120	Legal Processes	3
PY101	Introduction to Psychology	4
PY259	Abnormal Psychology**	3
SO214	Criminology**	3
SO226	Races & Minorities**	3
TC104	Industrial Safety & Small Engine Mechanics	3

Electives (13 credits)

*8 Hours Included in Support Courses
**B.S. Requirement

FIRST YEAR: BACHELOR OF SCIENCE, CRIMINAL JUSTICE/LOSS CONTROL

FALL

CJ101	Intro to Crim Just	3
CJ102	Police Process	3
CJ212	Loss Control	3
EN110	Eng Composition	3
PY101	Intro to Psych	4
		<u>16</u>

SPRING

PS160	Intro to Can Govt	
	or	3-4
PS110	Intro to Amer Govt	
PS120	Legal Process	3
SD101	Speech	3
SO214	Criminology	3
Recreation Activities		<u>1</u>
		<u>14</u>

SECOND YEAR

CJ110	Intro to Corrections	3
CJ201	Firearms	1
FS101	Intro to Fire Sci	3
FS111	Hazardous Mat	3
EN210	Res Pap Proc	3
TC104	Safety/SE	3
		<u>16</u>

CJ206	LE/LC Internship	3
DP264	Intro. to D.P.	3
PY259	Abnormal Psych	3
Natural Science		4
Humanities Elective		<u>4</u>
		<u>17</u>

THIRD YEAR

CJ343	Investigation	3
SO226	Races & Minorities	3
Natural Science		4
Humanities Elective		4
Physical Education		1
		<u>15</u>

CJ306	Sec. System	3
CJ341	Fire & Arson	3
CJ344	Investigation	3
FS321	Industrial Fire Prot.	3
Electives		<u>3</u>
		<u>15</u>

FOURTH YEAR

CJ401 Seminar	3	CJ402 Internship	3-9
CJ319 Subst Crim Law	3	CJ409 Procedural Law	
or	3	or	3
CJ202 Canadian Law		CJ406 Canadian Juris	
MN370 Prin of Mgmt	4	HE181 First Aid	1
Electives	<u>6</u>	MN451 Labor Law	4
	16	Electives	<u>4</u>
			15-21

BACHELOR OF SCIENCE CRIMINAL JUSTICE/PUBLIC SAFETY

General Education Requirements (27* credits)

Major Requirements (60 credits)

CJ101 Intro to Crim Just	3
CJ102 Police Process	3
CJ201 Firearms Training	1
CJ206 Law Enf/Loss Cont Intern	3
CJ308 Advanced Firearms**	1
CJ313 Crisis Inter & Dev Beh**	3
CJ319 Substantive Criminal Law**	3
CJ321 Eth Issues in Pub Safety	3
CJ343 Investigation**	3
CJ344 Criminalistics**	3
CJ401 Crim Just Senior Seminar	
or	3
FS401 Fire Sci Senior Seminar	
CJ402 Crim Just Internship	
or	3-9
FS402 Fire Sci Internship	
CJ407 Police Operations I**	5
CJ408 Police Operations II**	5
CJ409 Proc Criminal Law**	3
FS101 Intro to Fire Science	3

FS111 Hazardous Materials	3
FS204 Fire Prot Hyd & Pumps	3
FS205 Fire Prot Systems & Equip	3
FS211 Tactics & Strategy	3

Support Courses

HE190 Prehospital Emrg Care & Crisis Intervention I**	3
HE191 Prehospital Emrg Care & Crisis Intervention II**	2
PS110 Intro to Amer Govt/Pol	4
PS120 Legal Processes	3
PY101 Intro to Psych	4
PY259 Abnormal Psychology***	3
SO214 Criminology**	3
SO226 Races & Minorities***	3

Electives (12 credits)

*8 Hours Included in Support Courses

**MLEOTC Courses

***B.S. Requirement

FIRST YEAR: BACHELOR OF SCIENCE, CRIMINAL JUSTICE/PUBLIC SAFETY

FALL

CJ101 Intro to Crim Just	3
CJ102 Police Process	3
EN110 Eng Composition	3
FS101 Intro to Fire Sci	3
Elective	3
	<u>15</u>

SPRING

PS110 Amer Government	4
PS120 Legal Process	3
SD101 Speech	3
Elective	4
Recreation Activities	1
	<u>15</u>

SECOND YEAR

CJ201 Firearms	1
FS111 Hazardous Materials	3
FS204 F.P. Hydraulics	3
PY101 Intro to Psych	4
EN210 Res Pap Proc	3
Elective	<u>2</u>
	16

CJ206 LE/LC Internship	3
FS205 Fire Protection Sys.	3
FS211 Tactics & Strategy	3
PY259 Abnormal Psycho	3
Humanities Elective	4
	<u>16</u>

THIRD YEAR

Humanities Elective	4
Natural Science	4
SO226 Races & Minorities	3
Electives	<u>3</u>
	14

CJ321 CJ/FS Ethics	3
CJ402 Crim Just Internship	3-9
or	
FS403 Fire Sci Internship	
Natural Science	4
SO214 Criminology	3
Recreation Activities	<u>1</u>
	14

FOURTH YEAR

CJ319 Substantive Law*	3
CJ343 Investigation*	3
CJ401 CJ Seminar	
or	
FS401 FS Senior Seminar	3
CJ407 Police Oper I**	5
HE190 PEC & CI I*	<u>3</u>
	17

CJ308 Advanced Firearms*	1
CJ313 Crisis Intervention*	3
CJ344 Criminalistics*	3
CJ408 Police Oper II**	5
CJ409 Procedural Law*	3
HE191 PEC & CI II	<u>2</u>
	17

*MLEOTC Course

**MLEOTC Students Only

FIRE SCIENCE

BACHELOR OF SCIENCE FIRE SCIENCE/ENGINEERING TECHNOLOGY

General Education Requirements (31* credits)

Major Requirements (33 credits)

CJ341 Fire & Arson Invest	3
FS101 Intro to Fire Science	3
FS111 Hazardous Materials	3
FS204 Fire Prot Hyd & Pumps	3
FS205 Fire Prot Sys & Equip	3
FS211 Tactics & Strategy	3
FS301 Code Enf Insp & Fire Prev	3
FS321 Industrial Fire Protection	3
FS401 Senior Seminar	3
FS403 Fire Science Internship	3-9
FS420 Fire Science Management & Incident Analysis	3

Support Courses (41 credits)

CS100 Intro Microcomp Appl	3
MA140 Alg for Technologists	3

MA141 Technical Calculus I**	4
MA142 Technical Calculus II**	4
ME104 Technical Drawing	4
MT316 Stat & Stgth of Mat	3
MT341 Fluid Mechanics	3
MT430 Thermodynamics	3
MT431 Thermo/Heat Trans	4
NS101 Conceptual Physics	
or	
	4
PH221 Elmts Phys I	
TC101 Construction I	3
TC102 Construction II	3

Electives (19 credits)

*4 Hours Included in Support Courses.

**B.S. Requirement

FIRST YEAR: BACHELOR OF SCIENCE, FIRE SCIENCE/ENGINEERING TECHNOLOGY

FALL

FS101 Intro to Fire Sci	3
FS111 Hazardous Materials	3
EN110 Eng Composition	3
MA140 Algebra & Trig	4
TC101 Construction I	3
	16

SPRING

CS100 Intro. to Micro.	3
TC102 Construction II	3
SD101 Speech	3
Social Science	4
Electives	3
	16

SECOND YEAR

FS204 FP Hydraulics	3
ME104 Technical Drawing	4
Elective	3
MA141 Tec. Calc. I	4
EN205 Tech Rept Wrtg	3
or	
EN210 Res Pap Proc	3
	17

FS205 FP Systems	3
FS211 Tactics	3
MA142 Tec. Calc. II	4
Elective	3
Humanities Elective	4
	17

THIRD YEAR

FS301 Code Enforcement	3
NS Life Science Elective	4
PH221 Physics I	4
Humanities Elective	4
Recreation Activities	1
	16

FS321 Industrial FP	3
CJ341 Fire & Arson	3
MT316 Stats & Strat	3
MT341 Fluid Mech	3
Social Science	4
	16

FOURTH YEAR

FS401 Seminar	3
MT430 Thermodynamics	3
Recreation Activities	1
Electives	6
	13

FS403 Internship	3
FS420 Fire Management	3
MT431 Thermo/Heat Trans	4
Electives	3
	13

BACHELOR OF SCIENCE FIRE SCIENCE/GENERALIST

General Education Requirements (35 credits)

Major Requirements (53 credits)

CJ341 Fire & Arson Investigation	3
FS101 Intro to Fire Science	3
FS111 Hazardous Materials	3
FS204 Fire Prot Hyd & Pumps	3
FS205 Fire Prot Sys Equip	3
FS211 Tactics & Strategy	3
FS301 Code Enf Insp/Fire Prev	3
FS321 Industrial Fire Prot	3
FS401 Senior Seminar	3

FS403 Fire Science Internship	3-9
FS420 Fire Science Mgmt & Incident Analysis	3
Minor	20

Support Courses (6 credits)

TC101 Construction I	3
TC102 Construction II	3

Electives* (30 credits)

*Must Include 8 Hours B.S. Requirements.

FIRST YEAR: BACHELOR OF SCIENCE, FIRE SCIENCE/GENERALIST

FALL

FS101 Intro to Fire Sci	3
FS111 Hazardous Materials	3
EN110 Fresh Composition	3
Elective	3
Recreation Activities	1
TC101 Construction I	3
	16

SPRING

Social Science	4
Humanities Elective	4
SD101 Speech	3
TC102 Construction II	3
Elective	3
	17

SECOND YEAR

FS204 FP Hydraulics	3
EN205 Tec Rep Wrtg	3
or	3
EN210 Res Pap Proc	3
Social Science	4
Recreation Activities	1
Electives	4
	15

FS205 FP Systems	3
FS211 Tactics	3
BS Requirement	4
Natural Science	4
Elective	3
	17

THIRD YEAR

FS301 Code Enforcement	3
BS Requirement	4
Humanities Elective	4
Minor	4
	15

FS321 Industrial Fire Prot	3
CJ341 Fire & Arson	3
Minor	6
Electives	4
	16

FOURTH YEAR

FS401 Seminar	3
Minor	6
Electives	6
	15

FS403 Internship	3
FS420 Fire Management	3
Minor	4
Electives	3
	13

BACHELOR OF SCIENCE FIRE SCIENCE/HAZARDOUS MATERIALS

General Education Requirements (27* credits)

Major Requirements (33 credits)

CJ341 Fire and Arson Invest	3
FS101 Intro to Fire Science	3
FS111 Hazardous Materials	3
FS204 Fire Prot Hyd & Pumps	3
FS205 Fire Prot Sys Equip	3
FS211 Tactics & Strategy	3
FS301 Code Enf Insp/Fire Prev	3
FS321 Industrial Fire Prot	3
FS401 Senior Seminar	3

FS403 Fire Science Internship	3-9
FS420 Fire Science Mgmt & Incident Analysis	3

Support Courses (51 credits)

BL110 General Zoology**	4
BL111 General Botany	4
CH115 General Chemistry I	5
CH116 General Chemistry II**	4
CH225 Organic Chemistry I	4
CH226 Organic Chemistry II	4
CH231 Quantitative Analysis	3
CH232 Instrumental Analysis	3

CH351 Intro Biochemistry	4
GG108 Phys Geo: Met/Clim	3
NS102 Intro to Geology	3
RT275 Soil Management	4
TC101 Construction I	3
TC102 Construction II	3

Electives (13 credits)

*8 Hours Included in Support Courses.

**B.S. Requirement

FIRST YEAR: BACHELOR OF SCIENCE, FIRE SCIENCE/HAZARDOUS MATERIALS

FALL

FS101 Intro to Fire Sci	3
FS111 Hazardous Materials	3
EN110 Eng Composition	3
TC101 Construction I	3
CH115 Princ Chemistry I	5
	<u>17</u>

SPRING

SD101 Speech	3
CH116 Prin of Chem II	4
Social Science	4
Elective	3
TC102 Construction I	3
	<u>17</u>

SECOND YEAR

FS204 FP Hydraulics	3
CH225 Org. Chem. I	4
CH231 Analytic I	3
BL110 Zoology	4
EN205 Tech Rep Wrtg	3
or	
EN210 Res Pap Proc	3
	<u>17</u>

FS205 FP System	3
Elective	3
CH226 Org. Chem. II	4
CH232 Analytic	3
BL111 Botany	4
	<u>17</u>

THIRD YEAR

GG108 Physical Geology	3
RT275 Soils	4
Social Science	4
Humanities Elective	4
	<u>15</u>

FS321 Industrial FP	3
NS102 Geology	3
FS211 Tactics	3
Humanities Elective	4
Physical Education	1
	<u>14</u>

FOURTH YEAR

FS401 Seminar	3
CH351 Biochemistry	4
FS301 Code Enforcement	3
Electives	3
Physical Education	1
	<u>14</u>

FS403 Internship	3
FS420 Fire Management	3
CJ341 Fire & Arson	3
Electives	4
	<u>13</u>

ASSOCIATE DEGREE CRIMINAL JUSTICE/CORRECTIONS

Basic Requirements (11 credits)

Major Requirements (30 credits)

CJ101 Intro to Crim Just	3
CJ106 Juvenile Justice	3
CJ110 Intro to Corrections	3
CJ140 Correctional Client Growth & Development	3

CJ130 Client Rel in Corr	3
CJ220 Institutional Corrections	3
CJ240 Comm Based Corrections	3
CJ250 Correctional Law	3
CJ319 Substantive Criminal Law	3
or	
CJ202 Canadian Criminal Law	3
CJ330 Correctional Casework	3

Support Courses (7 credits)

HE181 First Aid	1
S0214 Criminology	3

PS120 Legal Process	3
or	
PS160 Intro to Can Govt/Pol	3
Electives (14 credits)	

FIRST YEAR: ASSOCIATE DEGREE, CRIMINAL JUSTICE/CORRECTIONS

FALL

CJ101 Intro to Crim Just	3
CJ110 Intro to Corrections	3
CJ140 Correctional Clients	3
EN110 Eng Composition	3
Elective	4
	<u>16</u>

SPRING

CJ106 Juvenile Justice	3
CJ130 Client Growth	3
HE181 First Aid	1
Recreational Activities	1
PS120 Legal Process	3
or	
PS160 Intro to Can Govt	3
SD101 Speech	3
	<u>14</u>

SECOND YEAR

CJ240 Comm Based Corr	3
CJ250 Correctional Law	3
CJ319 Subst Crim Law	
or	3
CJ202 Can Crim Law	
EN210 Res Pap Proc	3
Electives	4
	<u>16</u>

CJ220 Institutional Corr	3
CJ330 Corr Casework	3
SO214 Criminology	3
Recreation Activities	1
Electives	6
	<u>16</u>

ASSOCIATE DEGREE CRIMINAL JUSTICE/LAW ENFORCEMENT

Basic Requirements (11 credits)

Major Requirements (28 credits)

CJ101 Intro to Crim Just	3
CJ102 Police Process	3
CJ106 Juvenile Justice	3
CJ201 Firearms Training	1
CJ206 On Campus Intern	3
CJ313 Crisis Intervention of Deviant Behavior	3
CJ319 Subst Criminal Law	
or	3
CJ202 Can Criminal Law	
CJ343 Investigation	3

CJ344 Criminalistics	3
CJ409 Procedural Criminal Law	
or	3
CJ406 Adv Canadian Juris	

Support Courses (7 credits)

HE181 First Aid	1
PS120 Legal Process	3
or	
PS160 Intro Can Govt/Pol	3
S0214 Criminology	3

Electives (16 credits)

FIRST YEAR: ASSOCIATE DEGREE, CRIMINAL JUSTICE/LAW ENFORCEMENT

FALL

CJ101 Intro to Crim Justice	3
CJ102 Police Process	3
EN110 Eng Composition	3
Electives	6
Recreation Activities	<u>1</u>
	16

SPRING

CJ106 Juvenile Justice	3
HE181 First Aid	1
Recreation Activities	1
PS120 Legal Process	
or	3
PS160 Canadian Govt	
SD101 Speech	3
SO214 Criminology	<u>3</u>
	14

SECOND YEAR

CJ201 Firearms	1
CJ313 Crisis Intervention	3
CJ319 Subst Crim Law	
or	3
CJ202 Canadian Law	
CJ343 Investigation	3
EN210 Res Pap Proc	3
Electives	<u>3</u>
	16

CJ206 CJ/LE Internship	3
CJ344 Criminalistics	3
CJ409 Procedural Law	
or	3
Canadian Juris	
Electives	<u>7</u>
	16

**ASSOCIATE DEGREE
FIRE SCIENCE**

Basic Requirements (11 credits)

Major Requirements (21 credits)

CJ341 Fire & Arson Invest	3
FS101 Intro to Fire Science	3
FS111 Hazardous Materials	3
FS204 Fire Prot Hyd & Pumps	3
FS205 Fire Prot Sys & Equip	3
FS211 Tactics & Strategy	3
FS321 Industrial Fire Prot	3

Support Courses (17 credits)

HE190 Prehospital Emrg Care & Crisis Intervention I	3
HE191 Prehospital Emrg Care & Crisis Intervention II	2
SO, PY or PS	6
TC101 Construction I	3
TC102 Construction II	3

Electives (13 credits)

FIRST YEAR: ASSOCIATE DEGREE, FIRE SCIENCE

FALL

FS101 Intro to Fire Sci	3
FS111 Hazardous Materials	3
EN110 Eng Composition	3
TC101 Construction I	3
HE190 PEC & CI I	<u>3</u>
	15

SPRING

HE191 PEC & CI II	2
SD101 Speech	3
TC102 Construction II	3
SO, PY or PS	3
Recreational Activities	1
Electives	<u>4</u>
	16

SECOND YEAR	
FS204 FP Hydraulics	3
EN205 Tech Rep Wrtg	3
or	3
EN210 Res Pap Proc	3
SO, PY or PS Electives	3
Electives	3
	<u>15</u>

FS205 FP Systems	3
FS211 Tactics & Strategy	3
FS321 Industrial FP	3
CJ341 Fire & Arson	3
Recreational Activities	1
Electives	3
	<u>16</u>

MINOR COURSES OF STUDY

CORRECTIONS MINOR

Total Credits Required: 21

Required Courses:

CJ110 Intro to Corr	3
CJ220 Inst Corrections	3
CJ240 Comm Based Corrections	3
CJ319 Substantive Law	3

Minimum of 9 hours from:

(At least one must be 300-400)

CJ101 Intro to Crim Just	3
CJ106 Juvenile Justice	3
CJ130 Client Relations	3
CJ140 Client Grth/Dev	3
CJ250 Correctional Law	3
CJ343 Investigation	3
CJ402 Internship	3-9
CJ409 Procedural Law	3

FIRE SCIENCE MINOR

Total Credits Required: 21

Required Courses:

FS101 Introduc. to Fire Science	3
FS111 Hazardous Materials	3
FS204 FP Hydraulics & Systems	3
FS205 FP Systems & Equipment	3

Minimum of 9 hours from:

FS211 Tactics and Strategy	3
FS301 Code Enf & Admin	3
FS321 Industrial Fire Prot	3
CJ341 Fire/Arson Invest	3
FS420 Fireground Management	3
TC101 Construction I	3
TC102 Construction II	3

LAW ENFORCEMENT MINOR

Total Credits Required: 21

Required Courses:

CJ101 Intro to Crim Just	3
CJ102 Police Process	3

Minimum of 15 hours from:

CJ202 Canadian Criminal Law	3
CJ206 LE/LC Internship	3
CJ313 Crisis Intervention	3
CJ319 Substantive Law	3
CJ321 Ethics	3
CJ343 Investigation	3
CJ344 Criminalistics	3
CJ406 Adv Canadian Juris	3
CJ409 Procedural Criminal Law	3

LOSS CONTROL MINOR

Total Credits Required: 21

Required Courses:

CJ212 Loss Control	3
CJ306 Security Systems	3

Minimum of 6 hours from:

CJ202 Canadian Criminal Law	3
CJ319 Substantive Law	3
CJ406 Adv Canadian Juris	3
CJ409 Procedural Law	3

Minimum of 9 hours from:

MN370 Prin of Management	4
DP264 Intro to Data Proc	3
MN451 Labor Law	4
MK285 Retail Management	3

RECREATION STUDIES

FACULTY: Coordinator, Assoc. Prof. Sally Childs; Assist. Prof. Debra McPherson; Instructors Thomas Borrelli, David Cotner, Lee Gardiner, Stephen Yanni.

BACHELOR OF SCIENCE EXERCISE SCIENCE

THE EXERCISE SCIENCE major concentrates on developing an understanding of the physiological and psychological consequences of exercise in various populations, and applying this knowledge to fitness, clinical and research settings. The need for exercise science professionals is growing in each of these areas as exercise continues to occupy a prominent role in enhancing the quality of life and maintaining health; and, gains prominence in the treatment and prevention of lifestyle diseases such as cardiovascular disease, hypertension, obesity, and diabetes. Employment opportunities for exercise science professionals are becoming more varied and requiring increased levels of expertise and technical skills. This major is designed to prepare students to meet these professional challenges through a skill- development approach in the critical areas of exercise testing and exercise prescription. The required 124 graduation credits emphasize course work in physiology, pathophysiology, sport medicine, laboratory procedures, research methods, exercise psychology and computer applications.

Exercise Science (30 credits)

ES141 Intro to Movement	3
ES242 Sports Medicine	3
ES295 Practicum	2
ES342 Exercise Physiology	3
ES344 Kinesiology	3
ES348 Lab Proc in Exer Sci	3
ES390 Rec Leader Apprentice	2
ES440 Exercise Physiology Sem	2
ES444 Exercise Prescription	1
ES492 Internship	6
ES496 Selected Research Topics	2

Cognate Requirements (35 credits)

BL121 Anatomy and Physiology I	3
BL122 Anatomy and Physiology II	4
CH104 Life Chemistry I	3
CH105 Life Chemistry II	4
CS100 Intro to Microcomputers	3
HE208 Nutrition	2

HM480 Grantwriting	3
MA207 Princ of Stat Methods	3
PY101 Intro to Psychology	4
PY203 Couns Theory & Process	3
PY240 Behavior Management	3

Departmental Electives (18 credits)

ES140 Health and Fitness	3
ES244 Techniques of Athletic Tr	2
ES248 Psy of Sports and Athl	3
ES295 Practicum	2
ES390 Rec Leader Apprenticeship	1
ES442 ECG in Exer Sci	2
ES481 Professional Dev Seminar	1
RA211 Water Saf & Lfgrd Instr	2
RC101 Intro. to Rec. & Leis. Ser.	3
RC105 Prog Development Leadership Recreation Leisure Services	3
RC212 Instructional Methods in Adapted Aquatics	1

RC230 Prin & Prac in Thera Rec	3
RC320 Dance & Rhythmic Act for Recreation	3
RC370 Rec. for the Elderly	3
RC482 Admin of Rec Leis Serv	3
Cognate Electives (9 credits)	
BL330 Animal Physiology	4
BL423 Immunology	4
HE190 Prehospital Emrg Care & Crisis Intervention I	3

HE209 Pharmacology	3
HE232 Pathophysiology	3
PH221 Elmts. Phys. I	4
PY265 Child & Adoles. Dev.	3
PY459 Physiological Psychology	3
SO341 Sociology of Addiction	3

Elective credits (approximately 12) and General Education requirements must be completed such that at least 124 semester credits have been earned

FIRST YEAR: BACHELOR OF SCIENCE, EXERCISE SCIENCE

FALL

EN110 Eng. Comp.	3
ES/RC Elective	3
General Electives	6
RA Recreation Act.	<u>1</u>
	13

SPRING

CH104 Life Chemistry I	3
CS100 Intro. Microcom.	3
ES141 Intro. to Movement	3
PY101 Intro. to Psych.	4
RA Recreation Act.	<u>1</u>
	14

SECOND YEAR

BL121 Anat & Phys I	3
CH105 Life Chemistry II	4
ES242 Sports Medicine	3
Humanities	4
PY203 Couns. Theory Pr.	<u>3</u>
	17

BL122 Anat. & Phys. II	4
EN210 Research Paper Process	3
ES295 Practicum	1
General Electives	3
Humanities	4
PY240 Beh. Management	<u>3</u>
	18

THIRD YEAR

ES342 Exer Phys	3
ES344 Kinesiology	3
ES/RC Elective	3
MA207 Statistics	3
SD101 Fund Speech	<u>3</u>
	15

ES348 Lab & Meas in ES	3
ES390 Rec Ldr Apprenticeship	1
ES/RC Elective	5
General Electives	3
HE208 Nutrition	<u>2</u>
	14

FOURTH YEAR

Cognate Elective	3
ES390 Rec. Ldr. Apprentice	1
ES440 Exer. Phys. Seminar	2
ES444 Exer. Prescription	1
ES496 Sel. Res. Topics	2
ES/RC Elective	3
HM480 Grantwriting	<u>3</u>
	15

Cognate Elective	6
ES295 Practicum	1
ES/RC Elective	4
Soc. Sci. Elective	<u>2</u>
	13

Summer

ES492 Internship	6
(following either 3rd or 4th year)	

□ Athletic Training Concentration

AN ATHLETIC TRAINER is a highly skilled professional who deals directly with injuries which occur to athletes. The athletic trainer works closely with physicians and other health care professionals in order to provide today's athletes with the best medical care possible. Those who pursue a career in athletic training may seek employment on the high school, college, or professional sport levels. In addition, the athletic trainer may be employed in sports medicine and health fitness clinics, the number of which has greatly increased in the past decade. All the above mentioned positions usually require certification by the National Athletic Trainers' Association. Students completing the concentration at Lake Superior State University will be more marketable in the field of exercise science and eligible for a variety of graduate programs in athletic training and sports medicine throughout the country. Any student wishing to achieve eligibility to sit for the National Athletic Trainers' Association certification examination will receive individual guidance in that direction.

Exercise Science (30 credits)

ES141	Intro to Movement	3
ES230	Orthopaedic Assessment	3
ES242	Sports Medicine	3
ES244	Techniques of Athl Training	2
ES295	Practicum	2
ES342	Exercise Physiology	3
ES344	Kinesiology	3
ES348	Lab Procedures in Exer Sci	3
ES492	Internship	6
ES496	Selected Research Topics	2

Cognate Requirements (34 credits)

BL121	Anatomy and Physiology I	3
BL122	Anatomy and Physiology II	4
CH104	Life Chemistry I	3
CH105	Life Chemistry II	4
HE190	Prehospital Emrg Care & Crisis Intervention I	3
HE191	Prehospital Emrg Care & Crisis Intervention II	2
HE208	Nutrition	2
MA207	Prin of Statistical Methods	3
PY101	Intro to Psychology	4
PY203	Couns Theory and Process	3
PY240	Behavior Management	3

Departmental Electives (18 credits)

ES140	Health and Fitness	3
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ES248	Psy of Sports and Athl	3
ES295	Practicum	2
ES390	Rec Leader Apprenticeship	1
ES440	Exercise Physiology Seminar	2
ES442	ECG in Exer Sci	2
ES444	Exercise Prescription	1
ES481	Prof Dev Seminar	1
RA211	Water Saf & Lifeguard Inst	2
RC101	Intro to Rec & Leis Ser	3
RC105	Prog Dev Ldsp Rec Leis Ser	3
RC212	Instruc Meth in Adapted Aq	1
RC230	Prin & Prac in TR	3
RC370	Rec for the Elderly	3
RC482	Admin of Rec Leis Ser	3

Cognate Electives (9 credits)

BA201	Professional Dev.	3
EN305	Adv Tech Report Writing	3
HE209	Pharmacology	3
HE232	Pathophysiology	3
PH221	Elements of Physics I	4
PY459	Physiological Psychology	3

Elective credits (approximately 12) and General Education requirements must be completed such that at least 124 semester credits have been earned.

**FIRST YEAR: BACHELOR OF SCIENCE, EXERCISE
SCIENCE/ATHLETIC TRAINING CONCENTRATION**

FALL

EN110 Eng Composition	3
General Electives	6
HE190 Emer Care & Cr In I	3
RA Recreation Act	$\frac{1}{13}$

SPRING

CH104 Life Chemistry I	3
ES140 Health and Fitness	3
ES141 Intro to Movement	3
HE191 Emer Care & Cr In II	2
PY101 Intro to Psychology	$\frac{4}{15}$

SECOND YEAR

BL121 Anat & Phys I	3
CH105 Life Chemistry II	4
3	
ES242 Sports Medicine	3
ES244 Tech of Ath Training	2
Humanities	$\frac{4}{16}$

BL122 Anat & Phys II	4
ES230 Orthopaedic Assessment	
Humanities	4
EN210 Research Paper Process	$\frac{3}{14}$

THIRD YEAR

ES342 Exer Phys	3
ES/RC Electives	3
ES295 Practicum	2
MA207 Statistics	3
PY203 Couns Theory/Pract	3
SD101 Fund. of Speech	$\frac{3}{17}$

PY240 Behavior Management	3
ES344 Kinesiology	3
ES348 Lab. Proced. in ES	3
General Electives	3
HE208 Nutrition	2
RA Recreation Act.	$\frac{1}{15}$

Summer

ES492 Internship (following 3rd year)	6
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FOURTH YEAR

Cognate Elective	3
ES390 Rec Ldr Apprentice*	1
ES496 Sel Res Topics	2
ES/RC Elective	6
General Elective	$\frac{3}{15}$

Cognate Elective	6
ES295 Practicum	2
ES/RC Elective	3
Soc. Sci. Elective	$\frac{2}{13}$

*suggested electives

**BACHELOR OF ARTS/SCIENCE
RECREATION MANAGEMENT**

THE RECREATION MANAGEMENT degree is a program of study designed to prepare those students seeking employment opportunities in the recreation/leisure field that demand sound management skills. Career

choices abound within commercial, resort, industrial, military, municipal, state, federal government, and voluntary recreation settings. The need for qualified leaders, supervisors, and directors that possess management and recreation skills is increasing. Career specialization can be achieved by selecting recreation electives that promote a concentration, enhancing a degree that has a built-in business minor.

BACHELOR OF ARTS, RECREATION MANAGEMENT

Department Requirements (22 credits)

ES140 Health and Fitness	3
RA Recreation Activity	1
RA Recreation Activity	1
RC101 Intro to Recreation	3
RC105 Program Development Leadership Recreation Leisure Services	3
RC295 Practicum	1
RC481 Professional Dev Seminar	1
RC482 Admin of Rec and Leis Serv	3
RC492 Internship	6

Business Requirements (31 credits)

AC132 Principles of Accounting I	4
AC133 Principles of Accounting II	4
BA231 Business Communications	3
BA254 Business Law I	3
DP264 Intro to Data Processing	3
EC201 Principles of Macroeconomics	3
EC202 Principles of Microeconomics	3
MK281 Marketing Prin & Strategy	4
MN370 Management Principles & Human Resource Concepts	4

Cognate Requirements (13 credits)

BA Requirements - Foreign Language	8
BL105 Functions of the Human Body	4
HE181 First Aid	1

Department Electives (19 credits)

ES141 Intro to Movement	3
ES242 Sports Medicine	3
ES244 Tech of Athletic Training	2
ES248 Psy of Sport & Athletics	3
ES342 Exercise Physiology	3
ES344 Kinesiology	3
ES348 Lab Proc & Meas in ES	3
ES442 Electrocardiography in ES	2
ES444 Exercise Prescription	1
HM480 Grantwriting	3
RC212 Ins Mds Adapted Aquatics	1
RC220 Methods in Arts & Crafts	3
RC230 Prin & Pract in TR	3
RC262 Outdoor Recreation	3
RC295 Practicum	1
RC320 Dance Rymn Act for Rec	3
RC330 Disabilities Ser by TR	3
RC335 Rec Pursuits of Disabled	3
RC362 Land Mgmt for Rec Purposes	3
RC365 Expedition Management	3
RC370 Recreation for the Elderly	3
RC390 Rec Ldr Apprenticeship	1
RC435 Problems & Issues in TR	3
RC496 Sen Res Topics	1

Elective credits (approximately 14) and General Education requirements must be completed such that at least 124 semester credits have been earned.

FIRST YEAR: BACHELOR OF ARTS, RECREATION MANAGEMENT

FALL

EN110 Eng Composition I	3
ES140 Health and Fitness	3
NS Nat Sci Elective	4
RC101 Intro Rec & Leis	3
PY/SO Psy/Soc Elective	2
RA Recreation Activity	1
	<u>16</u>

SPRING

BL105 Func of Hmn Bdy	4
DP264 Intro Data Proc	3
HE181 First Aid	1
RA Recreation Activity	1
RC105 Prog Dev & Leadership in Recreation	3
SD101 Fund. of Speech	3
	<u>15</u>

SECOND YEAR

AC132 Accounting I	4
BA Req - Foreign Lang	4
EN210 Res Paper Process	3
HU Humanities	4
RC295 Rec Practicum	1
	<u>16</u>

AC133 Prin Accounting II	4
BA Req - Foreign Lang	4
Department Elective	3
HU Humanities	4
RA Recreational Activity	1
	<u>16</u>

THIRD YEAR

BA254 Business Law I	3
Department Elective	4
EC201 Prin Macroecon	3
General Electives	4
RA Elective	1
	<u>15</u>

BA231 Bus Comm	3
Department Electives	4
EC202 Microeconomics	3
RC492 Internship	6
	<u>16</u>

FOURTH YEAR

Department Electives	4
General Electives	3
MN370 Management Prin	4
RC481 Prof Dev Seminar	1
RC482 Admin Recreation	
Leisure Services	3
	<u>15</u>

Department Electives	4
General Electives	7
MK281 Prin Marketing	4
	<u>15</u>

BACHELOR OF SCIENCE, RECREATION MANAGEMENT

Department Requirements (22 credits)

ES140 Health and Fitness	3
RA Recreation Activity	1
RA Recreation Activity	1
RC101 Intro to Recreation	3
RC105 Program Dev Leadership	
Recreation Leisure Services	3
RC295 Practicum	1
RC481 Professional Deve Seminar	1
RC482 Admin Rec & Leis Serv	3
RC492 Internship	6

Business Requirements (31 credits)

AC132 Principles of Accounting I	4
AC133 Principles of Accounting II	4
BA231 Business Communications	3
BA254 Business Law I	3
DP264 Intro to Data Processing	3
EC201 Prin of Macroeconomics	3
EC202 Prin of Microeconomics	3
MK281 Mktg Prin & Strategy	4
MN370 Management Principles &	
Human Resource Concepts	4

Cognate Requirements (5 credits)

BL105 Func of Human Body	4
HE181 First Aid	1

Department (19 credits)

ES141 Intro. to Movement	3
ES242 Sports Medicine	3
ES244 Tech. of Athletic Training	2
ES248 Psy. of Sport & Athletics	3
ES342 Exercise Physiology	3
ES344 Kinesiology	3
ES348 Lab. Proc. & Meas. in ES	3
ES442 Electrocardiography in ES	2
ES444 Exercise Prescription	1
HM480 Grantwriting	3
RC212 Ins.Mds.Adapted Aquatics	1
RC220 Methods in Arts & Crafts	3
RC230 Prin. & Pract. in TR	3
RC262 Outdoor Recreation	3
RC295 Practicum	1
RC320 Dance Rym. Act. for Rec.	3
RC330 Disabilities Ser. by TR	3
RC335 Rec. Pursuits of Disabled	3
RC362 Land Mgmt for Rec Purp	3
RC365 Expedition Management	3
RC370 Recreation for the Elderly	3
RC390 Rec. Ldr. Apprenticeship	1
RC435 Problems & Issues in TR	3
RC496 Sel Res. Topics	1

Elective credits (approximately 14) and General Education requirements must be completed such that at least 124 semester credits have been earned.

FIRST YEAR: BACHELOR OF SCIENCE, RECREATION MANAGEMENT

FALL

EN110 Eng Comp. I	3
ES140 Health and Fitness	3
NS Nat Sci Elective	4
RC101 Intro Rec/Lsr Serv	3
SO Soc Sci Elective	3
	<u>16</u>

SPRING

BL105 Func Human Body	4
HE181 First Aid	1
PY Psych Elective	3
RA Recreation Activity	1
RC105 Program Dev	
& Leadership in Rec	3
SD101 Fund of Speech	3
	<u>15</u>

SECOND YEAR

AC132 Prin of Acctg I	4	AC133 Prin. Accounting II	4
DP264 Intro Data Proc	3	BA231 Bus Comm	3
EN210 Res Paper Proc	3	HU Humanities	4
HU Humanities	4	RA Recreation Activity	1
RA Recreation Activity	1	SO/NS Soc/Nat Sci Elect	2
RC295 Practicum	<u>1</u>		<u>14</u>
	16		

THIRD YEAR

BA254 Business Law I	3	EC202 Prin Microecon	3
Department Elective	6	Department Electives	3
EC201 Prin Macroecon	3	MK281 Mktg Prin Strat	4
General Electives	3	RC492 Internship	<u>6</u>
RA Recreation Activity	<u>1</u>		<u>16</u>
	16		

FOURTH YEAR

Department Electives	3	Department Electives	7
General Electives	5	General Electives	6
MN370 Mgmt Principles	4	PY/SO Psy/Soc Sci Elect	<u>2</u>
RC481 Prof Dev Seminar	1		<u>15</u>
RC482 Admin Recreation Leisure Services	<u>3</u>		
	16		

□ Parks and Recreation Management Concentration

This is an in-house 2 + 2 degree. At the end of four years of study, the student will have earned an associate degree in Natural Resources Technology and a baccalaureate degree in Recreation Management with a Parks and Recreation emphasis. Students who complete this degree will have acquired skills specific to land management and resource development. This person would be well-qualified to pursue a wide variety of career options which include, but are not limited to, working with agencies such as the Department of Natural Resources or the National Park Service, working with municipal parks and recreation, or working in outdoor education.

Recreation Requirements (25 credits)

RC101 Intro to Recreation	3
RC105 Program Dev & Leadership Recreation Leisure Services	3
RC262 Outdoor Recreation	3
RC362 Land Mgmt for Rec Purp	3
RC365 Expedition Management	3
RC481 Professional Dev Sem	1

RC482 Admin Rec & Leis Serv	3
RC492 Internship	6

Natural Resources Technology (21 credits)

RT101 Intro to Natural Resources	3
RT102 Meth in Nat Resources	1
RT206 Wildlife Mgmt Tech	2
RT207 Bio & Mgmt of Fishes	3

RT275 Soil Management	4
RT284 Principles of Forestry	4
RT286 Limnological Techniques	4
Cognate Requirements (43 credits)	
AC132 Principles of Acctg I	4
BL130 Remote Sensing	3
BL239 Wildlife Bio & Mgmt	2
CH108 Applied Chemistry	4
CS100 Intro to Microcomputers	3
DP264 Intro to Data Proc	3
HE181 First Aid	1
ID300 Man and His Env	3

MA109 Trigonometry & Vectors	2
MN370 Management Principles & Human Resource Conc	4
PS130 State and Local Govt	4
PY101 Intro to Psychology	4
TC103 Surveying	3
TC104 Industrial Safety & Small Engines Mechanics	3

Elective credits (approximately 9) and General Education requirements must be completed such that at least 126 semester credits have been earned.

FIRST YEAR: PARKS AND RECREATION MANAGEMENT CONCENTRATION

FALL

CS100 Intro to Microcomp	3
EN110 Eng Comp I	3
MA109 Trig and Vectors	2
RA Recreation Activity	1
RC101 Intro to Rec & Leis	3
RT101 Intro to Nat Res	3
RT102 Meth in Nat Res	1
	<u>16</u>

SECOND YEAR

RT207 Bio/Mgmt Fishes	3
RT275 Soil Management	4
RT284 Prin Forestry	4
RT286 Limnological Tech	4
	<u>15</u>

THIRD YEAR

AC132 Prin of Acctg I	4
HU Humanities	4
PS130 St/Lcl Govt	4
PY101 Intro to Psych	4
	<u>16</u>

Summer

RC492 Internship	6
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FOURTH YEAR

Electives	4
RC362 Lnd Mgmt for Rec	3
RC482 Admin of Rec	3
RC481 Prof Dev Seminar	1
Gen Elective	2
	<u>13</u>

SPRING

BL130 Remote Sensing	3
CH108 Applied Chemistry	4
HE181 First Aid	1
RA Recreation Activity	1
SD101 Fund of Speech	3
TC104 Indus Sfty/Sml Eng	3
	<u>15</u>

BL239 Bio/Wildlife Mgmt	2
EN205 Tech Rep Writing	3
ID300 Man & His Env	3
RC105 Program Dev & Leadership in Rec	3
RT206 Wldf Mgmt Tech	2
TC103 Surveying	3
	<u>16</u>

DP264 Intro to Data Proc	3
General Electives	2
HU Humanities	4
MN370 Mgmt Principles & Human Resource Conc	4
RC262 Outdoor Rec	3
	<u>16</u>

B. S. Requirements	7
General Electives	1
Soc Sci Requirements	2
RC365 Expedition Mgmt	3
	<u>13</u>

BACHELOR OF SCIENCE THERAPEUTIC RECREATION

With the advancement of the humanistic and holistic philosophy of health care, the development of Therapeutic Recreation as a profession has been tremendous. Through the use of recreational activities as a modality, the Therapeutic Recreation Specialist improves the physical, social, mental and emotional functioning of individuals with a variety of limiting conditions. Canadian and American students graduating with a bachelor of science in Therapeutic Recreation have been very successful in finding employment in a variety of settings, such as hospitals, homes for the aged, special recreation associations, prisons, municipal recreation programs and agencies providing services for the physically challenged.

Recreation Studies (42 credits)	
ES140 Health and Fitness	3
ES342 Exercise Physiology	3
RC101 Intro to Recreation	3
RC105 Program Dev & Leadership	3
Recreation Leisure Serv	3
RC220 Meth in Arts & Crafts	3
RC230 Prin & Pract in Ther Rec	3
RC262 Outdoor Recreation	3
RC320 Dance & Rhythmic	3
Activities for Recreation	3
RC330 Disabilities Serviced by	3
Therapeutic Rec	3
RC335 Rec Pursuits of Disabled	3
RC336 Fieldwork in Thera Rec	1
RC390 Rec Leader Apprentice	1
RC435 Prob & Issues Thera Rec	3
RC481 Professional Dev Sem	1
RC492 Internship	6

Cognate Requirements (33 credits)	
AC132 Principles of Acctg I	4
BL105 Func of the Human Body	4
BL121 Human Anat/Phys I	3
BL122 Human Anat/Phys II	4
CH104 Life Chemistry I	3
CS100 Intro to Microcomp	3
HM480 Grantwriting	3

PY203 Couns Thry/Pract	3
PY204 Couns/Crisis Inter Strgy	3
PY210 Statistics	3

Cognate Electives (9 credits)	
HE190 Prehospital Emrg Care &	3
Crisis Intervention	3
HE209 Pharmacology	3
PY259 Abnormal Psychology	3
PY265 Child/Adol Dev	3
PY391 Family Therapy	3
SO327 Soc of Aging/Aged	3
SO341 Soc of Addiction	3

Departmental Electives (12 credits)	
ES141 Intro to Movement	3
RC212 Ins Mds Adapted Aqua	1
RC295 Practicum	2
RC365 Expedition Management	3
RC370 Rec for the Elderly	3
RC482 Admin Rec & Leis Serv	3
RC496 Selected Research Topics	1

Elective credits (approximately 9 credits) and General Education requirements must be completed such that at least 124 semester credits have been earned.

FIRST YEAR: B.S., THERAPEUTIC RECREATION

<i>FALL</i>	
BL105 Func. Human Body	4
EN110 Eng Composition I	3
RC101 Intro Rec/Leis Serv	3
Free Elective	3
	13

<i>SPRING</i>	
CH104 Life Chemistry I	3
CS100 Intro to Microcomp	3
ES140 Health & Fitness	3
RA Recreation Activities	1
RC105 Prog Dev/Ldr Rec	3
SD101 Fund. Speech	3
	16

SOCIAL SCIENCES

HUMAN SERVICES

BACHELOR OF SCIENCE HUMAN SERVICES

The Human Services major allows students to combine practical skills with an academic preparation in psychology or sociology. Students complete 3 minors. One of the three must be the coordinating minor (psychology or sociology). The two skill minors should be selected from the list below. All skill minors require a practicum or internship. A total of 11 credits of practicum must be completed between the two skill minors. No more than 16 practicum credits may be counted for the degree.

The acceptable skill minors are:

1. Child Development
2. Corrections
3. Counseling
4. Human Services Admin
5. Industrial Relations
6. Law Enforcement
7. Legal Assistant Studies
8. Native Amer Studies
9. Recreation Studies
10. Subst Abuse Counseling

Students should consult the descriptions of the skill minors for detailed information. Transfer students who have completed the equivalent of a skill minor at another

college or university may request a waiver of one skill minor.

All B.S. in Human Services students must be good role models for their skill areas. Students need 24 credits of 300-400 level courses across their 3 minors, and all students must complete a capstone course from the following list.

CJ401 - Senior Seminar
HM480 - Grantwriting
LA450 - Adv Legal Writing
& Interviewing Seminar
PY498 - Senior Research I
SO401 - Research Seminar I

LEGAL ASSISTANT

TO TRAIN QUALIFIED legal assistants capable of working in a variety of areas of the law; program requirements based upon guidelines of American Bar Association and National Association of Legal Assistants.

LEGAL ASSISTANTS, or paralegals, are paraprofessionals who work under the supervision of attorneys. Among other tasks, they do legal research, draft legal pleadings and documents, assistant attorneys during legal proceedings, and manage activities of law offices. Legal assistants work for private law firms, banks, real estate offices, corporations, insurance companies, accounting firms, judges, government agencies, and others.

PROGRAMS INCLUDE:

Legal Assistant Studies Baccalaureate Degree with emphasis in: legal administration, criminal law, personal injury, labor law or legislative/constitutional law, or a selected minor as approved by the Legal Assistant Studies Coordinator; a Two-Year Associate Degree in the Legal Assistant Studies; or a minor in a four-year baccalaureate program.

BACHELOR OF SCIENCE LEGAL ASSISTANT STUDIES

FOR THIS DEGREE students must complete the course below, plus electives to total 125-128 credits. Students may elect a specialty area as listed below or a minor as approved by the Legal Assistant Studies Coordinator.

Required Major Course (45 credits)	
LA102 Lgl Res/Case Anal	3
LA202 Lgl Wrtg/Anal	3
LA150 Lgl Asst Prof/Eth Cons	3
LA125 Cvl Lit & Proc	4
LA140 Prsnl Inj Lit/Inv Tech	3
LA250 Law Off Mgmt, Sys/Tech	3
LA320 Real Estate Law	3
LA321 Family Law	2
LA322 Probate Law & Proc	3
LA401 Evidence & Trial Pract	3
LA450 Advance Legal Writing & Interviewing Seminar	3
LA Elective**	3
BA254, 255 Bus Law I & II	6
CJ319 Substantive Crim Law	3

General Education (35 credits)	
EN110 Fresh Composition	3
EN210 Research Paper Process	3
SD101 Fundamentals of Speech	3
Natural Science	8
Humanities	8
Social Sciences	8
Recreational Activities	2
PS110 Intro to Amer Government and Politics	4
or	
PS467 Const Law & Cvl Lib	4
Cognates - Required: (16-18 credits)	
OA119 Acctg Procedures	4
LA299 Lgl Assistant Intern & Prof Dev Seminar	6-8
CJ409 Proc Criminal Law	3

Electives:

Word Proc Comp Science	3
DP225 Word Proc Techniques	3
DP230 Word Proc Appl	3
CS100 Intro Micro Appl	3

*Note: AC132 may be substituted for OAI9 when one is specializing in Legal Administration)

**Note: All Specialties: LA300 Seminar in Legal Assistant Studies may apply to certain specialties and can be employed this way with approval of Legal Assistant Coordinator. In the alternative, these special topics may be utilized toward the required Legal Assistant Elective.

SPECIALTY/MINOR REQUIRED (20 credits) A student shall obtain a minimum of twenty (20) credits in any one of the following specialties. Specialty courses should be selected in consultation with your Legal Assistant Studies Coordinator. As an alternative, a student may choose a minor of study that must be approved by the Legal Assistant Studies Coordinator.

