INFORMATION REQUESTS
Please address specific inquiries to the following offices at
Eastern Michigan University, Ypsilanti 48197
AREA CODE: 313

ACADEMIC RECORDS ................................................................................................................................. Office of the Registrar, 302 Pierce, 487-4111
- Catalogs (undergraduate)
- Degree requirements
- Re-enrollment application
- Teacher certification
- Transfer credit
- Transcripts

ACADEMIC SERVICES ................................................................................................................................. Academic Advising Center, 301 Pierce, 487-2170
- Advising (undergraduate)
- Courses and programs of study
- Evening advising and programs of study

ADMISSION (UNDERGRADUATE) .................................................................................................................. Admissions Office, 401 Pierce, 487-3060
- International students
- New students
- Non-traditional students
- Transfer students

ADMISSION (GRADUATE) ............................................................................................................................... Graduate School, Starkweather, 487-3400
- Advising
- Catalogs
- Programs of study

ALUMNI RELATIONS ................................................................................................................................. Alumni Relations Office, 015 Welch, 487-0250

ATHLETIC TEAMS AND TICKETS ............................................................................................................ Athletics Office, 200 Bowen Field House, 487-0351

BILLING AND FEES ................................................................................................................................. Student Accounting Office, Briggs, 487-3335

BOOKS (new, used and supplies) .................................................................................................................. Barnes and Noble Bookstore, McKenny Union, 487-1000

CAMPUS VISITS (individuals or groups) ...................................................................................................... Admissions On-Campus Programs, Pierce, 487-1111

CHILDREN'S CENTER ............................................................................................................................... Snow Health Center, 487-1126

CLUBS AND ORGANIZATIONS ................................................................................................................... Campus Life, 117 Goodison, 487-3045

CONTINUING EDUCATION .......................................................................................................................... 319 Goodison, 487-0407
- Conferences and workshops
- Correspondence courses
- In-house training
- Off-campus credit courses
- Professional development

EDUCATIONAL CENTERS .......................................................................................................................... 487-4140, 487-0225
- Center for Entrepreneurship
- Child Development Laboratory
- Corporate Education Center
- Institute for Community and Regional Development
- Institute for the Study of Children and Families
- Michigan Consumer Education Center
- Institute for the Study of Children and Families
- Corporate Education Center
- Center for Instructional Computing
- Instructional Support Center
- Library
- Media Services Center
- Financial Aid Center
- Loans and grants-in-aid
- Scholarships

EDUCATIONAL RESOURCES .................................................................................................................... Learning Resources and Technologies, 487-0020
- Center for Instructional Computing
- Instructional Support Center
- Library
- Media Services Center
- Financial Aid Office
- Loans and grants-in-aid
- Scholarships

HEALTH SERVICES ...................................................................................................................................... Snow Health Center, 487-1122
- Counseling services
- Health services

HONORS PROGRAM ................................................................................................................................. Jones-Goddard Community of Scholars, 487-0341

LIVING ACCOMMODATIONS ...................................................................................................................... Housing Office, Dining Commons #1, 487-1300

PARENTS ASSOCIATION ................................................................................................................................... Pierce, 487-2222

REGISTRATION FOR CLASSES .................................................................................................................. Registration Office, 303 Pierce, 487-2300

RECREATION AND INTRAMURAL SPORTS ............................................................................................... Olds Student Recreation Center, 487-1338

VETERANS AFFAIRS ..................................................................................................................................... Veterans Affairs Office, 217 Goodison, 487-3116
UNIVERSITY CALENDAR

1990-91 ACADEMIC CALENDAR

Fall Semester, 1990

September 1, Saturday ........................................ Freshman Residence Hall Move-in Day
September 1, 2 & 3, Saturday, Sunday and Monday ........................................ Freshman Orientation
September 3 & 4, Monday and Tuesday ................ Upperclass Residence Hall Move-in Days
September 5, Wednesday ................................ Classes Begin
November 21, Wednesday ................................ No 5 p.m. or 7 p.m. classes
November 22-25, Thursday through Sunday .......... Thanksgiving Recess
November 26, Monday ........................................ Classes Resume
December 16, Sunday ........................................... Fall Commencement
December 17, Monday ............................ Reserved for Common Finals
December 15 and 17-20, Saturday and Monday .................. Final Examinations
December 20, Thursday ........................................ Fall Session Closes