SPECIALTY LIST**

NOTE: At least nine (9) credit hours shall be at the 300-400 level.

CRIMINAL LAW SPECIALTY:

CJ101 Intro to Crim Justice	3
CJ106 Juvenile Justice	3
CJ250 Correctional Law	3
CJ343 Investigation	3
CJ344 Criminalistics	3
SO101 Intro to Sociology	3
SO226 Races and Minorities	3
SO214 Criminology	3
SO338 Deviance	3
PY101 Intro to Psychology	4
PY259 Abnormal Psychology	3

LABOR LAW SPECIALTY:

EC201 Prin of Macroeconomics	
or	3
EC202 Prin of Microeconomics	
EC403 Priv Entrprs/Public Pol	3
LA406 Wrkrs Disabily Comp Law	2
MN370 Mgmt Prin & HR Conc	4
MN451 Labor Law	4
MN464 Org Behavior in Bus	4
MN469 Collective Bargaining	3
SO313 Work and Organization	3
PY228 Organizational Behavior	3
PY383 Industrial Psychology	3

LEGAL ADMIN. SPECIALTY

AC132, 133 Prin of Acctg I/II	8
AC232, 233 Inter Acctg I/II	8
AC332 Cost Accounting I	4
AC334 Acctg Info Systems	3
AC421, 422 Fed Tax Acctg I/II	6
DP264 Intro to Data Proc	3
FN341 Managerial Finance	4
FN443 Insurance	4
MN370 Mgmt Prin & HR Conc	4
MN461 Management Simulation	3

MN464 Org Beh in Bus	4
MK281 Mktg Prin/Strategy	4
MK287 Adv Theory in Pract	3
BA226 Records Management	3
SD320 Public Relations	4
PY228 Organizational Behavior	3
EC302 Managerial Economics	4

LEGISLATIVE/CONSTITUTIONAL LAW SPECIALTY:

EC201 Prin of Macroeconomics	
or	3
EC202 Prin of Microeconomics	
EC305 Public Finance	3
HS131,132 U.S. History I & II	8
LA305 Tribal Law and Gov	3
PS130 Intro State/Lcl Gov	4
PS201 Intro to Public Admin	3
PS301 Policy Anal/Eval	4
PS364 Political Parties, Interest	
Groups & Public Opinion	3
PS367 Congress & the Pres	4
PS401 Prin of Pub Admin	3

PERSONAL INJURY SPECIALTY:

HE209 Pharmacology**	3
BL105 Func of Human Body	4
BL121,122 Hmn Anat/Phys I/II	7
CH104,105 Life Chemistry I/II	7
FN443 Insurance	4
LA405 No-Fault Automobile Law	3
LA406 Wrkrs Dis Comp Law	2
PY101 Intro to Psychology	4
PY217 Social Psychology	3
PY357 Personality Theory	3
PY385 Health Psychology	3
TC101,102 Construction I & II	6

Electives (9-10 credits)

Electives are to be chosen in consultation with advisor.

*Note: The Legal Assistant B.S. Degree requires 8 credits in Social Science, Natural Science or Mathematics beyond those for General Education. These requirements may be fulfilled in part or in total through the Speciality selection

or the minor. Students should consult with their Advisors.

§Note: All Specialities: LA300 Seminar in Legal Assistant Studies may apply to certain specialities and can be employed this way with approval of Legal Assistant Coordinator. In the alternative, these special topics may be utilized toward the required Legal Assistant Elective.

***Prerequisites: BL122 or BL105 and CH105

POLITICAL SCIENCE

Political Science is the systematic study of government and politics. Since government and politics are found at many levels--international, national, state, and local--and all over the world, political science has many facets. All of these facets receive attention in the political science program at Lake Superior State University.

The goal of the curriculum is to prepare students interested in government and politics for rewarding careers and lifetimes of learning and involvement. To best achieve this goal, three distinct concentrations or tracks are available for students of political science:

1. general political science
2. pre-law,
3. public administration.

Each concentration has been designed to provide a combination knowledge and skills that is unique and appropriate for those with particular career goals. However, choosing one concentration over the others does not limit a student to one particular career path--each of the concentrations provides a solid grounding in political science.

BACHELOR OF ARTS/SCIENCE POLITICAL SCIENCE - GENERAL

The general political science concentration is designed to provide a broad education in political science. It is most appropriate for students who plan to attend graduate school in political science and for those with an interest in government and politics who wish to get a broad, liberal education as preparation for a career in business, government, or journalism. Students who continue their education in graduate school most often pursue careers

as professors, researchers, consultants, or government officials. Students who do not pursue graduate study choose from a wide variety of career options in business, government, and journalism.

Political Science Courses (36 credits)
 PS110 Intro to Amer Gov & Pol 4
 PS491-492 Senior Seminar 6

A minimum of one course in each of following areas, and two courses in one of the areas: 16-20

American Politics
 (PS325, 364, 367, 467)

Comparative Politics
 (PS160, 331, 334)

International Relations
 (PS241, 411, 412)

Political Philosophy
 (PS351, 352)

Additional political science electives to reach 36 credits 6-10

NOTE: A minimum of 21 credits must be at the 300/400 level. Of these, at least 9 must be at the 400 level.)

General Political Science Cognates (27-28 credits)
 CS100 Intro Microcomputer App 3
 or
 DP264 Intro Data Processing 3

EC201 Prin of Macroeconomics 3
 EN220 Advanced Composition 3
 or
 EN221 Creative Writing 8
 HS sequence 8
 PL204 Intro to Philosophy 3
 or
 PL205 Logic 3-4
 SD302 Persuasion & Argu 4
 or
 SD320 Public Relations 4
 SO201 Social Research and Stats 4

*One full-year history sequence (HS 101-102 or HS 131-132 is recommended)

Bachelor of Arts/Bachelor of Science Cognates (Choose One) 8-9

Bachelor of Arts Cognates:
 One year of a foreign language 8

Bachelor of Science Cognates:
 A minimum of 9 credits from the following:
 EC202 Prin of Microeconomics 3
 PY101 Intro to Psychology 4
 SO101 Intro to Sociology 3
 SO213 Intro to Anthropology 3

FIRST YEAR: POLITICAL SCIENCE - GENERAL

FALL

EN110 Freshman Comp.* 3
 PS110 Intro. Amer. Govt. 4
 HS History Seq. Elect. 4
 Nat. Sci. Elect. 3
 SA100 How to Succ Colg $\frac{1}{15}$

SPRING

SD101 Fund. of Speech 3
 Pol. Sci. Elective 4
 Hist. Seq. Elective 4
 Nat. Sci. Elec. 3
 RA Elective $\frac{1}{15}$

SECOND YEAR

EN210 Res Pap Process* 3
 HU251 Humanities I 4
 Pol. Sci. Elect. 3
 CS100 Intro Micro Appl 3
 Elective $\frac{3}{16}$

Nat. Sci. Elec. 3
 HU252 Humanities II 4
 Pol. Dist. Elec. 3
 SO201 Soc Res/Stats 4
 RA Elective $\frac{1}{15}$

THIRD YEAR

Pol. Sci. Dist. Elec.	3
PL204 Intro. to Philosophy	3
EC201 Macroeconomics	3
BA/BS Cognate	4
Elective	3
	<u>16</u>

Pol. Sci. Dist. Elec.	3
Pol. Sci. Elec.	3
EN220 Adv Composition	3
SD302 Persuasion & Argu	3
BA/BS Cognate	4
	<u>16</u>

FOURTH YEAR

PS491 Senior Seminar I	3
Pol. Sci. Dist. Elec.	4
Elective	3
Elective	3
Elective	3
	<u>16</u>

PS492 Senior Seminar II	3
Pol. Sci. Dist. Elec.	4
Elective	3
Elective	3
Elective	3
	<u>16</u>

*May be taken in Spring semester.

BACHELOR OF ARTS/SCIENCE POLITICAL SCIENCE - PRE-LAW

The pre-law concentration provides students of political science interested in legal careers with a planned curriculum that prepares them especially well for law school and for careers in law. Students who choose this option are often interested in careers as attorneys, prosecutors, or judges. It should be noted that this is not a mandatory pre-law curriculum; it is a curriculum for pre-law students who have a special interest in government and politics.

Noteworthy features of this concentration are a special course on the nature of legal careers and how to prepare for them; two courses in legal research and writing that provide students with a head start in using a law library and in conducting legal research; and a well-designed combination of support courses in logic, debate, writing, accounting, and research.

Political Science Courses (36 credits)

PS110 Intro to American Government & Politics	4
PS120 Intro to Legal Proc	3
PS130 Intro to St/Lcl Gov	4
PS222 Intro to the Lgl Prof	2
PS467 Const Law/Cvl Lib	4
PS491-492 Senior Seminar	6

A minimum of one course in each of the following areas: 10-12

- Comparative Politics*
(PS160, 331, 334)
- International Relations*
(PS241, 411, 412)
- Political Philosophy*
(PS351, 352)

NOTE: A minimum of 21 credits must be at the 300/400 level 1-3

Additional political science electives to reach 36 credits

Pre-Law Cognates (40 credits)

CS100 Intro Microcomputer App	3
or DP264 Intro Data Processing	
EN220 Advanced Composition	3
or EN221 Creative Writing	
HS sequence*	8

LA102 Lgl Res/Case Anal	3
LA202 Lgl Wrng & Anal	3
OA119 Accounting Procedures	
or	4
AC132 Prin of Acctg I	
PL205 Logic	3
SD302 Pers & Argu	3
SO201 Social Res & Stats	4
*One full-year history sequence (HS 101-102 or HS 131-132 is recommended)	
Two law courses from the following:	
Any Legal Assistant (LA) courses	
CJ319 Subst Criminal Law	3

CJ409 Proc Criminal Law	3
BA254 Business Law I	3
BA255 Business Law II	3
<i>Bachelor of Arts Cognates</i>	
One year of a foreign language	8
<i>Bachelor of Science Cognates</i>	
A minimum of 9 credits from the following:	
EC201 Prin of Macroeconomics	3
EC202 Prin of Microeconomics	3
PY101 Intro to Psychology	4
SO101 Intro to Sociology	3
SO213 Intro to Anthropology	3

FIRST YEAR: POLITICAL SCIENCE - PRE-LAW

FALL

EN110 Freshman Comp.*	3
PS110 Intro Am Govt/Pol	4
Hist. Seq. Elec.	4
Nat. Sci. Elec.	3
SA100 Succeed in College	1
	<u>15</u>

SPRING

SD101 Fund. of Speech	3
PS120 Intro to Lgl Proc	3
History Seq. Elec.	4
Nat. Sci. Elec.	3
Elective	3
	<u>16</u>

SECOND YEAR

EN210 Res. Paper Process*	3
HU251 Humanities I	4
PS222 Intro. to Legal Prof.	2
CS100 Intro Micro Appl	3
BA/BS Cognate	4
	<u>16</u>

HU252 Humanities II	4
PS130 Intro St/Lcl Govt	4
SO201 Soc Res & Stats	4
RA Elective	1
BA/BS Cognate	4
	<u>17</u>

THIRD YEAR

Pol. Sci. Dist. Elec.	3
PL205 Logic	3
EN220 Adv Composition	3
OA119 Acctg Proc	4
Nat. Sci. Elec.	3
	<u>16</u>

Pol. Sci. Dist. Elec.	3
Pol. Sci. Elec.	3
SD302 Pers & Argu	3
Law Elective	3
Elective	3
	<u>15</u>

FOURTH YEAR

PS491 Senior Seminar I	3
LA102 Lgl Res/Case Anal	3
PS467 Const Law/Cvl Lib	4
Law Elective	3
Elective	3
	<u>16</u>

PS492 Senior Seminar II	3
LA202 Lgl Wrng & Anal	3
Pol. Sci. Dist. Elec.	4
Elective	3
RA Elective	1
	<u>14</u>

*May be taken in Spring Semester.

BACHELOR OF SCIENCE POLITICAL SCIENCE - PUBLIC ADMINISTRATION

The public administration concentration is most appropriate for students who plan to work in an administrative capacity in public agencies or nonprofit organizations with public missions. Students who choose this option are preparing for careers of public service. Such careers may be pursued through positions in government agencies at the local, state or provincial, and national levels. Other positions may be found in nonprofit organizations involved in public concerns, such as Common Cause, the Environmental Defense Fund, and the Michigan Health Council. Some of these careers of public service may be pursued with only a bachelor's degree. Others may require completion of a master's degree in public administration or a related field.

Senior public administration students will complete an internship as part of their education. Internships allow students to apply the knowledge they have gained in the classroom in an on-the-job setting. They are also valuable for creating a record of experience that will impress prospective employers and help the student become established in a career. Internships, which are arranged with the assistance of an advisor, are available with local, state or provincial, and federal agencies.

Political Science Courses (37 credits)

PS110 Intro Amer Gov & Pol	4
PS130 Intro to St/Local Gov	4
PS201 Intro to Public Admin	3
PS301 Policy Anal/Eval	4
PS401 Prin of Pub Admin	3
PS491-92 Senior Seminar	6
PS499 Pol Sci/Pub Admin Intrm	3

A minimum of one course in each of the following areas: 10-12

Comparative Politics
(PS160, 331, 334)

International Relations
(PS241, 411, 412)

Political Philosophy
(PS351, 352)

Public Administration Cognates (34 credits)

CS100 Intro Micro App	
or	
DP264 Intro Data Proc	3
EC201 Prin of Macroeconomics	3
EC305 Public Finance	3
HS Sequence*	8
MN370 Mgmt Prin & HR Conc	4
OA119 Acctg Proc	4
PY228 Organizational Behavior	
or	
SO313 Work and Organizations	
SD302 Persuasion & Argu	
or	
SD320 Public Relations	3-4
SO201 Soc Res & Stats	4

*One full-year history seq (HS131-32 is recommended)

FIRST YEAR: BACHELOR OF SCIENCE, POLITICAL SCIENCE - PUBLIC ADMINISTRATION

FALL

EN110 Freshman Comp*	3
PS110 Intro Am Govt/Pol	4
Hist. Sequence Elec.	4
Nat. Sci. Elec.	3
SA100 How to Succ Col	$\frac{1}{15}$

SPRING

SD101 Fund of Speech	3
PS130 Intro St/Lcl Gov	4
History Sequence Elec.	4
Natural Science Elec.	3
RA Elective	$\frac{1}{15}$

SECOND YEAR

EN210 Res Pap Proc*	3
HU251 Humanities I	4
PS201 Intro Public Admin	3
CS100 Intro Micro App	3
Elective	$\frac{3}{16}$

Natural Science Elec.	3
HU252 Humanities II	4
Pol. Sci. Dist. Elec.	4
SO201 Soc Res & Stats	4
RA Elective	$\frac{1}{16}$

THIRD YEAR

Pol. Sci. Dist. Elec.	3
OA119 Acctg Proc	4
EC201 Macroeconomics	3
PY228 Organizational Beh.	3
Elective	$\frac{3}{16}$

PS301 Plcy Anal/Eval	4
SD320 Public Relations	4
MN370 Mgmt Principles	4
Elective	3
Elective	$\frac{1}{16}$

FOURTH YEAR

PS491 Senior Seminar I	3
PS401 Prin of Pub Admin	3
EC305 Public Finance	3
Elective	3
Elective	$\frac{3}{15}$

PS492 Senior Sem II	3
PS499 Pub Adm Intern	3
Pol. Sci. Dist. Elec.	3
Elective	3
Elective	$\frac{3}{15}$

*May be taken in Spring Semester

PRE-LAW

A specialized pre-law curriculum is available for political science students interested in legal careers. However, no prescribed course of study can be recommended to all students who plan to attend law school. Students entering law school choose undergraduate majors from a wide variety of fields. As previously indicated, a pre-law concentration is offered in the political science curriculum and various law courses are offered as a part of the legal

assistant studies program at Lake Superior State University. See appropriate political science and legal assistant studies program listings, which are part of the Social Sciences Department.

Students interested in a legal career should consult with the pre-law advisor early and often during their undergraduate studies. The pre-law advisor is located in the Social Sciences Department. Pre-law planning based on consultation with the advisor will allow the student to make an informed choice of curriculum and of elective courses that will help with the development of the skills mentioned below. The pre-law advisor will also provide pre-law students with a variety of materials about admission to law school, the law school admission test, and careers in law.

A student's undergraduate grade point average and his or her score on the Law School Admission Test (LSAT) are the two most important criteria for admission to law school. Details on admission policies of law schools throughout the country, and the degree to which these schools may use other criteria in addition to grade point average and LSAT score, may be found in the Pre-Law Handbook. The Pre-Law Handbook is published by the Law School Admission Council/Law School Admission Services and is the official law school guide.

This handbook may be examined by contacting the pre-law advisor, or may be purchased in many book stores.

Although there is no prescribed major which must be taken for admission to law school, some curricula may be better than others in helping students develop skills necessary for admission to law school and for a successful legal career. A broad and challenging undergraduate curriculum is the best preparation for law school. The Pre-Law Handbook stresses that a student's undergraduate education should lead to the development of skills in three areas: (1) the ability to understand and express oneself well in words, (2) the development of a critical understanding of the human institutions and values with which the law deals, and (3) the development of creative power in thinking. A pre-law student should consider the need to develop these skills in selecting his or her curriculum. In addition, students should think about whether the curriculum they choose can provide an alternative to a career in law should they eventually choose not to pursue a legal career.

PSYCHOLOGY

BACHELOR OF ARTS/BACHELOR OF SCIENCES PSYCHOLOGY

Psychology is the systematic study of behavior and mental processes in humans and animals. The major provides students with

exposure to the areas that define contemporary scientific psychology. The psychology major helps a student develop analytical thinking and communication skills which are applicable to a variety of careers. Many psychology majors pursue post baccalaureate degrees. Psychology electives enable students to construct a program of study consistent with their professional goals. The Bachelor of Science and Bachelor of Arts degrees differ only in the nature of the cognate; science classes or foreign language classes, respectively.

Total Departmental Credits Required: 41

**Required Psychology Credits
(35 credits)**

PY101	Intro to Psychology	4
PY210	Statistics	3
PY212	Experimental Psychology	3
PY311	Learning and Motivation	3
PY357	Personality Theory	3
PY396	Tests and Measurement	3
PY456	Hstry & Sys of Psych	3
PY457	Cognition	3
PY459	Physiological Psychology	3
PY498	Senior Research I	3
PY499	Senior Research II	4

**Elective Psychology Credits
(6 credits)**

PY Elective - any level	3
PY217 Soc Psych	}
or	
PY259 Abnormal Psych	3
or	}
PY265 Child & Adlscent Dev	

Cognate

<i>Bachelor of Arts Degree</i>	
1 year of foreign language	8

Bachelor of Science Degree

8 credits from the following: biology and chemistry beyond those used to fulfill general education requirements; mathematics at the level of MA111 and above (except MA207) and CS or DP courses; PL204, PL205, HS235.

General Education and Electives

Students must complete all General Education requirements including BL105 or BL121. Students must take sufficient elective credits to total 124 semester credits.

PSYCHOLOGY MINOR

Students may select an approved minor (21 credits) or 21 credits in courses approved by their advisor. Nine credits must be at the 300-400 level.

FIRST YEAR: BACHELOR OF ARTS, PSYCHOLOGY

FALL

EN110	Fresh Comp*	3
	Foreign Language	4
PY101	Intro to Psych	4
PY210	Statistics	3
BL105	Func Hmn Bdy	4
		18

SPRING

SD101	Fund. of Speech	3
PY212	Exp Psych	3
	Foreign Language	4
	Physical Science	4
MA Elec	100+ Level	2-4
		16-18

SECOND YEAR

EN210	Res Pap Proc*	3
	Minor Course	3
PY311	Lmg & Motivation	3
PY357	Personality Theory	3
RA Elective		1
Elective		3
		16

SD101	Fund of Speech	3
	Minor Course	3
PY396	Tests & Msrmts	3
RA Elective		1
Minor Course		3
Elective		3
		16

THIRD YEAR

PY459 Phys Psych	3
HU or elective	3-4
Minor courses	6
Elective	<u>3</u>
	15-16

PY457 Cognition	3
HU or Elective	3-4
Minor Courses	6
Elective	<u>3</u>
	15-16

FOURTH YEAR

PY498 Senior Research I	3
PY456 HS & Sys of Psych	3
Minor Course	3
Electives	<u>3-5</u>
	12-14

PY499 Senior Research II	4
Electives	<u>10</u>
	14

*May be taken Fall or Spring Semester

FIRST YEAR: BACHELOR OF SCIENCE, PSYCHOLOGY

FALL

EN110 Fresh Comp*	3
PY101 Intro to Psych	4
PY210 Statistics	3
BL105 Func Human Body	4
MA Elect. 100+ level	<u>2-4</u>
	16-18

SPRING

SD101 Fund of Speech	3
PY Elective	3
PY212 Exp Psych	3
Natural Science	4
MA Elec. 100+ level	<u>3-4</u>
	16-17

SECOND YEAR

EN210 Res Pap Proc*	3
Minor Course	3
PY311 Lrng & Motivation	3
PY357 Personality Theory	3
Cognate Course	3
RA Elective	<u>1</u>
	16

PY Designated Elective	3
Minor Course	3
PY396 Tests & Msrmts	3
RA Elective	1
Electives	<u>6</u>
	16

THIRD YEAR

PY459 Physlglcl Psych	3
HU Humanities	4
Minor Courses	6
Elective	<u>3</u>
	16

PY457 Cognition	3
HU Humanities	4
Minor Courses	6
Elective	<u>3</u>
	16

FOURTH YEAR

PY498 Senior Research I	3
PY456 Hs & Sys of Psych	3
Minor Course	3
Electives	<u>6</u>
	15

PY499 Senior Research II	4
Electives	<u>11</u>
	15

*May be taken Fall or Spring semester.

SOCIAL SCIENCES

BACHELOR OF ARTS/BACHELOR OF SCIENCE SOCIAL SCIENCES

STUDENTS WHO ELECT either of these programs should become more effective citizens for tomorrow and develop skills useful in various employment areas, both public and private. These curricula allow a large number of electives and a great deal of flexibility for the mature student.

THE PROGRAMS provide both depth and breadth in the social sciences (economics, geography, history, political science, psychology and sociology), as well as providing opportunities for specialization in areas of interest.

CORE REQUIREMENTS (36-40 credits): A minimum of full-year sequences in each of four social science disciplines, plus social science credits at the 100-200 level.

ADVANCED COURSES (21 credits). Social science courses at the 300-400 level, with no more than 12 credits in any one discipline counted toward the major;

METHODOLOGY

COURSES (5-7 credits), two courses from SO 201, PY 210, PY 212, HS 496.

BA/BS DIFFERENTIATION

(24 to 42 hours): For a Bachelor of Arts degree, students are required to take 8 credits of a foreign language as well as an additional 12 approved credits from English, humanities, speech, journalism, or philosophy (beyond General Education requirements). For a Bachelor of Science degree, students must complete an approved natural or social science minor. Students should fulfill General Education requirements and sufficient elective courses to total 124 credits.

Total Major Area Credits Required: 62

Major Area Requirements

A. Introductory Sequences

Students must select four full year introductory sequences from the following six areas:

Economics	6 credits
Geography	8 credits
History	8 credits
Political Science	8 credits
Psychology	7 credits
Sociology	6 credits

27-31

B. Lower Level Courses from the Six Areas of the Major 9
 Students must choose at least 9 credits from the 100-200 level in the six areas.

C. Upper Level Courses from the Six Areas of the Major 21
 Students must choose 21 credits from the 300-400 level offerings in the six areas. No more than 12 credits can be in any one discipline.

D. Methodology Courses 5-7
 Students choose 2 courses from SO201, PY210, PY212, HS496

Minor or Cognate: To earn a *Bachelor of Arts* degree, students must take 8 credits of a foreign language as well as an additional 12 approved credits from English, humanities, speech, journalism, or philosophy (beyond General Education requirements).

For a *Bachelor of Science* degree, students will take an approved minor

in natural science or social science (20 credits).

General Education and Electives: Students must complete an approved minor in natural science or social science (20 credits) plus all the general education requirements and electives to total 124 semester credits.

FIRST YEAR: BACHELOR OF ARTS, SOCIAL SCIENCES

FALL

EN110 Fresh Comp*	3
Intro. Sequence I	3-4
NS Elective	4
Intro. Sequence II	3-4
First Yr. For. Lang.	4
	<u>17-19</u>

SPRING

SD101 Fund. of Speech	3
Intro. Sequence I	3-4
NS Elective	4
Intro. Sequence II	3-4
First Year For. Lang.	4
	<u>17-19</u>

SECOND YEAR

EN210 Res Pap Proc*	3
Intro. Sequence III	3-4
RA Elective	1
Intro. Sequence IV	3-4
Elective	3
	<u>13-15</u>

Social Sci. Electives	6
Intro. Sequence III	3-4
RA Elective	1
Intro. Sequence IV	3-4
Elective	3
	<u>16-17</u>

THIRD YEAR

Cognate/Minor	3
HU Elective	4
Methodology Course	3
EN/HU/JR/SD Elective	3
Elective	3
	<u>16</u>

Cognate/Minor	3
HU Elective	4
Methodology Course	3
EN/HU/JR/SD Elective	3
Elective	3-6
	<u>16-19</u>

FOURTH YEAR

Electives (<i>if needed</i>)	3
EN/HU/JR/SD Electives	9
Cognate/Minor	<u>3-4</u>
	15-16

Electives (<i>if needed</i>)	3-5
Social Sci. Electives	9
Cognate/Minor Course	<u>3-4</u>
	15-18

*May be taken Fall or Spring semester.

FIRST YEAR: BACHELOR OF SCIENCE, SOCIAL SCIENCES

FALL

EN110 Freshman Comp*	3
Intro Sequence I	3-4
NS Elective	4
Intro. Sequence II	3-4
Cognate/Minor	<u>3-4</u>
	16-19

SPRING

SD101 Fund. of Speech	3
Intro. Sequence I	3-4
NS Elective	4
Intro Sequence II	3-4
Cognate/Minor	<u>3-4</u>
	16-19

SECOND YEAR

EN210 Res Paper Proc*	3
Intro. Sequence III	3-4
RA Elective	1
Intro. Sequence IV	3-4
Elective	<u>3</u>
	13-15

Soc Sci Electives	6
Intro. Sequence III	3-4
RA Elective	1
Intro. Sequence IV	3-4
Elective	<u>3</u>
	16-18

THIRD YEAR

Cognate/Minor	3
HU Elective	4
Methodology Course	3
Social Sci. Elective	<u>3</u>
	16

Cognate/Minor	3
HU Elective	4
Methodology Course	3
Social Sci. Elective	3
Elective	<u>3-6</u>
	16-19

FOURTH YEAR

Electives (<i>if needed</i>)	3
Soc. Sci. Electives	9
Cognate/Minor	<u>3-4</u>
	15-16

Electives (<i>if needed</i>)	3-5
Social Sci. Elective	9
Cognate/Minor Course	<u>3-4</u>
	15-18

*May be taken Fall or Spring semester.

SOCIOLOGY

Sociology is the scientific study of human social groups, from families to societies. In sociology we examine how variables such as the culture, laws, and customs of a society influence individuals

within the society. Sociologists also investigate how individuals influence and change society.

The knowledge acquired through the study of sociology is useful in a number of careers, including human services, law enforcement, corrections, business administration, and public administration, among

others. For those students who plan a career in sociology, teaching or doing research, an undergraduate major in sociology provides a good background for graduate work in sociology.

For the bachelor degree in Sociology, the student must complete the following requirements:

A. SOCIOLOGY MAJOR (31 hours)

The Sociology major consists of 19 credit hours of CORE courses and 12 credit hours in SUBSTANTIVE MAJOR AREAS. These are described below.

1. CORE (19 hours)

The courses required for the major in sociology are:

SO101 Introduction to Sociology	3
SO102 Social Problems	3
SO201 Soc Research and Statistics	4
SO301 Sociological Theory	3
SO401 Sociology Res Sem I	3
SO402 Sociology Res Sem II	3

2. SUBSTANTIVE MAJOR AREAS (12 hours)

(The student completes a minimum of one course from each of the following four areas. At least six hours must be at the 300 or 400 level).

a. Institutions:

SO113 Soc of the Amer Family	3
SO213 Introduction to Anthropology	3
SO214 Criminology	3
SO313 Work and Organization	3
SO314 Social Change	3

b. Social Problems and Inequality:

SO225 Native Cult of N. Amer	3
SO226 Races and Minorities	3
SO227 Population	3
SO325 Social Stratification	3
SO326 The Soc of Aged/Aging	3
SO327 The Soc of Death/Dying	3
SO321 The Sociology of Women	3

c. Social Psychology

SO238 Social Psychology	3
SO338 Deviance	3
SO339 Culture and Personality	3
PY228 Organizational Behavior	3

d. Social Welfare	
SO341 Sociology of Addiction	3
SO242 Sociology of Sex	3
SO344 Social Welfare Systems	3

B. MINOR OR OTHER COGNATE (20 HOURS)

Choose one of the following two alternatives. At least 6 credit hours must be at the 300 or 400 level.

1. **A minor.** Students may complete an approved minor. This minor could be in sociology, giving the student a double concentration which provides a solid background for graduate work in sociology. Otherwise, the minor may be any approved minor at the University.

OR

2. **An approved concentration.** The student may develop an approved concentration in one or more disciplines in consultation with their advisor.

C. GENERAL EDUCATION

All Bachelor degree students must complete the General Education requirements described under that heading in this catalogue.

D. BACHELOR OF SCIENCE AND BACHELOR OF ARTS REQUIREMENTS

The student selects one of the following alternatives.

1. *Bachelor of Science*

The student must complete a minor in social sciences or a natural science (20 hours.). One minor can satisfy this requirement and that of the "minor or other cognate" given above. Students must complete sufficient elective credits to total 124 semester credit hours.

OR

2. *Bachelor of Arts*

The student must complete one year of a foreign language (8 hours) plus 12 approved credits from English, humanities, philosophy, speech, or journalism (beyond the General Education requirements). Students must take sufficient elective credits to total 124 semester credits.

FIRST YEAR: BACHELOR OF ARTS, SOCIOLOGY

FALL

EN110 Fresh Comp*	3
SO101 Intro. to Sociology	3
NS Elective	3
RA Elective	1
Cognate or Elective	3
	<u>13</u>

SPRING

SO102 Social Problems	3
NS Elective	3
RA Elective	1
SD101 Fund. of Speech	3
Cognate or Elective	3
	<u>13</u>

(Complete math proficiency, if necessary during first year)

SECOND YEAR

EN210 Res Pap Process*		SO210 Soc. Res./Stats.	4
OR	3	Substantive Soc. Course	3
EN215 Intro to Lit Res*		Cognate or Elective	3
Substantive Soc. Course	3	HU Elective	<u>4</u>
Cognates or Electives	6		<u>14</u>
HU Elective	<u>4</u>		
	16		

THIRD YEAR

SO301 Theory	3	Substantive Soc. Course	3
Substantive Soc. Course	3	Cognates or Electives	9
Cognates or Electives	6	First Year Foreign Lang	<u>4</u>
First Year Foreign Lang	<u>4</u>		<u>16</u>
	16		

FOURTH YEAR

SO401 Soc. Seminar I	3	SO402 Soc. Seminar II	3
Cognates or Electives	<u>14</u>	Cognates or Elective	<u>14</u>
	17		17

*May be taken Fall or Spring semester

FIRST YEAR: BACHELOR OF SCIENCE, SOCIOLOGY

FALL

EN110 Freshman Comp*	3
SO101 Intro. to Sociology	3
NS Elective	3
RA Elective	1
Cognate or Elective	<u>3</u>
	14

SPRING

SO102 Social Problems	3
NS Elective	3
RA Elective	1
SD101 Fund. of Speech	3
Cognate or Elective	<u>3</u>
	14

(Complete math proficiency, if necessary during first year)

SECOND YEAR

EN210 Res Pap Process*		SO201 Soc. Res./Stats.	4
OR	3	Substantive Soc. Course	3
EN215 Intro to Lit Res*		Cognates or Electives	5
Substantive Soc. Course	3	HU Elective	<u>4</u>
Cognates or Electives	6		<u>16</u>
HU Elective	<u>4</u>		
	16		

THIRD YEAR

SO301 Theory	3	Substantive Soc. Course	3
Substantive Soc. Course	3	Cognates or Electives	9
Cognates or Electives	6	Elective	<u>4</u>
Electives	<u>4</u>		<u>16</u>
	16		

FOURTH YEAR

SO401 Soc. Seminar I	3
Cognates or Electives	<u>14</u>
	17

SO402 Soc. Seminar II	3
Cognates or Electives	<u>14</u>
	17

*May be taken Fall or Spring Semester

ASSOCIATE DEGREE EARLY CHILDHOOD EDUCATION

This two-year program leading to an associate degree is for those interested in working with young children--birth through age five. Students are expected to acquire an understanding of developmental patterns of the preschool child in such areas as: cognition, emotion, social interaction, and physical growth. This understanding will be a basis for working with groups of children and will culminate in a practicum.

GRADUATES of this program normally seek positions with day care centers, day care homes, head start programs, residential homes and other facilities designed for the care and development of the preschool child. Graduates wishing

to continue their education can matriculate into the four-year bachelor degree program in human services at the University or pursue a degree in elementary education or special education. A total of 62 credit hours is required as follows:

Required

EN110 Freshman Composition	3
EN210 Research Paper Processes	3
SD101 Fundamentals of Speech	3
BL105 Func of the Human Body	3
HE104 Nut for Early Childhood	3
HE181 First Aid	1
SO113 Soc of the Amer Family	3
RA Electives	2
ED101 Found of Early Child Ed	3
ED105 Child Guidance/Welfare	3
ED110 Curr Dev/Tchg Pract	3
ED111 Infants & Toddlers: Dev Approaches & Practices	3
ED220 Early Childhood Lit	3
ED260 Practicum I	4
ED261 Practicum II	4
ED270 Admin Early Chldhd Prog	3

Cognate Required

PY155 Lifespan Development	
or	3
PY265 Child/Adolescent Dev	
PY288 Organizational Behavior	
or	3
PY299 Exceptional Child/Adol	
SO225 Native American Culture	
or	3
SO226 Races and Minorities	

Electives

Students completing the Associate Degree in Early Childhood Education may conveniently continue their education in the Bachelors Degree in Human Services or other fields such as Psychology, Sociology, or Corrections. Students interested in this option should consult the Early Childhood Education advisor.

FIRST YEAR: ASSOCIATE DEGREE, EARLY CHILDHOOD EDUCATION

FALL

EN110 Fresh Comp	3
BL105 Funct Hmn Bdy	4
PY155 Lifespan Dev	
or	3
PY265 Child & Adol Dev	
ED101 Foudations of Early Childhood Education	3
ED110 Curr Development & Teaching Practices	3
RA Elective	$\frac{1}{17}$

SPRING

SD101 Fund. of Speech	3
SO113 Soc of Amer Fam	3
HE104 Nut Early Chldhd	3
HE181 First Aid	1
ED111 Infants & Toddlers: Devel Approp Prac	3
ED105 Child Guid/Wlfre	$\frac{3}{16}$

SECOND YEAR

EN210 Res Pap Proc	3
ED220 Early Chldhd Lit	3
ED260 Practicum I	
or	5
ED261 Practicum II	
PY* or SO**	3
RA Elective	$\frac{1}{15}$

ED270 Admin of EC Prog	3
Elective	3
Elective	2
ED261 Practicum II	
or	5
ED260 Practicum I	
PY* or SO**	$\frac{3}{16}$

*Choose one of the following:

- PY299 Exceptional Child & Adol.
- or
- PY288 Organizational Behavior

**Choose one of the following:

- SO225 Native American Cultures
- or
- SO226 Races and Minorities

ASSOCIATE DEGREE LEGAL ASSISTANT STUDIES

FOR THIS DEGREE, students must complete the courses below plus electives to total 64 credits.

Required courses (53 credits)

EN110 Freshman Composition	3
EN210 Research Paper Process	3
SD101 Fundamentals of Speech	3
LA102 Lgl Res & Case Anal	3
LA125 Cvl Lit & Procedure	4
LA140 Pers Injury Litigation & Investigative Techniques	3
LA150 Lgl Assistant Profession & Ethical Considerations	3
LA202 Legal Writing and Analysis	3
LA250 Law Office Management, Systems & Technology	3
LA320 Real Estate Law	3

LA321 Family Law	2
LA322 Probate Law/Proc	3
BA254 Business Law I	3
BA255 Business Law II	3
CJ319 Substantive Criminal Law	3
OA119 Accounting Procedures	4
PS110 Intro Amer Govt/Politics	4

Cognate Required (3 credits)

DP225 Word Proc Techniques	
or	
DP230 Word Proc Applications	3
or	
CSI00 Intro to Micro Appl	

Elective: (8 credits)**

Electives are to be chosen in consultation with advisor.

*Note: The Legal Assistant Associate Degree requires 2 credits in Social Science, Natural Science or Mathematics beyond those for general education. These requirements may be fulfilled from the students' electives.

**Note: Students may wish to apply some elective credits to the Legal Assistant

Internship and Professional Development Seminar (LA299) in their sophomore year.

STUDENTS COMPLETING the Associate Degree in Legal Assistant Studies may conveniently continue their education in a Bachelor's Degree in Legal Assistant Studies or other fields such as office administration, human services, or political science. Those interested in this option should consult the Legal Assistant Studies Coordinator.

FIRST YEAR: ASSOCIATE DEGREE, LEGAL ASSISTANT STUDIES

FALL

EN110 Fresh Comp*	3
LA102 Lgl Res Case Anal	3
LA150 Lgl Assist Prof. & Ethical Considerations	3
SD101 Fund. of Speech	3
OA119 Acctg Proc	4
	<u>16</u>

SPRING

LA125 Cvl Lit & Proc	4
LA140 Personal Injury Lit & Investigative Tech.	3
PS110 Intro Amer Govt Pol	4
Cognate	3
Electives	<u>2</u>
	<u>16</u>

SECOND YEAR

EN210 Res Pap Proc*	3
LA202 Lgl Wrng & Analy	3
LA320 Real Estate Law	3
LA321 Family Law	2
BA254 Business Law I	3
CJ319 Substan Crim Law	3
	<u>17</u>

LA322 Prob Law & Proc	3
BA255 Business Law II	3
LA250 Law Office Mgmt, System/Technology	3
Electives	<u>6</u>
	<u>15</u>

*May be taken Fall or Spring semester.

**ASSOCIATE DEGREE
SUBSTANCE ABUSE PREVENTION
AND TREATMENT**

THE ASSOCIATE DEGREE PROGRAM provides training in substance abuse counseling to prepare students for paraprofessional roles in hospitals, treatment centers, and substance abuse prevention programs. Students are required to be good role models for the clients they will serve.

The Associate Degree can be completed in two years of full-time study and requires an extensive practicum placement. Practicum placements may be completed outside the local area. Placements are available in hospitals, out patient programs, assessment centers, detoxification units, long term treatment centers, prevention programs, and specialized programs in schools or in corrections settings. Most Michigan placements require the Fundamentals of Substance Abuse Counseling credential. The test for this credential can be taken

on campus during Spring Semester. Students completing the Associate Degree may continue in the B.S. in Human Services program to qualify for entry level counseling positions.

Students completing the Associate Degree in Substance Abuse Prevention and Treatment may conveniently continue their education in the Bachelors Degree in Human Services or other fields such as Psychology, Sociology, or Corrections. Students interested in these options should consult the Substance Abuse Prevention and Treatment Advisor.

Total Credits Required 64

Required Courses:

EN110 Freshman Composition	3
EN210 Research Paper Processes	3
SD101 Fundamentals of Speech	3
BL105 Func of Human Body	4
HM204 Fund of Drug Abuse	3
HM250 Human Serv Practicum	9
HM292 Alcohol Abuse Prevention & Treatment	3
SO242 Sociology of Sex	3
SO341 Sociology of Addiction	3
SO344 Social Welfare Systems	3
PY101 Intro to Psych	4
PY203 Couns Theory/Process	3
PY204 Counseling and Crisis Intervention Strategy	3
PY259 Abnormal Psychology	3

Cognate - Required

SO225 Native American Cultures	
or	3
SO226 Races and Minorities	
PY291 Group Counseling	
or	
PY391 Family Therapy	

Electives

General education requirements and sufficient elective credits must be completed to total a minimum of 64 semester credits.

FIRST YEAR: ASSOCIATE DEGREE, SUBSTANCE ABUSE PREVENTION AND TREATMENT

FALL

EN110 Fresh Comp*	3
BL105 Func Hmn Bdy	4
HM204 Intro Drug Abuse	3
PY203 Couns Thry/Proc	3
PY101 Intro to Psych	4
	<u>17</u>

SPRING

PY204 Counseling & Crisis Intervention Strategy	3
PY259 Abnormal Psych	3
SO242 Sociology of Sex	3
HM292 Alcohol Abuse Prev & Treatment	3
SO341 Soc of Addiction	<u>3</u>
	<u>15</u>

SECOND YEAR

EN210 Res Pap Proc	3	HM250 Human Serv Pract	9
SO344 Soc Welfare Sys	3	SD101 Fund. of Speech	3
SO225 Nat Amer Culture		Elective	<u>3</u>
or	3		15
SO226 Races & Minorities			
PY291 Group Counseling			
or	3		
PY391 Family Therapy			
Electives	<u>5</u>		
	17		

*May be taken Fall or Spring Semester.

MINOR COURSES OF STUDY

CHILD DEVELOPMENT MINOR

Recommended for students in human services (and other fields) who plan to enter careers working on behalf of young children. It is particularly relevant for those anticipating agency work such as adoptions, child custody and social work. For the child development minor, the following 29 credit hours of courses must be taken:

ED101 Found of Early Chldhd Ed	3
ED105 Child Guidance & Welfare	3
ED110 Curr Dev & Tchg Pract	3
ED111 Infants and Toddlers: Dev Appropriate Practices	3
ED220 Early Childhood Literature	3
ED260 Practicum I	4
PY265 Child/Adol Dev	3
PY299 Exceptional Child/Adol	3
HE104 Nut for Early Childhood	3
HE181 First Aid	1

COUNSELING MINOR

The skill minor in counseling provides introductory training in

counseling individuals, groups, and families. Students generally seek employment in government agencies, social service agencies, hospice care, employment programs, youth services, child welfare agencies, and agencies serving the mentally ill. The minor does not provide certification as a school counselor.

Practicum placement may be completed locally or in any approved setting. Practicum students must be good role models for the clients they serve.

Total Credits Required: 30-36

Required Courses:

PY155 Lifespan Development	3
PY203 Couns Thry/Process	3
PY204 Couns Crisis Interv Strat	3
PY240 Behavior Management	3
PY291 Group Counseling	3
PY385 Health Psychology	3
PY391 Family Therapy	3
PY396 Tests/Measurements*	3
SO344 Social Welfare Systems	3
HM250 Human Services Pract	3
BL121 Human Anatomy**	3
or	
BL105 Func of the Human Body**	4
PY259 Abnormal Psychology***	3
or	
SO338 Deviance***	3

*Because of prerequisite to PY396, students must choose one of the following as part of coordinating minor or electives:
 PY210 Statistics 3
(already required by PY minors)
 SO201 Social Research & Stat. 3
(counts toward SO minors)
 MA207 Prin. of Stat. Methods 3

**May count toward general Education

***May count toward SO/PY minor

NOTE: If substance abuse minor and counseling minor are both selected, student must fulfill overlap requirement.

GEOGRAPHY MINOR

A minor course of studies is offered in geography. This minor meets the needs of students aspiring to professional careers in business, government, or planning agencies, or who wish to do university graduate work. It is strongly suggested that students pursuing professional careers complete MA207, Statistical Methods,.

A total of 20 credits is required:

Geography (15-17 credits)
 GG106 Phys Geo: Landforms 3
 GG108 Phys Geo: Meteorology and Climatology 3
 GG302 Economic Geography 4
 GG306 Cultural Geography 3
 GG492 Indiv Stud Geography 2-4

Geography electives to total 20 credits:

GG201 World Regional Geography 4
 GG321 Geo Europe/Great Britain 4
 GG322 Geo of S. America 4
 GG323 Geo of East Asia 4
 GG325 Reg Geo of N. America 4
 GG360 Historical Geography 4

HUMAN SERVICES ADMIN MINOR

This skill minor in Human Services Administration offers

training and experience in management, fiscal control, staff supervision, and service marketing in human service agencies. The minor recognizes that many agencies, especially in rural areas, are small and that service providers may also share administrative tasks. Also, service providers in larger agencies may wish to prepare for advancement into administrative positions.

Practicum placements may be completed outside the local area. Depending on the student's skill and interests, placements are available at state/provincial social services offices, child care centers, counseling agencies, tribal/band offices, treatment centers, family support agencies, corrections settings, etc.

Total Credits Required: 32-33

Required Courses:

SO344 Soc Welfare Sys 3
 PY228 Org Behavior 3
 MN370 Mgmt Prin & Human Resource Concepts 4
 BA231 Business Comm 3
 DP264 Intro to Data Proc 3
 PS201 Intro to Public Admin 3
 HM250 Human Serv Pract 3
 HM480 Grantwriting 3
 OA119 Accounting Procedures or 4
 AC132 Princ. of Accounting I
 MN469 Collective Bargaining or 3-4
 MK281 Marketing Principles

LEGAL ASSISTANT STUDIES MINOR

Requires a minimum of 26 credits as follows:

Required core courses

LA102 Lgl Res/Case Anal 3
 LA202 Legal Writing and Analysis 3

LA125 Cvl Lit/Proc	4
LA150 Legal Assistant Professions & Ethical Considerations	3
OA119 Accounting Procedures or	4
PS110 Intro Amer Gov/Pol	

Electives: Minimum of 9 credits from the following (with 6 credits selected from 300-400 level courses):

LA140 Personal Injury Litigation & Investigative Techniques	3
LA250 Law Office Mgmt/Systems & Technology	3
LA300 Seminar Lgl Assist Stud	1-4
LA320 Real Estate Law	3
LA321 Family Law	2
LA322 Probate Law & Proc	3
LA401 Evidence and Trial Practice	3
LA405 No-Fault Automobile Law	3
LA406 Wrkrs Dis Comp Law	2
CJ319 Substantive Criminal Law	3
CJ409 Procedural Criminal Law	3
BA254 Business Law I	3
BA255 Business Law II	3

NATIVE AMERICAN STUDIES MINOR

A **minor** is offered in Native American Studies, requiring a minimum of 22 credits.

The Native American Studies minor is appropriate for students majoring in a wide variety of disciplines who may or may not be Native American themselves. Students intending to eventually work in a Native American setting or who may often work with Native Americans are likely to benefit from the information and new perspectives gained from the experiences provided by the minor. The Native American Studies minor is also appropriate for students who are simply interested in and wish to explore the Native American culture of our area. Individual courses within the Native American Studies minor may be of interest and value to both full and part-time

students across the campus community.

Approximately 25% of the population in the local service area of Lake Superior State University is Native American. There are also a substantial number of Native Americans in the broader service region of the University, both in Michigan and Ontario. The Native American Studies minor is designed to provide valuable background and current information about this special population of Americans.

The courses in the Native American Studies minor reflect the Native American experience across time and throughout North America, but have a particular focus on issues which are of particular importance to Native Americans at the present time in the Great Lakes area. Course content will include the study of Native American history, culture, and literature. In addition, courses within the Native American Studies minor will introduce students to the structure and operation of tribal governments and tribal law, as well as various current Native American issues and concerns.

The advisor for the Native American Studies' minor, who is located in the Social Sciences Department, may be contacted for further information.

This minor consists of the following courses:

Required courses: (19):	
SO225 Nat Cultures of N. America	3
SO226 Races and Minorities	3
HS230 Survey of Amer Indian Hist	4
EN235 Survey of Nat Amer Lit	3
LA305 Tribal Law & Govt	3
ID320 Cont Nat Amer Issues	3
ID305 Sem in Nat Amer Stud or	3
Approved Internship Course	

POLITICAL SCIENCE MINOR

Total Credits Required	28
PS110 Intro Amer Govt/Pol	4
SO201 Social Res/Stats	4

A minimum of one course in each of the following areas: 13-16

- American Politics*
(PS325, 364, 367, 467)
- Comparative Politics*
(PS160, 331, 334)
- International Relations*
(PS241, 411, 412)
- Political Philosophy*
(PS351, 352)

Additional political science electives to reach 24 credits (A minimum of 12 credits must be at the 300/400 level) 4-7

PSYCHOLOGY MINOR

The psychology minor exposes students to the knowledge base required for understanding and studying behavior.