Winter Semester, 1991

January 6, Monday ..................................................... Classes Begin
March 29-31, Friday through Sunday .................. Spring Recess
March 2, Monday .......................................................... Classes Resume
April 27, Saturday ................................................ Winter Session Closes
April 20, Monday ............................................................ Classes Resume
April 21-25, Tuesday through Saturday .................... Final Examinations
April 20, Monday ......................................................... Honors Convocation
April 5, Sunday .......................................................... Classes Resume
April 17-19, Friday through Sunday ...................... Spring Recess
April 22, Monday ....................................................... Final Examinations
April 22-27, Monday through Saturday .................. Final Examinations
April 27, Saturday ..................................................... Winter Session Closes

Spring Session, 1991

April 30, Tuesday .................................................. Move-in Day
May 1, Wednesday ................................................ Classes Begin
May 27, Monday ...................................................... Memorial Day (No Classes)
June 20 & 21, Thursday and Friday ....................... Final Examinations
June 21, Friday ...................................................... Spring Session Closes

Summer Session, 1991

June 23, Sunday ................................................... Move-in Day
June 24, Monday ................................................ Classes Begin
July 4, Thursday ................................................... Independence Day (No Classes)
August 1 & 2, Thursday and Friday ...................... Six-week Final Examinations
August 13 & 14, Tuesday and Wednesday .......... Seven and One-half Week Final Examinations
August 16, Friday ................................................ Summer Session Closes

1991-92 ACADEMIC CALENDAR

Fall Semester, 1991

August 31, Saturday ................................ Freshman Residence Hall Move-in Day
August 31, September 1 & 2, Saturday, Sunday and Monday ................................ Freshman Orientation
September 2 & 3, Monday and Tuesday ................ Upperclass Residence Hall Move-in Days
September 4, Wednesday ................................ Classes Begin
November 27, Wednesday ................................ No 5 p.m. or 7 p.m. classes
November 28-Dec. 1, Thursday through Sunday .......... Thanksgiving Recess
December 2, Monday ........................................ Classes Resume
December 14 & 16-19, Saturday and Monday .................. Final Examinations
December 19, Thursday ........................................ Fall Session Closes
December 21, Saturday (afternoon) ...................... Fall Commencement

Winter Semester, 1992

January 5, Sunday ............................................... Move-in Day and Winter Orientation
January 6, Monday ................................................ Classes Begin
February 23-March 1, Sunday through Sunday .......... Winter Recess
March 2, Monday .................................................. Classes Resume
April 5, Sunday .......................................................... Classes Resume
April 17-19, Friday through Sunday ...................... Spring Recess
April 20, Monday ..................................................... Classes Resume
April 21-25, Tuesday through Saturday .................... Final Examinations
April 25, Saturday ................................................... Winter Session Closes
April 26, Sunday (Afternoon) ................................ Winter Commencement

Spring Session, 1992

May 4, Monday .................................................. Move-in Day
May 5, Tuesday ................................................ Classes Begin
May 25, Monday ..................................................... Memorial Day (No Classes)
June 23 & 24, Tuesday and Wednesday .................. Final Examinations
June 24, Wednesday ........................................ Spring Session Closes