Total credits Required: 22

Required Courses:	
PY101 Intro to Psych	4
PY210 Statistics	3
PY212 Experimental Psychology	3
PY Electives	6
PY elective at 300+ level	3
PY357 Personality Theory	}
or	
PY396 Tests and Measurements	}
or	
PY457 Cognition	}
or	
PY459 Physiological Psychology	

PUBLIC ADMIN MINOR

Total Credits Required 28

Required:	
PS110 Intro to Amer Govt/Pol	4
PS130 Intro to St/Lcl Govt	4
PS201 Intro to Public Admin	3
PS302 Policy Anal/Eval	4
PS401 Prin of Public Admin	3
PS449 Poli Sci/Pub Admin Intern	3
EC201 Prin of Macroeconomics	3
SO201 Social Res & Stats	4

SOCIOLOGY MINOR SOCIAL WELFARE

Total Credits Required: 21

Required Courses:	
SO101 Intro to Soc	
SO102 Social Problems	
SO226 Races and Minorities	.
SO344 Soc Welfare Institutions	3
SO214 Criminology	
or	3
SO338 Deviance	
SO327 Soc of Dying/Death	
or	3
SO326 Sociology of Aging/Aged	
SO325 Social Stratification	
SO314 Social Change	3
SO321 Sociology of Women	

SOCIOLOGY MINOR GENERAL

Total Credits Required: 20

Required Courses:	
SO101 Intro to Sociology	3
SO102 Social Problems	3

Additional sociology courses to total a minimum of 20 hours, among which at least 9 hours are 300 or 400 level courses. 14

SUBSTANCE ABUSE COUNSELING MINOR

THIS SKILL MINOR prepares students to work in substance abuse settings and provides invaluable background for students planning to work in law enforcement, domestic violence, or corrections settings. Students choosing this minor must be good role models for clients confronting and recovering from substance abuse problems.

Students seeking the B.S. in Human Services degree who select both this minor and the Counseling minor will note that there is a great deal of overlap between the minors. Therefore, these students must select five courses (3 at the 300-400 level) from the Approved Overlap Courses list.

Total Credits Required: 27-33

Required Courses:

HM204	Fund of Drug Abuse	3
HM250	Human Serv Practicum	3
HM292	Alcohol Abuse Prev/Treat	3

SO341	Sociology of Addiction	3
SO233	Social Welfare Systems	3
PY203	Couns Thry/Process	3
PY204	Counsel & Crisis Intervention Strategies	3
PY396	Tests and Measurements	3
BL121	Human Anat/Phys I or	3-4
BL105	Func of Human Body	
PY259	Abnormal Psychology or	3
SO338	Deviance*	
PY291	Group Counseling or	3
PY391	Family Therapy	

*May count toward SO/PY minor

APPROVED OVERLAP COURSES - 15 CREDITS

Students minoring in both Substance Abuse Counseling and Counseling must choose 15 credits from this list including 9 credits at the 300-400 level. Overlap credits will not count in the coordinating minor.

PY217	Social Psychology	3
PY228	Organizational Behavior	3
PY259	Abnormal Psychology	3
PY311	Learning and Motivation	3
PY357	Personality Theory	3
PY383	Industrial Psychology	3
PY457	Cognition	3
PY459	Physiological Psychology	3
SO214	Criminology	3
SO226	Races and Minorities	3
SO242	Sociology of Sex	3
SO321	Sociology of Women	3
SO327	Sociology of Death/Dying	3
SO338	Deviance	3
SO339	Culture and Personality	3

NOTES



Photo by Liz Raffaele

CONTINUING EDUCATION

CONTINUING EDUCATION

THE CONTINUING EDUCATION OFFICE offers both credit courses, in cooperation with academic departments, and credit-free programs for members of surrounding communities. Undergraduate credit courses are offered both on and off campus. The two main off campus sites are at Alpena Community College in Alpena, and North Central Michigan College in Petoskey, Michigan, where LSSU operates its Regional Centers. Off campus courses are also offered in Escanaba, at Bay de Noc Community College, and at other locations, based on student demand.

Through the two Regional Centers, students may obtain a Bachelor of Science degree in Business Administration, Accounting and Nursing (B.S.N. completion program for registered nurses). These programs are offered over a three year cycle, and students are usually concurrently enrolled in one of the community colleges and LSSU. All degree requirements may be completed off campus. The length of time required to complete the degree varies, according to each student's individual schedule and the number of college credits already completed.

CONTINUING EDUCATION is the office primarily responsible for community service activities. Non-credit enrichment courses are scheduled several times a year and include a wide variety of inexpensive courses and activities for adults and children. Learn to Swim and the children's dance are two popular programs for children. Adult enrichment courses in subjects such as computers, exercise, crafts, art and languages, to name just a few, are available.

UPWARD BOUND, a program for high school students who have the potential to become the first person in their family to attend college, is also run under the Continuing Education Office. Upward Bound provides a six week summer residential program, consisting of academic classes and enrichment activities. During the school year, students receive tutoring and counseling from Upward Bound staff. About 60 students from the Eastern Upper Peninsula participate in Upward Bound each year.

ELDERHOSTEL, for participants at the other end of the age scale, has been held on campus each year since 1979. Under Elderhostel, an international program for senior citizens, participants spend a week on the campus studying with LSSU professors and visiting areas of interest in the EUP and Ontario.

LOCATION: Continuing Education is located in the Fletcher Center for Student Services.

COURSES

EACH COURSE DESCRIPTION

is preceded by the following sort of heading:

CH999 Chemistry 5 sometimes, with other notations: CH999 Chemistry (3-3) alternate yrs 5

The first line is the code number (CH999) and the course name; see below for keys to (CH) letters included. The second includes several pieces of information: Two figures are hours of lecture-lab per week; and the number of credit hours (5). Sometimes, no semester will be indicated, or there will be the (alternate yrs) notation. Consult the Course Schedule Booklet published each semester prior to pre-registration; or your department head for scheduling of such courses.

Abbreviations

AC Accounting	HT Hospitality
AS Automated Systems Engr. Tech.	HU Humanities
AT Art	ID Interdisciplinary
BA Business	JR Journalism
BL Biology	LA Legal Assistant Studies
CH Chemistry	MA Mathematics
CJ Criminal Justice	ME Mechanical Engineering
CS Computer Science	MK Marketing
CT Computer Engineering Technology	MN Management
DP Data Processing	MT Mechanical Engineering Technology
DT Drafting & Design Engr. Tech.	MU Music
EC Economics	NS Natural Science
ED Education	NU Nursing
EN English	OA Office Administration
ES Exercise Science	PH Physics
ET Electrical Engineering Technology	PL Philosophy
EV Environmental Science	PS Political Science
FN Finance	PY Psychology
FS Fire Science	RA Recreational Activities
FR French	RC Recreation
GE Geology	RT Natural Resources Technology
GG Geography	SA Student Affairs
GN German	SD Speech
HE Health Sciences	SO Sociology
HM Human Services	SP Spanish
HS History	TC Construction Technology

Students must satisfy prerequisites, and any other stated conditions, before enrolling in a course, or have permission from an instructor to waive the prerequisites. Enrollment in a course may be

revoked (with an N grade) if it is found during the regular drop period that the proper prerequisites have not been met. Responsibility rests with students to be certain that they have the approved prerequisites.

ACCOUNTING

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

AC132 PRINCIPLES OF ACCOUNTING I **(4,0) 4**

An introduction to the principles of accounting as applied to proprietorships, partnerships and corporations. Areas of study include the accounting cycle for service and merchandising enterprises, internal control and items included in the asset section of the balance sheet. (Formerly QAC121)

AC133 PRINCIPLES OF ACCOUNTING II **(4,0) 4**

This course includes a study of the equity portion of the balance sheet as well as an introduction to financial analysis and managerial accounting. Prerequisite: Grade of C or higher in AC132. (Formerly QAC123)

AC232 INTERMEDIATE ACCOUNTING I **(4,0) 4**

A review of the general theoretical framework and process of accounting for use as a reference in an intensive study of accounting doctrines and procedures proposed by various authoritative groups. Topics: Generally accepted accounting principles; the accounting process; balance sheet; income statement; present value principles and application; cash and temporary investments; receivables; inventories, plant and intangible assets; and long term investments. Prerequisites: AC132 and 133 or permission of instructor. (Formerly QAC221-222)

AC233 INTERMEDIATE ACCOUNTING II **(4,0) 4**

Continuation of AC232 with reference to accounting theory as applied to specific critical areas of financial data accumulation and presentation. Emphasis is placed on valuation concepts and their influence on contemporary practice. Topics: Liabilities; long term debt securities; owner's equity; earnings and revenue recognition; income taxes; leases; pensions; error correction; cash flows; and financial statement analysis. Prerequisite: AC232. (Formerly QAC222-223)

AC332 COST ACCOUNTING I **(4,0) 4**

A study of the fundamentals of cost accounting: The cost cycle, cost terminology, cost behavior, cost-volume-profit analysis, budgeting, standard cost, relevant costs, cost allocation, and cost control. Emphasis is given to both product costing and costing for control purposes. Prerequisite: AC133.(Formerly QAC321)

AC333 COST ACCOUNTING II **(4,0) 4**

A continuation of AC332 encompassing process costing, capital budgeting, inventory control, performance measurement, accounting systems and internal control, and cost accounting in relation to the certified public accountant and certified management accountant examinations. A study of various quantitative techniques and their application is included in the course content. Prerequisite: AC332. (Formerly QAC323)

AC334 ACCOUNTING INFORMATION SYSTEMS **(3,0) 3**

Elements that constitute an accounting system and theories upon which a system should be designed. Emphasis upon computerized accounting systems with extensive use of computers. Prerequisites: AC233, AC332 and introductory data processing course. (Formerly QAC324)

AC421 FEDERAL TAXATION ACCOUNTING I **(3,0) 3**

Basic concepts of the theory and practice applicable to the preparation of individual tax returns. A comprehensive analysis of regulations governing inclusions and exclusions of income; capital gains and losses; and personal, standard, and itemized deductions. Prerequisites: AC133 and junior standing or approval of the department. (Formerly QAC421)

AC422 FEDERAL TAXATION ACCOUNTING II **(3,0) 3**

Theory and practice of income tax accounting as applied to tax credits, partnerships, and corporations. Includes some library tax research. Prerequisite: AC421. (Formerly QAC422)

NOTES

AC427 AUDITING
(4,0) 4
A study of ethical, professional, and technical standards for independent audits and auditing procedures as they apply to internal controls. A study of audit program applications as they apply to elements of the financial statements. Prerequisites: AC233 and AC333 or permission of instructor. (Formerly QAC427 and QAC428)

AC432 ADVANCED ACCOUNTING I
(3,0) 3
This course begins with a review of accounting theory and income presentation followed by a study of accounting for corporate combinations and preparation of consolidated financial statements. Prerequisite: AC233. (Formerly QAC425)

AC433 ADVANCED ACCOUNTING II
(3,0) 3
A study of special topics in accounting including partnerships, governmental accounting, accounting for non-profit organizations, fiduciary accounting, and insolvency. Prerequisite: AC233. (Formerly QAC426)

AUTOMATED SYSTEMS ENGINEERING TECHNOLOGY

Special topics courses available as need and interest develop. Consult the semester Course Schedule for these.

AS305 INTRODUCTION TO AUTOMATED SYSTEMS
(2,2) 3
A non-technical introduction to the field of automation. Topics include: robotics overview, applications of robots, layout and performance evaluation, future trends in automated systems, automation economics, sociological and management issues in automation. Laboratory exercises involve basic programming in AML on IBM robots and automated systems simulation on the computer. Prerequisites: MA140 and knowledge of at least one computer programming language. (Substitutes for QAS310).

AS315 PROGRAMMABLE LOGIC CONTROLLERS
(2,2) 3
An introduction to the use of programmable logic controllers. Basic components of the programmable logic controller along with the interface to hydraulic/pneumatic systems and sensors will be discussed. Some higher level functions such as zone control, master control, and sequencers will also be covered. Written business communications is an integral part of the course. Pre or corequisite: ET201 or equivalent. (substitutes for QAS314).

AS325 ROBOTICS IN MANUFACTURING
(3,3) 4
Introduction to manufacturing industries, types of production and automation strategies. Emphasis on robotic applications, topics include robot anatomy, control systems, programming techniques and kinematics. Laboratory work focuses on programming in AML for IBM robots. Prerequisite: MA141. (Substitutes for QAS320).

AS365 COMPUTER CONTROL CONCEPTS
(3,0) 3
Introduction to the C programming language, with major emphasis on the topics of computer interfacing, serial and parallel ports, computer control architecture and control applications. Prerequisite: CT235 or CT265. (Substitutes for AS360).

AS425 MACHINE VISION
(2,2) 3
Machine vision topics as applied to the manufacturing environment. Topics include lighting techniques, imaging techniques, image recognition, inspection, and robot guidance. Laboratory focuses on programming PC based vision card and interfacing with robot controller in the "C" programming language. Prerequisite: AS365. (Substitutes for QAS420).

AS455 AUTOMATIC CONTROLS
(3,3) 4
Introduction to the analysis of linear feedback automatic control systems. The course will include a study of modeling, block diagrams, system response, stability, bode analysis, root locus, and Laplace transforms. Prerequisite: MT316 or MT220. (Substitutes for QMT461).

AS465 SENSOR TECHNOLOGY & APPLICATIONS

(3,3) 4
Study of theory and applications of sensors used in robotics and automated systems. Topics include position sensors incremental encoders, velocity sensors, accelerometers, proximity sensors, touch and slip sensors, force and torque sensors, interfacing electronics, general and special purpose feeders for automated assembly, design for assembly, and systems integration. Laboratory work will focus on programming in VAL for PUMA robots, AML for IBM robots, and systems integration using sensors and the Allen Bradley PLC 2/30. Prerequisite: AS325. (Substitutes for QAS460).

AS475 AUTOMATED MANUFACTURING SYSTEMS

(3,0) 3
Study and analysis of the components of an automated manufacturing system. Topics include flow lines, automated assembly systems, materials handling and storage, group technology, automated inspection, FMS and CIM. Manufacturing factory simulation using Simfactory 11.5 software package. Prerequisite: AS465. (Substitutes for QAS470).

AS485 AUTOMATED SYSTEMS PROJECTS

(1,6) 3
Group projects in which students are required to design and implement an automated assembly system. Students are responsible for design, proposal, implementation, formal presentation, and users manual for the system. Project designed to be representative of a typical industrial project. Prerequisite: AS425. (Substitutes for QAS480).

ART

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

AT110 FUNDAMENTALS OF DRAWING AND COMPOSITION

(3,0) 3
This course will acquaint the student with the various drawing media, such as pencil, charcoal, ink, wash and the use of various papers. Studio problems in still life, object drawing, landscape, texture, and drawing from imagination and memory. Introduction to limited palette oil painting with emphasis on techniques of brush handling and concepts of visual organization language. Outside sketching required. Organic form, perspective, proportion, line, shape and tone are studied. (Substitutes for QAT125)

AT111 PAINTING COMPOSITION & DESIGN

(3,0) 3
Projects in various media, primarily oil, acrylic paints and water color. Emphasis on individual development and expression. Outside sketching required. Specific pictorial problems, advanced paint handling and brush techniques will be studied. Understanding of structural, value and color principles by which great paintings are organized will be studied. Prerequisite: AT110, or permission of instructor. (Substitutes for QAT127; waive AT126)

AT120 DRAWING, PAINTING AND COMPOSITION

(3,0) 3
Advanced concepts of color and design elements basic to drawing and painting. The study of painting employing figure, still life, and nature as source material. Emphasis on visual perception and the study of the formal elements of painting. Prerequisite: AT111 or permission of instructor. (Substitutes for QAT225)

AT211 GRAPHIC ARTS, WATERCOLOR AND MIXED MEDIA

(3,0) 3
Painting from figure, memory, portrait, and landscape stressing personal expression. Concentration on individual projects involving significant forms and symbols. Emphasis on advanced color and composition problems through study of spatial structure and color and order relative to pictorial meaning. Prerequisite: AT210 or permission of instructor. (Substitutes for QAT227; waive AT226)

AT250 ART HISTORY AND APPRECIATION I

(4,0) 4

Study of arts exemplified in prehistoric and primitive cultures, and in the Mesopotamian, Egyptian, Aegean, Greek, Roman, early Christian, Byzantine, Moslem, Romanesque and Gothic eras. The course presents a development of historic, social and aesthetic principles, including a study of signs and symbols for students of art education, science, letters, business and engineering. Art history is taught in terms of visual experience and knowledge with art films, slides and demonstrations with art materials in addition to class lectures. Universal standards that can be applied to any work of art are studied. Counts as humanities substitute. (Substitutes for QAT267)

AT251 ART HISTORY AND APPRECIATION II

(4,0) 4

A study of European and American art from the Renaissance to the twentieth century, including Renaissance, baroque, rococo, neoclassic, romantic, realist, and contemporary. The history of art is presented from a technical, social and aesthetic standpoint, along with a study of rhythm, motion, and proportion. Works of art are considered on their own merits and development rather than on the basis of preconceptions. Art films, color slide presentations, and demonstrations using art materials supplement class lectures. Counts as humanities substitute. (Substitutes for QAT269)

NOTES

BUSINESS

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

BA105 BUSINESS MATHEMATICS

(3,0) 3

Solution of business problems. Topics include discounts, mark-ups, payroll, interest, financing charges, depreciation methods, real estate taxes, controlling cash, metric system conversion, inventory evaluation, annuities and insurance. Story problems. Prerequisite: MA091 or placement in mathematics beyond MA091. Course not available for credit for students who have taken a full year of accounting. (Formerly QOA105)

BA121 INTRODUCTION TO BUSINESS

(3,0) 3

Comprehensive coverage of the major activities of business and the key institutions that facilitate the business process. Topics covered include the following: American business enterprise system, international business, forms of business ownership, management and organization of human resources, production, marketing, information management and controls, business laws and ethics, finance, accounting, contemporary economic issues and business career opportunities. Contemporary business cases may be used for decision making simulations. Enrollment open to freshman and sophomore business majors or any non-business major. (Formerly QBA121)

BA201 PROFESSIONAL DEVELOPMENT

(3,0) 3

Lectures, discussion, and experiential learning in interpersonal relations, telephone techniques, travel, meetings, office decorum, time management, eustress and distress, motivation, professional appearance and conduct. (Formerly QOA201)

BA211 BUSINESS STATISTICS

(3,0) 3

An introduction to business statistics. Topics include collection and presentation of data, measures of central tendency, variation and skewness, probability, probability distributions, Bayes's Theorem, sampling, sampling distributions, estimation, hypothesis testing, simple linear regression and correlation. Prerequisite: MA111. (Formerly QBA211)

BIOLOGY

BA226 RECORDS MANAGEMENT

(3,0) 3
Study and application of records control, forms design, filing systems (manual and electronic), microforms, and the records cycle. A computer simulation is completed utilizing a program to print, sort, and select records as reports or labels. (Formerly QOA226)

BA231 BUSINESS COMMUNICATIONS

(3,0) 3
Business and management communications problems. Direct, indirect, and persuasive letters; memos, short reports, and directives. Some assignments must be typed. Extensive writing practice. Prerequisite: EN205 or EN210. (Formerly QBA231)

BA254 BUSINESS LAW I

(3,0) 3
This portion of business law covers the law applicable to contracts, sales, personal property, and bailments. (Formerly QBA254)

BA255 BUSINESS LAW II

(3,0) 3
This portion of business law covers the law applicable to commercial paper, corporations; partnerships, agency and employment. (Formerly QBA255)

BA261 BUSINESS SKILLS

(1,0) 1
A series of specific, business-skill classes. Each course will provide 15 classroom hours of instruction. A student may register for one or more sections per term, for a maximum of three credits earned in this course. (Formerly QOA261)

BA466 BUSINESS POLICY

(3,0) 3
This course provides an opportunity for the student to develop an understanding of the interrelationship of the various divisions, departments and functions of a business organizations from a top management perspective. Library research and case analysis are utilized. Prerequisite: Senior status in Business and Economics. (Formerly QBA466)

BA491 RESEARCH READING IN BUSINESS AND ECONOMICS

(1-3,0) 1-3
Independent study and seminar; individual student guidance by faculty for selected research topics in business. Prerequisite: Senior status. (Formerly QBA491)

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

BL105 FUNCTION OF THE HUMAN BODY

(3,2) 4
Survey of the functional anatomy and the related physiological processes needed for the understanding of normal human activity. This course may be substituted for NS103. Not open to biological majors or minors. (Formerly QBL105)

BL110 GENERAL ZOOLOGY

(3,2) 4
Introduction to the diversity of the animal kingdom, invertebrates and vertebrates. Adaptation and evolution are stressed as unifying themes throughout the course. Prerequisites: MA090 and EN090 or equivalent scores on math and English placement exams. Note: "C" or better is required to use this course as a prerequisite for other BL/EV courses. (Substitutes for QBL102)

BL111 GENERAL BOTANY

(3,2) 4
Introduction to the diversity of the plant kingdom. Will include the morphology, physiology, reproduction and general habitat of organisms traditionally considered as plants but with an organization reflecting modern concepts of evolutionary relationships. Prerequisites: MA090 and EN090 or equivalent scores on math and English placement exams. Note: "C" or better is required to use this course as a prerequisite for other BL/EV courses. (Substitutes for QBL103)

BL121 HUMAN ANATOMY & PHYSIOLOGY I

(2,2) 3
A two semester sequence. This sequence does not apply toward a major or minor in biological science. The first semester covers organization of the human body, basic principles of chemistry, the skeletal and muscular systems, and the nervous system and special senses. (Formerly QBL121)

BL122 HUMAN ANATOMY & PHYSIOLOGY II

(3,2) 4
The continuation of BL121 with emphasis on the endocrine system, cardiovascular system, respiratory system, digestive system, urinary system and the reproductive system with an introduction to genetics. The course will conclude with a study of pregnancy and human embryology. Prerequisite: BL121. (Formerly QBL122)

BL130 INTRODUCTION TO REMOTE SENSING

(2,4) 3
Introduction to the use of remotely acquired imagery to evaluate various ground features, utilizing mainly aerial photographs. One all-day field trip required. This course does not count as a life science education requirement. Prerequisite: Completion of LSSU mathematics competency. (Formerly QBL130)

BL201 PLANT MORPHOLOGY

(2,3) 3
A survey of the principal groups of plants from the standpoint of their structure, development and reproduction. Emphasis is placed on evolutionary relationships as revealed by comparisons of the structural and reproductive traits. Prerequisite: BL111. (Formerly QBL201)

BL202 FIELD BOTANY

(2,3) 3
A course whose main objective is to allow the student to be able to recognize common families, genera, and species, especially those in the local flora. Prerequisite: BL111. (Formerly QBL202)

BL204 GENERAL MICROBIOLOGY

(3,3) 4
This course will deal with the history and scope of microbiology, a study of microbial structure, growth, nutrition, metabolism, genetics, taxonomy and control. Labs will emphasize the identification and cultivation of molds and bacteria with various staining techniques. A study of mycoplasma, viruses and molds will be incorporated along with the origin of life and biochemical evolution, genetic engineering and recombinant DNA. Prerequisites: BL110, BL111 and CH116 (Substitutes for QBL375)

BL220 GENETICS

(3,0) 3
A study of the nature, transmission, recombination, and function of hereditary material in animals, plants, and microorganisms. Prerequisites: BL110 or BL111, and CH116. A statistics course strongly recommended. (Substitutes for QBL320)

BL221 GENETICS LABORATORY

(0,2) 1
A course including exercises in Mendelian genetics, Cytogenetics, Microbial genetics, and computer simulations of population genetics. Corequisite or prerequisite: BL220. (Substitutes for QBL321)

BL223 CLINICAL MICROBIOLOGY

(3,0) 3
A basic course in microbiology dealing with the study of microorganisms and pathogens in humans. A survey of viruses, molds and bacteria. Their morphology and growth characteristics will be discussed along with the physical and chemical means to control pathogenic microorganisms causing human infections. Prerequisites: CH105 and BL122. Does not apply towards a major or minor in Biology. (Formerly QBL223)

BL230 INTRODUCTION TO SOILS

(2,3) 3
A course dealing with the historical development of the study of soils as a science in the U.S.A. Pedology and parent material relationships, along with relationships of various physical, chemical, mineralogical and microbial properties of soil in relation to plant growth, soil survey, organic matter, land use planning, soil erosion, saline-acidic soil reclamation, liming soil and environmental quality. Prerequisite: CH116. (Formerly QBL230)

BL239 WILDLIFE BIOLOGY AND MANAGEMENT

(2,0) 2
A lecture course covering the basic biology and management of wildlife. Prerequisite: Enrollment in the Natural Resource Technology, Biology or Fisheries and Wildlife program. (Completion of BL239 and RT206 substitutes for QRT185)

BL243 VERTEBRATE ANATOMY

(3,3) 4
Study of the anatomy of vertebrates, including representatives of pre-chordates, Agnatha, Chondrichthyes, Osteichthyes, Amphibia, Reptilia, Aves, and Mammalia. Laboratories emphasize thorough dissection of representatives of at least two diverse classes of vertebrates. Prerequisite: BL110 and sophomore standing. (Formerly QBL243)

BL249 WATER POLLUTION CONTROL
(2,3) 3

An analytical study of the tests, operations, and solutions involved in contemporary water pollution problems. (Also listed as EV249.) Prerequisite: EV101 or permission of instructor. (Substitutes for QBL449)

BL272 FRESHWATER FISH CULTURE
(2,0) 2

Methods of fish propagation: egg taking and incubation, feeding and nutrition, water quality monitoring, carrying capacity determination, hatchery problem solving using computer models, and disease identification and treatment. At least one all-day field trip. Prerequisites: BL280 and sophomore standing or permission of instructor. (Substitutes for QBL370)

BL273 FISH CULTURE PRACTICUM I
(0,6) 2

Fish hatchery practices and management decisions. Students actively involved in fish culture procedures through the rearing cycle of salmonid fishes and possibly other coldwater species. Prerequisite: Permission of instructor. (Substitutes for QBL471 and QBL472)

BL274 FISH CULTURE PRACTICUM II
(0,6) 2

Fish hatchery practices and management decisions. Students actively involved in fish culture procedures through the rearing of salmonid fishes and possibly other coldwater species. Prerequisite: Permission of instructor. (Substitutes for QBL472 and QBL473)

BL275 AQUATIC ENTOMOLOGY
(1,4) 3

Survey of regional lake and stream insects with emphasis on identification and life histories. Role of various groups in aquatic systems and as fish food organisms. Prerequisite: BL110. (Formerly QBL275)

BL280 BIOMETRICS
(3,0) 3

Applications of statistics to biological problems, analysis of variance, multiple regression and correlation. Prerequisite: MA207. This does not count as a life science general education requirement. (Formerly QBL280)

BL288 ENVIRONMENTAL MICROBIOLOGY
(3,3) 4

A study of viruses, molds, algae, bacteria, actinomycetes, and some protozoa, their morphology, structure, taxonomy, growth, nutrition and control. The role of microorganisms in organic matter decomposition, nutrient cycling, biodegradation of recalcitrant molecules in different ecosystems, community microbial ecology and different stresses in microbial communities along with water born pathogens and diseases they cause will be discussed along with the role of microorganisms in sewage and sludge disposal in wastewater treatment. (Also listed as EV288) Prerequisite: CH108. (Substitutes for QRT288)

BL290 INDEPENDENT STUDY IN BIOLOGY

(1-4,0) 1-4
Special studies and/or research in biology for individuals or small seminar groups. Course content to be arranged by student(s) and a supervising professor with approval of department head. Prerequisites: Students must have an overall GPA of at least 2.5, and no I grades on their transcript. Independent study courses may be repeated for a maximum of eight credits. Additional information is available at the Department of Biology and Chemistry office.

BL302 INVERTEBRATE ZOOLOGY
(3,2) 4

A study of the invertebrate groups with emphasis on morphology, phylogeny and life cycles. Prerequisites: BL110 and sophomore standing. (Formerly QBL302)

BL310 ICHTHYOLOGY
(2,3) 3

Anatomy, physiology, behavior, taxonomy and natural history of fishes, with emphasis on freshwater species. Prerequisite: BL110; sophomore standing. (Formerly QBL310)

BL312 ORNITHOLOGY
(2,4) 3

The biology and taxonomy of birds. Labs will focus upon bird anatomy and bird recognition using video tapes and specimens. Prerequisites: BL110 and junior standing. (formerly QBL312)

BL315 PLANT PHYSIOLOGY
(3,3) 4
Organization of plants, plant replication, photophysiology and photosynthesis, mineral nutrition, water transport in higher plants, plant growth substances, physiology of seeds, control of plant growth and plant cell tissue culture. Prerequisites: BL111 and CH222. (formerly QBL315)

BL330 ANIMAL PHYSIOLOGY
(3,3) 4
A study of the physical and chemical properties of the animal systems as they concern homeostasis. Prerequisites: BL110 with a C or better and CH116 with a C or better. (Formerly QBL330)

BL332 EMBRYOLOGY
(2,2) 3
A study of the development of representative vertebrates. Offered every other year alternating with BL422, Parasitology. Prerequisites: BL110 and sophomore standing. (Formerly QBL332)

BL337 GENERAL ECOLOGY
(2,3) 3
Fundamental concepts of plant and animal ecology, population dynamics and ecosystem analysis. Field trips are required during the first four week-ends of the semester. Prerequisites: BL110 and BL111 with a C or better. (Formerly QBL337)

BL395 SCIENTIFIC WRITING AND PRESENTATION
(0,2) 1
Literature searching, scientific writing, and oral presentation of scientific data. Students will be expected to listen to presentations of peers enrolled in BL499 and develop topic for their senior thesis. (also listed as EV395). Prerequisite: Junior standing. (Substitutes for QBL398 and QBL399)

NOTES

BL401 HONORS PROGRAM I
(0,8) 4
Biological Sciences Honors Program I. (open to students earning a bachelor of science degree in biological sciences with a grade point of 3.5 or higher) An undergraduate research project will be outlined in consultation with the supervising instructor and submitted to the department for approval. Outline must be approved before the first semester of the senior year. All grades for this sequence will be deferred until the final semester. Eight credit hours of honors credit will be substituted for 8 hours of electives upon successful completion of the research sequence. The special problem sequence will not be open to students electing the honors program sequence. The completed research may be used for Senior Thesis. (Formerly QBL401)

BL402 HONORS PROGRAM II
(0,8) 4
Biological Sciences Honors Program II. This is a continuation of the honors research sequence. (Formerly BL402)

BL411 MAMMALOLOGY
(2,3) 3
Emphasis will be on the physiological behavioral and ecological adaptations of mammals. Identification and classification will be emphasized. Some field work may be included. Prerequisite: BL110, suggest BL330. (Formerly QBL411)

BL420 POPULATION GENETICS AND EVOLUTION
(3,0) 3
A course including historical and modern concepts of evolutionary theory. Some coverage of origin of life concepts will be included. Prerequisite: BL220 (New course in fall 1991)

BL422 PARASITOLOGY
(2,2) 3
A study of the morphology, taxonomy, habitats and life cycles of parasites. Offered every other year alternating with BL332, Embryology. Prerequisite: BL110. (Formerly QBL422)

BL423 IMMUNOLOGY
(3,3) 4
A study of antigens, antibodies, antigen-antibody reactions, blood groups, phagocytosis and hypersensitivity. Prerequisites: BL110, BL204, CH226. (Formerly QBL423)

**BL432 FISHERIES ECOLOGY AND
MANAGEMENT**

(2,3) 3
Current concepts and techniques relating to the management of sport and commercial fishery resources including lake and stream surveys. Prerequisites: BL110 and junior standing or permission of instructor. (Formerly QBL432)

BL433 HISTOLOGY

(2,2) 3
Study of the microscopic anatomy of tissues, with emphasis on mammals. Related physiological processes are integrated with the anatomical studies. Offered alternate years. Prerequisites: BL110 and junior standing. (Formerly QBL433)

BL437 PLANT ECOLOGY

(2,3) 3
The measurement and description of plant communities as well as some autecological studies. Prerequisites: BL202, BL337 with a C or better. (Formerly QBL437)

**BL439 WILDLIFE ECOLOGY AND
MANAGEMENT**

(2,3) 3
A study of ecological principles as they relate to wildlife management. Discussion of the history, philosophy, and practice of wildlife conservation. Demonstration of field and laboratory techniques. (Formerly QBL439)

BL445 LIMNOLOGY

(2,3) 3
An investigation of the principles of freshwater ecology of lakes and streams. Prerequisite: BL337. (Formerly QBL445)

**BL460 MEDICAL TECHNOLOGY
INTERNSHIP**

30
(15 credits per semester for a maximum of 30 credits)
Practical and didactic training with regular laboratory personnel. Branch training is supplemented by informal lectures, oral quizzes and written examinations. Offered only at approved or affiliated hospital laboratories. Prerequisite: Satisfactory completion of required college course work. (Formerly QBL460)

**BL480 APPLIED MICROBIOLOGY AND
BIOTECHNOLOGY**

(2,3) 3
An advanced course in microbiology concerning the role of bacteria, viruses, Rickettsia and molds in cause and control of various human infections. Food, dairy, soil and industrial microbiology will also be discussed along with Recombinant DNA, genetic engineering and cell tissue culture. Prerequisites: BL204 and CH226, CH350 recommended. (Formerly QBL480)

**BL490 INDEPENDENT STUDY IN
BIOLOGY**

(1-4,0) 1-4
Special studies and/or research in biology for individuals or small seminar groups. Course content to be arranged by student(s) and a supervising professor with approval of department head. Prerequisites: Students must have junior or senior standing, have an overall GPA of at least 2.5, and no I grades on their transcript. Independent study courses may be repeated for a maximum of eight credits. Additional information is available at the Department of Biology and Chemistry office.

BL499 SENIOR THESIS

(0,3) 1
Required of seniors majoring in biology. Students present seminars and provide an audience for fellow seniors. Each paper presented will be critically analyzed by the audience (also listed as EV499). Prerequisite: BL395. (Formerly QBL499)

NOTES

CHEMISTRY

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

CH091 BASIC CHEMISTRY (3,0) 3

Thorough exposure to elementary chemistry for students inadequately prepared for college level chemistry. Emphasis on drill to enhance problem solving skills. Proficiency in basic mathematics (MA091) required. Students must receive a C or better in this course to qualify for CH104, CH108, or CH115. Credit in this course does not apply toward graduation. (Formerly QCH091)

CH104 LIFE CHEMISTRY I (3,0) 3

An introduction to selected principles of chemistry, including organic chemistry, with emphasis on their physiological importance and their applications to nursing and other health related professions. (This course does not apply toward a major or minor in chemistry.) Prerequisite: MA091 or equivalent. (Substitutes for QCH141)

CH105 LIFE CHEMISTRY II (3,2) 4

A continuation of organic chemistry presented in CH104 as well as a presentation of the chemical processes taking place in metabolism. The interrelationships between the metabolic processes of living systems are discussed along with their underlying chemical reactions. Prerequisite: CH104. (Substitutes for QCH142)

CH108 APPLIED CHEMISTRY (3,3) 4

An introduction to selected principles of chemistry with emphasis on technological applications. Credit in this course does not apply toward a major or minor in chemistry. (Substitutes for QCH181)

CH115 GENERAL CHEMISTRY I (4,3) 5

Fundamental principles of chemistry with emphasis on atomic structure, molecular structure, and stoichiometry. Prerequisites: High school chemistry and MA092 or equivalent, each with a grade of C or better. (Substitutes for QCH111, QCH122, and half of QCH112)

CH116 GENERAL CHEMISTRY II (3,3) 4

Continuation of CH115 with emphasis on equilibrium. Prerequisite: CH115 with a grade of C or better. (Substitutes for QCH113, QCH123, and half of QCH112)

CH225 ORGANIC CHEMISTRY I (3,3) 4

Fundamental principles of organic chemistry, covering the structures, reactions and properties of aliphatic and alicyclic compounds. The course will introduce the study of organic nomenclature, functional group chemistry, stereochemistry, reactive intermediates, organic synthesis, reaction mechanisms, and conjugated unsaturated systems. The Laboratory introduces basic organic laboratory techniques and includes experiments in organic separations, synthesis, and analysis. Prerequisite: CH116. (Substitutes for QCH221)

CH226 ORGANIC CHEMISTRY II (3,3) 4

A continuation of CH225 covering the structures, properties, and reactions of aromatic compounds, carbonyl compounds, carboxylic acids and their functional derivatives, phenols, amines, organometallics, carbohydrates, amino acids, and proteins. The course will introduce the study of spectral methods of structure determination and expand the study of organic synthesis and mechanisms. The laboratory will include experiments in spectroscopy, organic synthesis and mechanisms, qualitative organic analysis, and instrumental analysis. Prerequisite: CH225 with a grade of C or better. (Substitutes for QCH222 and QCH223)

CH231 QUANTITATIVE ANALYSIS (2,3) 3

Evaluation of analytical data and study of gravimetric and titrimetric methods of analysis. Prerequisite: CH116 with a grade of C or better. (Formerly QCH231)

CH232 INSTRUMENTAL ANALYSIS (2,3) 3

Continuation of CH231. An instrumental analysis course involving the theory and use of spectrochemical, electroanalytical, and separation methods for the characterization and determination of selected chemical substances. Prerequisite: CH231. (Formerly QCH232)

CH290 INDEPENDENT STUDY IN CHEMISTRY

(1-4,0) 1-4
Special studies and/or research in chemistry for individuals or small seminar groups. Course content to be arranged by student(s) and a supervising professor with approval of department head. Prerequisites: Students must have an overall GPA of at least 2.5, and no I grades on their transcript. Independent study courses may be repeated for a maximum of eight credits. Additional information is available at the Department of Biology and Chemistry office.

CH351 INTRODUCTORY BIOCHEMISTRY (3,3) 4

Introduction to the chemistry of biological molecules, including the general properties and chemical transformation of amino acids, proteins, carbohydrates, lipids and nucleic acids. Emphasis will be on correlating chemical reactions with biological function. An introduction to the intermediary metabolism of the carbohydrates, amino acids, lipids and nucleic acids will also be presented. Prerequisite: CH226. (Substitutes for QCH350)

CH353 INTRODUCTORY TOXICOLOGY (3,0) 3

An introduction to toxicology, including its history, types of poisons, their mode of operation, and the biochemistry of detoxification. Environmental problems caused by toxic contaminants will be discussed. Prerequisite: CH351 or permission of instructor. (Formerly QCH353)

CH490 INDEPENDENT STUDY IN CHEMISTRY

(1-4,0) 1-4
Special studies and/or research in chemistry for individuals or small seminar groups. Course content to be arranged by student(s) and a supervising professor with approval of department head. Prerequisites: Students must have junior or senior standing, have an overall GPA of at least 2.5, and no I grades on their transcript. Independent study courses may be repeated for a maximum of eight credits. Additional information is available at the Department of Biology and Chemistry office.

CRIMINAL JUSTICE

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

CJ101 INTRODUCTION TO CRIMINAL JUSTICE

(3,0) 3
A survey of the evolution of criminal justice with particular emphasis on the development of western models of justice. Included will be the role of law enforcement, corrections, the courts and loss control. (Substitutes for QCJ101)

CJ102 POLICE PROCESS (3,0) 3

Basic principles and techniques of administration which apply to criminal justice organizations. Emphasis on decision making, authority, human relations, and communication within organizations. (Substitutes for QCJ102)

CJ106 JUVENILE JUSTICE (3,0) 3

Theories of juvenile delinquency and the roles of criminal justice personnel are considered with emphasis on legal rights, treatment, confinement, and the role of a community. (Substitutes for QCJ106)

CJ110 INTRODUCTION TO CORRECTIONS (3,0) 3

History and philosophy of correctional policy and need for correctional reform; correctional system from arrest through sentencing; correctional personnel and clients. (Formerly QCJ110)

CJ130 CLIENT RELATIONS IN CORRECTIONS (3,0) 3

Meaning and functions of culture and discrimination, minorities in Michigan, affirmative action and attitude formation; ethics, values and professional responsiveness. (Formerly QCJ130)

CJ140 CORRECTIONAL CLIENT GROWTH AND DEVELOPMENT (3,0) 3

Emphasis on needs, identities and development of recipients of correctional services; to assist students in gaining insights into development of sensitivity to behavior and motivations of corrections clients. Specific problems of prisoners and intervention strategies are reviewed. (Formerly QCJ140)

CJ201 FIREARMS TRAINING (0,2) 1

Emphasis on safe weapon handling, the fundamentals of good marksmanship, proper methods of cleaning, and weapon nomenclature. A variety of weapons will be used. Students will have to provide their own targets and ammunition. Prerequisite: Criminal justice student, sophomore standing or permission of CJ coordinator. (Substitutes for QCJ201)

CJ202 CANADIAN CRIMINAL LAW 3
(3,0)
Survey of Canadian substantive and procedural criminal law including search and seizure, arrest, evidence and statutory and case law. Prerequisite: Permission of instructor. (Formerly QJCJ202)

CJ206 LAW ENFORCEMENT/LOSS CONTROL INTERNSHIP 3
(3,0)
Field experience for correlation of theoretical knowledge with practice in participatin law enforcement or loss control agencies. Prerequisite: Permission of the instructor or sophomore standing. Course may be elected twice for credit of six hours. (Formerly QJCJ206 or QJCJ207)

CJ212 LOSS CONTROL 3
(3,0)
Study of security, including historical, legal and philosophical framework for various phases of security operations in our society today. (Formerly QJCJ211 and part of QJCJ305, CJ212 and CJ306 are equivalent to QJCJ211, QJCJ305 and QJCJ307)

CJ220 INSTITUTIONAL CORRECTIONS 3
(3,0)
A survey of the history and philosophy of correctional institutions focusing on: The use of imprisonment as a mechanism of social control, custody versus treatment, rights of prisoners, prison and jail management, institutional training programs, examination of contemporary correctional institutions, prison and jail architecture, and prisoner society. (Formerly QJCJ220)

CJ240 COMMUNITY BASED CORRECTIONS 3
(3,0)
A survey of the history, development, techniques, and fundamentals of non-institutional correctional programs and services. Emphasis will be placed on the necessity of correctional programs to interact with other human service agencies within the community. (Substitutes for QJCJ230)

CJ250 CORRECTIONAL LAW 3
(3,0)
Survey of substantive and procedural correctional law including sentencing, probation, parole, imprisonment, fines and restitution, and prisoners rights. Case law method used, based on appellate court decisions which evolve from criminal defendant litigation, complex legal issues concerning American corrections. (Formerly QJCJ250)

CJ306 SECURITY SYSTEMS 3
(3,0)
Overview of specialized areas of security in specific facilities with special attention given to information security. Prerequisites: CJ212 or permission of instructor. (Formerly QJCJ307 and part of QJCJ305, CJ212 and CJ306 are equivalent to QJCJ211, QJCJ305 and QJCJ307)

CJ308 ADVANCED FIREARMS TRAINING 1
(0,2)
Fundamentals of single and double hand combat firing of hand guns, shotguns and semi-automatic weapons also included. Prerequisite: CJ201 or permission of criminal justice coordinator. (Substitutes for QJCJ308)

CJ313 CRISIS INTERVENTION OF DEVIANT BEHAVIOR 3
(3,0)
Survey of philosophy, theory and practice involved in the treatment of different crisis situations most commonly confronting the law enforcement officer in the performance of regular duties. Prerequisite: CJ101, 102 or approval of instructor. (Formerly QJCJ313)

CJ319 SUBSTANTIVE CRIMINAL LAW 3
(3,0)
Survey of substantive criminal law as a means of attaining socially desirable ends including protection of life and property. Deals with historical, philosophical concepts as well as case law. Prerequisite: CJ101 or permission of instructor. (Formerly QJCJ203 and QJCJ404)

CJ321 ETHICAL ISSUES IN PUBLIC SAFETY 3
(3,0)
Consideration of selected issues in public safety organizations. Emphasis on the role of practitioners and relations with the various publics. Students will be given moral dilemmas and will consider their individual value system. Prerequisites: CJ101,102, or permission of instructor. (Substitutes for QJCJ301 and QJCJ302)

CJ330 CORRECTIONAL CASEWORK 3
(3,0)
The history, standards and principles correctional casework are presented; the role functions and goals of casework are discussed; the competencies and training required for effective casework are considered correctional clients - probation and parole selection and appraisal - are concentrated upon. Prerequisites: CJ220, CJ240, junior or senior standing and permission of instructor. (Formerly QJCJ320)

CJ341 FIRE AND ARSON INVESTIGATION 3
(3,0)
Determination of fire cause and origin and explosion causes. Prevention, documentation and legal aspects examined. Prerequisite: Junior standing or permission of instructor. (Substitutes for QJCJ312 and/or QFS212)

CJ343 INVESTIGATION 3
(3,0)
Introduction to criminal investigation and the techniques of forensic science with emphasis upon crime scene procedures. Prerequisite: CJ101 and junior standing or permission of instructor. (Formerly QJCJ314 and part of QJCJ309, substitutes for QJCJ303, CJ343 and CJ344 are equivalent to QJCJ309, QJCJ314 and QJCJ315)

CJ344 CRIMINALISTICS

(3,0) **3**
 Continuation of CJ343 with increased emphasis on criminalistic methods. Prerequisite: CJ343. (Formerly QJCJ315 and part of QJCJ309, CJ343 and CJ344 are equivalent to QJCJ309, QJCJ314, and QJCJ315)

CJ401 SENIOR SEMINAR

(3,0) **3**
 Seminar and independent study course with individual student guidance by faculty on selected research topics in criminal justice. Prerequisites: Senior standing or permission of instructor. (Formerly QJCJ401)

CJ402 CRIMINAL JUSTICE INTERNSHIP

3-9
 Criminal justice internship with an agency. Credit is based on 34 hours of field work per credit hour. Students must make application by the ninth week of the previous semester. Prerequisite: Senior standing or permission of instructor. (Formerly QJCJ402 or QJCJ403)

CJ406 ADVANCED CANADIAN JURISPRUDENCE

(3,0) **3**
 Expands upon the material covered in CJ202, Canadian Criminal Law, including trial tactics and procedures, sentencing, jurors, invasion of privacy, and other current topics. Prerequisite: CJ202 or permission of instructor. (Formerly QJCJ406)

CJ407 POLICE OPERATIONS I

(3,4) **5**
 Survey of police patrol operations including the relationship between the legal, investigative, administrative, juvenile functions and the patrol officer. Defensive tactics for the patrol officer are also covered. Course is only open to senior MLEOTC Certification Students. (Substitutes for QJCJ318 and QJCJ405)

CJ408 POLICE OPERATIONS II

(4,2) **5**
 Continuation of CJ407. Emphasis on traffic function including motor vehicle law, driving policies and liabilities, licensing, enforcement, and accident investigation. Prerequisite: CJ407 and senior MLEOTC Certification status. (Substitutes for QJCJ317)

CJ409 PROCEDURAL CRIMINAL LAW

(3,0) **3**
 Principles, duties and mechanics of criminal procedures as applied to important areas of arrest, search and seizure. Prerequisite: CJ319 or approval of the instructor. (Formerly CJ316)

COMPUTER SCIENCE

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

CS100 INTRODUCTION TO MICROCOMPUTER APPLICATIONS

(3,0) **3**
 The study of a selection of contemporary microcomputer applications, including operating system concepts, programming in BASIC, word processing, database management systems, and spreadsheets. Brief survey of other applications, such as presentation graphics, computer-assisted drafting, and desktop publishing. Prerequisite: Completion of mathematics competency graduation requirement. (Substitutes for QCS101)

CS111 INTRODUCTION TO COMPUTER SCIENCE I

(3,0) **3**
 Fundamental concepts of computer science, using the Pascal programming language as a vehicle. Input and output, the standard data types, arithmetic, and control structures. Functions and procedures. Primitive data structures, including arrays, records, and strings. Files and multidimensional data. Text processing and simple parsing. Applications to illustrate these basic programming concepts. Prerequisite: CS100 or appropriate programming experience, and completion of, or current enrollment in a mathematics course numbered 100 or above. (Substitutes for QCS161)

CS112 INTRODUCTION TO COMPUTER SCIENCE II

(3,0) **3**
 Continuation of CS111 with an emphasis on program design and data structures. Sorting, searching, pointer-variables, and free storage management. Stacks and queues and general trees, and graphs. Prerequisite: CS111 with grade of C or better. (Substitutes for QCS163)

CS205 COMPUTER ORGANIZATION AND ARCHITECTURE

(3,0) **3**
 A hardware-oriented introduction to the structure of modern computer systems, emphasizing the role of, and interrelationships between the various components. The evolution of modern computer systems. Memory organization, peripheral devices, and their connectivity. Instruction sets, arithmetic, and central processing unit structure. Control unit organization and operation. Alternative computer architectures. Prerequisite: CS112 with grade of C or better. (New course in fall, 1991)

- CS210 COBOL PROGRAMMING** 3
(3,0) alternate years
An introduction to the COBOL programming language emphasizing facilities for the effective management of files and databases. Overview of COBOL syntax, arithmetic, input/output and control structures in COBOL. Report generation and table management. COBOL facilities for sorting and merging files. Sequential, relative, and indexed file organizations and their applications. Facilities for interfacing with database management systems. NOTE: Students may not receive credit for this course and the COBOL programming sequence, DP275 and DP276, offered in the data processing curriculum. Prerequisite: CS112. (Substitutes for QCS211)
- CS212 FILE AND DATABASE MANAGEMENT** 3
(3,0)
An introduction to files and file processing, with an emphasis on non-sequential organizations for supporting multi-file databases. Direct file structures and hashing, indexing, tree-structures organizations. Expandable file structures. Secondary key retrieval. Application to database structures. Prerequisite: CS112. (Formerly QCS212)
- CS290 INDEPENDENT STUDY IN COMPUTER SCIENCE** 1-4
(1-4,0)
Special studies and/or research in computer science for individuals or small seminar groups. Course content to be arranged with instructor and with approval of the department head. This course may be repeated for a maximum of eight credits. Prerequisites: Sophomore standing or higher and permission of the instructor.
- CS321 COMPUTER GRAPHICS** 3
(3,0) alternate years
An introduction to the generation of graphical images by computer. Survey of common graphics devices. Generation of lines and curves. Representation of two-dimensional objects. Techniques for area filling. Scaling, rotation, and translation in two dimensions. Rendering three-dimensional objects by projections. Scaling, rotating and translating in three dimensions. Hidden line and hidden surface detection and removal. Prerequisite: CS112, and MA141 or MA151. (Substitutes for QCS321)
- CS333 SYSTEMS PROGRAMMING** 3
(3,0)
An introduction to systems-level programming using C and assembly language. Design and development of specialized systems utilities, such as window-management packages and command interpreter shells. Overview of the function and design of system utility programs, such as text editors, language processors, and linkers. Prerequisite: CS205. (Substitutes for QCS331)
- CS334 OPERATING SYSTEMS CONCEPTS** 3
(3,0)
Definition and historical development of operating systems. Characteristics of batch, interactive, and multiprogramming systems. File systems, processor and memory management. Communication, concurrency, deadlock, and protection. Prerequisite: CS333. (Substitutes for QCS431)
- CS340 COMPUTER SIMULATION** 3
(3,0) alternate years
Introduction to the use of computer simulation as an alternative approach to finding solutions for difficult mathematical problems. Numerical generation of random deviates from several standard distributions. Theoretical concepts from probability, statistics, and queuing theory. Simulation exercises and languages for performing computer simulations. Prerequisites: CS112 and MA308. (Substitutes for QCS340)
- CS401 AUTOMATA THEORY, LANGUAGES, AND COMPUTABILITY** 3
(3,0) alternate years
An introduction to the theoretical foundations of computer science. Topics include automata theory, grammars and formal languages, decidability and computability. Prerequisites: CS112 and MA216. (Formerly QCS401)
- CS411 PROGRAMMING LANGUAGE CONCEPTS** 3
(3,0)
Comparative treatment of common programming languages and their underlying structure. Formal language definition, interpretive and compiled implementations. Data representation and control structures. Run-time support requirements. Prerequisite: CS333 (Formerly QCS411)
- CS418 SOFTWARE ENGINEERING** 3
(1,4)
A project-based introduction to the design and implementation of computer software. Requirements analysis, software specification, design methodologies, implementation, testing, verification, documentation, and maintenance. Development of a complete software system for "real-world" clients by project teams. Prerequisite: CS212. (Formerly QCS416-417)
- CS490 RESEARCH TOPICS IN COMPUTER SCIENCE** 1-4
(1-4,0)
Special studies and/or research in computer science for individuals or small seminar groups. Course content to be arranged with instructor and with approval of the department head. This course may be repeated for a maximum of eight credits. Prerequisites: Junior standing or higher and permission of the instructor.

COMPUTER ENGINEERING TECHNOLOGY

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

CT224 DIGITAL ELECTRONICS (3,2) 4

A detailed study of the electronic behavior of combinational sequential digital circuitry. Proper utilization of MSI/LSI digital integrated circuits and programmable logic devices (PLD's) will be stressed. Prerequisite: ET124. (Substitutes for CT242/282).

CT235 MICROPROCESSOR FUNDAMENTALS (3,2) 4

An introduction to number systems, binary arithmetic, microprocessor architecture, machine and assembly language program development, and computer system hardware and interfacing techniques. Prerequisite: CS100 or CS111. (Substitutes for QCT233/273).

CT236 MICROCONTROLLER APPLICATIONS (4,3) 5

A detailed introduction to single-chip microcomputer architectures, programming and interfacing. Practical considerations of embedding a real-time control element in digital and analog systems are emphasized. Prerequisite: CT235. (Substitutes for QCT234/274).

CT265 INTRODUCTION TO TECHNICAL PROGRAMMING (3,0) 3

An introduction to computer programming in the C language emphasizing technical problem solving. (Intended primarily for students in Mechanical Engineering Technology.) Prerequisite: MT100 or CS100. (New course in Fall 1991).

CT335 DIGITAL DESIGN (3,2) 4

Detailed logical and electronic design considerations using combinational and sequential digital techniques. State machines and programmable logic devices are emphasized. Prerequisite: CT224. (New course in Fall 1991).

DATA PROCESSING

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

DP151 COMPUTER APPLICATIONS (1-2,0) 1-2

A series of courses using computer applications programs. Each course will provide 15 classroom hours of instruction per credit. A student may register for one or more sections per term, for a maximum of five credits earned in this course. Students without computer experience are expected to take the introduction to computers module as a prerequisite. (Formerly QOA151)

DP165 APL PROGRAMMING (3,0) 3

An introduction to the APL computer programming language. Covers APL concepts, primitive operators, calculator mode, function definition, workspace and library management, and file operation. Emphasis is on development of computational facilities. (Formerly QDP165)

DP225 WORD PROCESSING TECHNIQUES (3,0) 3

Study and application of office systems, word processing systems, and word processing machine operation with 40 hours of hands-on experience. Prerequisite: Basic keyboarding skills and introduction to computers. Hands-on experience is scheduled in labs outside of classroom hours and performance tests are individually scheduled on some equipment. (Formerly QOA225)

DP230 WORD PROCESSING APPLICATIONS (3,0) 3

Comprehensive training on word processing equipment including completion of machine training programs, problem applications and text editing. Prerequisite: DP225 or permission of instructor. Hands-on experience is scheduled in labs outside of classroom hours, and performance tests are individually scheduled on some equipment. (Formerly QOA230)

DP240 DESKTOP PUBLISHING AND PRESENTATIONS I

(3,0) 3
Emphasis is on understanding the basic concepts of desktop publishing and how to create well-designed publications and presentations. Creating brochures, graphics, newsletters, reports and resumes using low-end software. Topics include: the production process--traditional vs. desk-top, planning and layout, drawing simple graphics, clip art graphics, copyrights, electronically scanned art and photography. Prerequisites: English competency and a working knowledge of a word processor or permission of instructor. (New Course Fall 1991)

DP245 DESKTOP PUBLISHING AND PRESENTATIONS II

(3,0) 3
Continuation of DP240 DESKTOP PUBLISHING AND PRESENTATIONS I. Topics include: the Windows environment, a high-end page composer, vector graphics software, multimedia presentations. Prerequisites: DP240. (New Course Fall 1991)

DP264 INTRODUCTION TO DATA PROCESSING

(3,0) 3
An introduction to the terminology, application software and fundamental concepts of computing. Topics include history of data processing, computer hardware, software, systems, programming concepts, system and software development, impact on society, user application issues and pre-programmed user packages. Prerequisite: Mathematics competency. (Formerly QDP264)

DP268 PL/1 PROGRAMMING

(3,0) 3
Fundamentals of structured program design, development, testing, implementation and documentation using PL/1, application of top-down design strategies and structured programming techniques for designing and developing program solutions. Coverage of language syntax, data and files structure, and input/output devices for implementing programs for input editing, table processing, report generation and sequential file creation and access. Prerequisite: DP264 or permission of instructor. (Formerly QDP268)

DP269 RPG II PROGRAMMING

(3,0) 3
The RPG II report program generation language is used for rapid report generation in business settings. The fundamental capabilities of RPG II are covered including report generation, calculations, data editing, and table lookup. Additional topics include system Job Control Language (JCL) and Screen Design Aids (SDA). Prerequisite: DP264 or permission of instructor. (Formerly QDP269)

DP275 COBOL PROGRAMMING I

(3,0) 3
Application of structured programming techniques to business situations using the COBOL language. Emphasis on program design, writing, compiling, and testing. Report generation, arithmetic and conditional statements, control breaks, table processing, data editing and sequential file processing. Prerequisite: DP264 (Substitutes for QDP265)

DP276 COBOL PROGRAMMING II

(3,0) 3
Continuation of COBOL programming from DP275. Applications include file sorting and updating, segmented and random file processing using the indexed sequential access method. Emphasis on program design, documentation and testing. Prerequisite: DP275. (Substitutes for DP266,267)

DP366 DATABASE PROGRAM DEVELOPMENT

(3,0) 3
Introduction to application program development in a database environment with an emphasis on loading, modifying, and querying the database. Discussion and application of data structures, indexed and direct file organizations, models of data including hierarchical, network, and relational. Discussion of storage devices, data administration and data analysis, design and implementation. Prerequisite: DP276. (Formerly QDP366)

DP367 DECISION SUPPORT AND EXPERT SYSTEMS

(3,0) 3
Decision Support Systems assist top-level managers. Expert Systems attempt to capture human expertise in a computer. This course examines the concept, design, development, and implementation of these two types of systems. Students will do case studies and projects in each area. Prerequisite: DP276. (Formerly QDP367)

DP368 SOFTWARE AND HARDWARE CONCEPTS

(3,0) 3
Survey of technical topics related to computer systems with emphasis on relationship between hardware architecture, system software and applications software. Topics include components, data representation, addressing, assembler language, translation, interrupts and multiprocessing. Prerequisite: DP276 (Formerly QDP368)

DP461 SYSTEMS ANALYSIS AND DESIGN I

(3,0) 3
The course covers the system development life cycle for computer systems. Includes the concept of systems, business system components, tools and techniques of the systems analyst, and life cycle phases of study, design and development. Uses practical casebook projects. Prerequisite: DP368. (Substitutes for QDP364)

DP462 SYSTEMS ANALYSIS AND DESIGN II
(3,0) 3

Continuation of DP461. Includes the life cycle activities of system implementation, changeover, operations and maintenance. Student teams will use the case methodology to study, design, develop, document, and implement an automated system as a practical presentation of the project. Group dynamics of project planning, organizing, reporting and control will be stressed. Prerequisite: DP461. (Substitutes for QDP365 and QDP464)

DP466 ADVANCED DATABASE CONCEPTS
(3,0) 3

Investigation and application of advanced database concepts including database administration, database technology and selection and acquisition of database management systems. In-depth practicum in data modeling and system development in a database environment. Overview of future trends in data management. Prerequisite: DP366. (Formerly QDP466)

DP467 DISTRIBUTED DATA PROCESSING
(3,0) 3

The features of centralized, decentralized and distributed systems will be examined. The impact of distributed systems on the business enterprise will be exposed via the medium of case studies. Technology implications of computer hardware, software and communications are discussed as they relate to the design, development and implementation of distributed data processing systems. Prerequisite: DP366. (Formerly QDP467)

DP468 EDP AUDIT AND CONTROLS
(3,0) 3

An introduction to the fundamentals of EDP auditing. Emphasis on EDP controls, types of EDP audits, and concepts and techniques used in EDP audits. Exposure to risk assessment and professional standards in the field of EDP auditing. Prerequisite: DP366. (Formerly QDP468)

DP469 INFORMATION RESOURCE MANAGEMENT
(3,0) 3

A seminar course providing a broad overview of the information systems management function. The course emphasizes information systems management, with particular attention on planning, organizing, and controlling user services and managing the computer information systems development process. Coverage of subject matter through lectures, reading, discussions and case study analysis. Prerequisites: DP368 and senior standing. (Formerly QDP469)

DRAFTING & DESIGN ENGINEERING TECHNOLOGY

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

DT125 ELECTRONIC DRAFTING
(1,3) 2

An introduction to electronic drafting to include instruments, lettering, sketching, multiview projection, dimensioning, reproduction, standard electronic symbols, schematic diagrams and circuit board layout. (Substitutes for QET125).

DT132 CONSTRUCTION SKETCHING AND DRAWING
(2,3) 3

Free hand and computer-aided drafting (CAD) of orthographic and pictorial representations to include the study and development of architectural working drawing, plan views, elevations, details and schedules. (Substitutes for QBC122 and QBC132).

DT214 ADVANCED COMPUTER AIDED DRAFTING (CAD)
(3,0) 3

Advanced Autocad to include attributes, data extraction, (3-D) construction techniques, customization of macros and menus, Autoslip, system management, intelligent symbols, slide shows, interfacing Autocad with Wordperfect, facilities management, and Autosshade. Prerequisite: ME124. (Substitutes for QDT215 and QDT315).

DT261 TOOL DESIGN AND INSPECTION METHODS
(2,3) 3

A study of the job of a tool designer as it relates to the various manufacturing processes in both limited and mass production. Optimum design of cutting tools used in manufacturing and the methods of inspection for manufactured products will be introduced. Prerequisite: MT113. (Substitutes for QDT211).

DT262 JIG, FIXTURE AND DIE DESIGN
(3,4) 5

Procedures for design and construction of jigs, fixtures and dies for both limited and mass production. Prerequisite: MT113. (Substitutes for QDT212 and QDT213).

ECONOMICS

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

EC201 PRINCIPLES OF MACROECONOMICS (3,0) 3

Nature and scope of economics; national income accounting; problems of unemployment and price instability; public revenues and expenditures; money and banking; fiscal and monetary policies to promote stability and economic growth. Prerequisite: Mathematics competency. (Formerly QEC201)

EC202 PRINCIPLES OF MICROECONOMICS (3,0) 3

Principles of economic reasoning; supply and demand analysis; theories of production; price and output determination under each of the four market structures; factor returns, and income distribution theories; public policy implications. Prerequisite: Mathematics competency. (Formerly QEC202)

EC302 MANAGERIAL ECONOMICS (4,0) 4

A study of the application of economic analysis to managerial decisions. Topics include the firm and its environment, demand estimation, production and cost analysis, optimization and profit maximization, analysis of markets, pricing strategy and analysis of project decisions. Prerequisite: MA112 or MA141 or equivalent.

EC304 MONEY, BANKING AND MONETARY POLICY (3,0) 3

Monetary theory; study of financial institutions and central bank authorities; monetary policy and its limitations; changing structure of financial markets and industry; relationships between money, prices and national income. Prerequisite: EC201. (Formerly QEC304)

EC305 PUBLIC FINANCE (3,0) 3

The economics of public finance, including taxation, public expenditures and fiscal policy. Rationale and objectives of government activity in a market system; distribution of tax burden; income redistribution effects of taxation and expenditure programs. Prerequisite: EC201 or EC202. (Formerly QEC305)

EC308 INTERMEDIATE MICROECONOMICS (3,0) 3

Theory of demand; consumer choice and utility analysis; production and cost analysis; price-output determination under the four market structures; resource allocation; public policy and managerial applications emphasized. Prerequisite: EC202. (Formerly QEC308)

EC309 INTERMEDIATE MACROECONOMICS (3,0) 3

Determinants and measurement of national income; theories of consumption and investment; aggregate economic analysis including IS-LM and aggregate demand-aggregate supply models; unemployment and inflation; stabilization policies; economic growth. Prerequisite: EC201. (Formerly QEC309)

EC403 PRIVATE ENTERPRISE AND PUBLIC POLICY (3,0) 3

Review of price theory; structure, conduct and performance; antitrust laws and application; restraint of trade, monopoly, mergers, trade practices; regulation. Prerequisite: EC202. (Formerly QEC403)

EC408 INTERNATIONAL ECONOMICS (3,0) 3

Pure theory of trade and comparative advantage; free trade versus protectionism; trade problems of developing nations; balance of payment accounting; exchange rates; international monetary systems. Prerequisites: EC201 and EC202. (Formerly QEC408)

EC409 SEMINAR IN ECONOMICS (1-2,0) 1-2

Discussion of economic issues, theories and their applications. May be repeated for credit with the approval of the instructor for a total of 4 credits. (Formerly QEC409)

EDUCATION

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

ED101 FOUNDATIONS OF EARLY CHILDHOOD EDUCATION (3,0) 3

An introduction to the field of Early Childhood. Topics include its history, application of theories to curriculum, types of programs, and issues in the field of child care. Observations of various early childhood settings will be required. (Substitutes for QED230 and QED231).

ED105 CHILD GUIDANCE AND WELFARE
(3,0) **3**

Through readings, discussions, observations, and interactions with children, the student will learn how to develop guidance strategies when working with children in an early childhood setting. Prerequisite: PY155 or PY265.

ED110 CURRICULUM DEVELOPMENT AND TEACHING PRACTICES
(3,0) **3**

Developing curriculum and teaching practices based on the whole child's development: cognitive, physical, social, emotional, and creative. Emphasis on planning play activities for learning centers. Observations of children in an early childhood setting will be required. (Formerly QED240).

ED111 INFANTS AND TODDLERS: DEVELOPMENTALLY APPROPRIATE PRACTICES
(3,0) **3**

Includes theories of emotional, physical, social and cognitive stages of development of children ages 0 to 36 months. The knowledge of these stages will be applied to matching developmentally appropriate teaching and caregiving practices. Issues in administering Infant/Toddler programs will also be discussed. Prerequisite: PY155 or PY265. (Substitutes for QED250).

ED220 EARLY CHILDHOOD LITERATURE
(3,0) **3**

Readings in developmentally appropriate literature and related activities across the curriculum for young children, ages birth through kindergarten. Prerequisite: EN110 and SD101. (Formerly QED241).

ED260 PRACTICUM I
(1,12) **4**

The student will complete 12 hours weekly in an early childhood laboratory setting for a 15 week total of 180 contact hours. Attendance at a weekly seminar is also required. Prerequisites: Completion of ED101, ED105, ED110, and ED111, and permission of instructor. Students should seek permission of instructor no later than 10th week of semester preceding enrollment. Credit/No Credit grade. (Substitutes for one-half (1/2) of QED363).

ED261 PRACTICUM II
(1,12) **4**

The student will complete 12 hours weekly in an early childhood laboratory setting for a 15 week total of 180 contact hours. Attendance at a weekly seminar is also required. Prerequisites: Completion of ED260 and permission of instructor. Students should seek permission of instructor no later than 10th week of semester preceding enrollment. Credit/No Credit grade. (Substitutes for one half (1/2) of QED363).

ED270 ADMINISTRATION OF EARLY CHILDHOOD PROGRAMS
(3,0) **3**

Knowledge of financial, legal, supervisory and administrative procedures used in operating an early childhood program will be gained through lectures, discussions, readings, and activities. Prerequisite: Completion of ED260 Practicum I or permission of instructor. (Formerly QED360)

ENGLISH

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

EN091 BASIC ENGLISH
(3,0) **3**

Thorough review of basic language skills for students inadequately prepared for Freshman Composition; weekly vocabulary tests and writing assignments. Credit/no credit final grade. Credit in this course does not apply toward graduation. All students whose English placement examination score does not place them in EN110 must receive credit for EN091 before taking EN110. (Substitutes for QEN090)

EN110 FRESHMAN COMPOSITION
(3,0) **3**

Emphasis on writing, usage and rhetoric which may include narration, process, description, comparison/contrast, definition and classification. Introduction to library resources and documentation. Prerequisite: Appropriate score on the English placement examination or credit for EN091. (Substitutes for QEN101)

EN205 BASIC TECHNICAL REPORT WRITING
(3,0) **3**

Introduction to fundamentals of reading and writing memos, letters, short reports, and articles. Prerequisites: EN110 and sophomore standing. Students will not receive credit for this course if they have already received credit for EN210 or EN215. (Substitutes for QEN190)

EN210 RESEARCH PAPER PROCESS
(3,0) **3**

A course in research methods and critical reading and writing. Includes introduction to library resources and research protocols. Emphasis on critical analysis and evaluation of primary and secondary source material. Requires one short and one long research paper: APA style. Prerequisites: EN110 and sophomore standing. (Substitutes for EN103)

EN215 INTRODUCTION TO LITERATURE AND RESEARCH

(3,0) 3
A course in research methods and critical reading and writing, including the study of traditional and modern techniques of literary interpretation. Requires one research paper and five critical papers: MLA style. Prerequisites: EN110 and sophomore standing. (New course in fall, 1991)

EN220 ADVANCED COMPOSITION

(3,0) 3
Study and practice of the various forms of academic discourse. Library research paper required. Prerequisite: EN210 or EN215. (Substitutes for QEN208)

EN221 CREATIVE WRITING

(3,0) 3
Writing and discussion of art forms such as poetry, fiction and drama consistent with the student's individual interests. Prerequisite: EN210 or EN215, or permission of instructor. (Substitutes for QEN325)

EN231 AMERICAN LITERATURE I

(3,0) 3
A chronological study of American literature from the colonial writers through the Romantic period, ending with the Civil War. Prerequisite: EN110, or permission of instructor. (Substitutes for QEN201)

EN232 AMERICAN LITERATURE II

(3,0) 3
A chronological study of American literature from the Civil War through the present, covering the Age of Realism and the development of twentieth century literature. Prerequisite: EN110, or permission of instructor. (Substitutes for QEN203; waive EN202)

EN233 ENGLISH LITERATURE I

(3,0) 3
Reading and discussion of selected works from the Old English period to the beginning of the eighteenth century. Emphasis on major writers and works, evaluated in their historical context. Prerequisite: EN110, or permission of instructor. (Substitutes for QEN211)

EN234 ENGLISH LITERATURE II

(3,0) 3
Reading and discussion of selected works from the eighteenth century to the twentieth century. Emphasis on major writers and works, evaluated in their historical context. Prerequisite: EN110, or permission of instructor. (Substitutes for QEN213; waive EN212)

EN235 SURVEY OF NATIVE AMERICAN LITERATURE

(3,0) 3
An overview of Native American Literature, including myths, poetry, biographies, legends, and stories from recognized Indian and non-Indian authors. The significance of Indian philosophy found in such literature will be emphasized. Prerequisite: EN210 or EN215 or permission of instructor. (New course in fall, 1991)

EN305 ADVANCED TECHNICAL REPORT WRITING

(3,0) 3
Preparation of written reports of type produced by technologists; emphasis on research reports. Prerequisites: EN205 and junior standing. (Substitutes for QEN390)

EN320 RESPONDING TO WRITING

(2,0) 2
A course in the theories and practices of effective composition strategies with an emphasis on responding to interdisciplinary writing, recommended for tutors, writing assistants, potential secondary education majors and other interested students. Course includes current research on the writing process, theory and practice of responding to student writing, computer assisted writing and revision, tutorial strategies, characteristics of modes of various disciplinary writing and writing to learn. Hands on emphasis with actual student papers and clients. Ombudsmen and tutors have priority. Course is cross-listed as ED320. Prerequisites: EN110 and permission of instructor. (Formerly QEN302)

EN330 DEVELOPMENT OF THE NOVEL IN ENGLAND AND AMERICA I

(3,0) 3
Study of the leading novelists--English and American--of the eighteenth century and the first half of the nineteenth century, beginning with Defoe and ending with the works of the 1840's. Prerequisite: EN231-232 or EN233-234, or permission of instructor. This course will be offered every other year. (Substitutes for QEN426)

EN331 DEVELOPMENT OF THE NOVEL IN ENGLAND AND AMERICA II

(3,0) 3
Study of the background and art of the Anglo/American novel from approximately 1850 to the present. Intensive examination of characteristic forms, techniques, and themes in major works. Prerequisite: EN231-232 or EN233-234, or permission of instructor. This course will be offered every other year. (Substitutes for QEN371)

EN332 THE SHORT STORY 3
(3,0)
A study of the background and development of the short story. Readings will include selections from Boccaccio, the French conte and the German novella in addition to English and American short stories. Prerequisite: EN210 or EN215. This course will be offered every other year. (New course in fall, 1991)

EN333 STUDIES IN THE DRAMA: THE GENRE AND THEATER IN CONTEXT 3
(3,0)
A study of major plays in the context of theatre and literary history from the beginning to the present, including European, British and American development. Prerequisite: EN210 or EN215. This course will be offered every other year. (New course in fall, 1991)

EN334 APPROACH TO POETRY 3
(3,0)
This is an introduction to the appreciation of poetry for junior-senior students (not exclusively English majors). Prerequisite: EN210 or EN215, or permission of instructor. This course will be offered every other year. (Substitutes for QEN372)

EN420 HISTORY AND STRUCTURE OF THE ENGLISH LANGUAGE 3
(3,0)
Development and structure of the English language; relationship with other Indo-European languages. Prerequisite: EN233-234, or permission of instructor. This course will be offered every other year. (Substitutes for QEN411)

EN421 HISTORY OF LITERARY CRITICISM 3
(3,0)
An investigation of the history of critical theory to include classicism, neoclassicism, romanticism, the New Critics, and contemporary critical trends. Prerequisite: EN233-234, or permission of instructor. This course will be offered every other year. (Substitutes for QEN412)

EN430 CHAUCER 3
(3,0)
Intensive study of Chaucer's life and times and principal literary works: Canterbury Tales, Troilus and Criseyde, The Romaunt of the Rose. Prerequisite: EN233, or permission of instructor. This course will be offered every other year. (Substitutes for QEN355)

EN431 MILTON AND THE METAPHYSICAL POETS 3
(3,0)
Intensive study of Milton's principal poetic works including Paradise Lost and Samson Agonistes; Donne's poetry and prose, and the metaphysical poets. Prerequisite: EN233 or permission of instructor. This course will be offered every other year. (Substitutes for QEN356)

EN432 SHAKESPEARE 3
(3,0)
Intensive study of Shakespeare's comedies, tragedies and historical dramas. Prerequisite: EN233, or permission of instructor. This course will be offered every other year. (Substitutes for QEN353)

EN433 SEMINAR IN MAJOR AMERICAN AND ENGLISH WRITERS 3
(3,0)
An intensive study of a single writer, or of two or three writers who might be studied together profitably along thematic, technical or other lines. Prerequisite: Junior-senior standing, or permission of instructor. May be repeated twice for credit. (New course in fall, 1991)

EN450 DIRECTED INDIVIDUAL STUDY 3
(3,0)
Individual study of an author, period, genre or other related topic relevant to literary scholarship. Each student will do extensive research and prepare a paper. (Substitutes for QEN413)

EXERCISE SCIENCE

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

ES140 HEALTH AND FITNESS 3
(3,0)
Introductory course: theoretical basics of exercise, diet and nutrition and the wellness lifestyle. Topics include aerobic and musculoskeletal fitness, weight control, stress reduction, alcohol and tobacco abuse and presents principles for promoting a wellness lifestyle. (Substitutes for QES210).

ES141 INTRODUCTION TO MOVEMENT**(3,0) 3**

This course reviews and applies the pertinent aspects of the prerequisite disciplines of anatomy and physiology. Specific attention will be placed on muscles, bones, joint structures, and functions as well as the fundamentals of leverage, balance, and "the feel of the movement". A detailed understanding of movement description is the most critical element in the student's mastery of the subject matter. (New course in Fall, 1991)

ES230 ORTHOPAEDIC ASSESSMENT IN SPORTS MEDICINE**(3,0) 3**

Provides a clear concise process of physical examination of the spine and extremities which would direct the student in a logical, efficient and thorough search of anatomy relevant to the field of sports medicine. This course will allow the student to continue to build a solid foundation in anatomy specific to orthopaedic education. Prerequisite: BL122. (New course in Winter, 1992).

ES242 SPORTS MEDICINE**(3,0) 3**

This course will deal with the principles of athletic training sciences concerned with the evaluation, recognition, treatment, and therapeutic exercises practiced for the athlete's safe return to participation after an injury. Lectures and laboratory experiences will introduce the student to the updated theories in sport medicine with specific respect to injuries incurred in athletics. (Formerly QES302 and QES305).

ES244 TECHNIQUES OF ATHLETIC TRAINING**(2,0) 2**

Athletic training supportive taping and protective bracing and padding procedures; techniques of fitting athletic and orthopaedic equipment. Administration of athletic training room including facility design, budget and inventory. (Substitutes for QES308).

ES248 PSYCHOLOGY OF SPORT AND ATHLETICS**(3,0) 3**

A general introduction in the history and evolution of sport psychology in North America. Areas of interest are cognitive interventions, aggression, and socialization in sport, and the relationship between exercise and psychological well-being. (Substitutes for QES331).

ES295 PRACTICUM**(1-2,0) 1-2**

Practical experiences that explore various types of work setting in Exercise Science, working under specialist in the various chosen areas of interest. May be repeated for a total of 4 credits. (Formerly QES395).

ES342 EXERCISE PHYSIOLOGY**(3,0) 3**

Examines physiological energy systems; their recruitment, recovery, acute and chronic adaptations to training. Applications to specific sports, and health and fitness programming. (Formerly QES310 and QES311).

ES344 KINESIOLOGY**(3,0) 3**

Science of movement applied to muscle, joint structure and function and application of physical laws of gravity, leverage, motion and balance to human performance. Video tape motion analysis is used to apply these theories into practical experience. (Substitutes for QES220).

ES348 LABORATORY PROCEDURES AND MEASUREMENT IN EXERCISE SCIENCE**(2,2) 3**

Provides theoretical background and measurement concepts in conjunction with developing laboratory skills specific to field and laboratory procedures. (Formerly QES240 and QES340).

ES390 RECREATION LEADER APPRENTICESHIP**(1,0) 1**

Practical experience in learning to teach and lead various recreation experiences. Students serve with qualified instructors. Prerequisites: Basic skills and knowledge of activity or permission of instructor. May be repeated for a total of 3 credits. (Formerly QRC385).

ES440 EXERCISE PHYSIOLOGY SEMINAR**(1,2) 2**

Examines current issues in the field and students will prepare and present advanced physiological concepts related to special topics. (Formerly QES311).

ES442 ELECTROCARDIOGRAPHY IN EXERCISE SCIENCE**(2,0) 2**

Examines electrophysiological basis of ECG, Cardiac anatomy, metabolism responses to rest and exercise. Prerequisite: ES341 with a C grade or better. Offered alternate years. (New course in Fall, 1991).

ES444 EXERCISE PRESCRIPTION
(1,1) 1
Provides experience in writing and developing advanced training and conditioning programs for a variety of populations. Process oriented; considers needs analysis and cyclic training. (New course in Fall, 1991).

ES481 PROFESSIONAL DEVELOPMENT SEMINAR
(1,0) 1
Opportunities for students to refine personal and professional goals and initiate preparation of resumes and interviewing skills. Career planning and placement will be emphasized as well as internship evaluation. Seminar format. Prerequisite: Senior status required. (Substitutes for QES430 and QRC430).

ES492 INTERNSHIP 6
Comprehensive practical application of students formal academic preparation. Prerequisites: junior status and permission of instructor. (Formerly ES495).

ES496 SELECTED RESEARCH TOPICS
(1-3,0) 1-3
Student carries out approved project(s) of his/her own initiative. Prerequisites: Junior standing and permission of instructor. (Formerly QES490)

ELECTRICAL ENGINEERING TECHNOLOGY

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

ET115 ELECTRICAL CIRCUITS I
(4,3) 5
Basic principles of DC and AC electricity including R, L, C series and parallel circuits using phasor algebra. Laboratory exercises will reinforce the lecture material and introduce circuit board fabrication. No prior knowledge of electricity is assumed. Corequisites: MA109, MA140. (Substitutes for QET111 and QET151)

ET116 ELECTRICAL CIRCUITS II
(3,2) 3
A continuation of ET115. Topics covered include: transients, mesh and nodal analysis, network theorems, and power. Prerequisite: ET115. (Substitutes for QET112 and QET152)

ET124 ELECTRONICS I
(3,3) 3
Study of the operation of diodes, transistors, FET's to include bias circuits and small signal models. Prerequisite: ET115. (Substitutes for QET123 and QET163)

ET201 APPLIED ELECTRICITY I
(2,2) 3
A study of basic circuit theory and electrical machinery for non-electrical technicians. Topics include DC and AC circuits, inductance, capacitance, three-phase circuits, and D.C. and A.C. motors and controls. Prerequisite: MA140. (Substitutes for QET225)

ET224 ELECTRONICS II
(3,3) 4
A continuation of ET124 to include multi-stage amplifiers, frequency response, power supplies, voltage regulators, oscillators and operational amplifier. Prerequisite: ET124. (Substitutes for QET213,214,253,254)

ET244 ELECTRICAL MACHINERY
(3,2) 4
Study of the operation and application of DC and AC machines, and programmable logic controllers. Prerequisite: ET116. (Substitutes for QET243, 283)

ET302 APPLIED ELECTRICITY II
(2,2) 3
A study of electronic devices and circuits for non-electrical technologists. Topics include diodes, transistors, and analog and digital integrated circuits. Prerequisite: ET201. (Substitutes for QET315, 316)

ET334 NETWORK ANALYSIS I
(3,2) 4
A study of two-port networks, computer circuit simulation, and an introduction to C programming. Prerequisite: ET116. Corequisite: MA141.

ET335 NETWORK ANALYSIS II
(3,2) 4
A continuation of ET334 with an emphasis on the analysis of networks using differential equation and laplace transform techniques. Prerequisite: ET334. Corequisite: MA142. (Substitutes for QET341,381)

ET345 ANALOG CIRCUIT DESIGN
(3,2) 4
Design of linear circuits including operational amplifier circuits, instrumentation amplifiers, waveform generators, acting filters, and A/D and D/A conversion circuits. Prerequisite: ET224. (Substitutes for QET332,333,372,373)

ET435 COMMUNICATIONS I
(3,2) 4
A study of analog/digital communications with emphasis on the frequency domain and modulation techniques. Prerequisite: ET335. (Substitutes for QET422,462)

ET436 COMMUNICATIONS II 4
(3,2)
A continuation of ET435 with an emphasis on transmission lines, antennas, and microwave systems. An oral report is required on a design project. Prerequisite: ET435. (Substitutes for QET423,463,424,464)

ET445 INDUSTRIAL ELECTRONICS 4
(3,2)
A study of power semiconductors, control circuits, motor controls, and programmable logic controllers. Prerequisite: ET334. (Substitutes for QET416,456)

ET446 CONTROL SYSTEMS 4
(3,2)
An introduction to the analysis and design of analog and digital feedback control systems. Emphasis is on velocity and position control using D.C. and stepper motors. An oral report is required on a design project. Prerequisite: ET335. (Substitutes for ET417,418,457,458)

ENVIRONMENTAL SCIENCE

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

EV101 INTRODUCTION TO ENVIRONMENTAL SCIENCES 3
(3,0)
This course will provide students with the opportunity to learn about modern solutions to problems related to water supply resources, water pollution control, air pollution, and solid and hazardous wastes. (Substitutes for QEV182)

EV249 WATER POLLUTION CONTROL 3
(2,3)
An analytical study of the tests, operations, and solutions involved in contemporary water pollution problems. (Also listed as BL249) Prerequisite: EV101 or permission of instructor. (Substitutes for QEV449)

EV288 ENVIRONMENTAL MICROBIOLOGY 4
(3,3)
A study of viruses, molds, algae, bacteria, actinomycetes, and some protozoa, their morphology, structure, taxonomy, growth, nutrition and control. The role of microorganisms in organic matter decomposition, nutrient cycling, biodegradation of recalcitrant molecules in different ecosystems, community microbial ecology and different stresses in microbial communities along with water born pathogens and diseases they cause will be discussed along with the role of microorganisms in sewage and sludge disposal in wastewater treatment. (Also listed as BL288) Prerequisite: CH108. (Substitutes for QRT288)

EV290 INDEPENDENT STUDY IN ENVIRONMENTAL SCIENCE 1-4
(1-4,0)
Special studies and/or research in environmental science for individuals or small seminar groups. Course content to be arranged by student(s) and a supervising professor with approval of department head. Prerequisites: Students must have an overall GPA of at least 2.5, and no I grades on their transcript. Independent study courses may be repeated for a maximum of eight credits. Additional information is available at the Department of Biology and Chemistry office.

EV311 ENVIRONMENTAL LAW 2
(2,0)
Study of fundamental concepts of environmental law, basic legal research techniques, state and federal environmental statutes, and cases pertaining to environmental law. Prerequisite: Junior standing or permission of instructor. (Substitutes for QEV341)

EV313 SOLID AND HAZARDOUS WASTE 3
(3,0)
Identification and classification of solid and hazardous wastes, including discussion of storage and processing, collection and transportation, resource recovery and recycling, ultimate disposal. Topics on radiation, decay, health effects and sources of hazardous materials will also be covered. Prerequisite: MA112 or equivalent. (Substitutes for QEV343)

EV395 SCIENTIFIC WRITING AND PRESENTATION 1
(0,2)
Literature searching, scientific writing, and oral presentation of scientific data. Students will be expected to listen to presentations of peers enrolled in EV499 and develop topic for their senior thesis. (Also listed as BL395) Prerequisite: Junior standing. (Substitutes for QEV398 and QEV399)

EV490 INDEPENDENT STUDY IN ENVIRONMENTAL SCIENCE 1-4
(1-4,0)
Special studies and/or research in environmental science for individuals or small seminar groups. Course content to be arranged by student(s) and a supervising professor with approval of department head. Prerequisites: Students must have junior or senior standing, have an overall GPA of at least 2.5, and no I grades on their transcript. Independent study courses may be repeated for a maximum of eight credits. Additional information is available at the Department of Biology and Chemistry office.

EV499 SENIOR THESIS

(0,3) **1**
 Required of seniors majoring in environmental science. Students present seminars and provide an audience for fellow seniors. Each paper presented will be critically analyzed by the audience. (Also listed as BL499)
 Prerequisite: EV395. (Formerly QEV499)

FINANCE

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

FN242 PERSONAL FINANCE

(3,0) **3**
 An introduction to the principles of personal financial planning. Topics include the financial planning process, credit and borrowing fundamentals, analysis of savings, investments and taxes, individual insurance, retirement and estate planning. Prerequisite: Mathematics competency. (Formerly QFN242)

FN245 PRINCIPLES OF FINANCE

(3,0) **3**
 An introduction to the principles of business finance. Topics include math of finance, working capital management, financial planning and forecasting, debt and leasing, common and preferred stock, leverage and capital structure, capital budgeting, cost of capital. Students with credit in FN341 may not enroll in this course. Prerequisite: AC132 or OA119 and mathematics competency. (Formerly QFN245)

FN248 REAL ESTATE

(3,0) **3**
 A study of the basic principles of real estate practice. Coverage includes broker-agent relationships, real estate marketing, real estate law, financing, appraising, taxation, and math. Prerequisite: Mathematics competency. (Formerly QFN248)

FN341 MANAGERIAL FINANCE

(4,0) **4**
 The nature and scope of financial management including math- of finance, financing instruments, leverage and capital structure, financial planning and forecasting, risk and return analysis, capital budgeting. Prerequisites: AC133 and BA211. (Substitutes for QFV345 and QFN346)

FN443 INSURANCE

(4,0) **4**
 A study of the financial, legal and social aspects of the insurance industry with emphasis on risk and actuarial analysis, insurance institutions and operations, insurance contracts and policies including life, annuity, health, property, liability, group, business and governmental coverages. Financial planning worksheets are utilized to determine personal insurance needs and appropriate policy selection. Prerequisites: BA254 and mathematics competency. (Formerly QFN443)

FN446 FINANCIAL ANALYSIS AND POLICY

(4,0) **4**
 An analytical study of long and short term financial policy and strategy through case problems. Selected readings in financial theory supplement the case studies. Prerequisite: FN341. (Formerly QFN446)

FN448 INVESTMENT STRATEGY

(4,0) **4**
 A study of investment media and securities markets, risk and return analysis, valuation theory, portfolio construction and investment mechanics. Prerequisite: FN341. (Formerly QFN448)

FIRE SCIENCE

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

FS101 INTRODUCTION TO FIRE SCIENCE

(3,0) **3**
 Survey of the history and philosophy of fire protection. Examines present fire protection problems and future challenges, public fire protection agencies, firefighting equipment, and extinguishing agents. Special emphasis is placed on emergency responder's safety and hazard material recognition. (Formerly QFS101)

FS111 HAZARDOUS MATERIALS

(3,0) **3**
 Principles of combustion; examination of theoretical and practical aspects of combustion. Investigation of physical and chemical properties of substances which may harm responders, the general public and the environment. (Substitutes for QFS111)

FS204 FIRE PROTECTION HYDRAULICS AND PUMPS**(3,0) 3**

The application of mathematics and physics laws to properties of water, force, pressure and flow velocities. Emphasis: applying principles of hydraulics to fire protection problems, use of water supply sources and needs; examines fire department apparatus testing, inspection and maintenance; deals with apparatus specifications and requirements. Prerequisite: Successful completion of math competency graduation requirement. (Formerly QFS201 and part of QFS202, FS204 and FS205 are equivalent to QFS201, QFS202 and QFS203)

FS205 FIRE PROTECTION SYSTEMS EQUIPMENT**(3,0) 3**

Use and water supply needs of sprinkler and stand pipe systems and devices, fixed extinguishing and detection systems and devices, fire department testing, inspection, and maintenance. Alarm centers, warning devices, and safety considerations are covered along with fire flow calculations, and risk assessment. Prerequisite: Successful completion of math competency graduation requirement. (Formerly QFS203 and part of QFS202, FS204 and FS205 are equivalent to QFS201, QFS202, and QFS203)

FS211 TACTICS AND STRATEGY**(3,0) 3**

Utilization of manpower, equipment, and apparatus on the fireground. Emphasis: pre-fire planning, fire ground decision making. Implementing tactics; and disaster planning. Students will use fire simulation programs and interactive technology to apply and implement the principles covered in didactic instruction. (Formerly QFS211)

FS301 CODE ENFORCEMENT INSPECTION AND FIRE PREVENTION**(3,0) 3**

An introduction to fire inspection procedures and inspection techniques as related to building construction, fire load, fire protection systems, plans and the storage of hazardous materials. A study of safety code enactment, formulation and its relation to fire prevention and public education efforts and responsibilities of the fire service. Prerequisite: FS101 or permission of instructor. (Formerly QFS301)

FS321 INDUSTRIAL FIRE PROTECTION**(3,0) 3**

Examination of fire and life-style hazards in business and industry. Emphasis on managing the codes process, fire prevention, and training private fire brigades. Prerequisite: FS101 or permission of instructor. (Formerly QFS321)

FS401 SENIOR SEMINAR**(3,0) 3**

Seminar and independent study course with individual student guidance by faculty on selected research topics in fire science. Prerequisite: Senior standing or permission of instructor. (Formerly QFS401)

FS403 FIRE SCIENCE INTERNSHIP**3-9**

Fire science internship with an agency. Credit is based on 34 hours of field work per credit hour. Students must make application by the ninth week of the previous semester. Prerequisite: Senior standing or permission of instructor. (Formerly QFS403)

FS420 FIRE SCIENCE MANAGEMENT AND INCIDENT ANALYSIS**(3,0) 3**

An application of the principles of fire attack and strategy through the use of exercises and computer generated simulations. Hazmat incident analysis and other major disaster case studies are used in this class. Prerequisite: FS211 or permission of instructor. (Substitutes for QFS421)

FRENCH

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

FR151 FIRST YEAR FRENCH I**(4,1) 4**

Introduction to basic French grammar and vocabulary, designed to acquaint the student with the minimum essentials of oral and written French. Students will learn to read magazines, newspapers and elementary texts as well as to express themselves orally. (Substitutes for QFR171)

FR152 FIRST YEAR FRENCH II**(4,1) 4**

Further study of French grammar and vocabulary. Emphasis on student's ability to communicate both orally and in writing. The reading of various materials with the aim of translating English, enlarging the vocabulary, and improving understanding of the language. Prerequisite: FR151 or equivalent. (Substitutes for QFR173; waive FR172)

FR251 SECOND YEAR FRENCH I**(4,1) 4**

Review of basic grammar; introduction to advanced idiom; use of oral French in classroom; writing of compositions in French; reading of French texts. Prerequisite: FR152 or equivalent. (Substitutes for QFR271)

FR252 SECOND YEAR FRENCH II
(4,1) 4
Emphasis on use of oral French; reading, translation, and explication de texte, conducted as much as possible in French. Prerequisite: FR251 or equivalent. (Substitutes for QFR273)

FR351 ADVANCED CONVERSATION AND COMPOSITION I
(3,0) 3
Extensive reading of French contemporary prose and writing of compositions on related current issues. Directed discussion of all oral and written assignments. Systematic review of grammar. Prerequisite: FR252 or equivalent. (Substitutes for QFR375)

FR352 ADVANCED CONVERSATION AND COMPOSITION II
(3,0) 3
Continuation of FR351 with special emphasis on the development of a more mature oral and written expression. Prerequisite: FR351 or equivalent. (Substitutes for QFR377; waive FR376)

FR353 BUSINESS FRENCH I
(3,0) 3
An initiation into the language skills for use in business situations in a French speaking environment. The course is organized around twelve different professional situations in the service industry. A conversational approach is used with systematic oral and written practice from authentic documents. May be taken concurrently with FR351. Prerequisite: FR252 or equivalent. (Substitutes for QFR381)

FR354 BUSINESS FRENCH II
(3,0) 3
Continuation of FR353. The course is organized around twelve different professional situations within the industrial sector. Further systematic practice through visits to French speaking companies and individual reports. Aims to bring students to a level of proficiency in French business communication that would enable them to function in an internship situation. May be taken concurrently with FR352. Prerequisite: FR353 or equivalent. (Substitutes for QFR383; waive FR382)

FR355 SURVEY OF FRENCH LITERATURE I
(3,0) 3
A chronological study of the major works of French literature from its origins to the 18th century. Emphasis on the development and continuity of ideas and their evaluation within the political, social and religious framework of the time, their influence on the formation of the language and literature. May be taken concurrently with FR351. Prerequisite: FR252 or equivalent. (Substitutes for QFR371)

FR356 SURVEY OF FRENCH LITERATURE II
(3,0) 3
Study and discussion of the major works of French literature of the 18th, 19th and 20th century. May be taken concurrently with FR352. Prerequisite: FR355 or equivalent. (Substitutes for QFR373; waive FR372)

GEOLOGY

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

GE111 PHYSICAL GEOLOGY I
(4,1) 4
The study of the materials, processes and features of the rocks and surficial materials that form the earth's crust. Laboratory exercises involve minerals, rocks, and topographic maps. Prerequisite: None. (Substitutes for QGE101)

GE112 PHYSICAL GEOLOGY II
(4,1) 4
Surficial processes and landforms continued from GE111. Geologic time, earthquakes, earth's interior, ocean basins, mountains, plate tectonics and other aspects of our dynamic earth are also studied, supplemented by appropriate laboratory exercises and two field trips. Prerequisite: GE111 or NS102 or permission of instructor. (Substitutes for QGE103)

GE114 FIELD EXCURSIONS IN EARTH SCIENCE
(1,2) 2
A two-week field-based educational experience in which aspects of geology and, when feasible, the interrelationships between geology and biology will be addressed. Travel destinations will vary to include regions with unique natural history. Emphasis will be placed upon holistic scientific viewpoints. A summary report will be required. Trip expenses are the responsibility of the student. Prerequisite: Successful completion of one NS course or equivalent and permission of instructor. (Formerly QGE110)

GE215 HISTORICAL GEOLOGY
(3,1) 3
Summary review of the geologic record concerning origin and evolution of earth through geologic time. Emphasis upon stratigraphic principles, depositional environments, the tectonic framework of North America and significant events in the history of plants and animals. Laboratory exercises involve stratigraphic maps and introductory paleontology. Prerequisite: GE112 or permission of instructor. (Formerly QGE210)

GE216 STRUCTURAL GEOLOGY AND GEOLOGIC GRAPHICS

(3,3) 4
Study of stress, strain and deformation of rocks and the structural features commonly occurring in them. Laboratory exercises deal with structures in three-dimensional space and emphasize graphic methods of solving problems and of communicating geologic data. Prerequisite: GE215 (Substitutes for QGE433 and QGE250)

GE221 CRYSTALLOGRAPHY AND MINERALOGY

(3,4) 4
A laboratory course initially emphasizing the crystalline structure of minerals followed by mineral identification techniques. Major topics include symmetry, crystals, physical properties, composition and related topics. Prerequisite: GE112 or NS102 or permission of instructor. Pre or Corequisite CH115. (Substitutes for QGE301)

GE222 MINERALOGY AND PETROGRAPHY

(3,4) 4
A continuation of GE221 emphasizing mineral identification leading to hand lens identification of igneous, sedimentary, metamorphic and other rocks. Related topics include chemical tests and a student research project. Prerequisite: GE221 or permission of instructor. (Substitutes for QGE301)

GE290 INDEPENDENT STUDY IN GEOLOGY

(1-4,0) 1-4
Special studies and/or research in geology for individuals or small seminar groups. Course content to be arranged with instructor and with approval of the department head. This course may be repeated for a maximum of eight credits. Prerequisites: Sophomore standing or higher and permission of the instructor.