Summer Session, 1992

June 28, Sunday ................................................... Move-in Day
June 29, Monday ................................................ Classes Begin
July 3, Friday .................................................. Independence Day (No Classes)
August 6 & 7, Thursday and Friday ...................... Six-week Final Examinations
August 18 & 19, Tuesday and Wednesday .......... Seven and One-half Week Final Examinations
August 21, Friday ................................................ Summer Session Closes
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Requests</td>
<td>inside front cover</td>
</tr>
<tr>
<td>University Calendar</td>
<td>2</td>
</tr>
<tr>
<td>Welcome</td>
<td>4</td>
</tr>
<tr>
<td>University Profile</td>
<td>4</td>
</tr>
<tr>
<td>Mission Statement</td>
<td>5</td>
</tr>
<tr>
<td>Government of the University</td>
<td>7</td>
</tr>
<tr>
<td>College and Departments</td>
<td>7</td>
</tr>
<tr>
<td>Course Prefixes</td>
<td>8</td>
</tr>
<tr>
<td>Admission</td>
<td>9</td>
</tr>
<tr>
<td>University Honors Program</td>
<td>12</td>
</tr>
<tr>
<td>Tuition and Fees</td>
<td>13</td>
</tr>
<tr>
<td>Financial Aid</td>
<td>18</td>
</tr>
<tr>
<td>Academic Procedures</td>
<td>21</td>
</tr>
<tr>
<td>Graduation Requirements</td>
<td>28</td>
</tr>
<tr>
<td>Advising Sequence of Courses</td>
<td>37</td>
</tr>
<tr>
<td>Student Services</td>
<td>39</td>
</tr>
<tr>
<td>Campus Life</td>
<td>44</td>
</tr>
<tr>
<td>Resource Centers</td>
<td>49</td>
</tr>
<tr>
<td>COLLEGE OF ARTS AND SCIENCES</td>
<td>53</td>
</tr>
<tr>
<td>Departments, Course Descriptions and Programs of Study</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>African-American Studies Program</td>
<td>55</td>
</tr>
<tr>
<td>Art</td>
<td>57</td>
</tr>
<tr>
<td>Biology</td>
<td>64</td>
</tr>
<tr>
<td>Chemistry</td>
<td>77</td>
</tr>
<tr>
<td>Communication and Theatre Arts</td>
<td>85</td>
</tr>
<tr>
<td>Computer Science</td>
<td>100</td>
</tr>
<tr>
<td>Economics</td>
<td>104</td>
</tr>
<tr>
<td>English Language and Literature</td>
<td>110</td>
</tr>
<tr>
<td>Foreign Languages and Bilingual Studies</td>
<td>121</td>
</tr>
<tr>
<td>Geography and Geology</td>
<td>136</td>
</tr>
<tr>
<td>History and Philosophy</td>
<td>148</td>
</tr>
<tr>
<td>General Humanities Courses</td>
<td>160</td>
</tr>
<tr>
<td>Mathematics</td>
<td>162</td>
</tr>
<tr>
<td>Music</td>
<td>169</td>
</tr>
<tr>
<td>Physics and Astronomy</td>
<td>179</td>
</tr>
<tr>
<td>Political Science</td>
<td>188</td>
</tr>
<tr>
<td>Psychology</td>
<td>195</td>
</tr>
<tr>
<td>Sociology, Anthropology, and Criminology</td>
<td>199</td>
</tr>
<tr>
<td>Women's Studies Program</td>
<td>206</td>
</tr>
<tr>
<td>COLLEGE OF BUSINESS</td>
<td>207</td>
</tr>
<tr>
<td>Departments, Course Descriptions and Programs of Study</td>
<td></td>
</tr>
<tr>
<td>Accounting</td>
<td>212</td>
</tr>
<tr>
<td>Finance</td>
<td>215</td>
</tr>
<tr>
<td>Management</td>
<td>218</td>
</tr>
<tr>
<td>Marketing</td>
<td>222</td>
</tr>
<tr>
<td>Operations Research and Information Systems</td>
<td>225</td>
</tr>
<tr>
<td>COLLEGE OF EDUCATION</td>
<td>229</td>
</tr>
<tr>
<td>Departments, Course Descriptions and Programs of Study</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Health, Physical Education, Recreation and Dance</td>
<td>232</td>
</tr>
<tr>
<td>Leadership and Counseling</td>
<td>247</td>
</tr>
<tr>
<td>Special Education</td>
<td>248</td>
</tr>
<tr>
<td>Teacher Education</td>
<td>258</td>
</tr>
<tr>
<td>COLLEGE OF HEALTH AND HUMAN SERVICES</td>
<td>271</td>
</tr>
<tr>
<td>Departments, Course Descriptions and Programs of Study</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Associated Health Professions</td>
<td>273</td>
</tr>
<tr>
<td>Clinical Laboratory Sciences</td>
<td>273</td>
</tr>
<tr>
<td>Health Administration</td>
<td>278</td>
</tr>
<tr>
<td>Occupational Therapy</td>
<td>281</td>
</tr>
<tr>
<td>Human, Environmental and Consumer Resources</td>
<td>284</td>
</tr>
<tr>
<td>Nursing Education</td>
<td>297</td>
</tr>
<tr>
<td>Social Work</td>
<td>301</td>
</tr>
<tr>
<td>Gerontology</td>
<td>307</td>
</tr>
<tr>
<td>COLLEGE OF TECHNOLOGY</td>
<td>309</td>
</tr>
<tr>
<td>Departments, Course Descriptions and Programs of Study</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Business and Industrial Education</td>
<td>310</td>
</tr>
<tr>
<td>Industrial Technology</td>
<td>321</td>
</tr>
<tr>
<td>Interdisciplinary Technology</td>
<td>330</td>
</tr>
<tr>
<td>Military Science</td>
<td>343</td>
</tr>
<tr>
<td>Continuing Education</td>
<td>346</td>
</tr>
<tr>
<td>Graduate School</td>
<td>348</td>
</tr>
<tr>
<td>University Advancement</td>
<td>351</td>
</tr>
<tr>
<td>Student References</td>
<td>353</td>
</tr>
<tr>
<td>University Campuses</td>
<td>359</td>
</tr>
<tr>
<td>Administrative Officers</td>
<td>362</td>
</tr>
<tr>
<td>Faculty and Staff</td>
<td>365</td>
</tr>
<tr>
<td>Index of Programs of Study</td>
<td>384</td>
</tr>
<tr>
<td>Index</td>
<td>387</td>
</tr>
</tbody>
</table>
Welcome to Eastern Michigan University. This institution's proud heritage has now become YOUR future—a future in which to learn and grow, to advance toward a career and service, and to seek counsel and advice. Here you will find new friends from Michigan, other states and around the world.

EMU's focal point is southeastern Michigan—an area surrounded by small cities and towns of which its hometown, Ypsilanti, with 25,000 people, is one. Thirty miles to the east is Detroit, industrial and business hub of the Great Lakes; and an equal distance to the south is Toledo, northernmost city on the Ohio border and a new area of student growth.

Advantageous to all students are not only the cultural activities of the metropolitan areas, both within a 45-minute drive from the campus, but also the resources of its sister city, Ann Arbor, home of the University of Michigan. EMU offers its own cultural opportunities through the artistic accomplishments of its students in theatre and drama, extensive music and fine arts programs, and also its Office of Campus Life, which brings well-known speakers and entertainers to its auditoriums and classrooms.

The campus is close enough to home for many students to commute, but both nearby and far-distant students choose to live in EMU's dormitories and apartment complexes.

Major highways crisscross the southeastern Michigan area, bus service is available within and from outside Ypsilanti, and Detroit Metropolitan Airport is 30 minutes away. Feeder highways are M-94, which borders Ypsilanti, and US-23, which passes between Ypsilanti and Ann Arbor, connecting with the Ohio Turnpike to the south and other interstate highways to the north. I-275 provides quick and convenient access from Detroit's northwestern suburbs. More than half the population of the state of Michigan lives within 50 miles of EMU's campus.

Prospective students desiring to visit the campus are greeted by EMU's University Ambassadors Society, which provides tours and arranges visits with faculty in fields of interest to high school or transfer students. Orientation is provided for all incoming students.

Once on campus, the University catalog becomes the student's bible of information as personal programs are planned with the help of University counselors and faculty advisers.

UNIVERSITY PROFILE

Eastern Michigan University is a multipurpose university whose roots date back to 1849, when the State Legislature designated it as Michigan's first institution to educate teachers to serve the public schools. At that time, the Detroit school system was only 10 years old and the transition from one-room schoolhouses had just begun.

For its first 100 years, Michigan State Normal School, as EMU was conceived, certified thousands of teachers and developed the broad-based academic curricula that prepared it for its evolution to university status in 1959. Within the new university, three colleges emerged: the College of Education, the College of Arts and Sciences, and the Graduate School. The University expanded again in 1964 with a College of Business, in 1975 with a College of Health and Human Services, and in 1980 with a College of Technology.

New colleges precipitated the need for additional acreage. The university campus expanded from its original 275 acres on the south side of the Huron River to an additional 182 acres west of the campus primarily for student residences and athletic facilities. Among the newest buildings on campus are the Olds Student Recreation Center, opened in the fall of 1982 to provide needed recreational and intramural activities for the growing student body; the Sponberg Theatre addition to the Quirk Building, dedicated in January 1986; and the Coatings Research Building, opened in fall 1987. EMU's campus also extends into downtown Ypsilanti, where its new College of Business building is located.

Student enrollment continued to increase in the 1980s. The rapid college matriculation experienced in the late 1960s peaked in 1970 at 19,965, stabilized at 18,500 plus in 1979, and then began its upward climb again, totaling 25,000 in the fall of 1989.

Today's student body represents both full-time and part-time students, indicative of the national trend of mature adults returning to complete their college education and to prepare for new careers in a changing society. Women comprise almost 60 percent of EMU's student body. Many students work part time and others are assisted by EMU's Office of Financial Aid in work-study programs to meet the costs of a college education.