GE321 OPTICAL MINERALOGY

(2,3) 3
Optical properties of minerals and their underlying principles studied by oil immersion and thin section methods. Laboratory work consists of measuring optical properties and learning to identify unknown non-opaque minerals. Prerequisite: GE221. (Formerly QGE340)

GE351 INVERTEBRATE PALEONTOLOGY I

(3,1) alternate years 3
Common invertebrate fossils, their evolutionary trends, anatomical features and geological significance. Special emphasis upon use of fossils for geologic dating and correlation, fossil description and classification. Prerequisite: GE215 or permission of instructor. (Formerly QGE441)

GE352 INVERTEBRATE PALEONTOLOGY II

(3,1) alternate years 3
Common invertebrate fossils and microfossils, their evolutionary trends, anatomical features and geological significance. Special emphasis upon use of fossils for geologic dating and correlation and use of paleontologic data. Prerequisite: GE351. (Formerly QGE442)

GE422 IGNEOUS AND METAMORPHIC PETROGRAPHY

(2,3) 3
Description and classification of igneous and metamorphic rocks including laboratory study of rocks in thin section. Prerequisite: GE321. (Substitutes for QGE341)

GE423 SEDIMENTARY PETROGRAPHY

(2,2) 3
The study of the history of sedimentary rocks with emphasis placed upon depositional models. Major topics include lithology, facies and microfacies recognition and relationships, and diagenesis. Prerequisites: GE215 and GE321. (Formerly QGE342)

GE434 GEOTECTONICS

(2,2) alternate years 3
A study of the general structure of the earth with emphasis on the dynamics of continental and oceanic crust. Includes a history of geologic thought leading to plate tectonics, with appropriate laboratory and student research projects. Prerequisites: GE222 and GE216. (Formerly QGE434)

GE436 FIELD GEOLOGY

(0,16) 16
Six weeks of training and field experience in the observation, mapping, recording and interpretation of the great variety of geologic features in the Sault Ste. Marie region. Some extended field trips will be required. A supply and travel fee will be charged. Prerequisites: GE216 and GE222 and senior status or instructor approval. (Formerly QGE436)

GE461 STRATIGRAPHY AND SEDIMENTATION

(4,1) alternate years 4
The study and interpretation of sedimentary processes and stratigraphic principles, emphasis on sedimentary relationships and depositional environments. Prerequisite: GE215. (Substitutes for QGE411)

GE471 ECONOMIC GEOLOGY I

(2,2) alternate years 3
A study of mineral resource forming processes, major rock-metal associations, and a survey of classic ore deposits. Related topics include exploration, mining metallurgy, marketing and environmental aspects. Laboratory exercises appropriate to the topic, and student research project. Prerequisites: GE112 and GE222 or equivalent. (Formerly QGE420)

GE472 ECONOMIC GEOLOGY II

(2,2) alternate years **3**
 A continuation of the resource forming processes and deposits begun in GE471. Coverage of minor metals, industrial minerals, energy resources, and the economic, environmental and political aspects of the demand for limited resources are included as time permits. Student research project and field trip. Prerequisite: GE471. (Formerly QGE421)

GE490 RESEARCH TOPICS IN GEOLOGY

(1-4,0) **1-4**
 Special studies and/or research in geology for individuals or small seminar groups. Course content to be arranged with instructor and with approval of the department head. This course may be repeated for a maximum of eight credits. Prerequisites: Junior standing or higher and permission of the instructor.

GEOGRAPHY

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

GG106 PHYSICAL GEOGRAPHY: LANDFORMS

(3,1) **3**
 Introduction to the description and distribution of landforms with emphasis on lithospheric, hydrospheric and atmospheric relationships. Natural (physical) science credit given. Prerequisite: Completion of mathematics competency graduation requirement. (Formerly QGG106)

GG108 PHYSICAL GEOGRAPHY: METEOROLOGY AND CLIMATOLOGY

(3,1) **3**
 Introduction to earth-sun relationships, maps and elementary principles of atmospheric science. Natural (physical) science credit given. Prerequisite: Completion of mathematics competency graduation requirement. (Formerly QGG108)

GG201 WORLD REGIONAL GEOGRAPHY

(4,0) alternate years, F91 **4**
 A study of the physical environment, resources, past and present economic development, population distribution, and historical development of Europe, Asia, The Islamic Middle East and North Africa, Sub-Saharan Africa, Latin America, and North America. (Substitutes for QGG221 or QGG222)

GG302 ECONOMIC GEOGRAPHY

(4,0) alternate years, F92 **4**
 A study of the internal and external interrelationships of the various economic groupings of the world, i.e. North America, Europe and the emerging 3rd world. (Substitutes for QGG301).

GG306 CULTURAL GEOGRAPHY

(3,0) alternate years, S92 **3**
 A study of the relationship of environment, culture, and adaptive patterns, i.e. the socio-economic development. A special emphasis will be placed upon the current problems associated with food supplies, shortages, and 3rd world development. (Substitutes for QGG305).

GG321 GEOGRAPHY OF EUROPE AND GREAT BRITAIN

(4,0) alternate years **4**
 A study of the physical, cultural, and economic interdependence of the Western European Community. Special emphasis will be placed upon the role of the EEC in world economic development. Prerequisite: Junior standing or instructor permission. (Substitutes for QGG311)

GG322 GEOGRAPHY OF SOUTH AMERICA, CENTRAL AMERICA, AND THE CARIBBEAN REGION

(4,0) alternate years, S91 **4**
 The study of the geographical features, cultural history of the major regions in South America, Central America, and the Caribbean with special concern for their 20th century development. Prerequisite: Junior standing or instructor permission. (Substitutes for QGG312).

GG323 GEOGRAPHY OF EAST AND SOUTHEAST ASIA

(4,0) alternate years, F92 **4**
 The study of the geography of Japan, China, Korea, Southeast Asia and India with special emphasis on the impact of the major religions, regional rivalries and 20th century development. Prerequisite: Junior standing or instructor permission. (Substitutes for QGG313).

GG325 REGIONAL GEOGRAPHY OF NORTH AMERICA

(4,0) alternate years, F93 **4**
 The study of the physical, cultural, and economic development of various regions of Canada and the United States with special emphasis on the development of regional characteristics and cultural traditions. Prerequisite: Junior standing or instructor permission. (Substitutes for QGG315 and QGG316).

GG360 HISTORICAL GEOGRAPHY OF EASTERN NORTH AMERICA

(4,0) alternate years, F93 **4**
 A study of the impact of the physical features upon the historical development of Eastern Canada and the Eastern regions of the United States. Special attention will be given to the Western Migration patterns. Prerequisite: Junior standing or instructor permission. (Substitutes for QGG350).

GG490 INDEPENDENT STUDY IN GEOGRAPHY
(1-4) 1-4

Special topics such as regional, historical, economic, urban, cultural or physical geography. Prerequisites: junior standing and permission of instructor. May be repeated up to a total of twelve credits.

GG492 INDIVIDUALIZED STUDIES IN GEOGRAPHY
(2-4,0) 2-4

This is designed to provide an opportunity for specialized study of issues, problems, and selected topics in geography. Prerequisite: Junior standing or instructor permission. (Formerly QGG491).

GERMAN

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

GN141 FIRST YEAR GERMAN I
(4,1) 4

Introduction to basic German grammar and vocabulary, acquainting the students with minimum essentials of oral and written German. Reading of German texts. (Substitutes for QGN181)

GN142 FIRST YEAR GERMAN II
(4,1) 4

Further study of German grammar and vocabulary. Emphasis on oral expression. Reading of various materials in German with aim of enlarging the student's vocabulary and improving understanding of the language. Prerequisite: GN141 or equivalent. (Substitutes for QGN183; waive QGN182)

GN241 SECOND YEAR GERMAN I
(4,1) 4

Review of basic German grammar; study of vocabulary, idiom, and word formation to improve reading and conversational abilities. Prerequisite: GN142 or equivalent. (Substitutes for QGN281)

GN242 SECOND YEAR GERMAN II
(4,1) 4

Reading and discussion of more advanced German literary materials; conducted as much as possible in German. Emphasis on spoken language. Prerequisite: GN241 or equivalent. (Substitutes for QGN283)

NOTES

HEALTH

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

HE104 NUTRITION FOR EARLY CHILDHOOD
(3,0) 3

Introduction to the function and metabolism of nutrients with special emphasis on the relationship between nutrition and childhood growth and development between 0-8. Lectures, discussion and community based assignments will relate the body systems to the child's nutritional status, review recent developments in nutrition as they relate to childhood development, and provide basic nutrition education principles for adaptation in community settings. (Formerly QAH104)

HE181 FIRST AID
(0.5,1.5) 1

Basic course in first aid. Theoretical and practical experience in university laboratory. (Formerly QAH181)

HE190 PREHOSPITAL EMERGENCY CARE AND CRISIS INTERVENTION I
(2,3) 3

Techniques of emergency medical care needed by the emergency medical technician-ambulance attendant. Theoretical and practical experience in administering preliminary emergency care and transportation of sick and injured victims to medical care centers. (Formerly QAH190)

HE191 PREHOSPITAL EMERGENCY CARE AND CRISIS INTERVENTION II
(1,3) 2

Simulated practice with some in-hospital observation. Emphasis on laboratory practice of skills needed for functions of an EMT-A. Prerequisite: HE190. (Formerly QAH191)

HE208 NUTRITION
(2,0) 2

Basic principles of normal nutrition with emphasis on basic nutrients and food groups. Nutrition throughout life cycle including stressors impacting on nutritional requirements. Social, biological and physical sciences integrated throughout course. Prerequisite: BL105 or BL121. (Formerly QAH204)

HE209 PHARMACOLOGY
(3,0) 3

Study of basic concepts of pharmacology and their relationships to health care. Drug metabolic processes are described providing foundation for clinical judgments about drug actions, reactions, and interactions. Prerequisite or Corequisite: BL122 or BL105. (Formerly AH203)

HE232 PATHOPHYSIOLOGY

(3,0) **3**
 Study of physiological alterations in the body which disrupt homeostasis. Integrates anatomy, physiology and biochemistry into framework for studying disease. Core content provides understanding of mechanism and principles of disruptions of health. Emphasis on clinical correlations and physiological basis for common disorders. Prerequisite: BL122, or permission of instructor. Corequisite: CH105. (Formerly QNU244)

HE235 COMPUTER APPLICATION IN HEALTH SCIENCES

(1,2) **2**
 Introduces students to computer usage and its application to education, research and practice in health care professions. Topics include computer fundamentals, computer language, information systems, data-base systems, expert systems, health care applications, ethical considerations and relationships of computers to health care trends. Prerequisite: NU213 or permission of instructor. (Formerly QNU285)

HE330 APPLIED NUTRITION

(2,0) **2**
 Application of nutrition principles in health care; obesity, anorexia nervosa, and bulimia; emphasis on gathering information and relevant objective measurements (anthropometric, biochemical) for use in developing nutritional care plans. Prerequisite: HE208 or permission of instructor. (Formerly QAH324/QNU324)

HUMAN SERVICES

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

HM204 FUNDAMENTALS OF DRUG ABUSE

(3,0) **3**
 Examines the pharmacology of commonly abused psychoactive and high-use drugs. Emphasizes the physiological effects of drug use and abuse. Topics include stimulants, depressants, opiates, hallucinogens, inhalants, cannabis, over-the-counter drugs, alcohol and drug testing. Prerequisites or corequisites: BL105 or BL121 or equivalent. (Substitutes for QHM104).

HM250 HUMAN SERVICES PRACTICUM

(1,9 - 27) **3-9**
 This course provides a field placement opportunity for students to practice skills and use knowledge gained in skill minor coursework. Prerequisite: Instructor permission. (Substitutes for QHM203).

HM292 ALCOHOL ABUSE PREVENTION & TREATMENT

(3,0) **3**
 This course examines current prevention, detection, and treatment approaches for alcohol abuse and alcoholism. Prerequisite: HM204. (Substitutes for QHM291 and QMH291).

HM480 GRANTWRITING

(3,0) **3**
 This course gives advanced students experience in the research, writing, and planning skills involved in preparing grant proposals for human service problems. Prerequisite: Instructor permission. (Substitutes for QRC480).

HISTORY

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

HS101 HISTORY OF WORLD CIVILIZATION I

(4,0) **4**
 A study of world civilization from earliest time through the baroque. (Substitutes for QHS144)

HS102 HISTORY OF WORLD CIVILIZATION II

(4,0) **4**
 A study of world civilization from the baroque to the present. (Substitutes for QHS146, waive QHS145)

HS131 UNITED STATES HISTORY I

(4,0) **4**
 A study of United States history from the colonial settlement to the end of the American Civil War in 1865. (Substitutes for QHS147)

HS132 UNITED STATES HISTORY II

(4,0) **4**
 A study of United States history from the end of the Civil War to the present. (Substitutes for QHS149, waive QHS148)

HS201 CLASSICAL WORLD AND MEDIEVAL EUROPE

(4,0) **4**
 A survey of Mediterranean civilization from the Bronze Age to the eve of the Renaissance. This course will be offered every third year. (Substitutes for QHS247)

HS202 RENAISSANCE, REFORMATION AND BAROQUE EUROPE

(4,0) **4**
 A study of the political, institutional, religious, social, economic, and cultural developments from 1400 to 1700. This course will be offered every third year. (Substitutes for QHS249, waive QHS248)

HS230 SURVEY OF AMERICAN INDIAN HISTORY

(4,0) 4
A study of American Indian History from earliest times to the present, with emphasis placed on the historical development of Indian tribes located in the Great Lakes Region. (New course in fall, 1991)

HS231 AMERICAN MILITARY HISTORY

(4,0) 4
A general survey of American military history with a specific emphasis on the Midwest and Great Lakes regions to utilize the unique geographic location of LSSU. Field trips to the Straits of Mackinac and St. Joseph's Island are a part of the course. (Substitutes for QHS250)

HS235 HISTORY OF APPLIED SCIENCE AND TECHNOLOGY

(4,0) 4
An introductory study of the origins and development of the applied sciences and technology from 1790 to the present. This survey will focus on the scientists, engineers, and inventors responsible for the rapid rise of modern technology, industry and business with particular emphasis on the developments in chemistry, metallurgy, electromagnetism, thermodynamics, and cybernetics. The impact of these developments on the marketplace and society in general will be a major concern. This course will be offered every third year. (Substitutes for QHS275)

HS301 HISTORY OF ENGLAND-1000 TO 1714

(4,0) 4
These seven hundred years witness the formation and maturing of most of the important political and social institutions that have come to be the Anglo-Saxon civilization and tradition. This period is critical to understanding present-day American culture and civilization. This course will be offered every third year. (New course in fall, 1991)

HS302 ENGLAND IN THE MODERN WORLD

(4,0) 4
A history of England from 1715 to the present, emphasizing the struggle for parliamentary government, the Anglo-French conflict for commercial and colonial empire, the Industrial Revolution, the evolution of democracy, and the recession of the British Empire. This course will be offered every third year. (Substitutes for QHS311)

HS310 RUSSIA: FROM UNDERDEVELOPED STATE TO SUPERPOWER

(4,0) 4
A study of Russian history from Peter the Great to the present. This course will be offered every third year. (Substitutes for QHS321)

HS315 EUROPE FROM NAPOLEON TO WORLD WAR I

(4,0) 4
A study in the political and economic history of Europe in the period 1789-1914. This course will be offered every third year. (Substitutes for QHS348)

HS316 EUROPE IN THE 20TH CENTURY

(4,0) 4
A study of Europe in the age of Nazism, Communism, World War I and II, and the Common Market. This course will be offered every third year. (Substitutes for QHS349)

HS331 AMERICAN INTELLECTUAL AND CULTURAL HISTORY I

(4,0) 4
A study of American cultural and intellectual institutions as they developed from their Elizabethan and European origins to the mid-nineteenth century. The emphasis will be placed upon the emergence of the unique and variant adaptations that arose in the first 250 years of English settlement in America. This course will be offered alternate years only. (Substitutes for QHS360)

HS332 AMERICAN INTELLECTUAL AND CULTURAL HISTORY II

(4,0) 4
A study of American culture from the mid-nineteenth century until the present. Often considered our finest century, the nineteenth century witnesses many of America's most unique, fascinating and important contributions. The physical and philosophical aspects of these years will be surveyed. Particular attention will be given to areas where America comes to exercise important influences overseas. This course will be offered alternate years only. (Substitutes for QHS362, waive QHS361)

HS335 AMERICAN POLITICAL PARTIES

(4,0) 4
A study of the rise and development of the American party system and the large number of major and minor parties that have participated in this system in the years prior to 1945. These parties will be treated in an historical fashion rather than structurally. May be taken for political science credit. This course will be offered every third year. (Substitutes for QHS365)

HS346 CANADIAN HISTORY

(4,0) 4
A survey of Canadian History including the moving frontier, relations with the United States, British-French rivalry, the establishment of democratic government, and the changing relationship to Great Britain. This course will be offered every third year. (New course in fall, 1991)

HS361 LATIN AMERICA**(4,0) 4**

A study and analysis of Latin American History from the end of the Colonial Period to the present. This course will examine the basic political, social, and religious institutions of Latin America and their evolution and role in the change of development of the region. The issues and problems of U.S.-Latin American relations will be an important focus of this study. This course will be offered every third year. Prerequisite: GG322 Geography of South America, or permission of instructor. (New course in fall, 1991)

HS371 FAR EAST CIVILIZATION**1850 - PRESENT****(4,0) 4**

A study of the history of China, Japan, India, and adjoining areas of Asia from 1850 to present. This course will be offered every third year. Prerequisite: Permission of instructor. (New course in fall, 1991)

HS440 THE DECLARATION OF INDEPENDENCE AND THE CONSTITUTION**(4,0) 4**

The events between 1763 and 1791 which produce these documents are the United States in the historical sense. Using original documents and contemporary comments, this critical era will be studied in depth to determine from whence we came. This course will be offered every third year. Prerequisite: U.S. history sequence desired or permission of instructor. (New course in fall, 1991)

HS441 DIPLOMATIC HISTORY OF THE UNITED STATES I**(4,0) 4**

American diplomacy from 1775 through the nineteenth century to U.S. entry into World War I in 1917. May be used as political science credit. Offered alternate years only. (Substitutes for QHS431)

HS442 DIPLOMATIC HISTORY OF THE UNITED STATES II**(4,0) 4**

American diplomacy from the entry of the U.S. into World War I in 1917 up through the present day. May be used as political science credit. Offered alternate years only. (Substitutes for QHS433, waive QHS432)

HS496 HISTORICAL METHODS**(2,0) 2**

Survey emphasizing research aids and techniques and historical analysis. Readings, discussions, and written exercises introduce students to problems, methods, and techniques of historical research. Discussion of and practice in main techniques of historical method, including bibliography and documentation. Prerequisites: Senior standing and pursuit of a major or a minor in history, or permission of instructor. (Formerly QHS491)

HS497 SENIOR SEMINAR IN HISTORY**(0-6) 2**

Students will complete an historical research project under the supervision of a faculty member; at end of term participants make oral presentation at seminar for other students and invited guests, and submit the final paper. Prerequisite: HS496. (Substitutes for QHS493; waive HS492)

HOSPITALITY

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

HT121 INTRODUCTION TO HOSPITALITY INDUSTRY**(4,0) 4**

An overview of the hospitality industry including the operation and trends in restaurant/food service management, lodging management and travel/tourism. Introduction to destinations and the following components of travel/tourism: modes of travel, tour management, associations, agencies, marketing and sales, career preparation and opportunities and travel publications. (Formerly QTR121)

HT231 DESTINATIONS**(1-3,0) 1-3**

Modules of 1,2, or 3 credits each. Each module will present a geographic area of travel (examples: Central America, Southern Europe, Scandinavian countries, Southwestern U. S., U.S., world, or tropical destinations); the unique cultures, characteristics, points of interest, money, government regulations, imports/ exports, and tourism development will be studied. Modules will be offered on a rotating and on-demand basis. (Formerly QTR231)

**HT291 HOTEL AND RESTAURANT
MANAGEMENT**

1-17

Students majoring in hospitality management, hotel and restaurant option, in the business administration program are required to complete 41 semester credits in food service and hospitality management. These requirements may be met either through transfer of credit from other institutions, or by enrollment in this course. The University subcontracts with Sault College of Applied Arts and Technology to provide facilities and instruction for HT291 courses. Students may re-enroll for a total of 41 credits under this course number. Prerequisite: Admission to hospitality management; consultation with, and permission by, the coordinator of hospitality. (Formerly QBA291)

**HT321 TRAVEL-TOURISM PLANNING AND
DEVELOPMENT I**

(3,0) 3

Principles of management applied to travel/tourism and other hospitality enterprises; includes study of planning, organizing, staffing, operations and control; travel information systems management; overview of travel research, travel agency procedures; itineraries; scheduling and routing; tariffs and ticketing. Prerequisite: HT121, MN370 or permission of instructor. (Formerly QTR321)

**HT322 TRAVEL-TOURISM PLANNING AND
DEVELOPMENT II**

(3,0) 3

Study of group travel planning and sales; planning conventions, seminars, meetings, and group accommodations; incentive marketing travel programs; business travel; national tourism programs; state, provincial, and local programs; transportation regulation and deregulation, passenger travel and transportation of goods. Prerequisite: HT321 or permission of instructor. (Formerly QTR322)

HT421 TRAVEL TOURISM CASES

(3,0) 3

Planning of simulated and actual trips and tours for business and pleasure--individual and group travel; students will plan and conduct area tours, conduct employee training sessions and work with travel/tourism agencies and businesses. Current issues in travel and tourism will be studied and individual research projects will be conducted and discussed. Prerequisite: HT322 or permission of instructor. (Formerly QTR421)

HT441 INTERNSHIP--TRAVEL AND TOURISM

1-8

Student work placement in a travel/tourism business or agency with stated, specific work objectives to meet each student's interests and career aspirations and to apply what has been studied by the student. Internship plan to be developed by student, employer/s and instructor prior to enrollment. Prerequisite: HT421 or permission of instructor. (Formerly QTR441)

NOTES

HUMANITIES

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

HU251 HUMANITIES I
(4,0) 4
The humanities in the life of mankind from prehistory to the Medieval epoch. Emphasizes significant values evolved in the Hebrew, Greek, Roman, and early Christian cultures. Includes consideration of the origins of the arts, language, religion, mythology, and philosophy, and ancient Chinese and Indian systems of religious thought. Prerequisite: EN110 (Substitutes for QHU295)

HU252 HUMANITIES II
(4,0) 4
Continuation of HU251, the humanities in the age of science, from the early Renaissance to the present. Prerequisite: EN110. (Substitutes for QHU297)

HU255 WORLD MYTHOLOGY
(3,0) 3
A survey of world mythology from "Gilgamesh" to "Finnegan's Wake". Prerequisite: EN110. (Substitutes for QHU301)

HU256 INTRODUCTION TO FILM: IMAGES OF OUR CULTURE
(2,2) 3
An exploration of film as an image of our culture in both its technical sense and in its role as contemporary art form which both conveys and delimits our aesthetic and social values. Focus on the visual elements of film, historical development of the medium, and its narrative modes through screening of significant films. Applies toward humanities general education requirement. Prerequisite: EN110. (Substitutes for QEN200)

HU261 WORLD LITERATURE I
(4,0) 4
The Ancient World to the Renaissance. Readings in translation of significant texts. Primarily Western. Selection can include the Bible and works by such authors as Homer, Vergil, Thucydides, Tacitus, Boccaccio, Montaigne, Rabelais, and others. Applies toward humanities General Education requirement. Prerequisite: EN110. (New course in fall, 1991)

HU262 WORLD LITERATURE II
(4,0) 4
The Renaissance to modern times. Readings in translation of significant texts. Primarily Western. Selections can include works by Galileo, Voltaire, Racine, Goethe, Ibsen, Dostoevsky, Brecht, Kafka, Sartre, and others. Applies toward humanities General Education requirement. Prerequisite: EN110. (New course in fall, 1991)

HU490 DIRECTED STUDIES IN HUMANITIES
(1,0) 1
To provide students who have omitted one term of the general humanities sequence with an opportunity to read or explore material related to the content of that term. Papers and tutorial session required. Prerequisites: Seven hours of humanities credit; evidence that students are capable of carrying out independent study; approval of department head. (Substitutes for QHU490)

INTER-DISCIPLINARY

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

ID300 MAN AND HIS ENVIRONMENT
(3,0) 3
Designed to assist the participant in understanding how the individual can become involved with solving environmental problems. Prerequisite: Junior status or permission of course coordinator. (Formerly QID300)

ID305 SEMINAR IN NATIVE AMERICAN STUDIES
(3,0) 3
A seminar dealing with selected topics in Native American Studies. The content of this course may vary each time the course is offered. Prerequisites: SO225, SO226, HS230, EN235 and LA305 or permission of instructor. (New course in fall, 1991)

ID320 CONTEMPORARY NATIVE AMERICAN ISSUES
(3,0) 3
A study of current Native American issues, problems, and concerns. Prerequisites: SO225, SO226, HS230, EN235 and LA305 or permission of instructor. (New course in fall, 1991)

ID399 INTERNSHIP IN (DEPARTMENT)
(2-4,0) 2-4
This course is designed to provide students with an opportunity to earn credit while obtaining meaningful discipline-related work experience outside the classroom setting. Students are expected to spend a minimum of 45 hours in an approved work setting for each credit hour earned. The course may be repeated once for a maximum of 4 credits. Prerequisite: 2.5 GPA in major, junior standing and permission of department head at least one semester in advance of registering for the course. (Formerly QID399)

JOURNALISM

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

JR210 WRITING FOR THE MASS MEDIA (3,0) 3

Designed to acquaint journalism students with the basic similarities and differences in news writing among the mass media, particularly newspapers, radio and television. Student will practice writing in the various formats. Prerequisites: EN110; ability to type 40 words per minute. (Substitutes for QJR201)

JR211 PRINT NEWSWRITING (3,0) 3

Designed to improve students' print news writing skills. Writing of basic print news stories, such as obituaries, speech, news conference and meetings, accidents, fires, natural disasters, schools, taxation, and police and the courts. Prerequisite: JR210, or permission of instructor. (Substitutes for JR203; waive JR202)

JR310 ELECTRONIC EDITING AND PRODUCTION (2,3) 3

Designed to build upon JR211. Students will gain an understanding of basic copyediting responsibilities--use of symbols, headline writing, and newspaper design and layout--and the ability to discharge those responsibilities under deadline pressure. Prerequisite: JR211. (Substitutes for QJR306)

JR311 SUPERVISING SCHOOL PUBLICATIONS (3,0) 3

The teaching of high school journalism; the role of the faculty advisor to high school publication; the high school newspaper; the high school yearbook; methods of production; problems of production; the elements of libel; good taste. Prerequisite: JR211, or permission of instructor. (Substitutes for QJR305)

JR410 BROADCAST NEWSWRITING (2,3) 3

Designed to improve students' broadcast news writing skills from the fundamental level of those developed in JR210. Upon completion of this course, the student will be familiar with the process by which broadcast news is reported, written and performed on the air. Prerequisite: JR210, or permission of instructor. (Substitutes for QJR301)

JR411 BROADCAST EDITING AND PRODUCTION

(2,3) 3
Designed to build upon the broadcast reporting, writing and performing skills developed in JR410. Students will become familiar with production of newscasts, public affairs documentaries, the role of the producer in modern radio, the function and operation of the console, tape recording and playback units, microphones and sound, splicing and dubbing, achieving effects, and news-oriented talk shows. Prerequisite: JR410, or permission of instructor. (Substitutes for QJR302)

JR413 DIRECTED INDIVIDUAL STUDIES (2,0) 2

Shine Sundstrom journalism internship at Sault Ste. Marie EVENING NEWS: Experience in newsroom and on assignment; writing, rewriting; use of word processor. Prerequisites: Junior status; JR210 and JR211. File application with head of Arts and Letters Department by fifth week of previous semester. (Formerly QJR413)

LEGAL ASSISTANT STUDIES

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

LA102 LEGAL RESEARCH AND CASE ANALYSIS

(3,0) 3
Introduction to the law library and its use. Students will develop research techniques and skills in using encyclopedias, treatises, digests, case reporters, looseleaf services, annotated reports, legal periodicals, legislation, legislative history, administrative materials, shepardization, and citation of legal authorities. Students will also develop skills in analyzing, evaluating and synthesizing court opinions and statutory law. (Formerly QLA102 and part of QLA103).

LA125 CIVIL LITIGATION AND PROCEDURE (4,0) 4

Concentration on Federal and Michigan rules of procedure prior to, during and after trial. Detailed study of drafting pleadings, discovery procedures and case preparation for trial and appeal. Prerequisite: LA102 and LA150. (Formerly QLA125 and QLA126).

LA140 PERSONAL INJURY LITIGATION AND INVESTIGATIVE TECHNIQUES

(3,0) **3**
The study of personal litigation shall include principles of negligence, intentional torts, strict liability, products liability, and professional malpractice. Emphasis will be placed on investigative techniques utilized in personal injury cases and students will draft complaints and other documents used in such litigation. The course also covers interviewing techniques and utilization of experts and documentary evidence. (Substitutes for QLA140).

LA150 THE LEGAL ASSISTANT PROFESSION AND ETHICAL CONSIDERATIONS

(3,0) **3**
Overview of the legal assistant profession including job qualifications and employment opportunities. General legal principles and terminology shall be discussed. The Code of Professional Responsibility and its application to legal assistants shall be studied in detail including such areas as: confidentiality; conflict of interest; legal advertising; competency considerations; and legal malpractice. (Formerly QLA101 and QLA150).

LA202 LEGAL WRITING AND ANALYSIS

(3,0) **3**
Introduction to legal writing styles and skills. Through review and preparation of legal documents, students will become acquainted with basic principles, style, organization, and structure of certain legal documents which shall include letter writing, and preparation of memorandum of law and an appellate brief. Research skills and analysis of court opinion will be further refined. Prerequisites: LA102 and LA125. (Formerly QLA104 and part of QLA103).

LA250 LAW OFFICE MANAGEMENT, SYSTEMS AND TECHNOLOGY

(3,0) **3**
The management and organization of a law office, including such areas as staffing, timekeeping, equipment, legal systems, file maintenance, public relations, and the utilization of computer technology in law office organization, litigation and case preparation shall be discussed. Prerequisites: LA202 and LA125 or permission of instructor. (Substitutes for QLA250).

LA299 LEGAL ASSISTANT INTERNSHIP AND PROFESSIONAL DEVELOPMENT SEMINAR

(1,3-7) **4-8**
A supervised work experience as a legal assistant with a law firm, government agency, court, or business enterprise such as a bank, corporation, or insurance company. Personal and professional goals shall be refined, including resume preparation, interviewing skills, job search plan and overall career planning. Prerequisites: LA202, LA125, and permission of instructor. (Formerly QLA299).

LA300 SEMINAR IN LEGAL ASSISTANT STUDIES

(variable) **1-4**
A seminar dealing with selected topics in Legal Assistant Studies. The content of this course may vary each time the course is offered. May be repeated with permission of advisor. Prerequisites: LA202, LA125, and/or permission of Legal Assistant Advisor. (Formerly QLA300).

LA305 TRIBAL LAW AND GOVERNMENT

(3,0) **3**
A study of tribal law which will explore such areas as the structure of tribal government; tribal sovereignty; treaties; civil and criminal court jurisdiction in Indian country; tribal resources; tribal economic development; taxation and regulation; rights of individual Indians; and various federal laws and court cases concerning and affecting tribes and their members. Prerequisite: HS230 or permission of instructor. (New course in fall, 1991)

LA320 REAL ESTATE LAW

(3,0) **3**
Various aspects of real estate law and procedures will be studied and include conveyances, mortgages, land contracts, titles, environmental concerns, foreclosure proceedings, and landlord-tenant relationships. Emphasis will be placed on preparation of legal documents and pleadings regarding real estate law. Prerequisites: LA102 and LA125 or permission of instructor. (Formerly QLA222).

LA321 FAMILY LAW

(2,0) **2**
Areas of Family Law including marriage contracts, divorce, separation, child custody, juvenile law, and adoption will be explored. Prerequisites: LA102 and LA125 or permission of instructor. (Formerly QLA221).

LA322 PROBATE LAW AND PROCEDURE

(3,0) **3**
The Probate Code will be discussed in detail along with the major topics of wills, estates trusts, guardianships, conservatorships, and other Probate Court procedures. Preparation of probate documents and pleadings will be emphasized. Prerequisites: LA202, LA125, and LA320. (Formerly QLA220).

LA401 EVIDENCE AND TRIAL PRACTICE

(3,0) **3**
An in-depth study of trial preparation and practice including gathering and organization of materials and information; discovery; depositions; voir dire; preparing trial witnesses and exhibits; preparing trial motions and briefs; jury instructions and forms; organizing the trial; and post-trial procedures and documents. The course also covers evidentiary rules as they relate to trial practice and preparation. Prerequisites: LA202, LA125, LA240, and LA150. (Formerly QLA401).

LA405 NO-FAULT AUTOMOBILE LAW
(3,0) 3
The study of the Michigan No-Fault Automobile Law, including Michigan statutory and case law developments; first and third party cases; recoverable benefits and damages; review of insurance policies; and the preparation and evaluation of such cases for settlement and trial. Prerequisites: LA202, LA125, LA140, and LA150. (Formerly QLA405).

LA406 WORKER'S DISABILITY COMPENSATION LAW
(2,0) 2
A study of the Worker's Disability Compensation Act, including both Michigan statutory and case law developments. Also, the administrative procedures and worker's compensation case preparation will be addressed. Prerequisites: LA202, LA125, and LA140. (Formerly QLA406).

LA450 ADVANCED LEGAL WRITING AND INTERVIEWING SEMINAR
(3,0) 3
An advanced study of legal research and writing including the preparation of complex pleadings, legal documents, mediation summaries, settlement brochures and trial and appellate briefs. Development in interviewing and investigative skills and techniques with regard to client and witnesses will also be discussed. Prerequisites: LA202, LA125, LA150 & senior standing or permission of instructor. (Formerly QLA301 and QLA450).

LA490 INDEPENDENT STUDY IN LEGAL ASSISTANT STUDIES
(1-4) 1-4
This may take the form of either a research project or a program of directed reading on a specific topic. One to four credits over a period of one or two semesters may be granted according to the nature of the student's project. Prerequisite: Permission of instructor. May be repeated up to a total of 8 credits.

MATHEMATICS

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

MA091 BASIC MATHEMATICS
(4,0) 4
Arithmetic calculations including basic arithmetic skills, fractions, decimals, proportions and percentages. Fundamental concepts and techniques of introductory algebra including polynomial manipulations, factoring, solving equations, and graphing. Prerequisite: None. This course is graded on a credit/no credit basis. (Substitutes for QMA091)

MA092 INTERMEDIATE ALGEBRA
(3,0) 3
An algebra course for those students who have not had at least one and one-half years of high school algebra or who need a refresher course in algebra. Elementary operations, first degree equations, products and factoring, algebraic fractions, exponents and radicals, quadratic equations, functions and systems of equations. Prerequisites: One year of high school algebra and a score of 15 or better on the mathematics placement exam or MA091 with credit. Credit in this course does not apply toward graduation. (Formerly QMA092)

MA109 TRIGONOMETRY AND VECTORS
(2,0) 2
Trigonometric functions of a right triangle, and of real numbers, graphs of trigonometric functions, identities, inverse trigonometric functions, vectors, and complex numbers. Prerequisite: Satisfactory mathematics placement score or MA092 with a grade of C or better. (New course in fall, 1991)

MA111 COLLEGE ALGEBRA
(3,0) 3
Algebra for business, life and social science students. Inequalities, functions, graphs of linear, polynomial and rational functions, exponential and logarithmic functions, mathematics of finance, systems of linear equations and matrices, linear programming, and introduction to probability. Prerequisite: Two years of high school algebra and satisfactory achievement on the mathematics placement exam or MA092 with a grade of C or better. High school plane geometry also recommended. This course will not count toward a major or minor in mathematics. (Formerly QMA111)

MA112 CALCULUS FOR BUSINESS AND LIFE SCIENCES
(4,0) 4
Limits, differentiation, applications of the derivative, integration, application of the definite integral, techniques of integration. Calculus of exponential and logarithmic functions, elementary differential equations, functions of several variables. Prerequisite: MA111 with a grade of C or better. This course will not count toward a major or minor in mathematics. (Substitutes for QMA112)

MA140 ALGEBRA FOR TECHNOLOGISTS
(3,0) 3
Algebra for students of science and technology. Algebraic operations, functions and graphs, factoring and fractions, quadratic equations, exponents and radicals, complex numbers, exponential and logarithmic functions, systems of linear equations, determinants and matrices. Prerequisites: Two years of high school algebra and satisfactory achievement on the mathematics placement examination or MA092 with a grade of C or better. This course will not count toward a major or minor in mathematics. (This course with MA109 will substitute for QMA115 and QMA116)

MA141 TECHNICAL CALCULUS I

(4,0) **4**
 Plane analytic geometry, the derivative and procedures of differentiation, integration and applications of integration, derivatives of trigonometric and inverse trigonometric functions, exponential functions, and logarithmic functions. Prerequisites: MA109 and MA140 each with a grade of C or better. (Substitutes for QMA201)

MA142 TECHNICAL CALCULUS II

(4,0) **4**
 Integration of trigonometric, exponential and logarithmic functions, methods of integration, partial derivatives and double integrals, polar coordinates, curve fitting, series expansion of functions, using MacLaurin, Taylor, and Fourier Series. First and second order differential equations and Laplace transform methods. Prerequisite: MA141 with a grade of C or better. (Substitutes for QMA203)

MA150 PRECALCULUS MATHEMATICS

(4,0) **4**
 Basic theory of functions including polynomial, exponential, logarithmic and trigonometric functions. Inequalities, topics from analytic geometry and plane trigonometry. Provides the essential background for calculus and subsequent upper level mathematics. Prerequisites: Two years of high school algebra and one year of plane geometry and satisfactory achievement on the mathematics placement exam, or MA092 with a grade of C or better. Courses in trigonometry and analytic geometry are recommended. This course will not count toward a major or minor in mathematics. (Formerly QMA121)

MA151 CALCULUS I

(4,0) **4**
 Limits, continuity, differentiation, applications of the derivative, integration, applications of the definite integral. Prerequisite: High school mathematics which includes two years of algebra, one year of plane geometry, and one-half year of trigonometry and satisfactory achievement on the mathematics placement exam, or MA150 with a grade of C or better. (Substitutes for QMA132)

MA152 CALCULUS II

(4,0) **4**
 Logarithm and exponential functions, inverse trigonometric functions, techniques of integration, improper integrals, L'hospital's rule, infinite series, conic sections, polar coordinates, parametric equations. Prerequisite: MA151 with a grade of C or better. (Substitutes for QMA134)

MA207 PRINCIPLES OF STATISTICAL METHODS

(3,0) **3**
 Descriptive statistics, probability distributions (including normal, binomial and chi-square), techniques of statistical inference including tests of hypotheses and selected nonparametric tests. (This course is a survey of elementary statistical concepts.) Prerequisite: Completion of mathematics competency graduation requirement. This course will not count toward a major in mathematics. (Formerly QMA207)

MA215 FUNDAMENTAL CONCEPTS OF MATHEMATICS

(3,0) **3**
 Elements of set theory, set algebra, cardinality, logic, mathematical induction, methods of proof, functions, relations, equivalence relations. Prerequisite: MA151 or MA142 or MA112 (latter course with permission of instructor only) (Formerly QMA215)

MA216 DISCRETE MATHEMATICS AND PROBLEM SOLVING

(3,0) **3**
 Selected topics from discrete mathematics including fundamental counting principles, recurrence relations, and an introduction to graph theory. A strong emphasis is placed on fundamental problem solving techniques. Prerequisite: MA215 or permission of instructor. (New course in fall, 1991)

MA240 MATHEMATICS FOR AUTOMATED SYSTEMS

(3,0) **3**
 Applied linear algebra and vector algebra, Laplace transform methods for solution of first and second order linear differential equations. Spherical and cylindrical coordinate systems, graphing of kinematic quantities. Pre or co-requisite: MA142. (Formerly QMA302)

MA251 CALCULUS III

(4,0) **4**
 Three dimensional space, vectors, vector-valued functions, partial differentiation, multiple integration, topics in vector calculus. Prerequisite: MA152 with a grade of C or better. (Substitutes for QMA232)

MA261 INTRODUCTION TO NUMERICAL METHODS

(2,0) **2**
 Floating point representation of numbers and floating point arithmetic. Survey of numerical methods for solving a wide variety of common mathematical problems, including Solution of a single non-linear equation, solution of a system of linear equations, matrix inversion, numerical integration, function approximation, interpolation. Emphasis will be on the actual computer implementation of common algorithms for solving these problems. Prerequisites: CS111 and either MA142 or MA152. (Formerly QCS241)

MA290 INDEPENDENT STUDY IN MATHEMATICS

(1-4,0) 1-4
Special studies and/or research in mathematics for individuals or small seminar groups. Course content to be arranged with instructor and with approval of the department head. This course may be repeated for a maximum of eight credits. Prerequisites: Sophomore standing or higher and permission of the instructor.

MA305 COMPUTATIONAL LINEAR ALGEBRA

(3,0) 3
Introduction to matrix algebra and vector spaces. An examination of the topics of linear algebra, with an emphasis on computational aspects. Applications of matrices and linear algebra in the natural and social sciences. Prerequisites: CS111, and either MA112, MA141, or MA151. (Formerly QMA305)

MA308 PROBABILITY AND MATHEMATICAL STATISTICS

(3,0) 3
An introductory course in probability and mathematical statistics. Probability, probability distributions, mathematical expectation, moment generating functions, central limit theorem, estimation of parameters, hypothesis testing. Prerequisite: MA112 or MA142 or MA152. (Formerly QMA208)

MA309 MATHEMATICAL STATISTICS

(3,0) alternate years 3
A continuation of MA308 including non-parametric methods, analysis of variance, multiple regression, and an introduction to statistical software packages. Prerequisite: MA308 (Substitutes for QMA209)

MA310 DIFFERENTIAL EQUATIONS

(3,0) 3
Differential equations of first order, linear differential equations of second and higher orders. Introduction to power series methods, applications. Prerequisite: MA152 (Formerly QMA310)

MA321 HISTORY OF MATHEMATICS

(3,0) on demand 3
Selected topics in the development of mathematics from the time of the ancient Babylonians and Egyptians to the twentieth century. Prerequisites: MA152 and MA215 (Formerly QMA321)

MA325 COLLEGE GEOMETRY

(3,0) on demand 3
Selected topics in geometry, including some or all of the following: Modern elementary geometry, transformations, Euclidean constructions, dissection theory, projective geometry, introduction to non-Euclidean geometry, and problems in foundations of geometry. Prerequisites: MA152 and MA215. (Formerly QMA325)

MA341 ABSTRACT ALGEBRA I

(3,0) alternate years 3
An introduction to congruences, groups, subgroups, quotient groups, fundamental homomorphism theorems, Sylow theorems. Prerequisite: MA215. (Formerly QMA341)

MA342 ABSTRACT ALGEBRA II

(3,0) on demand 3
A continuation of MA341 including rings, integral domains, ideals, quotient rings, the natural homomorphism, fields and polynomial rings. Prerequisite: MA341. (Formerly QMA342)

MA351 GRAPH THEORY

(3,0) alternate years 3
Selected topics in graph theory, including connectivity, matchings, edge and vertex colorings, networks and tournaments. Prerequisite: MA216. (Formerly QMA351)

MA401 MATHEMATICAL MODELING

(3,0) alternate years 3
Selected applications of mathematics in such areas as biology, economics, social science and engineering are discussed. The construction of a mathematical model used to study a real situation will be stressed, as well as interpretation of mathematical results in that context. Prerequisites: Jr/Sr standing, a course in computer programming, and mathematical maturity at the level of MA305, MA308, or MA310. (Formerly QMA315)

MA411 ADVANCED CALCULUS

(3,0) alternate years
An extension of the calculus in one, two, or three dimensions leading to the formulation and solution (in simple cases) of the partial differential equations of mathematical physics. Differential and integral calculus of vectors, divergence, curl, line, surface and volume integrals, Green's divergence and Stokes' theorems, heat and wave equations, Fourier series, orthogonal sets, boundary value problems, separation of variables. Prerequisite: MA251. (Formerly QMA411)

MA413 INTRODUCTION TO COMPLEX ANALYSIS

(3,0) on demand 3
The calculus of functions of a complex variable, algebra and geometry of complex numbers, elementary functions, limits, derivatives, Cauchy-Riemann equations, integrals, Cauchy integral theorem, series, singularities, residue theorem. Prerequisite: MA251. (Formerly QMA413)

MA421 REAL ANALYSIS I

(3,0) alternate years 3
An examination of some of the foundations of the calculus, including basic topology of the real line, limits, continuity, metric spaces, function spaces, some uniformity concepts. Prerequisites: MA215 and MA251. (Formerly QMA412)

MA422 REAL ANALYSIS II
 (3,0) on demand 3
 Continuation of MA421 with emphasis on measure and integration. Prerequisite: MA421. (Formerly QMA422)

MA490 RESEARCH TOPICS IN MATHEMATICS
 (1-4,0) 1-4
 Special studies and/or research in mathematics for individuals or small seminar groups. Course content to be arranged with instructor and with approval of the department head. This course may be repeated for a maximum of eight credits. Prerequisites: Junior standing or higher and permission of the instructor.