Included in the geographic distribution of EMU undergraduates in 1987 were 92 percent from the state of Michigan, 4 percent from out-of-state, and 3.7 percent who listed citizenship from countries other than the United States. Approximately 79 percent of the students from other states were from Ohio, largely because of a reciprocity tuition plan.

Program development has consistently adapted to the needs of entering and returning students as the world gives the new era of high technology. College faculty as well as college students are becoming computer literate. More opportunities are being offered to those seeking practical experience through business-industry internships and cooperative education experiences. Courses are provided in approximately 180 fields of study for the ever-diversifying student body.

EMU's perspective also has grown larger, not only in on-campus program developments but also in regular or special courses offered in 14 counties through its Division of Continuing Education and in cooperative agreements with nearby community colleges. The Office of International Studies plans spring/summer travel-study credit programs abroad and student-faculty exchanges with the University of Warwick, the Bulmershe College of Higher Education, and Nonington College, all in England.

In addition, the Corporate Education Center provides a vital link between research theory and practical application as it is called upon by businesses, schools, industries, and agencies to lend its expertise.

Eastern Michigan University today is known world-wide for its educational contributions. Its 76,770 graduates are scattered among many countries as well as coast-to-coast in the United States, both strengthening and supporting the foundation that is the multipurpose university in Ypsilanti, Michigan.

Eastern Michigan University campuses and buildings are detailed at the back of the catalog. A map of Ypsilanti and the surrounding area is printed inside the back cover.
EASTERN MICHIGAN UNIVERSITY
MISSION

Eastern Michigan University is committed to distinguishing itself as a comprehensive educational institution that prepares people and organizations to adapt readily to a changing world. Central to this mission are:

- providing an exceptional learning environment;
- applying new technologies to teaching, learning, and research;
- expanding knowledge and providing leadership through research, contract learning, and public service; and
- continually interpreting and responding to a changing regional, national, and global society.

VALUES

Eastern Michigan University’s mission and philosophy are built upon shared values that define and nourish the intellectual, ethical, and aesthetic environment.

These values are:

EXCELLENCE

The University’s principal responsibility is to provide academic programs in a learning environment that promotes academic and personal excellence.

The University, in all of its activities, encourages the achievement of excellence by all members of its various constituencies.

RESPECT

The University recognizes that wisdom, sound judgment, tolerance, and respect for other persons, cultures, and ideas are hallmarks of an educated person.

The University seeks to demonstrate, through all its programs and activities, appreciation of human diversity and to maintain an atmosphere of tolerance and mutual respect that will nourish human liberty and democratic citizenship.

SCHOLARSHIP

The University promotes and encourages continual research and creative activity by all its constituencies. Through such activity, participants remain intellectually alive, expand their fields of knowledge, enrich learning experiences, and bring academic recognition to the community. The intellectual and personal growth of individuals is a central purpose. Knowledge and learning are both the University’s products and its processes.

OPPORTUNITY

The University is committed to providing opportunities for learners of varying interests, abilities, backgrounds, and expectations.

It seeks to attract, serve, and accommodate a highly qualified and pluralistic student body, drawn from a variety of ethnic, social, and economic backgrounds and to make a special effort to provide access to the campus’ educational opportunities for non-traditional students and underrepresented populations.

COMMUNITY

The University strives to create and nurture a community that fosters mutual trust and respect for the open and amicable expression of differences.

SERVICE

The University endeavors to provide service for the public good. It encourages all constituents to be concerned about the welfare of humanity and to engage in public service.

The University is committed to developing and strengthening collaborative initiatives with the industrial, business, civic, and educational world.

FREEDOM

The University respects and protects personal and academic freedom. It seeks to provide an environment that facilitates involvement in intellectual and cultural activities and encourages formal and informal interaction between and among students, faculty, staff, administration, and community.

INTEGRITY

Intellectual, academic, financial, and operational integrity are critical to the University’s survival and effectiveness.

LEADERSHIP

The University strives to provide leadership in addressing the educational and social issues confronting the people and organizations in our society.

It promotes leadership and development activities that enhance educational and industrial opportunities for meeting this charge.

EMPOWERMENT

The University community is empowered to do what is right and necessary to achieve the University’s mission.

PHILOSOPHY

The University is dedicated to improving the quality of life within the global community it serves through teaching, contract learning, research, and service.

As an integral part of the state-supported public education system, the University is responsible for providing leadership in developing creative, innovative, and collaborative approaches to
EASTERN MICHIGAN UNIVERSITY
MISSION (cont.)

meet learning and research demands created as a result of a dramatically changing world.