MECHANICAL ENGINEERING

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

ME104 TECHNICAL DRAWING
 (3,3) 4
 Technical drawing to include instruments, lettering, geometric construction, sketching, multiview projection, sectioning, auxiliary views, dimensioning, tolerancing, fasteners, design and working drawings, reproduction and control drawings, pictorial drawings, intersections, graphical vector analysis, and graphs. (Substitutes for QME105,115)

ME124 BASIC COMPUTER AIDED DRAFTING (CAD)
 (3,0) 3
 Basic Autocad to include setting up and configuring Autocad software, MS-DOS, graphical primitives, editing, (2-D) construction techniques, symbols, drawing enhancements, printer-plotting, isometric drawing, system variables, dimension variable, and Autosketch. Prerequisite: ME104 or permission of instructor. (Substitutes for QME125)

MARKETING

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

MK281 MARKETING PRINCIPLES AND STRATEGY
 (4,0) 4
 A study of the marketing principles, variables, institutions, target markets, marketing mix, and the development of marketing strategy. Prerequisite: EN110. (Substitutes for MK281 and MK382)

MK283 PRINCIPLES OF SELLING
 (3,0) 3
 The study of personal selling and its requirements. Topics included are buyer behavior, sales presentations from prospecting to closing the sale, and overcoming objections. Sales interviews by students are an integral part of the course. (Formerly QMK283)

MK285 RETAIL MANAGEMENT
 (3,0) 3
 A study of the field of retailing. A survey of retail institutions; store location and organization; buying and merchandising techniques; retail advertising, sales promotion and image; human resource policies; and store protection. (Formerly QMK285)

MK287 ADVERTISING THEORY AND PRACTICE
 (3,0) 3
 A study of the principles and practices in various advertising media such as newspaper, radio, television, outdoor and direct mail; consideration of creative methods, consumer behavior, measurement of effectiveness, and coordination with other aspects of the promotional program. (Formerly QMK287)

MK384 PHYSICAL DISTRIBUTION
 (3,0) 3
 An analysis of the physical supply-physical distribution system. Studies areas of movement control, including distribution centers and warehousing, traffic and transportation, inventory management, information flow and cost-service alternatives. Prerequisite: MK281. (Formerly QMK384)

MK386 MATERIALS MANAGEMENT
 (3,0) 3
 A study of the principles and methods used in purchasing materials, supplies, and equipment. Purchasing procedures, buying policies, stock planning, market appraisals, and the functions of the purchasing agent. Prerequisite: MK281. (Formerly QMK386)

MK389 INDUSTRIAL MARKETING MANAGEMENT
 (3,0) 3
 A study of the marketing structure and function for business-to-business and industrial transactions. Prerequisite: MK281. (Formerly QMK389)

MK480 MARKETING RESEARCH
 (3,0) 3
 Application of research methods to the field of marketing. Methods of gathering and presenting data, market analysis, consumer surveys and sales forecasting. Students will participate in a research project. Prerequisites: BA211 and MK281. (Formerly QMK480)

MK483 SALES FORCE MANAGEMENT 3
(3,0)
Principles and policies of sales organization; career opportunities; recruiting, selecting, and training sales people; motivation, supervision, and evaluation of sales performance; compensation plans, quotes, and expense accounts. Prerequisites: MK281, MK283. (Formerly QMK483)

MK486 INTERNATIONAL MARKETING 3
(3,0)
Principles and methods of international marketing; strategies for foreign market entry and operations. Analysis of the environment of international marketing management with emphasis on problems connected with social, cultural, institutional, and economic variables found in foreign markets. Prerequisite: MK281. (Formerly QMK486)

MK487 ADVERTISING MANAGEMENT 3
(3,0)
Planning and preparation of advertising programs. Includes preparation of messages and budgets and selection of media. Utilizes case studies. Prerequisites: MK281 and MK287. (Formerly QMK487)

MANAGEMENT

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

MN370 MANAGEMENT PRINCIPLES AND HUMAN RESOURCE CONCEPTS 4
(4,0)
Principles and techniques of management: Planning organizing, staffing and directing; development of management thought; environment of human resource management; staffing and organizing; directing and leadership; safety, health, labor and employee relations; performance appraisal. Prerequisite: Junior status or permission of instructor. (Substitutes for QMN360 and QMN365)

MN451 LABOR LAW 4
(4,0)
An analysis of labor laws pertaining to union-management relations; emphasis on the private sector as well as on laws relating to health care institutions; legal aspects of relationships between unions and their members; federal wage and hour laws, including administration of the statutes and their relationship; applicable remedies for violations of federal labor laws. Prerequisite: MN370. (Formerly QMN451 and substitutes for QMN465.

MN461 MANAGEMENT SIMULATION 3
(1,4)
Realistic simulations of business operations with an opportunity to practice the functions of management by means of computerized models and cases. Prerequisite or corequisite: FN341 or permission of instructor. (Formerly QMN462 and QMN463)

MN464 ORGANIZATIONAL BEHAVIOR IN BUSINESS 4
(4,0)
An analysis of problems relating to management and organizational behavior typically requiring decisions by an administrator. Topics include leadership, motivation, communication, problem solving, decision making, conflict resolution, group dynamics and employee training and development. Prerequisite: MN370 or permission of instructor. (Formerly QMN464)

MN469 COLLECTIVE BARGAINING 3
(3,0)
An analysis of the process of collective bargaining, the major subjects of negotiation, including arbitration of grievances; process of dispute settlements; and influence of larger environment. The discussion includes theories of bargaining, strategies, and weapons available to both parties. Also examines collective employee-employer relationships in the public sector and tactics of public employee groups and agencies. Prerequisite: Junior standing or permission of instructor. (Formerly QMN469)

MN471 PRODUCTION AND OPERATIONS MANAGEMENT: MODELS, METHODS AND APPLICATIONS 5
(5,0)
Study and analysis of operations of modern industrial and service organizations. Topics covered include scheduling and assignment problems, forecasting, inventory models, project management, mathematical programming, decision theory, game theory, Markov models, replacement problems, queuing problems, and simulation. Prerequisite: BA211 and MN370, or permission of instructor. (Substitutes for QBA216 and QMN467)

NOTES

MECHANICAL ENGINEERING TECHNOLOGY

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

MT100 INTRODUCTION TO MECHANICAL SYSTEMS AND COMPUTER PROGRAMMING

(2,1) 2
Careers and opportunities. Reviews technical competence expected of engineering technologists. Engineering computations using BASIC. (New course in Fall 1991)

MT112 MANUFACTURING PROCESSES I

(2,3) 3
Capabilities and limitations of machines and processes for promotion planning or designing machinery, mechanical parts, and systems. Prerequisite: MT100 or permission of instructor. (Substitutes for QMT126)

MT113 MANUFACTURING PROCESSES II

(2,3) 3
Continuation of MT112. In addition, computer-aided numerically controlled machining. Prerequisite: MT112. (Substitutes for QMT136 and QDT221)

MT220 STATICS

(3,0) 3
Theory and application of principles of statics with emphasis on problem solving, free body diagrams and vector analysis. Theory applied to equilibrium of particles and principles of rigid body equilibrium. Prerequisite or corequisite: MA141, PH221, and MT100, or permission of instructor. (Substitutes for QMT227)

MT241 STRENGTH OF MATERIALS

(3,3) 4
A study of the concepts in stress analysis and stress measurement. Topics include axial, shear, torsion, bending, and transverse stresses. Also covered are axial strain, shear strain, Poisson's ratio, Hooke's Law, and the transformation of stress and strain. Stress measurement in the laboratory will include use of a tensile machine and strain gages. A final project with oral and written communication are incorporated as an integral part of the course. Prerequisites: MT220, ET201. (Substitutes for QMT231)

MT253 ENGINEERING MATERIALS

(3,3) 4
Physical structure of engineering materials, properties, testing, and applications. Prerequisite: CH181. Corequisite: MT241. (Substitutes for QMT233)

MT310 KINEMATICS

(2,2) 3
Theory and application of principles of kinematics with emphasis on problem solving. Position, velocity, and acceleration analysis applied to particles and rigid bodies. Prerequisite: MT220. Corequisite: MA142. (Substitutes for QMT321)

MT311 DYNAMICS

(2,2) 3
Theory and application of principles of dynamics with emphasis on problem solving and free body diagrams. Kinematics, kinetics, kinetics of particles using work, energy, and momentum principles. Kinematics and kinetics of rigid bodies. Prerequisite: MT310. (Formerly QMT327)

MT316 STATICS AND STRENGTH OF MATERIALS

(3,1) 3
Fundamental concepts of statics and strength of materials. Solution of problems including forces, moments, normal stress, shear stress, bending stress, and torsional stress. Theory and application of strain gages. Not for credit for a degree in Mechanical Engineering Technology. Lab meets two hours per week for second half of semester. Prerequisite: PH221. (Substitutes for QMT326)

MT331 QUALITY CONTROL

(3,0) 3
An introduction to the philosophy, principles, and methods for the use of statistical process control in the manufacturing environment. Numerous control charts and frequency distributions will be covered in detail. Management methods and philosophy will also be discussed. Prerequisite: MA141. (Formerly QDT231)

MT341 FLUID MECHANICS

(3,0) 3
Theory and application of principles of fluid mechanics with emphasis on problem solving. Basic measurement, statics, kinematics, continuity, energy balances, and impulse-momentum principles of ideal and real fluids. Prerequisites: MT220 and MA142 or permission of instructor. (Substitutes for QMT421)

MT371 NC/CNC MANUFACTURING PROCESSES

(2,3) 3
Writing NC/CNC programs in machine code, and the setup and trial runs to produce production parts from these programs. Computer software interfacing between programming languages and various industrial machines will be stressed. Prerequisite: MT113 or permission of instructor. (Substitutes for QMT361, QMT420)

MT410 MACHINE DESIGN I
(3,2) 4
Design and selection of machine elements, power transmission units, and their components. Prerequisites: MT241, MT253, MT311 or permission of instructor. (Substitutes for QMT401)

MT411 MACHINE DESIGN II
(3,2) 4
Continuation of MT410. In addition, the design of a machine for a particular application including specifications, details, and working drawings. The results are presented in oral and written form. An industrial setting will be simulated. Prerequisite: MT410. (Substitutes for QMT402,403)

MT412 FINITE ELEMENT ANALYSIS IN MACHINE DESIGN
(2,0) 2
This course is designed to teach the fundamentals of finite element analysis (FEA) in machine design. Prerequisite: MT410. (Substitutes for QMT404)

MT430 THERMODYNAMICS
(3,0) 3
Theory and application of principles of thermodynamics. First and second laws of thermodynamics, energy conversions, properties of working substances, processes and cycles. Prerequisite: MT341. (Substitutes for QMT441)

MT431 THERMODYNAMICS AND HEAT TRANSFER
(3,3) 4
Continuation of MT430. In addition, fundamentals of steady state and transient conduction, convection, and radiation heat transfer. Design and analysis of heat exchangers. Prerequisite: MT430. (Substitutes for QMT442,453)

MUSIC

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

MU110 ORCHESTRA
(0,3) 1
Perform regular series of concerts as a member of the Sault Symphony Orchestra. Prerequisite: Permission of instructor. (Substitutes for QMU101)

MU111 ORCHESTRA
(0,3) 1
Perform regular series of concerts as a member of the Sault Symphony Orchestra. Prerequisite: Permission of instructor. (Substitutes for QMU103)

MU112 BAND
(0,3) 1
Open to all students in University. The Concert Band performs representative band and wind ensemble literature and provides a challenging musical experience. (Substitutes for QMU115)

MU113 BAND
(0,3) 1
Open to all students in University. The Concert Band performs representative band and wind ensemble literature and provides a challenging musical experience. (Substitutes for QMU117)

MU140 CHORUS
(0,3) 1
Regular rehearsals and participation in various campus activities. Admission by permission of the instructor. (Substitutes for QMU118)

MU141 CHORUS
(0,3) 1
Regular rehearsals and participation in various campus activities. Admission by permission of the instructor. (Substitutes for QMU120)

MU160 JAZZ ENSEMBLE
(0,3) 1
Regular rehearsals and performances during school year. Prerequisite: permission of instructor. (Substitutes for QMU121)

MU161 JAZZ ENSEMBLE
(0,3) 3
Regular rehearsals and performances during the school year. Prerequisite: Permission of the instructor. (Substitutes for QMU123)

MU170 CLASS PIANO I
(0,2) 1
Beginning piano techniques. Music reading ability helpful but not required. (Substitutes for QMU130)

MU171 CLASS PIANO II
(0,2) 1
To improve proficiency and techniques gained in MU170. Prerequisite: MU170 or permission of instructor. (Substitutes for QMU132)

MU180 CLASS GUITAR I
(0,2) 1
Introduction to guitar playing including knowledge of musical rudiments, left and right hand techniques and ensemble performance. (Substitutes for QMU150)

MU181 CLASS GUITAR II
(0,2) 1
Course emphasizes increasing technical achievement, musicianship and the development of individual musicality. (Substitutes for QMU152)

MU220 HISTORY AND APPRECIATION OF MUSIC I 4
(4,0)
A survey of music from the Middle Ages to the early nineteenth century with emphasis on the music of Bach, Handel, Haydn, Mozart and Beethoven. Counts as Humanities substitute. (Substitutes for QMU230)

MU221 HISTORY AND APPRECIATION OF MUSIC II 4
(4,0)
A survey of music of the nineteenth and twentieth centuries. Counts as Humanities substitute. (Substitutes for QMU232)

MU250 CHAMBER MUSIC I 1
(0,2)
For advanced students interested in solo and ensemble performance in a supervised program. Prerequisite: Admission by permission of instructor. (Substitutes for QMU235)

MU251 CHAMBER MUSIC II 1
(0,2)
For advanced students interested in solo and ensemble performance in a supervised program. Prerequisite: Admission by permission of instructor. (Substitutes for QMU237)

MU260 HISTORY & APPRECIATION OF JAZZ 4
(4,0)
The course explores the historical and stylistic development of jazz and explains how to listen to this type of music. Counts as a Humanities substitute. (Substitutes for QMU240)

NATURAL SCIENCES

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

NS101 CONCEPTUAL PHYSICS 3
(3,1)
A survey of basic physical science principles emphasizing their applications in daily life. Prerequisite: Completion of the mathematics competency graduation requirement. (formerly QNS101)

NS102 INTRODUCTION TO GEOLOGY 3
(3,1)
A survey course to acquaint students with the major concepts and phenomena inherent in a study of geology. It will also provide sufficient background for a better understanding of human relationship to the physical environment. Prerequisite: None. (Formerly QNS102)

NS103 ENVIRONMENTAL BIOLOGY 3
(2,2)
An introduction to environmental concepts and a brief survey of environmental issues facing society. Emphasis is placed on solutions and the responsibility of the individual towards these solutions. (Formerly QNS103)

NS105 PHYSICAL GEOGRAPHY: EARTH, SUN AND WEATHER 3
(3,1)
Study of the physical properties of the earth's surface as they relate to weather and climate. Prerequisite: None. (Formerly QNS105)

NS107 PHYSICAL GEOGRAPHY: LANDFORMS AND SOILS 3
(3,1)
Study of the physical properties of the earth's surface as they relate to landforms and soils. Prerequisite: None. (Formerly QNS107)

NS119 DESCRIPTIVE ASTRONOMY 3
(3,1)
Introductory course with a balanced, comprehensive account of contemporary astronomy with emphasis placed on the broad principles of astronomy rather than on a chronological or historical framework. Prerequisite: Completion of the mathematics competency graduation requirement. (Formerly QNS119)

NOTES

NURSING

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

NU110 INTRODUCTION TO PROFESSIONAL NURSING I

(1,0) 1
Focus on historical origin of nursing and its evolution into current status as major profession; role of nursing in meeting present and future holistic needs of contemporary society; philosophy of, concepts, and roles in nursing. (Formerly QNU141)

NU211 INTRODUCTION TO PROFESSIONAL NURSING II

(3,0) 3
Theoretical foundation for nursing practice, nursing concepts and theories needed to promote, maintain, and restore health throughout the life cycle, including nursing theory, human needs, human development, stress adaptation, teaching-learning and legal aspects. Prerequisites: NU110, PY155, acceptance into nursing major. (Formerly QNU241)

NU212 HEALTH APPRAISAL

(2,3) 3
An introduction to nursing assessment component of the nursing process as a method of determining a well individual's health potential and status across the lifespan. Emphasis is on obtaining a health history, performing a nursing assessment and formulating a nursing diagnosis. Prerequisites: HE208, BL122. Corequisite: NU211. (Formerly QNU242)

NU213 FUNDAMENTALS OF NURSING

(3,6) 5
Theoretical and clinical foundation upon which nursing is applied to individual client experiencing common health stressors. Emphasis: forming nursing diagnoses derived from human needs theory and implementation of both appropriate nursing interventions and related psychomotor nursing skills. Responsibilities as a health team member and as a self-directed learner are also considered. Prerequisites: NU211, NU212, HE208, corequisites: HE209, BL223

NU325 PARENT/NEWBORN NURSING

(3,6) 5
Theoretical and clinical foundation for care of the child-bearing family using family centered approach. Emphasis: teaching and health promotion. Stress Adaptation and Self Care theories used to help clients cope with stressors encountered during child-bearing cycle. Prerequisites: NU212, NU213, HE232, HE209. (Formerly QNU343)

NU326 PARENT/CHILD NURSING

(4,6) 6
Theoretical and clinical foundation for application of nursing process in caring for children and their families. Emphasis: health promotion, maintenance and restoration with application of principles and concepts related to growth and development, family theory and stress adaptation. Prerequisites: NU212, NU213, HE232, HE209, PY155. (Substitutes for QNU344)

NU327 ADULT NURSING I

(4,12) 8
Combined theory and clinical laboratory with concepts of stress adaptation related to common health alterations in each of the basic human need areas. Nursing clinical experience is primarily in secondary care settings for adult clients. Prerequisites: NU212, NU213, HE209, HE232. (Substitutes for QNU345)

NU328 TRANSCULTURAL NURSING

(2,0) 2
Discusses and explores values, beliefs and practices related to health by using a comparative transcultural approach. Focuses on the delivery of health care to various cultural and ethnic groups. Prerequisites: Graduate nurse, NU213 or its equivalent. (Formerly QNU322)

NU329 ISSUES IN WOMEN'S HEALTH

(2,0) 2
This course explores the diverse health needs of women. Social, cultural, political, economic, legal, and ethical issues are analyzed for their influence on women's health care. Emphasis is placed on how one might positively influence women's health. Prerequisites: Junior level standing, PY101, SO101. (Formerly QNU323)

NU330 APPLIED NUTRITION

(2,0) 2
Application of nutrition principles in health care; obesity, anorexia nervosa, and bulimia; emphasis on gathering information and relevant objective measurements (anthropometric, biochemical) for use in developing nutritional care plans. Prerequisite: HE208 or permission of instructor. (Formerly QAH324/QNU324)

NU361 TRANSITION TO PROFESSIONAL NURSING

(3,0) 3
Explores concepts of socialization and professionalism in relation to baccalaureate education in nursing: examines conceptual frameworks, nursing models and theories pertinent to practice of nursing and selected legal, social, ethical, economic and political issues in professional nursing and health care delivery. Prerequisites: Acceptance into BSN program or permission of instructor. (Formerly QNU350)

NU362 HEALTH APPRAISAL AND PROMOTION THROUGH THE LIFESPAN

(4,6) **6**
Application of nursing theory to health appraisal, promotion and maintenance of the individual and family throughout the lifespan. Emphasis on principles of comprehensive history-taking, physical assessment skills, health teaching and health promotion strategies. Prerequisites: NU361, SO326. (Substitutes for QNU356 and QNU358)

NU431 ADULT NURSING II

(4,12) **8**
This is a theory and clinical laboratory course focusing on application of the nursing process in care of the adult client with multiple health stressors. Basic human needs theory and concepts of Stress/Adaptation, Health Promotion, Health Maintenance, Health Restoration and Teaching-Learning are applied. The student collaborates with the health team and applies theory and principles of leadership and management in providing care in secondary and tertiary care settings. Prerequisites: NU325, NU326, NU327. Corequisite: NU435. (Formerly QNU441)

NU432 COMMUNITY HEALTH NURSING

(3,6) **5**
Theoretical and clinical foundation in community health nursing. The nursing process is applied to communities, groups, families and individuals. Content includes the application of public health nursing principles, levels of prevention and epidemiology. Expands the roles of the nurse as teacher, collaborator, advocate and direct care provider. Examines health care delivery trends and issues. Prerequisites: NU327, HE232, SO327 and all required junior level nursing courses. (Substitutes for QNU442) Corequisite: NU433.

NU433 MENTAL HEALTH NURSING

(3,6) **5**
Theoretical and clinical foundation in mental health nursing. Emphasis is on the use of the therapeutic relationship and communication skills to help clients cope with stressors of life experiences. Nursing, human needs theory, family theory, stress adaptation theory and developmental theory are used to help the client achieve optimum level of mental health. Prerequisites: HE232 and all required junior level nursing courses. (Substitutes for NU342)

NU434 NURSING RESEARCH

(3,0) **3**
Focus is on the ethics, methods, evaluation of research studies and consideration of application of nursing research findings in delivery of health care. Students discuss and evaluate nursing research studies and develop and present sections of a research proposal. Prerequisites: PY210 or MA207, NU325, NU326, NU327 or NU361. (Formerly QNU443)

NU435 MANAGEMENT IN NURSING

(3,0) **3**
Analysis of the leadership and management roles in professional nursing; focus is on leadership/management theories basic to the planning, organizing, directing and controlling of nursing services in health care settings. Includes concepts of quality assurance, risk management, performance appraisal, fiscal planning, employee relations. Prerequisite: NU431 or NU361. (Substitutes for QNU444)

NU436 CONTEMPORARY ISSUES IN NURSING

(2,0) **2**
Analysis of issues involving the professional nurse. Explores role socialization from student to professional nurse. Selected social, ethical, economic, and legal issues will be examined. Prerequisites: NU325, NU326, NU327. (Formerly QNU445)

NU451 CRITICAL CARE NURSING

(3,0) **3**
Assists student in developing nursing knowledge essential to care of critically ill client/family. Health promotion maintenance and restoration interventions are stressed in care of clients with severe alterations in basic human needs. Prerequisite: NU431 or graduate nurse. (Formerly QNU451)

NU452 INTERDISCIPLINARY APPROACH TO APPLIED GERONTOLOGY

2
Study and application of gerontological theories and research in the interdisciplinary care management of the aging client. Analyzes strategies to protect, promote and maintain the well being and health of the client. Emphasis is on interdisciplinary collaboration to achieve measurable outcomes. The role of helping professionals in implementing or altering health policies is explored. Prerequisite: SO326 or permission of instructor. (Formerly QNU452)

NU490 INDEPENDENT STUDY

(1-4,0) **1-4**
Individual investigation of topics tailored to student interest and need. Prerequisites: Junior or Senior standing and permission of the instructor.

NOTES

OFFICE ADMINISTRATION

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

OA111 KEYBOARDING/DOCUMENT FORMATTING I

(3,0) 3
Introduction to typewriter and computer keyboard; development of basic keyboarding skill—alphabetic, numeric, and 10-key pad numeric; to assist student to reach optimal skill and more efficiently use computer terminals, information processor, and typewriter keyboards. This course is intended for students with no previous typing experience. Students will be pretested by the instructor the first day of class for placement in accordance with beginning skill level. Also, formatting of business letters, memos, tables, and reports (APA, MLA, and Turabian formats), using word processing software. (Formerly QOA131 and QOA111)

OA112 KEYBOARD SKILLBUILDING (4,0) 7 1/2 WEEKS

2
Improvement of keyboarding speed and accuracy (both alphabetic and numeric), using developmental programs and keyboarding drills. Student may take this course to accumulate 2-4 credits. Once an office administration student reaches 60 wpm skill on alpha/numeric text (error rate - 1 per minute) this course becomes an elective. Prerequisite: OA111 or 30 wpm keyboarding skill. (Formerly QOA112)

OA113 DOCUMENT FORMATTING II (2,0)

2
Formatting of legal documents, medical histories and reports, governmental correspondence, accounting statements, and technical text/data, using word processing software. Prerequisite: OA111. (Formerly QOA132)

OA119 ACCOUNTING PROCEDURES (4,0)

4
Accounting experiences common to small business or professional offices; development of basic principles underlying accounting procedures; techniques and records used in analyzing, classifying, recording, and summarizing transactions; accounting procedures applied to a computer simulation for small businesses. May not be taken for credit following successful completion of AC132. (Substitutes for QOA119)

OA121 SHORTHAND I (3,0)

3
Principles of SuperWrite Shorthand (an alphabetic system); beginning dictation and transcription. (Formerly QOA121)

OA221 SHORTHAND/MACHINE TRANSCRIPTION

(3,0) 3
Emphasis on transcription of mailable correspondence from shorthand notes and machine dictation, with continued dictation and transcription speedbuilding. Prerequisite: Keyboarding skills; OA121 or equivalent. (Formerly QOA122 and QOA205)

OA227 MEDICAL OFFICE PROCEDURES (3,0)

3
A comprehensive training in duties performed in modern medical offices, including medical terminology, transcribing diagnostic reports, case histories, and correspondence employing medical terms. Prerequisite: Basic keyboarding skills. (Formerly QOA227)

OA228 LEGAL OFFICE PROCEDURES (3,0)

3
A comprehensive training in duties performed in modern legal offices, including legal terminology, transcribing legal forms relating to real estate, litigation, wills and probate, and corporate work. Prerequisite: Basic keyboarding skills. (Formerly QOA228)

PHYSICS

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

PH221 ELEMENTS OF PHYSICS I (3,2)

4
General principles of rigid body mechanics (kinematics, laws of motion, energy and momentum), fluid mechanics, and thermal physics. Prerequisite: MA109, and either MA111 or MA140. (Substitutes for QPH201)

PH222 ELEMENTS OF PHYSICS II (3,2)

4
Vibrations and waves, electricity and magnetism, optics, relativity and modern physics. Prerequisite: PH221 with a grade of C or better. (Substitutes for QPH203)

PH224 TOPICS IN PHYSICS FOR ELECTRICAL TECHNOLOGY

(3,2) 4
Vibrations and waves, optics, relativity and modern physics (identical to PH222). Electricity and magnetism topics of particular relevance to electronic engineering technology. Prerequisite: PH221 with a grade of C or better, Sophomore standing in EET coursework, and MA141 (which may be taken concurrently). (Substitutes for QPH301)

PH231 GENERAL PHYSICS I (4,2)

5
An introductory calculus-based course in rigid body mechanics and fluid mechanics. Intended primarily for students in physical science, mathematics and pre-engineering curricula. Pre- or corequisite: MA152. (Substitutes for QPH207)

PH232 GENERAL PHYSICS II
(4,2) **5**
Continuation of PH231. Introduction to thermal physics, optics, electricity, magnetism, and topics from modern physics. Prerequisite: PH231 with a grade of C or better. (Substitutes for QPH209)

PH290 INDEPENDENT STUDY IN PHYSICS
(1-4,0) **1-4**
Special studies and/or research in physics for individuals or small seminar groups. Course content to be arranged with instructor and with approval of the department head. This course may be repeated for a maximum of eight credits. Prerequisites: Sophomore standing or higher and permission of the instructor.

PH311 PRINCIPLES OF HYDROLOGY
(3,0) alternate years **3**
Origin, movement, and uses of water with emphasis on water resources in relation to human needs and environmental considerations. Hydrologic principles, runoff analysis, flood routing, urban hydrology, floodplain hydraulics, groundwater hydrology. Prerequisites: PH221 or PH231, or permission of instructor. Prior computer programming experience recommended. (Substitutes for QPH311)

PH312 GROUNDWATER HYDROLOGY
(3,0) alternate years **3**
Uses, preservation and protection of ground water. Physics and chemistry of ground water. Influences of geological structures and ground water exploration. Hydraulics and modeling techniques for ground water and water wells. Water well design, construction, and testing. Prerequisites: PH221,222 or PH231,232; PH311; and a course in computer programming. (New course Fall 1991)

PHILOSOPHY

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

PL204 INTRODUCTION TO PHILOSOPHY
(3,0) **3**
A study of selected philosophical problems and of methods and ways to answer them. Counts as Humanities substitute. Prerequisite: EN210 or EN215; or permission of instructor. (Substitutes for QPL201)

PL205 LOGIC
(3,0) **3**
An introductory course in logic; study of the role of logical methods of the rational approach to knowledge, consideration of such concepts as definition, implication, inference, syllogism, deduction. Counts as Humanities substitute. Prerequisite: EN210 or EN215; or permission of instructor. (Substitutes for QPL202)

PL302 ANCIENT WESTERN PHILOSOPHY
(3,0) **3**
A study of the origins and the development of Greek and Roman philosophy from the pre-Socratics to the early Christians. Counts as Humanities substitute. Prerequisite: EN210 or EN215; or permission of instructor. (Substitutes for QPL301)

POLITICAL SCIENCE

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

PS110 INTRODUCTION TO AMERICAN GOVERNMENT AND POLITICS
(4,0) **4**
An introductory survey of American national government and politics. (Formerly QPS110)

PS120 INTRODUCTION TO LEGAL PROCESSES
(3,0) **3**
An introduction to the nature and characteristics of law as it operates in the United States: structure and function of judiciary, process of litigation, influences on law, and impact and enforcement of decisions. (Formerly QPS120)

PS130 INTRODUCTION TO STATE AND LOCAL GOVERNMENT
(4,0) **4**
A study of the politics and organization of state and local governments, with an emphasis on specific policy issues such as education, criminal justice and economic development. (Substitutes for QPS130)

PS160 INTRODUCTION TO CANADIAN GOVERNMENT AND POLITICS
(3,0) **3**
An introductory survey of Canadian government and politics. (Formerly QPS260)

PS201 INTRODUCTION TO PUBLIC ADMINISTRATION
(3,0) **3**
This course provides an overview of the field of public administration. It examines the types of organizations, the relation of administration to politics, and public management. (Formerly QPS201)

PS222 INTRODUCTION TO THE LEGAL PROFESSION
(2,0) **2**
Students will become familiar with how the law functions, how the legal profession has evolved, how to prepare for and apply to law school, and how law schools differ from college. Prerequisites: PS110, 120. (New course in fall, 1991)

- PS241 INTRODUCTION TO INTERNATIONAL RELATIONS**
(4,0) 4
An introductory study of the factors that influence the conduct of international relations and of the various methods by which those relations are conducted. This material will then be applied to an examination of some appropriate current international controversies. (Formerly QPS241)
- PS247 MODEL UNITED NATIONS**
(1,0) 1
This course includes required participation in the model United Nations program, in which students represent specific countries and become familiar with their background and politics. The goal is an understanding of how the United Nations functions. May be repeated for up to a total of 4 credits, but no more than 2 credits may be counted toward a political science major or minor. Prerequisite: Permission of the instructor. (Formerly QPS247)
- PS290 RESEARCH TOPICS IN POLITICAL SCIENCE**
(1-4,0) 1-4
This may take the form of either a research project or a program of directed reading on a specific topic. One to four credits over a period of one or two semesters may be granted according to the nature of the student's project. Prerequisite: Permission of instructor.
- PS301 POLICY ANALYSIS AND EVALUATION**
(4,0) 4
Examines how public issues and problems are analyzed to assist in the development of public policies. Considers the process of evaluating public programs to determine whether they are to be expanded, cut back, or continued at the current level. Prerequisite: Permission of instructor. (Substitutes for QPS302 and part of QPS315)
- PS325 POLITICS AND MEDIA**
(3,0) 3
Examines the impact of electronic and print media on contemporary American politics. Evaluates proposals for changing the method and role of media coverage of government and politics. Prerequisites: PS110 and junior standing or permission of instructor. (Substitutes for QPS325)
- PS331 COMPARATIVE POLITICS OF WESTERN EUROPE AND THE SOVIET UNION**
(4,0) 4
Institutions and functioning of government in major European states, such as Great Britain, France, Germany, and U.S.S.R. Prerequisite: PS110. (Formerly QPS245)
- PS334 MIDDLE EAST POLITICS**
(3,0) 3
An examination of government and politics in the Middle East, with special emphasis on the influences of Islam and nationalism on both international and domestic politics of the area. Prerequisite: Junior or senior standing, or permission of instructor. (Formerly QPS334)
- PS351 POLITICAL PHILOSOPHY I**
(4,0) 4
An examination of political philosophy from the ancient Greeks through the Reformation, concentrating on Plato, Aristotle, Augustine, Aquinas, and Machiavelli. Prerequisites: PS110 and junior or senior standing, or permission of instructor. (Substitutes for QPS361 and half of QPS362)
- PS352 POLITICAL PHILOSOPHY II**
(4,0) 4
An examination of political philosophy from the seventeenth century to the twentieth century, concentrating on Hobbes, Locke, Rousseau, Hume, Burke, Bentham, Mill, Hegel, and Marx. The course includes analysis of the period's main ideologies: conservatism, liberalism, socialism, communism, anarchism, fascism, and national socialism. Prerequisites: PS110 and junior or senior standing, or permission of instructor. (Substitutes for QPS363 and half of PS362)
- PS357 POLITICS OF VIOLENCE**
(3,0) 3
An interdisciplinary examination of the origin, nature, and consequences of political violence, including war, revolution, and terrorism. Prerequisite: Junior or senior standing or permission of instructor. May also be used for sociology credit. (Formerly QPS357)
- PS364 POLITICAL PARTIES, INTEREST GROUPS AND PUBLIC OPINION**
(3,0) 3
Examines the roles of political parties and interest groups in the American political system, especially in elections and lobbying activities. The formation and uses of public opinion are also analyzed. Prerequisite: PS110. (Formerly QPS364)
- PS367 CONGRESS AND THE PRESIDENCY**
(4,0) 4
Examines the legislative and executive branches of government as parts of the policymaking process. Prerequisite: PS110. (Substitutes for QPS365 and QPS366)
- PS401 PRINCIPLES OF PUBLIC ADMINISTRATION**
(3,0) 3
Examines major issues and methods in public administration. Analysis of specific public policy issues. Prerequisite: Advanced standing or permission of instructor. (Formerly QPS401)

PS411 FOREIGN POLICY I (U.S.)
 (3,0) **3**
 A study of the formulation and conduct of American foreign policy. Analysis of relevant factors, institutions which influence the formulation and conduct of policy, and an examination of selected foreign policies. Prerequisite: PS110. (Formerly QPS411)

PS412 FOREIGN POLICY II (NON-U.S.)
 (3,0) **3**
 Analysis of the factors influencing the foreign policies of selected foreign countries, both great and small. Prerequisite: PS241. (Formerly QPS412)

PS463 SEMINAR IN POLITICAL SCIENCE
 (1-3,0) **1-3**
 A reading and discussion seminar dealing with selected topics in political science. Course may be repeated with permission of instructor. Prerequisite: Junior or senior standing, or permission of instructor. (Formerly QPS463)

PS467 CONSTITUTIONAL LAW AND CIVIL LIBERTIES
 (4,0) **4**
 Principles of the American Constitution: separation of powers, federalism, the powers of the national and state governments, and limitations on the exercise of these powers as well as principles of the American Constitution respecting civil rights and liberties, The Bill of Rights, equal protection of the laws, citizenship and suffrage, and limitations on the exercise of those rights. Prerequisite: PS120 or its equivalent, or permission of instructor. (Formerly QPS464 and QPS465)

PS490 INDEPENDENT STUDY IN POLITICAL SCIENCE
 (1-3) **1-3**
 Independent research or directed study under the supervision of a faculty member. Prerequisite: Permission of instructor. May be repeated for a total of 9 credits.

PS491 SENIOR SEMINAR I
 (3,0) **3**
 The first course in a capstone sequence required of all political science majors. The course examines the history of political science and public administration and reviews contemporary approaches and recent research. Students prepare a research proposal to be carried out in PS492. Prerequisites: Political science major and senior standing, or permission of instructor. (New course in fall, 1991)

PS492 SENIOR SEMINAR II
 (3,0) **3**
 Completion of the research project begun in PS491. Students will make oral presentations of their project results at the end of the course to other students, faculty, and invited guests. Prerequisite: PS491. (New course in fall, 1991)

PS499 POLITICAL SCIENCE/PUBLIC ADMINISTRATION INTERNSHIP
 (1,9 - 27) **3-9**
 Students arrange, with the assistance and approval of the instructor, a supervised work experience in a governmental, community, or nonprofit organization. Students perform professional tasks under the supervision of agency personnel. The students' review and evaluation of the work experience is under the direction of the instructor. Permission of the instructor required by the seventh week of the preceding semester. Course may be repeated to a maximum of 9 credits. (New course in fall, 1991)

PSYCHOLOGY

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

PY101 INTRODUCTION TO PSYCHOLOGY
 (4,0) **4**
 A general introduction to the systematic study of behavior and mental processes in humans and animals. (Substitutes for QPY121, 122 and 123)

PY155 LIFESPAN DEVELOPMENT
 (3,0) **3**
 Human psychological development from birth to death. This course covers social, emotional and intellectual development across the lifespan. This course will not count toward a major or minor in psychology. Students cannot obtain credit both for PY155 and PY265. (New course fall, 1991.)

PY203 COUNSELING THEORY AND PROCESS
 (2.5,5) **3**
 This course introduces students to contemporary counseling theories and develops communication skills used in therapeutic interviewing. (Substitutes for QPY199)

PY204 COUNSELING AND CRISIS INTERVENTION STRATEGIES
 (2.5,5) **3**
 This course focuses on assessment of client concerns and the selection and implementation of appropriate intervention strategies. Prerequisite: PY203. (Substitutes for QPY202; (Substitutes for QPY201 if both PY203 and PY204 are completed)

- PY210 STATISTICS**
(3,0) 3
Introduction to basic statistical methods of analyzing psychological data. Emphasis is placed on statistical inference, e.g. t-tests, F-tests, and selected non-parametric tests. This course provides students with basic statistical concepts and skills necessary for laboratory and survey work, and for understanding psychological literature and introduces them to statistical analysis on the computer. MA207 may be used in place of PY210 to meet the psychology major and minor requirements. Prerequisite: Fulfillment of mathematics competency graduation requirement. (Formerly QPY210)
- PY212 EXPERIMENTAL PSYCHOLOGY**
(3,0) 3
An examination of the basic research methods employed in the social sciences with emphasis on the experiment. Topics: epistemology, laboratory experiments, field experiments, survey construction, correlational research. Students will each participate as a subject and an experimenter, collect data, analyze data, and write a laboratory report according to the editorial style of the American Psychological Association. Prerequisites: PY101, PY210 or MA207. (Substitutes for QPY211)
- PY217 SOCIAL PSYCHOLOGY**
(3,0) 3
Topics include attitude formation and change, interpersonal attraction, aggression, altruism, conformity, and environmental psychology. (Substitutes for QPY227)
- PY228 ORGANIZATIONAL BEHAVIOR**
(3,0) 3
An introduction to the theories, principles, and practices of organizational behavior within the workplace. May be used for sociology credit. (New course in fall, 1991)
- PY240 BEHAVIOR MANAGEMENT**
(3,0) 3
Systematic introduction to behavioral concepts and techniques. Self-management applications and behavioral assessments in applied settings serve as practical lab experiences. (Substitutes for QPY340)
- PY259 ABNORMAL PSYCHOLOGY**
(3,0) 3
This course is a systematic investigation of the identification, dynamics and treatment of deviant and maladaptive behavior. (Substitutes for QPY258)
- PY265 CHILD AND ADOLESCENT DEVELOPMENT**
(3,0) 3
Psychological development of the child through adolescence. Social, emotional, and intellectual development are covered, with consideration of genetic, prenatal and postnatal influences. Prerequisite: PY101. (Substitutes for either QPY255 or QPY256)
- PY291 GROUP COUNSELING**
(3,0) 3
This course examines the theory, techniques, and practice of group counseling. Students will become familiar with basic group process, theoretical perspectives, and their application to group counseling. Prerequisite: PY203. (Substitutes for QPY290)
- PY299 EXCEPTIONAL CHILD AND ADOLESCENT**
(3,0) 3
The study of physically, intellectually, and socially exceptional children and adolescents, including their characteristics and unique educational needs. Prerequisite: PY155 or PY265. (Substitutes for QPY350)
- PY311 LEARNING AND MOTIVATION**
(3,0) 3
An introduction to the theory and research of learning. Factors are examined that influence the acquisition and performance of behaviors in classical and instrumental learning paradigms. Prerequisite: PY212. (Substitutes for either QPY310 or QPY320)
- PY357 PERSONALITY THEORY**
(3,0) 3
This course surveys the major psychological theories used to conceptualize, treat, and research personality issues. Prerequisite: 12 hours of psychology or permission of instructor. (Substitutes for either QPY257 or QPY357)
- PY383 INDUSTRIAL PSYCHOLOGY**
(3,0) 3
The principles of human behavior in the industrial situation are studied with particular emphasis given to scientific methods of selecting, utilizing, and evaluating a work force in ways consistent with the well-being of the individual worker. Prerequisites: PY101 and statistics. (Substitutes for QPY373)
- PY385 HEALTH PSYCHOLOGY**
(3,0) 3
This course covers psychoneuroimmunology and stress as they impact on human health and disease as well as psychological interventions which promote physical well being and healing. Prerequisite: Junior standing or permission of instructor. (Substitutes for QPY375)
- PY391 FAMILY THERAPY**
(3,0) 3
This course applies a systems framework to the understanding of family dynamics and introduces structural perspectives and modalities for family intervention. Prerequisites: PY101 and junior standing. (Substitutes for QPY390)

PY396 TESTS AND MEASUREMENTS**(3,0) 3**

This course has two parts. Part one covers measurement theory, the properties of the normal curve, reliability, validity, and measurement statistics. Part two reviews major tests used by researchers, educators, clinicians, counselors, addiction counselors, and industrial psychologists. Prerequisites: SO201, PY210, or MA207 or equivalent. (Substitutes for either QPY226 or QPY 396)

PY456 HISTORY AND SYSTEMS OF PSYCHOLOGY**(3,0) 3**

An examination of persons, events, theories, schools, and systems that influenced and define contemporary psychology. Prerequisite: PY311. (Substitutes for QPY446)

PY457 COGNITION**(3,0) 3**

A survey of recent findings on cognition in humans. Topics include learning, memory, problem solving, language, and complex perceptual processes. Prerequisite: PY311. (Substitutes for QPY447)

PY459 PHYSIOLOGICAL PSYCHOLOGY**(3,0) 3**

This course is an introduction to the neurophysiological structures of the brain and their functions as regulators of animal and human behavior. Prerequisite: PY311. (Substitutes for QPY449)

PY490 RESEARCH TOPICS IN PSYCHOLOGY**(1-4) 1-4**

This may take the form of either a research project or a program of directed reading on a specific topic. One to four credits over a period of one or two semesters may be granted according to the nature of the student's project. Prerequisite: Permission of instructor. May be repeated up to a total of 6 credits..

PY498 SENIOR RESEARCH I**(3,0) 3**

The study of methods employed in gathering data for research purposes including direct observational techniques and self-report measures. Students will also learn to use the computer to gather data, analyze data, and present data graphically, and will develop a research prospectus. Prerequisites: PY210, PY212, PY311. (Substitutes for QPY410)

PY499 SENIOR RESEARCH II**(4,0) 4**

Applications of the principles derived from PY498 to the investigation of a research topic. Also, presentations on recent developments and approaches in psychology, including ethical issues in research. Prerequisite: PY498. (Substitutes for QPY488; also, substitutes for QPY411 if both PY498 and PY499 are completed)

RECREATIONAL ACTIVITIES

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

RA103 BADMINTON AND RACQUETBALL**(0,2) 1**

This course will serve to introduce the student to two racquet sports: racquetball and badminton. The course will offer each sport for 7.5 weeks and then the student will rotate to the "other" racquet sport. (Formerly QPE103 and QPE113).

RA105 BOWLING**(0,2) 1**

This course will emphasize delivery, scoring etiquette, strategies for converting spares, spot vs. pin bowling, and learning about handicapping. The course will involve theory as well as practical experience. (Formerly QPE105).

RA106 BACKPACKING**(0,2) 1**

Introduction to equipment, safety precautions, environmental concerns, and skills needed to successfully backpack. Class will experience a weekend backpacking trip. (Formerly QPE106).

RA107 CANOE TECHNIQUES**(0,2) 1**

This course will introduce the student to the basic strokes and canoe safety associated with flat water canoeing. (Formerly QPE107).

RA108 OUTDOOR SURVIVAL**(0,2) 1**

This class will focus on the appropriate strategies to employ to avoid a survival situation. It will also expose the student to various techniques and strategies to employ should they find themselves "lost" or unexpectedly spending several days and nights in the out-of-doors. (Formerly QPE108).

RA109 ROCK CLIMBING AND RAPPELLING**(0,2) 1**

This course will introduce the student to the components associated with top rope climbing and rappelling. The student will become familiar with equipment, knots, setting up a safe site, terminology and technique. (Formerly QPE109).

RA110 GOLF**(0,2) 1**

This course is designed to provide the beginning golfer with the fundamentals of the activity and to further play as a lifetime recreational activity. (Formerly QPE110).

RA114 SELF DEFENSE**(0,2)****1**

This course is designed to introduce the student to the philosophy, concepts, and various strategies associated with the martial arts. Physical and mental conditioning and physical techniques associated with the art of self defense will be presented and practiced. (Formerly QPE114).

RA119 CROSS COUNTRY SKIING**(0,2)****1**

This course will introduce the student to the sport of cross country skiing. Emphasis will be placed on basic skill development, equipment selection, maintenance of equipment, and the enjoyment of winter and the beauty it has to offer. The majority of class time will be spent skiing; class instruction will occur during the ski, usually on a one-to-one basis to meet the needs of the student. The class will spend much of its time at the local Algonquin Ski Trail, but will also cross the river to ski at Kinsman Park near the Hiawatha Lodge. (Formerly QPE119)

RA125 TENNIS**(0,2)****1**

This course is intended to develop each student's present knowledge and skills in order that they will be able to pursue tennis as a lifetime leisure activity. (Formerly QPE125).

RA127 VOLLEYBALL**(0,2)****1**

This course is designed to develop basic skills and progression in power volleyball. Conditioning, drill, game tactics, and rules will be practically applied. (Formerly QPE127)

RA130 INTERCOLLEGIATE SPORTS SKILLS**(0,2)****1**

Will meet as directed by instructor. The course is designed for student-athletes involved in intercollegiate athletics. It provides the opportunity to develop advanced skills in their respective sports. The course may be taken two times for a total of two credits. It may be taken only once per academic year and only during the term in which the student-athlete is participating in an intercollegiate sport. The course may not count as credit for General Education requirements. It will count only as electives. (Formerly QPE130).

RA150 INDIVIDUALIZED PHYSICAL FITNESS**(0,2)****1**

This class is designed to enable the student to discover his or her own level of fitness and develop and implement an exercise program that will address personal fitness concerns. Central to this process is introducing the student to various aspects of a balanced fitness program and providing personal assistance to the student in selecting beginning fitness goals and appropriate progression of those goals. (Formerly QPE150).

RA151 JOGGING FOR FITNESS**(0,2)****1**

Introduction to jogging as a means of developing physical and mental fitness. Development of an activity ideal for lifetime leisure involvement. (Formerly QPE151).

RA152 ORIENTEERING**(0,2)****1**

The focus of this class will be to introduce the student to map and compass reading skills and techniques associated with coordinating their use. It will also introduce the student to the competitive sport of orienteering. (Formerly QPE152).

RA153 WEIGHT TRAINING**(0,2)****1**

This class is designed to familiarize each student with basic weight training knowledge. The student will become familiar with muscular systems, functions, and safe and effective ways to organize and implement a weight training routine. (Formerly QPE153).

RA160 ADAPTED ACTIVITIES**(0,2)****1**

Leisure activities adapted to meet the needs of students with disabilities. Emphasis on walking, jogging and aquatics. (May be repeated for credit). (Formerly QPE160).

RA173 SOCIAL DANCE**(0,2)****1**

This course is designed to provide participants with a broad range of dancing patterns and rhythmic skills. Through social interaction, the following social dances will be learned: mixers, round dance, square dance, and ballroom dance. (Formerly QPE173 and QPE175).

RA174 AEROBIC DANCE**(0,2)****1**

This course will provide the student with an opportunity to become exposed to and involved in a structured aerobic dance program. The purpose of this type of programming is to improve an individual's physical fitness through rhythmic and dance activities. (Formerly QPE174).

RA180 BEGINNING SKATING**(0,2)****1**

The students will be provided with an opportunity to learn the basic fundamentals of skating and to gain sufficient knowledge of the sport so that they may continue to enjoy and improve for the rest of their lives. (Formerly QPE180).

RA194 SCUBA**(0,2)****1**

This course is designed to introduce the student to the appropriate and safe use of self-contained underwater breathing apparatus. (Formerly QPE194).

**RA195 BEGINNING AND ADVANCED
BEGINNING SWIMMING**
(0,2) 1
Course meets in pool two hours a week. Mostly lab work but some lecture. Students cover material in Red Cross Beginner and Advanced Beginner courses and receive certification in one or both depending on skill level attained. (Formerly QPE190).

**RA196 INTERMEDIATE AND ADVANCED
SWIMMING**
(0,2) 1
Course meets in pool two hours a week. Mostly lab work but some lecture. Students cover material in Red Cross Intermediate and Swimmer courses and receive certification in one or both depending on skill level attained. Prerequisite: Red Cross Advanced Beginner certification or equivalent skills. (Formerly QPE191).

**RA210 EMERGENCY WATER SAFETY AND
LIFEGUARDING**
(0,4) 2
Course meets in pool four hours a week. Mostly lab work, some lecture. Students cover material in Red Cross Basic and Emergency Water Safety course and Red Cross Lifeguarding course. Students receive certification in one or both depending on skill level attained. Either certificate qualifies students to take Water Safety and Lifeguarding Instructor course, LP211. Prerequisite: American Red Cross Intermediate Swimming certificate or equivalent skills. For lifeguarding certificate, a current First Aid and CPR certificate are required. (New course Fall 1991).

**RA211 WATER SAFETY AND LIFEGUARD
INSTRUCTOR**
(0,4) 2
Course meets four hours a week, 70% of the time in the pool and 30% of the time in the classroom. All students cover material in Red Cross Water Safety Instructor course and do a teaching practicum at the Lake Superior State University Pool. Those students entering with a current lifeguarding card may also cover Lifeguarding Instructor material. Prerequisites: Current Emergency Water Safety or Lifeguarding certificate. (Formerly QPE209).

RECREATION

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

**RC101 INTRODUCTION TO RECREATION AND
LEISURE SERVICES**
(3,0) 3
Overview of philosophy, history, theory, programs, professional leadership and organizations, economics and leisure service delivery systems. (Substitutes for QRC201).

**RC105 PROGRAM DEVELOPMENT AND
LEADERSHIP IN RECREATION AND
LEISURE SERVICES**
(3,0) 3
Principles of leadership skills and styles are applied to various recreation settings with emphasis on group interaction and face to face leading. Programming fundamentals for effective leisure services delivery are explored and implemented. Prerequisite: RC101. (Substitutes for QRC250).

**RC212 INSTRUCTIONAL METHODS IN
ADAPTED AQUATICS**
(1,0) 1
This course is designed to help students understand why swimming (or activity in the water) can be a valuable experience for persons who have a disability. Students will become familiar with symptoms and characteristics of various impairments and their effect on aquatic activities. Students will also be actively working in the water with people who have various handicapping conditions. (Formerly QRC212).

RC220 METHODS IN ARTS AND CRAFTS
(3,0) 3
A variety of arts and crafts media are studied and applied to specific recreation settings with concentration on leading and programming. Prerequisites: RC101 and RC105. (Substitutes for QRC260)

**RC230 PRINCIPLES AND PRACTICES OF
THERAPEUTIC RECREATION**
(3,0) 3
Introduction to professional development and history of Therapeutic Recreation. Team approach to holistic health care is explored. Thorough study of the Therapeutic Recreation delivery system including assessment, planning, implementation and evaluation. Prerequisites: RC101 and sophomore standing. (Formerly QRC230 and QRC330).

RC262 OUTDOOR RECREATION
(3,0) 3
This course will introduce the student to a variety of topics and content areas related to outdoor recreation. These topics will include outdoor education, organized camping and adventure education. Also included will be an opportunity to become familiar with outdoor living skills. (Substitutes for QRC360).

RC295 PRACTICUM
1-2
Practical experiences designed to provide the student with various types of recreation programs. The student will work under a site supervisor specialized in that particular area of the student's interest. One credit hour for every 45 hours of practical experience. May be repeated for up to two credits. (Formerly QRC395).

**RC320 DANCE AND RHYTHMIC ACTIVITIES
FOR RECREATION**

(3,0) 3
Study of dance in social and therapeutic settings; developing skills to lead programs and adopt a variety of rhythmic activities for individuals and groups: Creative Movement, Improvisation, Variety of Social Dance, Historical Significance to Actual Implementation. Prerequisites: RC101 and RC105. (Substitutes for QRC320).

**RC330 DISABILITIES SERVICED BY
THERAPEUTIC RECREATION**

(3,0) 3
An extensive survey of physical and mental disabilities encountered by recreational therapists. Emphasis will be placed on incidence, characteristics, etiology, and restrictions to involvement. Prerequisites: RC101, RC230 and junior standing. (Substitutes for QRC330).

**RC335 RECREATIONAL PURSUITS OF THE
DISABLED**

(3,0) 3
A study of specialized and adapted activities used in program planning for the disabled. Practical applications will be encountered. Student involvement with Special Olympics will also be required. Prerequisites: RC101, RC230, RC330, and junior standing. (Substitutes for QRC335).

**RC336 FIELDWORK IN THERAPEUTIC
RECREATION**

(1,0) 1
A directed fieldwork experience where students will directly apply classroom theory to the fieldwork setting. Emphasis will be placed on determining effective procedures of program development. Prerequisites: RC101, RC230, RC330 and junior standing. (New course in Fall 1991)

**RC362 LAND MANAGEMENT FOR
RECREATION PURPOSES**

(3,0) 3
This course is designed to meet the needs of the student pursuing a Parks and Recreation degree. Provides insight and understanding for problems inherent to managing recreation lands for optimum use and minimum impact. Also, for Recreation majors in outdoor recreation option. Prerequisites: RC101, RC262. (Substitutes for QRC355).

**RC365 EXPEDITION MANAGEMENT
(2,2)**

3
Intensive study of performance, programming, leadership and management skills involved in conducting wilderness and back country recreation programming. The student will become aware of various theoretical support structures and paradigms associated with adventure education and the values associated with the use of outdoor programming as a therapeutic intervention modality. Course content includes: initiating and programming wilderness/back country experiences, group dynamics, and outdoor living skills. A ten-day outing is required immediately upon completion of the semester. Prerequisite: RC262 or permission of instructor. (Formerly QRC365).

**RC370 RECREATION FOR THE ELDERLY
(3,0)**

3
Geared to individuals who will be working with senior citizens in recreation programs, hospitals, nursing homes, and family members. The aging process will be studied from the perspective that sound principles will be applied to leading and programming for this growing segment of our population. Prerequisite: RC101, RC105, and 200 level recreation electives. (Substitutes for QRC370).

**RC390 RECREATION LEADER
APPRENTICESHIP**

(1,0) 1
Practical experience in learning to teach and lead various recreation experiences. Students serve with qualified instructors. Prerequisite: Basic skills and knowledge of activity or permission of instructor. (Formerly RC385).

**RC435 PROBLEMS AND ISSUES IN
THERAPEUTIC RECREATION**

(3,0) 3
This course will serve as a culminating educational component for the student majoring in therapeutic recreation. The course will focus in part on current problems and issues in therapeutic recreation and will also have a major emphasis on developing an original research project. Prerequisite: RC481. (Formerly QRC435).

**RC481 PROFESSIONAL DEVELOPMENT
SEMINAR**

(1,0) 1
Opportunities for students to refine personal and professional goals and initiate preparation of resumes and interviewing skills. Career planning and placement will be emphasized as well as internship evaluation. Seminar format. Prerequisite: Senior status required. (Substitutes for QES430 and QRC430).

RC482 ADMINISTRATION OF RECREATION AND LEISURE SERVICES

(3,0) 3
This course will emphasize organizational patterns and administration problems encountered in operating various types of recreation departments and agencies. Additional content will include budgeting, fund raising, grant writing, personnel management, and public relations. Prerequisites: RC105 and junior standing. (Formerly QRC450).

RC492 INTERNSHIP 2-6

This is a comprehensive practical application of the student's formal academic preparation. Prerequisites: Completion of 20 of the 25 hours of departmental core requirements and junior or senior standing. (Formerly QRC495).

RC496 SELECTED RESEARCH TOPICS (1-3,0) 1-3

Student carries out approved project(s) of his/her own initiative. Prerequisites: RC105, SO201. (Formerly QRC490).

NATURAL RESOURCES TECHNOLOGY

Special topics courses will be available as needed and interest develop. Consult the semester Course Schedule for these.

RT101 INTRODUCTION TO NATURAL RESOURCES TECHNOLOGY (3,0) 3

Introduction to the conservation of renewable natural resources and the agencies that manage them. (Formerly QRT180)

RT102 METHODS IN NATURAL RESOURCES (0,3) 1

A lab course introducing students to field techniques utilized in the Natural Resources Technology and Water Quality Technology programs. Methods in forestry, soils, water quality, fishes, and wildlife will be presented. (New course in fall 1991)

RT206 WILDLIFE MANAGEMENT TECHNIQUES (0,6) 2

A lab and field course working with techniques and specimens commonly associated with wildlife management. Prerequisites: Enrollment in Natural Resource Technology program, RT101, RT284. (Completion of BL239 and RT206 substitutes for QRT185)

RT207 BIOLOGY AND MANAGEMENT OF FISHES

(2,3) 3
Identification and natural history of important regional fishes followed by a study of their ecology and management, with emphasis on management techniques. Prerequisite: Enrollment in Natural Resource Technology program. (Substitutes for QRT187)

RT275 SOIL MANAGEMENT (2,3) 4

A course dealing with the soil ecosystem as a natural resource. Topics to be discussed include: factors of soil formation, soil chemical and physical properties; soil erosion and its control, soils and plant growth; soil survey use, soil classification and soil mapping. Emphasis will be placed on sustainable soil management practices. At least one all day field trip will be required. Prerequisite: CH108. (Formerly QBL190)

RT284 PRINCIPLES OF FORESTRY (2,4) 4

An introduction to the various areas of forestry, some techniques utilized by foresters, and an analysis of an area for management purposes. Prerequisites: RT101, BL130 with a C or better. (Formerly QRT184 and QRT235)

RT285 WATER QUALITY INTERNSHIP (1,9) 4

A work experience training session designated to provide practical application of knowledge and skills in water quality technology. Prerequisite: Permission of instructor. (Formerly QRT285)

RT286 LIMNOLOGICAL TECHNIQUES (3,3) 4

A course designed to provide training in hydrographic methods, sampling techniques and aquatic surveys. Prerequisite: Permission of instructor. (Formerly QRT286)

RT287 INDUSTRIAL WASTEWATER TREATMENT (3,0) 3

This course will give the students a background in the workings of a wastewater plant and preparation to spend the needed hours for the internship in this program. (Formerly QRT287)

STUDENT SERVICES

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

SA100 HOW TO SUCCEED IN COLLEGE (1.5,0) 1

A general overview of the importance attitude and motivation play toward academic success. Help students understand L.S.S.U. programs, policies, and procedures. Focus on the various study skills that can help students improve upon their note-taking, preparing for and taking tests, time management, memory, and reading skills. The course consists of lectures, discussions, and quizzes. (Formerly QSA100)

SA105 DEVELOPMENT OF READING ABILITIES (1,1) 1

Lectures, discussion, activities, and labs provide students with the information and experiences needed to develop reading-rate flexibility, vocabulary skills, critical reading/thinking skills for reading in the context areas, and concentration and memory improvement. Labs are individualized to fit each student's needs, as determined by a reading test given at the beginning of the semester. (Formerly QSA105)

SA125 CAREER PLANNING AND DECISION MAKING (0,1.5) 1

Expanding awareness of personal strength and career options, this course will help students make realistic decisions relating to planning and implementation of academic and life career goals. Follows a student self-directed framework utilizing video-tapes and career/self-exploration to complete assignments. Prerequisite: student must be fully admitted for enrollment at L.S.S.U. and currently enrolled in six (6) credits. (Formerly QSA125)

SA150 PERSONAL GROWTH SEMINAR (0,1.5) 1

A seminar to help students make the transition to university life, communicate effectively on an interpersonal level, strengthen self-concept, and build positive relationships. Course content addresses the personal-social, educational and vocational aspects of individual development. (Formerly QSA150)

SA205 GROUP INTERACTIONS (3,0) 3

This course is designed for the first year resident advisors to develop a better understanding of self and others, particularly in regard to group responsibilities. There will be a three-day Pre-Fall Orientation Program. Group activities will be aimed at developing cohesiveness. Curriculum will increase awareness of group processes and interaction skills including: leadership, referral, conflict resolution, assertiveness, crisis intervention, programming, empathy and active listening. Prerequisite: for first year resident advisors only. (Formerly QSA200)

SPEECH

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

SD101 FUNDAMENTALS OF SPEECH COMMUNICATION (3,0) 3

A study of communication theory as it relates to the oral sender and receiver in the interpersonal, dyadic, small group and public speaking situations. Application will be in perceptual analysis, dyadic encounters, small group problem-solving and discussion, and public speaking situations. (Substitutes for QSD110)

SD161 PROBLEMS IN SPEECH/DRAMA (1-3,0) 1-3

Practical problems in speech or theatre. Requires an involvement in Forensics, Debate, Reader's Theatre or Theatre. May be repeated for a maximum of three credits. Prerequisite: SD101 or permission of instructor. (Substitutes for QSD160)

SD201 SMALL GROUP COMMUNICATION (3,0) 3

Analysis of verbal communication in small groups as related to information processing, problem solving, agenda establishment, decision making and policy formation. Prerequisite: SD101. (Substitutes for QSD111)

SD202 INFORMATIVE SPEAKING (3,0) 3

Development of effective informative discourse in theory and practice. The preparation and use of audience analysis, organizational structures and visual aids will be applied to descriptive, conceptual and expository situations. Prerequisite: SD101. (Substitutes for QSD211)

SD251 HISTORY OF DRAMA & THEATRE I
(3,0) 3
The study of the historical and esthetic drama and theatre from the Greek period to the European Renaissance. Counts as Humanities substitute. Prerequisite: EN110. (Substitutes for QSD361)

SD252 HISTORY OF DRAMA & THEATRE II
(3,0) 3
The study of the historical and esthetic drama and theatre from the Renaissance to current theatre and drama. Counts as Humanities substitute. Prerequisite: EN110. (Substitutes for QSD362)

SD302 PERSUASION AND ARGUMENTATION
(3,0) 3
The development of persuasive oral discourse which emphasizes audience analysis and adaptation, organization, reasoning and debate. Exercises in individual and team debates are included. Prerequisite: SD101. (Substitutes for QSD303)

SD307 CLASSICAL/CONTEMPORARY RHETORIC
(3,0) 3
A study of the development of rhetoric beginning with the Greeks and continuing to the present. An emphasis will be placed on the influences of past rhetoric to current theory. Prerequisite: SD101 or permission of instructor. (Substitutes for QSD201)

SD308 COMMUNICATION THEORY
(3,0) 3
A study of the sources, dimensions and applications of contemporary communication theory, including the impact of mass communication in modern society. Prerequisite: SD101 or permission of instructor. (Substitutes for QSD202)

SD309 SPEECH AND DRAMA PRODUCTIONS
(3,0) 3
Practical problems in the development and production of dramatic works, Forensics workshops, tournaments and festivals. Prerequisite: SD101 and permission of instructor. (Substitutes for QSD351)

SD320 PUBLIC RELATIONS
(4,0) 4
Public relations theory and practice will form the two emphases of the course. Theory will be explored and discussed as foundation for the application of public relations concepts and strategies. Students will be responsible for working with organizations in order to develop realistic PR campaigns which reflect the awareness of the significant structures and responsibilities involved in a professional approach to public relations. Prerequisite: SD101 or permission of instructor. (Substitutes for QSD355 and QSD356)

SD325 ORGANIZATIONAL COMMUNICATIONS
(3,0) 3
Focus on oral communication as it impacts on and permits coordination among people and thus allows for organized behavior. Focus on business and organizational contexts for interpersonal transactions. Participant involvement in simulation designed to generate insights into the elements involved in coordinated and competitive organizational communication. Selected topics for theory and practice: interpersonal transactions, communication rules, conflict management, negotiations, trust, power, and influence. Prerequisite: SD101 or permission of instructor. (Substitutes for QSD400)

SOCIOLOGY

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

SO101 INTRODUCTION TO SOCIOLOGY
(3,0) 3
An introduction to the basic concepts of sociology. Explanation of human behavior which emphasizes human groups, institutions, social change, social forces. (Substitutes for QSO141)

SO102 SOCIAL PROBLEMS
(3,0) 3
An introductory course providing data and theory for a variety of contemporary social problems such as poverty, unemployment, teenage pregnancy, inequality, housing shortages, violence, and pollution. (Substitutes for QSO142)

SO113 SOCIOLOGY OF THE AMERICAN FAMILY
(3,0) 3
A study of the development and change of the American family since 1890. This study will explore the impact of urbanization, industrialization, increased mobility, extended education, and the changing status of women on the American family. (Substitutes for QSO143)

SO201 SOCIAL RESEARCH AND STATISTICS
(4,0) 4
The student will be required to design four types of research projects: experiment, survey, field research, unobtrusive research. The social foundation of statistical inference is discussed and elementary statistical concepts are introduced through numerical problems: z scores, t-test, chi square, correlation, ANOVA, etc. Prerequisite: Fulfillment of mathematics competency graduation requirement. (Substitutes for QSO210 and QSO211)

SO213 INTRODUCTION TO ANTHROPOLOGY
(3,0) 3
A study of the evolution of humankind and the evolution and development of culture and society. Prerequisite: One introductory sociology course. (Substitutes for QSO275 and QSO276)

SO214 CRIMINOLOGY
(3,0) 3
A study of the nature and causes of crime and the results of various attempts to reduce crime. (Substitutes for QSO279)

SO225 NATIVE CULTURES OF NORTH AMERICA
(3,0) 3
A study of the Native American-Indian and Inuit-cultures of North America from earliest times to the present with emphasis on contrasting patterns of cultures. (Substitutes for QSO277)

SO226 RACES AND MINORITIES
(3,0) 3
Study of various social and ethnic minorities in the United States with an emphasis on Black-White relations. Competition, conflict and prejudice as they influence social and ethnic minority group relations. Social movements and their effects on majority minority relations. Prerequisite: Sophomore standing. (Substitutes for QSO278)

SO227 POPULATION
(3,0) 3
Study of the basic problem of the world's population increase and distribution in relation to natural resources, and standards of living. (Substitutes for QSO282)

SO238 SOCIAL PSYCHOLOGY
(3,0) 3
Relation of the individual to his social environment with special reference to group processes and interaction, social structure, and language. (Substitutes for QSO281)

SO242 SOCIOLOGY OF SEX
(3,0) 3
Socio-psychological study of the impact of human sexuality upon human behavior. (Substitutes for QSO284)

SO301 DEVELOPMENT OF SOCIOLOGICAL THEORY
(3,0) 3
A critical analysis of the contributions to sociological theory by Comte, Spencer, Marx, Durkheim, Pareto, Weber, and others. (Substitutes for QSO478)

SO313 WORK AND ORGANIZATION
(3,0) 3
Development and structure of the workplace; includes contemporary trends in formal organization and management styles, changing career patterns, sources of conflict, and some cross-cultural comparisons. Prerequisite: Junior standing or three hours of sociology. (Substitutes for QSO381)

SO314 SOCIAL CHANGE
(3,0) 3
Study of trends in industrial societies, theories explaining these changes, and the role of social movements in social change; focusing primarily on industrialized societies with some discussion of developing countries. Prerequisite: Junior standing or three hours of sociology. (Substitutes for QSO378)

SO321 SOCIOLOGY OF WOMEN
(3,0) 3
This analysis of the roles and status of women in contemporary American society covers social structure, social psychology, and social movements and includes some cross-cultural comparisons (Substitutes for QSO361)

SO325 SOCIAL STRATIFICATION
(3,0) 3
Class, caste, status, power and general concept of stratification, consequences of stratification will be related to social institutions. (Substitutes for QSO350)

SO326 THE SOCIOLOGY OF AGING AND THE AGED
(3,0) 3
Examines aging and the aged in American society from the sociological perspective. (Substitutes for QSO310)

SO327 THE SOCIOLOGY OF DYING AND DEATH
(3,0) 3
Sociological examination of dying and death. (Substitutes for QSO320)

SO338 DEVIANCE
(3,0) 3
Analysis of causes and consequences of deviance and development of deviant subcultures: examination of various societal responses to control deviance and their effectiveness. Included are alcoholism, crime, mental illness and homosexuality among others. Prerequisite: Junior standing or three hours of sociology and/or human services. (Substitutes for QSO384)

SO339 CULTURE AND PERSONALITY
(3,0) 3
Analysis of the role of culture in shaping personality using both contemporary industrial society and also cross-culture material. Prerequisite: Three hours of sociology or junior standing. (Substitutes for QSO383)

SO341 SOCIOLOGY OF ADDICTION
(3,0) 3
Study of the nature of chemical dependence with emphasis on individual, social, and cultural variations of drug effects. Relationship of chemical use to the family system. Comparisons between chemical and non-chemical dependent behaviors. Prerequisite: Six hours of sociology or permission of instructor. (Substitutes for QSO330)

SO344 SOCIAL WELFARE SYSTEMS 3
(3,0)
Development of social welfare system including changing programs and philosophy and interrelationships with economic, political, and family institutions; cross-cultural comparisons; current issues and problems in social welfare. Prerequisites: Junior standing or three credits in sociology. (Substitutes for either HM297 or SO382)

SO401 RESEARCH SEMINAR I 3
(3,0)
A research topic is developed by the student using library resources. Prerequisites: Senior standing and completion of SO201 and SO301, or permission of instructor. (Substitutes for QSO479)

SO402 RESEARCH SEMINAR II 3
(3,0)
The student conducts and analyzes the results of the research project initiated in SO401. Prerequisite: SO401. (Substitutes for QSO480)

SO490 INDEPENDENT RESEARCH TOPICS IN SOCIOLOGY 1-4
(1-4)
This may take the form of either a research project or a program of directed reading on a specific topic. One to four credits over a period of one or two semesters may be granted according to the nature of the student's project. Prerequisites: SO402. May be repeated to a total of 6 credits.

SPANISH

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

SP161 FIRST YEAR SPANISH I 4
(4,1)
Introduction to basic Spanish grammar and vocabulary, designed to acquaint the student with the essentials of oral and written Spanish. (Substitutes for QSP191)

SP162 FIRST YEAR SPANISH II 4
(4,1)
Further study of Spanish grammar and vocabulary; emphasis on oral communication; reading of various materials in Spanish with the aim of understanding the meaning, enlarging the vocabulary and using Spanish for communication. Prerequisite: SP161 or equivalent. (Substitutes for QSP193; waive SP192)

SP165 SPANISH FOR PUBLIC SAFETY 4
(4,1)
A continuation of SP161, with emphasis on vocabulary relevant to work in criminal justice. Prerequisite: SP161 or equivalent. (Substitutes for QSP195; waive SP194)

SP261 SECOND YEAR SPANISH I 4
(4,1)
Intensive review of grammar and further vocabulary development. Emphasis on composition and conversation based on the reading of Spanish texts and newspapers. Prerequisite: SP162 or equivalent. (Substitutes for QSP291)

SP262 SECOND YEAR SPANISH II 4
(4,1)
Conducted as much as possible in Spanish with the primary aim of dealing fluently with basic conversation situations. Prerequisite: SP261 or equivalent. (Substitutes for QSP293)

SP305 SPANISH LITERATURE IN TRANSLATION I 3
(3,0)
From the Medieval period through the works of Miguel de Cervantes. The course is taught in English, and the readings are in English. This course counts as humanities substitute. (Substitutes for QSP301)

SP306 SPANISH LITERATURE IN TRANSLATION II 3
(3,0)
Representative 18th, 19th and 20th century Spanish works and some representative Latin American works. The course is taught in English, and the readings are in English. This course counts as humanities substitute. (Substitutes for QSP303)

CONSTRUCTION TECHNOLOGY

Special topics courses will be available as need and interest develop. Consult the semester Course Schedule for these.

TC101 CONSTRUCTION I 3
(3,0)
An overview and analysis of properties, processing and applications of conventional construction materials. Wood, concrete, masonry, ferrous and nonferrous metals, glass, plastics and other materials are examined in detail. The application of building code as they pertain to these materials will also be presented. (Substitutes for QBC111)

TC102 CONSTRUCTION II 3
(3,0)
Concepts in construction blueprint reading and the development of skills in reading construction drawings. The correlation of building codes and specifications to the production of working drawings. Prerequisite: TC101. (Substitutes for QBC112,213)

TC103 SURVEYING

(2,4)

3

Concepts and operation of distance and angular measurement. Use of transit and level, land description, traverse, construction and earth work calculations. (Substitutes for QBC134)

**TC104 INDUSTRIAL SAFETY AND SMALL
ENGINE MECHANICS**

(2,2)

3

Study of occupational safety, occupational health, and industrial hazard control. Focus on basic principles, concepts, and techniques proven useful in reducing industrial injuries and occupational diseases (one-half semester). Practical study of the operation and repair of small engines (one-half semester). (Substitutes for QMT122,141)

NOTES

FACULTY

Adams, Mary L., assoc. prof. of business admin. and data processing (1984, 1991); B.A., Lawrence University, 1959; M.S., University of Calif. at Berkeley, 1965; Ph.D., Michigan State University, 1981.

Adams, Ray, assoc. prof. and coordinator of mechanical engineering technology, (1986); B.S., 1975; M.S., Nicholls State University, Thibodaux, Louisiana, 1978.

Andary, Carol, asst. prof. and coordinator of legal assistant studies, (1984); B.S., Western Michigan University, 1977; Juris Doctor, Wayne State University, 1980.

Anderson, Melvin L., prof. of chemistry (1969, 1985); B.S., 1953; M.S., Michigan Technological University, 1955; Ph.D., Michigan State University, 1965.

Anleitner, Donna, asst. prof. of nursing (1985); B.S.N., Indiana State University, 1971; M.S.N., Northern Illinois State University, 1976.

Arbic, Bernard J., prof. of mathematics (1967, 1986); B.S., Massachusetts Institute of Technology, 1962; M.A., Bowdoin, 1967; Ph.D., University of Wyoming, 1972.

Behmer, David J., prof. of biology (1967, 1981); B.S., Wisconsin State College, 1963; M.S., 1965; Ph.D., Iowa State University, 1966.

Bingham, Shirley Proctor, asst. prof. of nursing (1984); B.S., University of Michigan, 1952; M.S., Boston University, 1980.

Blackwood, George, asst. prof. of journalism (1990); B.A., Michi-

gan State University, 1966; M.A., Western Michigan University, 1967.

Blashill, James, asst. prof. and coordinator of criminal justice, and coordinator of Institute for Public Safety (1975); B.S., Wayne State University, 1973; M.S., Michigan State University, 1976.

Boger, Thomas, assoc. prof. of computer science, (1981, 1991); B.S., 1973; M.S., Michigan State University, 1974.

Bolio, Lawrence A., assoc. prof. of mechanical engineering technology and coordinator of drafting and design engineering technology, (1984); B.S., Michigan Technological University, 1966 and 1975; M.A., Northern Michigan University, 1979.

Borrelli, Thomas, instr. of physical education and recreation and coordinator of intramurals (1987); B.S., The Citadel, 1979; M.S., Clemson University, 1986.

Brown, Lewis M., prof. and coordinator of geology (1979, 1989); B.A., Cornell College, 1965; M.S., University of Iowa, 1967; Ph.D., University of New Mexico, 1973.

Campagna, Carol A., assoc. prof. of nursing (1984); B.S.N., D'Youville College, 1964; M.S.N., University of Colorado, 1969.

Castor, William N., prof. of political science (1971, 1985); B.A., Middlebury College, 1951; M.A., Columbia University, 1952; Ph.D., University of Denver, 1975.

Chandra, Purna, prof. of microbiology (1967, 1970); B.Sc., 1949; M.S., Agra University, 1951; Ph.D., Oregon State University, 1958.

- Childs, Sally A.**, assoc. prof. of physical education and recreation and coordinator of recreation studies (1981, 1987); B.S., Eastern Michigan University, 1971; M.S., Northern Michigan University, 1978; Ph.D., Ohio State University, 1986.
- Conboy, Richard T.**, assoc. prof. of political science and assoc. coordinator for policy research/Center for Social Research (1988); B.A., 1967; M.P.A., University of Dayton, 1969; Ph.D., The American University, 1984.
- Connaughton, Carole**, prof. of nursing and coordinator of B.S.N. program (1984); B.S.N., Saint Mary's College, Notre Dame, 1956; M.S.N., 1967; Ph.D., Indiana University, 1974.
- Cotner, David J.**, instr./head trainer (1989); B.S., University of Maryland, 1984; M.A., George Washington University, 1987.
- Cox, Sharon**, asst. prof. of nursing (1989); B.S.N., Lake Superior State University, 1976; M.S.N., Wayne State University, 1984.
- Crandall, Richard C.**, prof. of sociology (1969, 1987); B.S., 1967; M.A., Central Michigan University, 1969; Ph.D., University of Michigan, 1974.
- Cullen, John C.**, prof. of Spanish and English (1967, 1985); B.A., 1963; M.A., Michigan State University, 1965; Ph.D., Interamerican University, 1973.
- Cullum, Charles**, asst. prof. of English (1989); B.A., Pennsylvania State University, 1972; M.A., 1981; Ph.D., Temple University, 1987.
- Cullum, Linda**, asst. prof. librarian (1990); B.A., Temple University, 1969; M.L.S., Drexel University, 1972; M.A., Temple University, 1982.
- Delaney, Maureen**, instr./librarian (1989); B.M., Western Michigan University, 1975; M.S., Michigan State University, 1980; M.L.S., University of Kentucky, 1988.
- Devaprasad, James**, asst. prof. of automated systems engineering technology (1986, 1989); B.E., University of Madras, India, 1983; M.S., University of New Mexico, 1986.
- Dickinson, William J.**, assoc. prof. of humanities (1966, 1969); B.A., 1951; M.Ed., Montana State University, 1957.
- Dobbertin, Gerald**, asst. prof. of sociology (1972, 1982); B.S., Wayne State University, 1967; M.A., Central Michigan University, 1973; Ph.D., Michigan State University, 1981.
- Dobbertin, Leslie**, assoc. prof. of sociology (1974, 1982, 1991); B.A., Central Michigan University, 1965; M.A., Iowa State University, 1972; Ph.D., Michigan State University, 1989.
- Dorrity, Daniel T.**, prof. of history (1970, 1990); B.A., 1966; M.A., Wayne State University, 1967; Ph.D., University of Michigan, 1973.
- Dowd, Donner**, assoc. prof. of business (1982); B.S., Wheaton College, 1960; M.S., Purdue University, 1966.
- Duesing, Paul**, assoc. prof. of mechanical engineering technology (1984, 1990); B.S.M.E., 1971; M.S.M.E., University of Michigan, 1973.
- Erikkila, John**, assoc. prof. of economics, (1990); B.S., Lake Superior State University, 1970; M.A., University of Windsor, 1971; Ph.D., The University of Western Ontario, 1987.
- Filek, Valerie**, asst. prof. of marketing, management (1990); B.S., McGill University, 1978; B. Commerce, McGill University, 1980; M.B.A., McGill University, 1984.
- Foley, Elizabeth A.**, asst. prof. of criminal justice and coordinator of

corrections (1981, 1987); B.A., Madonna College, 1969; M.A., Northern Michigan University, 1982.

Furr, Richard S., assoc. prof. of biology (1971, 1981); A.B., Pfeiffer College, 1963; M.S., North Carolina State University, 1966; Ph.D., University of Tennessee, 1971.

Gaertner, Georgegeen P., assoc. prof. of English (1965, 1974); B.A., Michigan State University, 1959; M.A., University of Michigan, 1963.

Gaertner, Robert, assoc. prof. of finance (1965, 1989); B.B.A., University of Notre Dame, 1964; M.B.A., Michigan State University, 1965.

Gardiner, Randell L., instr. of exercise science (1988); B.S., Grand Valley State University, 1979; M.S., Northern Michigan University, 1988.

Gerrish, Steven J., asst. prof. of mechanical engineering technology (1981, 1988); B.S., Lake Superior State College, 1978; M.A., Michigan State University, 1981.

Gibson, Michael J., asst. prof. of psychology (1990); B.A., University of Illinois, 1978; M.S.Ed., 1984; Ed.D., Northern Illinois University, 1989.

Gilliard, Bari Lynn, assoc. prof. of English and writing (1986, 1990); B.A., 1964; M.A., University of Montana, 1973; Ph.D., University of Utah, 1975.

Godby, Marjorie B., instr./counselor (1986); B.S., University of Minnesota, 1962; M.A., University of Michigan, 1966.

Grounds, Patrick M., asst. prof. and coordinator of automated systems engineering technology (1986, 1989); B.S., 1984; M.A., University of Michigan, 1986.

Gutowska, Janina, asst. prof. of mathematics (1988); M.S. University of Lodz, Poland, 1966.

Gutowski, Mieczyslaw, assoc. prof. of mathematics (1984, 1990); M.S., University of Lodz, 1965; Ph.D., University of Gdansk, 1973.

Haag, William, assoc. prof. of biochemistry (1984); B.S., Loras College, 1961; M.S., 1965; Ph.D., University of Nebraska, 1971.

Halsey, Alice, assoc. prof. of nursing (1973, 1983); B.S.N., University of Michigan, 1962; M.S.N., Wayne State University, 1977.

Harrison, Galen H., asst. prof. of mathematics (1963, 1967); B.S., 1960; M.A., Michigan Technological University, 1963.

Hatfield, Kenneth G., instr. of geology (1983); B.S., Michigan Technological University, 1950.

Hellow, Elizabeth, asst. prof. of nursing (1979, 1985); B.S.N., Lake Superior State University, 1977; M.S.N., Wayne State University, 1986.

Heyns, Terry L., assoc. prof. of fire science (1989); A.B., Saint Louis University, 1965; M.A., University of Kansas, 1967; Ph.D., Kansas State University, 1989.

Hudson, John S., assoc. prof. of accounting (1970, 1986); B.A., 1963; M.A., Michigan State University, 1965; M.B.A., Western Michigan University, 1967.

Jennings, Richard P., prof. of speech (1970, 1990); B.A., University of Michigan, 1950; B.D., Virginia Theological Seminary, 1953; M.A., Central Michigan University, 1970.

Johnson, Gary R., prof. of political science (1978, 1990); B.A., Augustana College, 1972; M.A., 1975; Ph.D., University of Cincinnati, 1979.

- Johnson, Gerald H.**, asst. prof. of biology and nursing (1983); B.S., 1965; Ph.D., University of Michigan, 1971.
- Jones, Charles W.**, prof. of chemistry (1970, 1981); A.B., Western State College of Colorado, 1954; M.S., 1957; Ph.D., Oklahoma State University, 1973.
- June, Mary M.**, instr./librarian (1988); B.A., 1978; M.L.S., University of Wisconsin Milwaukee, 1980.
- Kelly, Thomas M.**, prof. of sociology (1971, 1983); B.A., St. Mary of the Lake University, 1952; S.T.L., Gregorian University, Rome, 1956; M.A., University of Notre Dame, 1964; M.Ed., Loyola University, 1970.
- Knowles, David M.**, prof. of geology (1969, 1983); B.S., 1954; M.S., Michigan Technological University, 1955; Ph.D., Columbia University, 1967.
- Knudson, Vernie A.**, assoc. prof. of natural resources technology (1971, 1976); B.S., Bethany College, 1954; B.S., University of Kansas, 1958; M.S., Fort Hays State College, 1959; Ph.D., Oklahoma State University, 1970.
- Kornmueller, Hellmuth**, prof. of humanities (1968, 1983); Ph.B., 1951; Ph.L., 1952; Ph.D., Salzburg University, Austria, 1953.
- Lehman, John W.**, prof. of chemistry (1966, 1982); B.S., McPherson College, 1960; Ph.D., University of Colorado, 1969.
- Linderoth, Leon W.**, prof. of English (1968); A.B., 1958; B.S., Central Michigan University, 1958; M.A., 1960; Ph.D., Florida State University, 1966.
- Madden, James**, assoc. prof. of criminal justice (1984, 1989); B.S., William Carey College, 1971; M.S., University of Southern Mississippi, 1975.
- Madl, John T.**, assoc. prof. of mechanical engineering technology (1967, 1981); B.S.M.E., 1965, M.S.M.E., Michigan Technological University, 1967.
- Marinoni, Ann B.**, assoc. prof. of business and coordinator of hospitality management (1976, 1980); B.S., Lake Superior State University, 1975; M.S., Central Michigan University, 1977.
- McDonald, David M.**, assoc. prof. and coordinator of electrical engineering technology (1973, 1986); B.S.E.E., 1969; M.S.E.E., Michigan Technological University, 1970.
- McGowan, Laura C.**, instr. of speech and coordinator of forensics and debate (1990); B.A., Albion College, 1987; M.A., Central Michigan University, 1990.
- McPherson, Debra**, asst. prof. of physical education and recreation, volleyball, softball coach (1976, 1983); B.S., 1974; M.S., Northern Michigan University, 1982.
- Meehan, Mary Jo**, asst. prof. counselor (1983, 1987); M.A., Northern Michigan University, 1981.
- Meiser, Charles W.**, assoc. prof. of quantitative economics and coordinator of business data processing (1968, 1982); B.S.E.E., 1963; M.S., Purdue University, 1966.
- Merkel, Dennis**, asst. prof. of biology (1988); B.S., 1977; M.S. State University of New York-Syracuse, 1983; Ph.D., Michigan State University, 1988.
- Mickewich, Thomas**, prof. of mathematics (1967, 1988); B.A., 1964; M.A., University of Maine, 1967.
- Money, Robert M.**, assoc. prof. of history (1969, 1976); A.B., Northern Michigan University, 1953; M.A., University of Michigan, 1958.
- Moody, James W. T.**, assoc. prof. of history (1971, 1983); B.A.,

Greenville College, 1959; M.A., Michigan State University, 1960.

Mugavero, Daniel C., assoc. prof. of accounting (1991); B.A., 1966; M.B.A., Michigan State University, 1967.

Mullin, Charles R., prof. of chemistry and physics and coordinator of the planetarium (1969, 1986); B.S., St. Vincent College, 1959; Ph.D., University of Notre Dame, 1964.

Neveu, Ruth, asst. prof./librarian (1984, 1988); B.A., Lake Superior State University, 1977; M. S., University of Michigan, 1984.

Niemi, Alan D., asst. prof. of computer engineering technology (1986); B.S., Lake Superior State University, 1981; M.S.E.E., Illinois Institute of Technology, 1985.

Person, Steven J., prof. of biology (1974, 1989); B.S., 1966; A.S., Iowa State University, 1968; Ph.D., University of Alaska, 1976.

Pichot, Marcel, asst. prof. of French (1989); B.A., Andrews University, 1967; M.A., Western Michigan University, 1968; Ph.D., University of Michigan, 1975.

Pike, Ruth Johnston, asst. prof. of nursing (1983); B.S.N., Lake Superior State University, 1982; M.S.N., Wayne State University, 1985.

Pingatore, Diana, asst. prof. of English and coordinator of Writing Lab (1988); B.A., Lake Superior State University, 1977; M.A., 1981; Ph.D., Michigan State University, 1987.

Ratwik, Susan H., prof. of psychology and coordinator of the Center for Social Research (1977, 1990); B.A., University of Minnesota, 1969; M.S., 1975; Ph.D., University of Notre Dame, 1978.

Roese, John H., asst. prof. of wildlife ecology and management (1990); B.S.F., Stephen F. Austin

State University, 1982; M.S. 1984; Ph.D., Stephen F. Austin State University, 1989.

Saluja, Madan, prof. of management (1969, 1981); B.A., University of Delhi, 1960; LL.B., 1962; B.A., Macalester College, 1964; M.A., 1966; Ph.D., University of Minnesota, 1977.

Sawyer, Timothy J., prof. of psychology (1976, 1989); B.A., Northern Michigan University, 1972; M.A., 1974; Ph.D., University of Nevada, 1976.

Schmitigal, Linda, instruc., office administration; B.S., Lake Superior State University, 1982; M.B.E., Central Michigan University, 1990.

Schwiderson, Keith H., asst. prof. of engineering technology (1977, 1985); B.S., Lake Superior State University, 1976; M.S., Northern Michigan University, 1981.

Sherman, Karl J., assoc. prof. of accounting (1971, 1980); B.S., Northern Michigan University, 1965; M.S., Southern Illinois University, 1967; C.P.A., 1970.

Smith, Bryce E., prof. of biology (1970, 1976); B.S., 1952, M.A., University of Michigan, 1957; Ph.D., University of Wisconsin, 1965.

Spencer, Lester W., asst. prof. of engineering technology (1977, 1983); B.S., Lake Superior State University, 1977; M.S., Northern Michigan University, 1980.

Stevens, John R., assoc. prof. of English (1967, 1983); B.A., 1958; M.A., University of Michigan, 1959.

Suggitt, Randall G., asst. prof. of mathematics (1983, 1988); B.S., Lake Superior State University, 1976; M.A., University of Montana, 1979.

Sweet, Patrick J., asst. prof. of criminal justice (1989); B.S., 1974; M.S., Michigan State University, 1987.

Terwilliger, Mark G., instr. of mathematics and computer science (1990); B.S., Lake Superior State University, 1988, M.S., Michigan State University, 1990.

Toffolo, E. Gary, prof. of English (1970, 1990); B.S., Northwestern University, 1958; M.A., University of Chicago, 1961.

Voight, Nancy L., assoc. prof. of human services and psychology and coordinator of psychology, sociology, and human services (1988); B.A., Wittenberg University, 1967; M.A., Ball State University, 1971; Ph.D., Michigan State University, 1975.

Wagner, Michael D., asst. prof. of electrical engineering technology (1989); B.S. Lake Superior State University, 1984; M.S., Purdue University, 1987.

Weber, Charles L., assoc. prof. of electrical engineering technology and coordinator of computer engineering technology (1970, 1980); B.S., 1964; M.S.E.E., Michigan Technological University, 1970.

Weck, Margaret A., asst. prof. of biology (1988); B.S., University of Illinois, 1980; M.S., 1983; D.A., Idaho State University, 1985.

Wentz, Elena, asst. prof. of nursing (1971, 1977); B.A., Simpson College; M.S.N., Wayne State University, 1977.

Wilkinson, John S., prof. of music and coordinator of music and cultural affairs (1976, 1989); B.M.E., 1969; M.M., University of Nebraska, 1972; D.M.A., University of Michigan, 1974.

Wilson, Paul W., prof. of mathematics (1963, 1988); B.S., 1962; M.A., Central Michigan University, 1963.

Yanni, Stephen R., instr. of therapeutic recreation (1987); B.S., Lake Superior State University, 1986; M.S., Western Illinois University, 1987.

Zabelka, Richard J., prof. of physics (1966, 1984); B.S., Michigan Technological University, 1956; M.S., University of California (LA), 1960; Ph.D., Purdue University, 1964.

EMERITI FACULTY

Anderson, Roland A., assoc. prof. of office administration (1969-1986); B.A., Wisconsin State University Whitewater, 1953; M.A., Northern Colorado University Greeley, 1961.

Bruce, Russell D., prof. of physical education and recreation (1976-1987); B.A., Cornell College, 1953; M.A., University of Michigan, 1956; Ph.D., University of Wisconsin, 1966.

Carlson, Arthur F., assoc. prof. of physics (1947-1970); B.S., University of Minnesota, 1935. (deceased)

Carlson, Delphine, assoc. prof. of mathematics (1947-1969); B.A., 1934; M.A., University of Michigan, 1938.

Cole, Wallace, assoc. prof. of mathematics (1955-1969); B.S., 1926; M.A., University of Wisconsin, 1928.

Cooper, Ronald R., prof. of physical education (1956-1986); director of intercollegiate athletics and James Norris Physical Education Center (1976-1986); B.S., 1951; M.A., Central Michigan University, 1958.

Curtis, Robert W., prof. of engineering technology (1955-1886); B.S.M.E., Michigan Technological University, 1948; B.S.Ed., Northern Michigan University, 1950; M.A., University of Michigan, 1954. (deceased)

Dahiman, Marvin, assoc. prof. of mechanical engineering technol-

ogy (1952-1985); B.S., 1947; M.S., University of Minnesota, 1952.

Duwe, Arthur E., prof. of biological science (1968, 1970); B.S., Alma College, 1949; M.S., Ohio State University, 1950; Ph.D., 1953. (deceased)

Flynn, Michael, prof. of English (1961-1986); B.A., Central Michigan University, 1954; M.A., Northern Michigan University, 1964.

Francisco, Wayne H., asst. prof. of criminal justice (1973-1983); B.S., Eastern Michigan University, 1950; M.A., 1967; M.S., Michigan State University, 1971.; Ph.D., Columbia Pacific University, 1987.

Gleason, Gale R., prof. of biology and department head of biology and chemistry (1965-1986); B.S., Central Michigan University, 1950; M.S., 1951; Ph.D., Michigan State University, 1960.

Gleason, Gilbert J., prof. of biology (1961-1988); B.S., 1958; M.A., Central Michigan University, 1960.

Harris, Earle B., assoc. prof. of English (1976-1987); A.B., University of Michigan, 1946; B.D., 1947; Th.M., Princeton Theological Seminary, 1964.

Howe, Margaret, assoc. prof. of humanities (1969-1981); A.B., Northwestern University, 1932; M.A., Northern Michigan University, 1965.

Jemison, Eugene F., assoc. prof. of humanities (1969-1986); B.A., Washburn University, 1946; M.F.A., Kansas City Art Institute, 1948.

Kemp, C. Ernest, assoc. prof. of geology (1944-1980); dean emeritus of Lake Superior State University; B.S., Michigan Technological University, 1949.

Marken, Marzale, assoc. prof. of engineering technology (1955-1984); B.S., 1948; M.A., University of Minnesota, 1956.

Matheson, John M., prof. of journalism and secretary, Board of Control (1969-1984); B.A., Michigan State University, 1948; M.A., 1965; Ph.D., Southern Illinois University, 1967.

McCabe, John C. III, prof. of English (1970-1987); Ph.B., University of Detroit, 1947; M.F.A., Fordham University, 1948; Ph.D., Shakespeare Institute, University of Birmingham, England, 1954.

Poisson, Joseph A., assoc. prof. of physical education (1963-1976); S.S., Northern Michigan University, 1940; M.A., University of Michigan, 1957.

Sawczak, George J., asst. prof. of English (1965-1982); B.A., Alliance, 1952; M.A., Kent State University, 1954.

Shouldice, Kenneth J., prof. of business administration and president (1965-1982); B.S., Marquette, 1949; M.S., Northwestern, 1951; Ph.D., Iowa, 1969.

Smith, Bernard M., prof. of behavioral science (1966-1980); B.A., 1947; M.A., University of Louisville, 1949; M.A., University of Kentucky, 1956; Ph.D., Iowa, 1960. (deceased)

Stough, Bessie, assoc. prof. of mathematics (1947-1963); B.A., 1923; M.A., University of Michigan, 1929.

Truckey, John, assoc. prof. of counseling (1966-1986); B.S., 1958; M.A., Northern Michigan University, 1964.

Vialpando, Edeltraute, prof. of foreign languages (1967-1988); Ph.D., Charles University, Prague, Czechoslovakia.

Ward, Louis R., prof. of English (1961-1981); B.A., 1939; M.A., University of Colorado, 1940; Ph.D., Purdue University, 1959.

Youngs, Stephen P., prof. and psychometrist (1947-1968); B.S., Northern Michigan University, 1930; M.Ed., Colorado, 1941. (deceased)

ACADEMIC DEPARTMENT HEADS

ARTS AND LETTERS: Thomas Schirer, assoc. prof. of English (1984, 1987); B.A., 1971; M.A., University of California, 1976; Ph.D., Friedrich-Alexander Universitat, 1983.

BIOLOGY AND CHEMISTRY: Patrick Brown, assoc. prof. of Biology (1990); B.S., Central Michigan University, 1974; M.S., Iowa State University, 1977; Ph.D., University of Missouri, 1981.