The University recognizes that an educated populace is the essential ingredient for the successful improvement of humankind. It is dedicated to:

- providing opportunities for professional, intellectual, and personal growth;
- preparing individuals for careers and professions;
- encouraging all University members to be concerned about the welfare of the campus, local, and world communities;
- assisting organizations to function effectively in a global economic environment; and
- instilling in all persons a commitment as leaders, to engage in public service.

The University seeks to provide an intellectual, social, and cultural environment that attracts, serves, and empowers a pluralistic community.

GUIDING PRINCIPLES

Guiding principles form the framework against which the University tests its effectiveness.

In all programs, activities, and services, the University seeks to be:

APPROACHABLE

Psychological barriers that impede participation are eliminated. People and organizations are valued as the University’s resources, products, and customers.

ACCESSIBLE

Programs and activities of the University are open to all qualified persons without regard to race, religion, martial status, sex, sexual orientation, age, national or ethnic origin, political belief, or physical handicap.

The University seeks to demonstrate, through all its programs and activities, its appreciation of human diversity and to maintain an atmosphere of tolerance and mutual respect that will nourish human liberty and democratic citizenship.

AFFORDABLE

The University is committed to ensuring that those individuals who are qualified and who desire to participate are not discouraged from doing so because of financial resources, time restraints, or physical distance.

The University seeks to provide financial aid for all constituencies, to be sensitive to changing demands in the educational marketplace, and to deliver educational services in nontraditional ways and settings.

APPLICABLE

Programs are designed to broaden perspectives, enrich awareness, deepen understanding, establish disciplined habits of thought, respond to changes in the workplace and society, and help develop individuals who are informed, responsible citizens.

ATTAINABLE

Recognizing that various constituencies have different needs, programs, activities, and services must be flexible so that all people have the opportunity to participate and to achieve their goals or purpose.

COLLABORATIVE

To utilize financial and human resources effectively, all programs, activities, and services should seek to develop linkages with internal and external constituencies.

The University must continue to develop new partnerships with business, industry, education, and government, to define mutual goals and benefits, and to meet its responsibilities to the global community.

QUALITY

Quality is the first priority in all programs, activities, and services.
GOVERNMENT OF THE UNIVERSITY

Eastern Michigan University is an autonomous university governed by an eight-member Board of Regents appointed by the governor and subject to the approval of the state Senate. Financial support for the University comes from tax money paid by the people of Michigan and receipt of student tuition and fees.

Members of the Board of Regents, whose terms expire at the end of the calendar year listed, are John H. Burton ('94), Ypsilanti, chairman; Anthony A. Derezinski ('96), Ann Arbor, vice-chairman; James Clifton ('96), Ypsilanti; Thomas Guastello ('92), Grosse Pointe Farms; Richard N. Robb ('92), Ypsilanti; William Simmons ('90), Wayne; and Geneva Y. Titsworth ('90), Dearborn Heights.

Policies complied with by the University affirm the admission and participatory rights of all individuals, regardless of sex, race, color, religion, creed, national or ethnic origin. These include:

Civil Rights Act: The University will work for the elimination of improper discrimination in organizations recognized by the University and in non-University sources wherein students and employees of the University are involved.

Equal Opportunity and Affirmative Action: The University does not discriminate in the administration of its educational and admissions policies, scholarships and loan programs. It is its practice to take affirmative action in all personnel matters.

Title IX, Education Amendments of 1972: The University complies with the athletic regulations which prohibit discrimination on the basis of sex.

Rehabilitation Act of 1973: The University encourages qualified veterans and handicapped students to apply for admission and take part in the general and specific activities for students offered on this campus.

Section 504 of the act requires that no otherwise qualified handicapped individual, solely by reason of his or her handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

Students encountering difficulty with access to full participation in University activities should contact the dean of students in 218 Goodison Hall. Individuals who believe that the University is not in compliance are invited to contact the executive director of human resources at (313) 487-1052.

COLLEGES AND DEPARTMENTS

Eastern Michigan University seeks an atmosphere of community, trust and commitment among all segments of its campus—students, faculty and staff. Its goals are to encourage instructional growth, research, scholarship and artistic pursuits and to provide service to the local community, the state, nation and world. It offers undergraduate programs in the colleges and departments listed below as well as graduate study in selected disciplines which may lead to the master's or specialist's degrees.