BUSINESS AND ECONOMICS: Bruce T. Harger, assoc. prof. of economics (1967, 1985); B.A., 1966; M.A., Michigan State University, 1967.

**COMPUTER/GEOLOGIC/
MATHEMATICAL SCIENCES:** Gary L. Thesing, prof. of mathe-

tics (1971, 1981); B.A., St. Mary of the Plains College, 1960; M.S., University of Notre Dame, 1964; Ed.D., Oklahoma State University, 1971.

ENGINEERING TECHNOLOGY: Patrick M. Grounds, asst. prof. and coordinator of automated systems engineering technology (1986, 1989); B.S., 1984; M.A., University of Michigan, 1986.

HEALTH SCIENCES: Mae E. Markstrom, assoc. prof. (1968, 1981); B.S., Lake Superior State University, 1970; M.S.N., Wayne State University, 1977.

SOCIAL SCIENCES: Margaret A. Malmberg, assoc. prof. of psychology (1971, 1989); B.S., Muskingum College, 1964; M.A., 1970; Ph.D., Texas Christian University, 1971.

NOTES

ADMINISTRATIVE STAFF

Katherine A. Albrough, accountant (1989); B.S., Lake Superior State University, 1989.

Thomas A. Allan, manager, Vermilion project (1984); B.S., Central Michigan University, 1973; M.S., Michigan Technological University, 1978; Ph.D., University of Maine, Orono, 1984.

Francis I. Atkinson, manager/director student activities (1981); B.S., University of Detroit, 1956.

Susan Autore, health services nurse (1990); assoc., Lake Superior State University, 1981.

Mary L. Baker, administrative coordinator/professional nurse (1989); B.S.N., St. Olaf College, 1971; M.S., Mankato State University, 1983.

John L. Banks, supervisor of computer operations and maintenance (1988); assoc., Madison Area Technical College, 1970.

Paul A. Besteman, assistant director physical plant (1973, 1987); Lake Superior State University, (ex1973).

Susan M. Branstner, director, interpretive center and educational programming for schools (1990); B.S., Michigan State University, 1982; M.A., 1986; Ph.D., 1990.

Thomas R. Bugbee, manager of labor relations (1988); B.A., Michigan State University, 1973; M.A., Eastern Michigan University, 1974.

Mary L. Cahill, supervisor inventory/accounts receivable/loans (1975, 1981).

Susan K. Camp, coordinator of MBA program (1977, 1988); B.S., Lake Superior State University, 1985.

Alden E. Campbell, manager of projects/CHP (1973); B.S., Lake Superior State University, 1973.

Cheryl L. Castner, textbook services supervisor (1980); B.S., University of Wisconsin Stout.

David H. Castner, asst. prof. and director of counseling and testing services (1978, 1986); B.S., University of Wisconsin Stout, 1972; M.S., 1974.

Jeffrey A. Chaney, microcomputer specialist (1988); B.S., Lake Superior State University, 1991 assoc., Lake Superior State University, 1988.

Bruce G. Clark, assistant dean of admissions (1976, 1986); B.A., Lake Superior State University, 1976.

Robert S. Coon, systems analyst (1989); B.S., Lake Superior State University, 1980.

Georgiana M. Cox, staff accountant (1979); B.S., Lake Superior State University, 1979; M.B.A., 1988.

Juliana L. Cox, staff accountant (1983); B.S., Lake Superior State University, 1983 and 1987.

William J. Crawford, director of public relations (1988); B.S., Western Michigan University, 1970.

Katherine M. Crisp, administrative assistant (1990); Muskegon Business College, 1986.

Stella R. DePlonty, registrar (1960, 1987).

Cheryl L. Dozier, assistant women's basketball coach (1989); B.A. and B.S., Aquinas College, 1989.

Wanda Eby, director of purchasing (1974, 1980, 1990).

Leroy A. Fake, electronic technician (1983); assoc., Lake Superior State University, 1984.

James E. Fallis, assoc. prof., director athletics/manager Norris Center (1974, 1988); B.A., Lake Superior State University, 1974; M.S., Northern Michigan University, 1976.

Deborah Faust, director of auxiliary enterprises (1979, 1990); assoc., Lake Superior State University, 1985.

Paul T. Fenlon, assistant to executive vice president (1981, 1987); B.A., Western Michigan University, 1964.

Kathryn L. Fiandt, clinical director of Wellness C.A.R.E. Center (1990); B.S.N., University of Maryland, 1971; M.S.N., Indiana University, 1976.

Kay A. Floyd, executive secretary office of board of regents (1990).

Lee M. Freedman, textbook assistant (1988); Lake Superior State University, (ex1988).

Ruth E. Gendzwill, director of employee relations (1969, 1985); B.A., Calvin College, 1955.

Donald J. Gerrie, prof. marketing and director, MBA program (1966, 1985); B.A., College of William and Mary, 1951; M.A., Michigan State University, 1953.

Roger W. Greil, aquatics lab manager (1989); assoc., Lake Superior State University, 1988.

Charles J. Gustafson, media specialist (1970); assoc., Lake Superior State University, 1968.

Suzette M. Hazel, personnel assistant (1988); assoc., Lake Superior State University, 1986 and 1987.

Jo Ann Hill, admissions counselor/ internal operations (1990); B.A., Michigan State University.

Karen M. Huhtala, reading specialist (1983); B.A., Albion College, 1965; M.A., Northern Michigan University, 1980.

Amanda A. Izzard, office records aide (1989); Lake Superior State University, (ex1991).

Jeffery L. Jackson, head hockey coach (1986, 1990); B.A., Michigan State University, 1977; B.A., 1978.

Mary P. Jason, director of Regional Center (1986); B.S., Michigan State University, 1966.

Beverly A. Johnson, executive secretary to the president (1978, 1986); B.S., Northern Michigan University, 1970.

Bruce R. Johnson, dean of admissions (1985, 1986); B.S., State University College, 1967; M.S., State University of New York - Buffalo, 1971.

Patricia A. Kellan, coordinator of health services (1989); B.S.N., Lake Superior State University, 1989.

Helen M. Kennedy, secretary, information services (1989, 1991).

John F. Kibble, director of Native American Center (1986); B.A., Lake Superior State University, 1976.

Erica L. Ledy, women's basketball coach (1990); B.S., Lake Superior State University, 1988.

Dr. James Leete, university physician.

Annette M. Malaski, systems analyst (1990); B.S., University of Wisconsin-Stevens Point, 1985.

Robbin S. Manor, Campus Shoppe manager (1990); Lansing Community College, (ex-1977).

J. Dennis McPherson, financial aid counselor (1967, 1981); Lake Superior State University, (ex19-55).

Cynthia F. Merkel, systems development manager (1987, 1988); B.A., Syracuse University, 1979.

Fredrick A. Michels, assoc. prof. and director of library and audio

visual services (1976, 1981); B.S., University of Wisconsin, 1968; M.L.S., Western Michigan University, 1971; Ed.D., 1976.

Linda K. Miller, administrative assistant to registrar (1967, 1988).

Guy E. Molby, director of security (1989); B.S., Northern Michigan University, 1982.

K. Scott Monaghan, sports information director (1989); B.A., Michigan State University, 1987.

Barbara K. Mugavero, pool director (1991); B.A., Oakland University, 1968; M.A., University of Michigan, 1970.

William T. Munsell, financial aid director (1967); Lake Superior State University, (ex1968).

Jane K. Ogle, coordinator of scheduling (1983, 1988); assoc., Lake Superior State University, 1991.

Margaret E. Olson, payroll supervisor (1965, 1975); B.A., Lake Superior State University, 1985.

Scott A. Olson, communications specialist/hardware maintenance (1985, 1990); Lake Superior State University, (ex1990).

Mark D. Paluszak, men's basketball coach (1989); B.A., University of Toledo, 1968; M.A., 1973.

Larry J. Perron, assistant custodial operations manager (1986, 1988).

Noel L. Pingatore, exercise fitness instructor (1991); B.S., Lake Superior State University, 1990.

Paul R. Pooley, assistant hockey coach (1991); B.S., The Ohio State University, 1984.

Denise A. Roe, admissions counselor (1986); B.A., Lake Superior State University, 1975.

Ronald T. Rolston, second assistant hockey coach (1990); B.S., Michigan Technological University, 1990.

Richard A. Rynberg, microcomputer lab manager and technician

(1988); B.S., Central Michigan University, 1969.

Conrad A. Schmitgal, mechanical technician (1982).

Shirley A. Schoenemann, supervisor, child care center (1983); B.A., Western Michigan University, 1966; M.A.T., Oakland University, 1986.

Karen L. Shackleton, admissions counselor/media specialist (1990); B.A., University of Michigan, 1988.

Jeanne M. Shibley, manager of graphic arts/production (1989); B.S., Northern Michigan University, 1982.

Debra L. Smart, head teacher, child care center (1989); assoc, Lake Superior State University, 1989.

Scott W. Smart, budget and planning analyst (1988); B.S., Lake Superior State University, 1986.

Malorie S. Smith, professional nurse (1990); B.S.N., Lake Superior State University, 1990.

Terry J. Smith, assistant men's basketball coach (1988); B.S., Michigan State University, 1984.

Gilmore R. Somes, athletic equipment manager (1981).

Jessica A. Stanaway, director, continuing education (1979, 1983); B.A., Lake Superior State University, 1970.

Jerry A. Stephens, systems analyst (1986, 1990); B.S., Lake Superior State University, 1986.

Jacquey A. Swailes, executive secretary to vice president for academic affairs (1990).

William G. Thompson, supervisor of grounds/pool/rink and receiving (1979, 1987).

Earl C. Tomlinson, director of business operations (1985, 1987); B.S., Ferris State University, M.A., Central Michigan University, 1975.

Dale A. Ulrich, manager of building maintenance and operations (1989).

Beverly E. White, office manager of budgets, planning and personnel (1976, 1990); B.S., Lake Superior State University, 1988.

Patricia A. Whyte, housing manager (1978, 1987); B.S., Lake Superior State University, 1985;

Pamela A. Williamson, assistant director of upward bound (1970, 1986); B.A., Michigan State University, 1968.

Heidi L. Witucki, director of upward bound (1991), B.A., Northern Michigan University, 1982.

Michael J. Worley, coordinator of residential and student life programming (1984, 1989); B.S., Lake Superior State University, 1983.

Jack Yach, dir. of food services.

NOTES

ADVISORY COMMITTEES

DEPARTMENT OF HEALTH SCIENCES: Dr. Elsie Baccari, War Memorial Hospital; Ms. Mary Baker, Wellness Care Center, Sault Ste. Marie, Mich.; Ms. Antoinette Blunt, Victorian order of Nurses, Sault Ste. Marie, Ont.; Ms. Marylyn Carriere, General Hospital, Sault Ste. Marie, Ont.; Mr. Sam Dubow, Consumer Advocate, Brimley, Mich.; Ms. Cindy Jenkins, Tendercare Nursing Homes of MI, Sault Ste. Marie, Mich.; Mr. Merrill Lewis, High School Counselor, Sault Area Schools, Sault Ste. Marie, Mich.; Ms. Terry Malloy, Kinross Correctional Facility, Kinross; Mr. Larry Paine, Plummer Hospital, Sault Ste. Marie, Ontario; Dr. Susan Ratwick, Lake Superior State University, Sault Ste. Marie, Mich.; Ms. Helen Ross, Group Health Centre, Sault Ste. Marie, Ont.; Ms. Alda Routhier, Sault Area Skill Center, Beverly Stewart, Community Action Agency, Ms. Ruth Thesing, Sault Ste. Marie, Mich.; Ms. Donna Tromblay, Sault College, Sault Ste. Marie, Ont.; Ms. Bim VanDusen, Chippewa County Health Department, Ms. Debra Viher, War Memorial Hospital, Sault Ste. Marie, Mich.; Ms. Anna Zuccato, Algoma Health Unit, Sault Ste. Marie, Ont.

CRIMINAL JUSTICE: *Law Enforcement Members:* Scott Fitzgerald, Sault Ste. Marie; Tim Matelski, St. Ignace; Charles Ludwick, Michigan State Police; Dan Frazier, Cheboygan; Ralph Boudreau, Michigan State Police; Harris Miller, Sault Ste. Marie; Wally Binder, Department of Natural Resources; Barry King, Sault Ste. Marie, Ontario; Ed Bercompas, Chippewa County Sheriff; Andrew Kozak, Chief of Customs Operations, Sault Ste. Marie, Ontario; Michael Roy, Alpena Community College.

Corrections Members: Robert LeCureux, Kinross Correctional Facility; Wayne Fortin, John Ferroni, Gary McLeod, Sault Ste. Marie Probation/Parole.

Judicial Members: Honorable Nicholas Lambros, Circuit Court Judge; Patrick Shannon, Chippewa County Prosecutor.

Federal Members: Mel Hendrickson, US Customs Port Director; John Kendall, US Marshall, Western District of Michigan.

Security/Fire Science Members: Robin Robinson, Algoma Steel Corporation; Kenneth Eagle, Sault Ste. Marie Fire Chief; Wayne Francisco, Atlanta, Michigan.



Photo by Liz Raffaele

BOARD OF REGENTS

Lake Superior State University is governed by an eight member Board of Regents appointed by the Governor and confirmed by the Michigan Senate to serve terms of eight years. Expiration of current terms are shown below. Board meetings are open to the Public.

Reverend Louis C. Cappo
Marquette, 1996

Mr. Edward W. Jarvie
Rudyard, 1994

Mr. Thomas H. Weiss
Gaylord, 1998

Mr. Jack L. Gingrass
Iron Mountain, 1998

Mr. Gary LaPlant
Escanaba, 1992

Dr. H. Erik Shaar
ex-officio

Leonard Jaques, Esquire
Grosse Pointe Shores,
1996

Dr. Alice R. McCarthy
Birmingham, 1994

Dr. Harry E. Pike
Treasurer of the Board

Dr. Jack R. Rombouts
Iron River, 1992

Dr. Terrence A. Sweeney
Secretary of the Board

LSSU Foundation

THE LAKE SUPERIOR STATE UNIVERSITY FOUNDATION was authorized by a resolution of the Lake Superior State University Board of Regents in July 1983. The Foundation is a non-profit, tax-exempt corporation established under the laws of the State of Michigan. It was created to promote, receive, invest and disburse gifts for educational goals and needs. These needs include scholarships, grants, loans, research, equipment and other student and faculty enrichment opportunities.

Since its creation the LSSU Foundation has raised more than \$1.5 million in private gifts solely for the benefit of Lake Superior State University and its students.

Members of the Foundation's independent Board of Directors are: Mr. H. James Bourque, Mr. Prentiss M. Brown III, Mr. Daniel T. Laur, Dr. Louis B. Lukenda, Dr. Margaret A. Malmberg, Mr. Gary E. McClellan, Dr. Mark Mercer, Honorable Joanna Neale, Mr. Walter North, Mr. Evan L. Noyes, Mr. James C. Park, Mr. John Peacock, Dr. Thomas G. Robinson, Dr. H. Erik Shaar, Mr. Kelvin P. Smyth, Mr. Earl Tomlinson, and Mr. Thomas Weiss.

Foundation Staff: Daniel J. O'Shea, Director of Development
Susan L. Fitzpatrick, Office Manager

NOTES

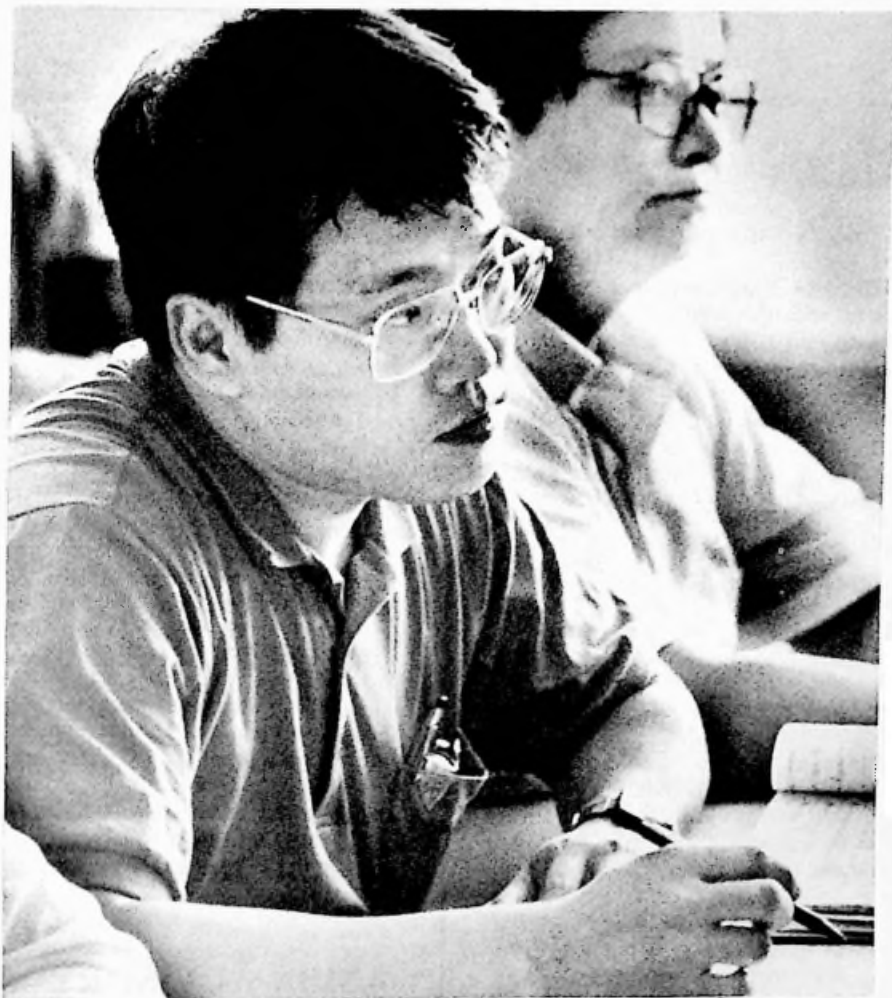


Photo by John Shibley

MASTER OF BUSINESS ADMINISTRATION

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MASTER OF BUSINESS ADMINISTRATION

The Master of Business Administration (MBA) Program provides a graduate management education to further prepare students for careers in business, industry and government agencies.

The MBA Program reflects a realistic approach to graduate work in two ways. First, the courses tend to be more applied or practical, and are thus more useful for the practicing manager. Second, the courses are offered evenings and weekends, tailored specifically for the employed person.

PROGRAM OBJECTIVES

1. To provide individuals with advanced academic work in the field of business and management education.
2. To provide individuals with a graduate program that is oriented to a pragmatic study of business and management education.
3. To provide individuals with a program that will prepare them for management positions in public and private units in society.
4. To provide individuals with an opportunity to develop a capacity for self-directed and professional growth.
5. To provide individuals with a program that provides a broad-base exposure to the general concepts of management.

6. To provide individuals employed full-time with an opportunity to secure graduate management education on a part-time basis.
7. To provide opportunities for a multi-disciplinary approach to learning through an exchange of graduate faculty of other institutions.

FACULTY

The MBA graduate faculty consists of full-time Lake Superior State University faculty, adjunct faculty from other colleges and universities, and visiting scholars. Faculty are selected on the basis of their credentials, business training, industrial experience, professional reputation, and interest in graduate management education.

MBA ADVISORY COUNCIL

The MBA Advisory Council assists the University in curriculum development and serves as a liaison between the MBA program and the area it serves. Active interchange with this Council helps MBA faculty and staff to be sensitive to current trends in business and to the professional development needs there.

ADMISSION REQUIREMENTS

Admission to the MBA Program will be based on the following requirements:

1. Possession of a baccalaureate or higher degree from an accredited institution.
2. Cumulative undergraduate grade point average of 2.70 or higher (67% for Canadian universities) on a 4.00 basis or a 3.00 for the last two years of undergraduate work (70% for Canadian universities).
3. Satisfactory completion of the Graduate Management Admissions Test (GMAT).

In order to assist the University in evaluating a student's potential for graduate work, a two to three page written statement outlining educational background, related work experience, and reasons for applying to the MBA program is also required. This must be submitted with the application for admission.

Individuals who do not meet these requirements may be considered for admission on a conditional basis. The MBA Standards & Policy Committee must review all such applicants.

MBA STANDARDS & POLICY COMMITTEE

Academic standards and policies and curriculum development are the responsibilities of the MBA Standards & Policy Committee, which is composed of five MBA faculty plus the Director of the MBA Program. Any student failing to maintain a 3.0

(4.0 basis) average is referred to the MBA Standards & Policy Committee to determine whether he or she should be permitted to continue in the program. Any student receiving a "D" or "F" grade in a 500 or 600-level course is referred to the Committee immediately. Any student dismissed from the MBA program may petition the MBA Standards & Policy Committee for reconsideration. A maximum of six semester credits of "C" grades in 600-level courses may be allowed in the student's overall program.

APPLICATION PROCEDURE

Those seeking admission into the MBA Program must complete the following steps:

1. Submit an application for admission directly to the MBA office along with a \$25.00 (US Funds) nonrefundable application fee.
2. Submit a two to three page statement outlining educational background, related work experiences, and reasons for applying to the MBA Program. This statement assists in the evaluation of a student's potential for graduate work. It should be turned in with the application for admission.
3. Request official transcripts of all undergraduate work and graduate work to the MBA Office. To be considered official, transcript(s) must be sent directly from the former institution to the MBA Office at Lake Superior State University.
4. Submit an official report of your GMAT scores to the MBA office.

MBA DEGREE REQUIREMENTS

Preparatory Courses (500 level)

Students must complete course work at the 500-level unless they have satisfactorily completed an equivalent undergraduate course or have equivalent professional experience.

<u>Preparatory Course</u>	<u>credits</u>
MB502 Economic Analysis	3
MB508 Statistical Analysis	3
MB511 Data Proc & Cmpt Prog	3
MB521 Financial Accounting	3
MB525 Business Finance	3
MB561 Organizational Theory	3
MB581 Marketing Analysis	3
Total Preparatory Courses:	21

Preparatory courses are **REQUIRED** unless waived. Students will receive a degree audit work sheet indicating which 500 level preparatory courses will be waived upon their acceptance into the MBA Program. Preparatory courses do **NOT** count towards the MBA degree requirements.

Undergraduate Equivalent*

Prin of Economics
Statistics
Data Processing
Prin of Accounting
Prin of Finance
Prin of Management
Intro to Marketing

*Please contact the MBA Office for a listing of specific equivalent undergraduate courses at LSSU and other institutions.

Required Courses (600 level)

A total of 36 semester hours of 600 level graduate course work is required for completion of the MBA Degree. Of the 36 hours, 18 hours are required, and 18 hours are elective courses.

Required Core Courses:

The following core courses are required for all students:

MB608 Research Techniques	3
MB621 Mgrl Acctg & Cntrl	3
MB625 Financial Management	3
MB659 Administrative Policy	3
MB660 Organizational Behavior	3
MB681 Marketing Management	3
Total Core Requirements:	18

Elective Courses

Elective courses, equaling a total of 18 credits, are required to complete

the degree requirements for the MBA Program. A variety of elective courses are offered in a multitude of subjects which provide students with an opportunity to take courses in areas of individual interest.

MBA DEGREE

Preparatory Courses - if not waived (500 level)	21
MBA Core Courses (600 Level)	18
MBA Elective Courses (600 Level)	18
TOTAL:	57

A minimum overall grade point of 3.00 (4.00 basis) is required with no more than six credits of "C" grades.

Program Length

All degree requirements must be completed within eight years from date of admission.

Grades

The following grades are awarded to MBA students:

A = 4.00	D = 1.00
B+ = 3.50	F = 0.00
B = 3.00	I = Incomplete
C+ = 2.50	Z = Deferred
C = 2.00	

A minimum overall grade point of 3.00 (4.00 basis) is required with no more than six credits of "C" grades. Students who earn a "D" or "F" grade in a 600-level course will be immediately referred to the MBA Standards and Policy Committee for review. Courses with grades of "D" or "F" must be repeated or the student will not be eligible to graduate.

Transfer Credit

A maximum of six (6) semester hours of 600 level graduate work may be transferred into the MBA program from another graduate program. The credits must be graduate level, from an accredited institution, with a grade of "B" or higher. The courses must be applicable to the MBA Program and have been earned within the six-year period prior to the student's admission.

ACADEMIC CALENDAR

The MBA academic calendar is divided into three trimesters, Fall (September - December), Winter (January - April) and Summer (April - July). The length of the trimester is 13 weeks. Courses are offered evenings and weekends using a variety of class formats.

GUEST STUDENTS

Students who have not been formally accepted into the MBA Program are classified as guest students and may enroll in MBA classes provided they have the necessary prerequisites. Students who wish to use credit earned as a guest student towards the MBA degree must apply and be accepted into the Program. A maximum of six credits earned as a guest student may be applied toward the MBA degree requirements.

REGISTRATION AND SCHEDULING INFORMATION

Course registration and scheduling begins upon receipt of the scheduling bulletin each trimester. All registration and scheduling is processed through the MBA Office.

Drop/Refund Policy

Classes may be dropped at any time PRIOR to the first class session with a 100% refund. No refund will be given for classes dropped between that date and the course's final examination. A drop slip must be processed through the MBA Office. Courses dropped prior to the last class session will be assigned a "N" grade on the academic transcript.

Non-Credit Option

If desired, students may sign up for a course on a non-credit basis (without letter grade). Tuition remains at the same rate as the credit basis. This option must be selected at scheduling time and cannot be changed once the course has begun. Courses taken under this option do not count towards the MBA degree requirements. They do not affect the grade

point average. Students who complete courses under the non-credit option may request a Certificate of Completion by contacting the MBA Office. This may be a practical option for guest students who are not taking the course for MBA credit, but rather professional and/or personal development.

FOR MORE INFORMATION, Please contact the MBA Office.

MEMBERS OF THE MBA ADVISORY COUNCIL

Dan Alexander, St. Mary's Paper Company; William Connolly, CPA; Lou Fera, Ontario Lottery Corporation; William Gregory, Edison Sault Electric Company; John McVeety, Alpena General Hospital; Peter Nixon, Algoma Steel Corporation; Walter North, Mackinac Bridge Authority; Leonard Savoie, Algoma Central Railway; William VanKosky, Mead Paper Company.

MEMBERS OF THE MBA STANDARDS & POLICY COMMITTEE

Donald Gerrie, Chair; Dr. Richard Crandall; Dr. John Erkkila, Prof. Charles Meiser, Dr. Susan Ratwik, Dr. Madan Saluja.

MBA ADMINISTRATION AND FACULTY

Donald J. Gerrie, Director of the MBA Program; Susan K. Camp, Coordinator, MBA Program; **Faculty:** Earl E. Borseth, ABD, Michigan State University; Richard Conboy, Ph.D., American University; Richard Crandall, Ph.D., University of Michigan; John Erkkila, Ph.D., University of Western Ontario; Terry Hagan, Ph.D., Western Michigan University; Dale Haywood, Ph.D.; Ron Irwin, C.M., Q.C., LL.B; Richard Jennings, MA, Central Michigan University; Marilyn Keigley, Ph.D., Michigan State University; Keehn Landis, J.D; Northwestern University Law School; George Matzuff, Ph.D., American University; William McGuinness, MBA, Harvard University; Charles Meiser, MA, North Dakota State University; Fredrick Michels, Ph.D., Western Michigan University; Daniel Mugavero, CPA, MBA, Michigan State University; Susan Ratwik, Ph.D., University of Notre Dame; Alan Rugman; Ph.D., Simon Fraser University; Madan Saluja, Ph.D., University of Minnesota; Phil Valenti, J.D.; Nancy Voight, Ph.D., Michigan State University; Robert Welsh; Ph.D., Ohio State University.

NOTES

MASTER OF BUSINESS ADMINISTRATION COURSES

500 LEVEL PREPARATORY COURSES

MB502 ECONOMIC ANALYSIS 3
Study and application of theories and tools of economic analysis. Familiarization with institutional characteristics of U.S. economy and economic policy-making process.

MB508 STATISTICAL ANALYSIS 3
Overview of statistical analysis methods; application to business analysis and decision making. Emphasis: development of problem solving and computational skills.

MB511 DATA PROCESSING AND COMPUTER PROGRAMMING 3
Introduction to computers, computer programming, and computer data processing systems. Topics include: computer organization, program design and coding (using BASIC language), system analysis and design, and data security.

MB521 FINANCIAL ACCOUNTING 3
Basic accounting principles; their application with emphasis on management uses of accounting data, analysis of financial statements, and management planning and control systems.

MB525 BUSINESS FINANCE 3
Basic principles of business finance; application of analytical techniques to a variety of financial management problems. Evaluation of investment and financing decisions. Prerequisites: MB521 and MB508.

MB561 ORGANIZATIONAL THEORY 3
Fundamental theories and concepts of management and their application to organization theory and management functions, and processes.

MB581 MARKETING ANALYSIS 3
Planning, organizing, directing, and controlling of marketing sub-system in business organizations. Focus on environment that influences marketing, and marketing decisions facing marketing managers such as selection, target marketing, designing marketing strategy, and organizing and controlling marketing activities.

600 LEVEL COURSES

MB601 QUANTITATIVE METHODS 3
Orientation to management science; introduces students to variety of deterministic and probabilistic models useful in resolution of business related problems in functional application areas. Prerequisite: MB508.

MB602 MANAGEMENT OF QUALITY 1
An examination of quality control techniques used by managers in both manufacturing and service organizations.

MB604 MANAGERIAL ECONOMICS 3
Application of economic theory and analysis to managerial decision making. Emphasis: business environment under conditions of uncertainty. Demand theory and estimation, production theory and cost analysis, market structures and pricing practices, investment analysis, regulation and antitrust policy. Prerequisites: MB502 and 508.

MB608 RESEARCH TECHNIQUES 3
Survey of research methods used in business; emphasis on development of a research design. Survey techniques, experimental design, non-experimental designs, and case study method. Prerequisite: MB508.

MB610 MANAGEMENT INFORMATION SERVICES 3

The use of computers in business and industry. Modern applications will be provided. Through the use of computers, students will become familiar with several computer programs. Prerequisites: MB511.

MB611 OPERATIONS MANAGEMENT 3

In-depth exposure to the management of operational systems. Focus: development and implementation of realistic solutions to complex problems related to operations management. Prerequisites: MB508 and 561.

MB615 DATABASE MANAGEMENT 3

The organization, manipulation, and application of information through a computer database management system. Prerequisite: MB511.

MB621 MANAGERIAL ACCOUNTING AND CONTROL 3

Accounting concepts, budgeting, management control, and elements of cost accounting systems. Emphasis: analysis and interpretation of accounting reports for management purposes-measuring performance, controlling costs, and evaluating proposals. Prerequisite: MB521.

MB625 FINANCIAL MANAGEMENT 3

In-depth study of major elements of modern financial theory; application of current analytical techniques in corporate finance; financial analysis and projections, working capital management sources of funds, capital budgeting, leasing decisions, cost of capital theory, dividend policy and valuation theory. Prerequisites: MB521, 525 and 508

MB626 MONEY, BANKING & MONETARY POLICY 3

An understanding of money, banking and monetary policy in both the U.S. and Canada will be discussed. Monetary policy will be examined in some detail.

MB630 PUBLIC BUSINESS PRESENTATIONS 2

Public speaking skills are an essential component for the business man or woman in contemporary society. This course will focus on the theory and practice necessary to become adept at making public business presentations.

MB631 WRITTEN COMMUNICATION FOR MANAGERS 3

Designed to give the business professional practical experience in the following areas: writing clearly to a specific audience, structuring ideas on paper, writing with a purpose for results, organizing information coherently, editing for style and conciseness, presenting a polished product.

MB632 INTERVIEWING IN BUSINESS 3

An introduction to interviewing in business. Guidelines on how to conduct initial employment, appraisal, and exit interviews. Legal guidelines will be provided.

MB650 BUSINESS AND GOVERNMENT RELATIONS 3

A course designed to assist the student achieve a better understanding of the workings of government and what a manager can, from a practical point of view, do about its negative impact on his/her enterprise - or from a positive point of view, how the manager can influence changes that will improve his/her organization's operation.

MB652 INTERNATIONAL BUSINESS MANAGEMENT 3

An examination of international and multinational management. A review of the issues and concepts that are needed by the manager with the increasing globalization of business.

MB653 BUSINESS AND SOCIETY 2

The role of business and society; government regulations, labor values and ethics, social responsibility, changing international environment and future of the corporation.

MB654 CANADIAN BUSINESS ENTERPRISE 3

A course designed to provide students with an understanding of the small business environment in Canada. Topics include a current socio-economic perspective of the Canadian economy, Canadian entrepreneurs, and public policy as it relates to small business in Canada.

MB659 ADMINISTRATIVE POLICY 3

Concepts and relationships between a firm and its economic, social, and political environment. Focus: position of general manager in formulating strategic policy and implications for attainment of corporate objectives. Prerequisite: This is the master of business administration capstone course and is to be scheduled toward the conclusion of student's program.

- MB660 ORGANIZATIONAL BEHAVIOR 3**
Study and analysis of characteristics common to all organizations (behavior, structure, and process); application to the effective management of organizational behavior. Prerequisite: MB561.
- MB661 ETHICS IN MANAGEMENT 1**
Every business decision or situation has ethical components. This course is designed to integrate ethical reflection with management decision making.
- MB662 PROBLEM SOLVING AND DECISION MAKING 3**
Skills will be taught to help students organize and analyze information efficiently, so that the most appropriate action may be taken.
- MB663 POWER AND INFLUENCE IN ORGANIZATIONS 2**
A study of the basic elements of power in and around the organization. Who seeks it, why and how. Various systems of internal influence are introduced - personal control, bureaucratic control, ideology, expertise, and politics.
- MB664 WOMEN IN MANAGEMENT 3**
An examination of the organizational and interpersonal attributes which contribute to the well-functioning of women in management. Focus will be upon the career development and preparation of women for leadership roles in organizations. Prerequisite: MB561.
- MB665 HUMAN STRESS IN ORGANIZATIONS 3**
An examination of stress in the work place. The causes and consequences of stress on managers and those they supervise will be examined. Stress recognition and management will also be discussed.
- MB666 ENTREPRENEUR APPLICATIONS 3**
Theoretical framework for entrepreneurship and small business startup and ownership
- MB667 SMALL BUSINESS CONSULTING 3**
A practicum providing students with an opportunity to practically apply their theoretical knowledge within the context of a small business. Students will acquire the skills and knowledge required of individuals who want to provide management advice to entrepreneurs and individuals managing or starting small business.
- MB668 ORGANIZATIONAL GERONTOLOGY 1**
Demographic changes have contributed to the "aging" of the population. This aging has and will continue to affect the workforce and the workplace. The impact of this aging, both current and future, on the workforce and the workplace will be examined.
- MB670 HUMAN RESOURCES MANAGEMENT 3**
An examination of human resource management in organizations. Topics will include the traditional approach (i.e. recruitment, compensation, etc.) as well as the contemporary approach to HRM (i.e. equal opportunity employment, career planning, organizational development, etc.)
- MB671 PEOPLE MANAGEMENT 3**
This course will teach specific techniques for improving employee performance and new ways to overcome obstacles to organizational effectiveness. The approach presented will be managing on-the-job behavior. This approach is used to achieve important results not at the cost of people, but by using methods consistent with growth and development of an organization.
- MB673 EMPLOYEE ASSISTANCE 1**
A survey of employee assistance programs that have been developed for workers who have personal problems that affect job performance.
- MB676 LABOR LAW 3**
An examination of significant concepts in labor law - the evolution of these concepts as well as variables that influence their evolution will be examined.
- MB677 LABOR RELATIONS PRACTICES 3**
The course is separated into two separate segments. The first segment will deal with labor relations practices and will focus on areas such as administration of contract and dealing with grievances. The second segment will deal with labor laws and acts.

MB678 COLLECTIVE BARGAINING AND DISPUTE SETTLEMENT 3

Introduction to theories and practices of negotiating and administering collective bargaining agreements; negotiation process, legal constraints, subject matter of contracts, grievance procedures, and arbitration. Prerequisite: MB561.

MB681 MARKETING MANAGEMENT 3
Advanced course in marketing, emphasizing market forces and opportunities that coincide with a firm's marketing strategy and plan. Prerequisite: MB581,

MB682 MARKETING FOR NOT-FOR-PROFIT ORGANIZATIONS 3
Strategic marketing techniques for not-for-profit organizations.

MB690 SPECIAL TOPICS 1-3

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WHO DID IT?

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For further details concerning any program contact the Dean of Admissions, Lake Superior State University, Sault Ste. Marie, Mich. 49783. Phone:

1-906-635-2231; or
1-800-682-4800 toll-free in Michigan; or
759-4903 in Sault Ste. Marie, Ont., only.

Lake Superior State

1991-1992

FALL SEMESTER · 1991

INSTRUCTION BEGINS	AUGUST
Labor Day recess	26, Mon. 8:00 a.m.
	30, Fri., 10 p.m.
Labor Day recess	SEPTEMBER
Classes resume	2-3, Mon.-Tues.
Final day to add classes	4, Wed.
	4, 5:00 p.m., Wed.
Final day to drop classes	OCTOBER
	1, 5:00 p.m., Tues.
SPRING SEMESTER SCHEDULING	NOVEMBER
and Registration	4-20
Thanksgiving recess	26, Tues., 10 p.m.
Classes resume	DECEMBER
SPRING SEMESTER tuition payment	2, Mon.
Classes end	2- Jan. 2, 12 noon
Final Examinations	13, Fri.
SEMESTER ENDS	16-20, Mon.-Fri.
	20, Fri. 6 p.m.

SPRING SEMESTER · 1992

INSTRUCTION BEGINS	JANUARY
Final day to add classes	6, Mon.
	13, Mon.
Final day to drop classes	FEBRUARY
Spring break begins	7, Fri., 5 p.m.
	28, Fri., 10 p.m.
Classes resume	MARCH
FALL SEMESTER SCHEDULING	9, Mon.
and Registration	March 23 - April 8
Classes end	APRIL
Final Examinations	24, Fri.
	27-May 1, Mon.-Fri., 6 p.m.
SEMESTER ENDS	MAY
Commencement	1, Fri., 6 p.m.
	2, Sat.

SUMMER SEMESTER · 1992

SCHEDULING OF CLASSES	MARCH/APRIL/MAY
Registration, tuition payment	March 23-May 6
INSTRUCTION BEGINS	APRIL/MAY
	Apr. 14-May 6, 12 noon
	May 11
SEMESTER ENDS	AUGUST
All Grades Due	4
	6, 9 a.m.

University Calendar

1992-1993

FALL SEMESTER · 1992

Fall Semester tuition payment	AUGUST
INSTRUCTION BEGINS	3-19, 1 p.m.
Final day to add classes	24, Mon. 8:00 a.m.
	31, 5:00 p.m., Mon.
	SEPTEMBER
Labor Day recess begins	4, Fri., 10 p.m.
Labor Day recess	7-8, Mon.-Tues.
Classes resume	9, Wed.
Final day to drop classes	29, 5:00 p.m., Tues.
	NOVEMBER
SPRING SEMESTER SCHEDULING	2-18
and registration	24, Tues., 10 p.m.
Thanksgiving recess	30, Mon.
Classes resume	DECEMBER
	2- Jan. 6, 12 noon
Spring Semester tuition payment	11, Fri.
Classes end	14-18, Mon.-Fri.
Final examinations	18, Fri. 6 p.m.
SEMESTER ENDS	

SPRING SEMESTER · 1993

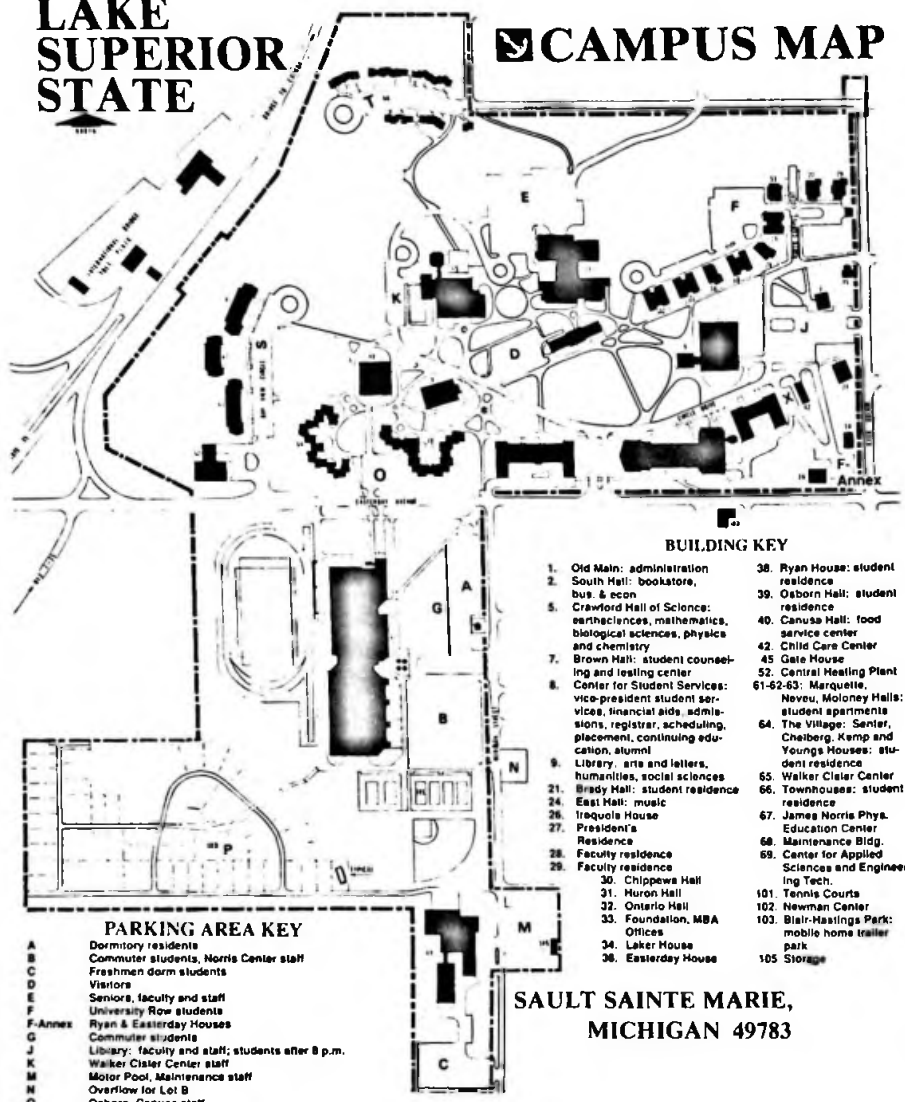
	JANUARY
INSTRUCTION BEGINS	11, Mon.
Final day to add classes	18, Mon.
	FEBRUARY
Final day to drop classes	12, Fri., 5 p.m.
	MARCH
Spring break begins	5, Fri., 10 p.m.
Classes resume	15, Mon.
FALL SEMESTER SCHEDULING	March 29 - April 14
and registration	APRIL
	30, Fri.
Classes end	MAY
Final examinations	3-7, Mon.-Fri., 6 p.m.
SEMESTER ENDS	7, Fri., 6 p.m.
Commencement	8, Sat.

SUMMER SEMESTER · 1993

	MARCH/APRIL/MAY
SCHEDULING OF CLASSES	March 29-May 12
	APRIL/MAY
Registration, tuition payment	Apr. 20-May 12, 12 noon
INSTRUCTION BEGINS	May 17
	AUGUST
SEMESTER ENDS	10
All grades due	12, 9 a.m.

LAKE SUPERIOR STATE

CAMPUS MAP



PARKING AREA KEY

- A Dormitory residents
- B Commuter students, Norris Center staff
- C Freshmen dorm students
- D Visitors
- E Seniors, faculty and staff
- F University Row students
- F-Annex Ryan & Easterday Houses
- G Commuter students
- J Library: faculty and staff; students after 8 p.m.
- K Walker Clear Center staff
- M Motor Pool, Maintenance staff
- N Overflow for Lot B
- O Osborn, Canusa staff
- P Mobile Home Residence
- Q Overflow for Lot B, winter months only
- S 61-62-63 student apartments
- T Townhouse parking
- X 30-minute parking

BUILDING KEY

- 1. Old Main: administration
- 2. South Hall: bookstore, bus & econ
- 5. Crawford Hall of Science: earthsciences, mathematics, biological sciences, physics and chemistry
- 7. Brown Hall: student counseling and testing center
- 8. Center for Student Services: vice-president student services, financial aids, admissions, registrar, scheduling, placement, continuing education, alumni
- 9. Library: arts and letters, humanities, social sciences
- 21. Brady Hall: student residence
- 24. East Hall: music
- 26. Iroquois House
- 27. President's Residence
- 28. Faculty residence
- 29. Faculty residence
- 30. Chippewa Hall
- 31. Huron Hall
- 32. Ontario Hall
- 33. Foundation, MBA Offices
- 34. Laker House
- 36. Easterday House
- 38. Ryan House: student residence
- 39. Osborn Hall: student residence
- 40. Canusa Hall: food service center
- 42. Child Care Center
- 45. Gate House
- 52. Central Heating Plant
- 61-62-63: Marquette, Neveu, Moloney Halls: student apartments
- 64. The Village: Sentier, Cheiberg, Kemp and Youngs Houses: student residence
- 65. Walker Clear Center
- 66. Townhouses: student residence
- 67. James Norris Phys. Education Center
- 68. Maintenance Bldg.
- 69. Center for Applied Sciences and Engineering Tech.
- 101. Tennis Courts
- 102. Newman Center
- 103. Blair-Hastings Park: mobile home trailer park
- 105 Storage

**SAULT SAINTE MARIE,
MICHIGAN 49783**

NO PARKING ON ANY UNIVERSITY DRIVE.

GOALS OF THE UNIVERSITY

GOAL NUMBER I

Continue to develop Lake Superior State University as an essentially baccalaureate-granting institution in an international setting whose major focus is on fostering academic excellence through effective teaching of the Liberal Arts, the Sciences, Technology and the Professions in a collegial environment. (Institutional Purpose)

GOAL NUMBER II

Design support programs that will address the special learning needs of minorities, nontraditional students and women. (Student Resources Goal)

GOAL NUMBER III

Contribute to the development of faculty, administrators, and staff through a planned set of activities for professional growth. (Human Resources Goal)

GOAL NUMBER IV

Assume a more active leadership role to enhance academic, economic, cultural, and research opportunities in the region. (Community Resources Goal)

GOAL NUMBER V

Enhance Lake Superior State University's future financial security through: raising additional money from private sources through the foundation office; seeking more state and federal funds; carefully reviewing existing and new costs. (Financial Resources Goal)

GOAL NUMBER VI

Maintain/upgrade Lake Superior State University's grounds, buildings, and facilities to provide an attractive and safe environment for the students, staff and public associated with the university. (Physical Resources Goal)

LAKE SUPERIOR STATE UNIVERSITY

MISSION STATEMENT

Lake Superior State University is a co-educational, public, comprehensive institution that recognizes as its primary mission the offering of challenging undergraduate programs to students from Michigan, Northern Ontario, and the near Midwest in anticipation of preparing them for stimulating lives and satisfying careers in the twenty-first century.

By design a relatively small institution, Lake Superior State University strives to carry out its primary mission by realizing a collegial community in which all its constituencies share in the teaching, research, and regional service activities of the Institution. In this supportive environment students, staff, faculty, and administrators demonstrate high regard for one another as valued members of the community, thus providing opportunities for emotional and social maturation as well as intellectual growth.

All educational programming at Lake Superior State University rests on an acknowledged commitment to an integrated relationship between the liberal arts and professional/technical fields. That relationship fosters the development of students as contributing citizens, viable professionals, and fulfilled individuals, who think critically, appreciate creativity, have problem-solving skills and express continuing intellectual curiosity about themselves, others, and the world around them. The University's international setting complements its efforts to assist students in the expansion of their perspectives.

Lake Superior State University's primary mission, thus, draws its validity from the knowledge that today's students—tomorrow's leaders—will best serve humanity by having: the necessary information to understand the past; the critical thinking skills to assess contemporary problems; and the enlightened courage to face with enthusiasm the uncertainty of the future.