College of Arts and Sciences: African-American Studies; Art; Biology (Botany, Zoology); Chemistry—accredited American Chemical Society; Communication and Theatre Arts (Radio-TV-Film); Computer Science; Economics; English Language and Literature ( Journalism); Foreign Languages and Bilingual Studies; Geography and Geology; History and Philosophy; Mathematics; Music—accredited National Association of Schools of Music; Physics and Astronomy; Political Science; Psychology; Sociology, Anthropology, Criminology; Women's Studies.

College of Business: accredited by the American Assembly of Collegiate Schools of Business; Accounting; Finance; Management; Marketing; Operations Research and Information Systems.

College of Education: accredited by the National Council for Accreditation of Teacher Education for the preparation of elementary and secondary teachers and school service personnel; Leadership and Counseling—accredited by the Council for Accreditation of Counseling and related programs; Health, Physical Education, Recreation and Dance; Teacher Education; Special Education—accredited by the American Speech and Hearing Association for its Speech Pathology Program for Teachers of the Speech and Language Impaired and by the Council on Education of the Deaf for the Hearing Impaired Program.

College of Health and Human Services: Associated Health Professions (Health Administration—member of the Association of University Programs in Health Administration, Clinical Laboratory Sciences, Occupational Therapy—accredited by the American Medical Association in collaboration with the American Occupational Therapy Association and National Accrediting Agency for Clinical Laboratory Sciences); Human, Environmental and Consumer Resources—accredited by the American Home Economics Association, and for its Dietetics Program by the American Dietetic Association; accredited by the Foundation for Interior Design Research (FIDER), and the Child Development Laboratory by the National Academy of Early Childhood Programs; Nursing Education—accredited by the National League for Nursing; Social Work—baccalaureate program accredited by the Council on Social Work Education.

College of Technology: accredited by the National Association of Industrial Technology; Business and Industrial Education; Industrial Technology; Interdisciplinary Technology; Military Science.
## Course Prefixes

A department prefix or code is used to identify courses offered in EMU's five colleges as listed below:

<table>
<thead>
<tr>
<th>DEPARTMENT NAME/SUBJECT AREA</th>
<th>PREFIX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Affairs Division</td>
<td>AAD</td>
</tr>
<tr>
<td>African-American Studies</td>
<td>AAS</td>
</tr>
<tr>
<td>Accounting</td>
<td>ACC</td>
</tr>
<tr>
<td>Applied Music</td>
<td>AMU</td>
</tr>
<tr>
<td>Anthropology</td>
<td>ANT</td>
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<tr>
<td>Astronomy</td>
<td>AST</td>
</tr>
<tr>
<td>Athletics</td>
<td>ATH</td>
</tr>
<tr>
<td>Business Education</td>
<td>BE</td>
</tr>
<tr>
<td>Biology</td>
<td>BIO</td>
</tr>
<tr>
<td>Botany</td>
<td>BOT</td>
</tr>
<tr>
<td>Courses Given in English in Department of</td>
<td>CEN</td>
</tr>
<tr>
<td>Foreign Languages and Bilingual Studies</td>
<td>CHM</td>
</tr>
<tr>
<td>Chemistry</td>
<td>CHM</td>
</tr>
<tr>
<td>Classical Languages</td>
<td>CLA</td>
</tr>
<tr>
<td>Clinical Laboratory Sciences</td>
<td>CLS</td>
</tr>
<tr>
<td>College of Business</td>
<td>COB</td>
</tr>
<tr>
<td>College of Health and Human Services</td>
<td>HHS</td>
</tr>
<tr>
<td>Computer Science</td>
<td>CSC</td>
</tr>
<tr>
<td>Communication and Theatre Arts</td>
<td>CTA</td>
</tr>
<tr>
<td>Curriculum and Instruction</td>
<td>CUR</td>
</tr>
<tr>
<td>Dance</td>
<td>DAN</td>
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<td>Early Childhood Education</td>
<td>ECE</td>
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<td>Earth Science</td>
<td>EGS</td>
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<td>Economics</td>
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<td>Educational Leadership</td>
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<tr>
<td>Educational Media</td>
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<tr>
<td>Educational Psychology</td>
<td>EDP</td>
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<tr>
<td>Educational Technology</td>
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<td>Elementary Science</td>
<td>ESC</td>
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<tr>
<td>English as a Second Language</td>
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<td>Fine Arts (Art)</td>
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<td>Finance</td>
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<tr>
<td>Foreign Language</td>
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<tr>
<td>French</td>
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<tr>
<td>Guidance and Counseling</td>
<td>G&amp;C</td>
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<tr>
<td>Geography</td>
<td>GEO</td>
</tr>
<tr>
<td>Geology</td>
<td>GLG</td>
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<tr>
<td>German</td>
<td>GER</td>
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<tr>
<td>Gerontology</td>
<td>GRT</td>
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<tr>
<td>Health Administration</td>
<td>HAD</td>
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<tr>
<td>Health Education</td>
<td>HED</td>
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<tr>
<td>Historic Preservation</td>
<td>GHP</td>
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<td>DEPARTMENT NAME/SUBJECT AREA</td>
<td>PREFIX</td>
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<tr>
<td>History</td>
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<tr>
<td>Human, Environmental and Consumer Resources</td>
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<tr>
<td>Interdisciplinary Technology</td>
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<tr>
<td>Industrial Education</td>
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<td>Industrial Technology</td>
<td>IT</td>
</tr>
<tr>
<td>Japanese</td>
<td>JPN</td>
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<tr>
<td>Journalism</td>
<td>JRN</td>
</tr>
<tr>
<td>Law</td>
<td>LAW</td>
</tr>
<tr>
<td>Linguistics</td>
<td>LNG</td>
</tr>
<tr>
<td>Literature</td>
<td>LIT</td>
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<tr>
<td>Management</td>
<td>MGT</td>
</tr>
<tr>
<td>Microbiology</td>
<td>MIC</td>
</tr>
<tr>
<td>Marketing</td>
<td>MKT</td>
</tr>
<tr>
<td>Military Science</td>
<td>MS</td>
</tr>
<tr>
<td>Mathematics</td>
<td>MTH</td>
</tr>
<tr>
<td>Music</td>
<td>MUS</td>
</tr>
<tr>
<td>Nursing</td>
<td>NUR</td>
</tr>
<tr>
<td>Operations Research and Information Systems</td>
<td>ORI</td>
</tr>
<tr>
<td>Occupational Therapy</td>
<td>OT</td>
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<tr>
<td>Physical Education</td>
<td>PED</td>
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<tr>
<td>Physical Education Activity—General</td>
<td>PEG</td>
</tr>
<tr>
<td>Physical Education Activity—Majors</td>
<td>PEP</td>
</tr>
<tr>
<td>Philosophy</td>
<td>PHI</td>
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<tr>
<td>Physics</td>
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<td>Political Science</td>
<td>PLS</td>
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<tr>
<td>Psychology</td>
<td>PSY</td>
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<tr>
<td>Recreation</td>
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<tr>
<td>Real Estate</td>
<td>RES</td>
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<tr>
<td>Special Education—Emotionally Impaired</td>
<td>SEI</td>
</tr>
<tr>
<td>Social Foundations of Education</td>
<td>SFD</td>
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<tr>
<td>Special Education—General</td>
<td>SGN</td>
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<tr>
<td>Special Education—Hearing Impaired</td>
<td>SHI</td>
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<tr>
<td>Special Education—Learning Disabled</td>
<td>SLD</td>
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<tr>
<td>Special Education—Speech and Language Impaired</td>
<td>SLI</td>
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<tr>
<td>Special Education—Mentally Impaired</td>
<td>SMI</td>
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<tr>
<td>Sociology</td>
<td>SOC</td>
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<tr>
<td>Special Education—Physically and Otherwise Health Impaired</td>
<td>SPI</td>
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<tr>
<td>Spanish</td>
<td>SPN</td>
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<tr>
<td>Special Education—Visually Impaired</td>
<td>SVI</td>
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<tr>
<td>Social Work</td>
<td>SWK</td>
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<tr>
<td>Women's Studies</td>
<td>WMS</td>
</tr>
<tr>
<td>Zoology</td>
<td>ZOO</td>
</tr>
</tbody>
</table>
ADMISSION TO Eastern Michigan University is open to all students who have the potential to succeed and the motivation to continue their education. To attract strong students, an extensive academic scholarship program has been developed to award and recognize students who have demonstrated strong academic ability or unusual talent (see Financial Aid section). A wide variety of service and support activities are also provided for those who wish to improve their academic skills and performance.

ACCEPTANCE into the University is dependent on meeting the admission criteria described below. Students are accepted into the University and may take courses with any of the University's colleges. Many academic programs are designed to include courses from more than one college; however, admission to the University does not preclude meeting specific program requirements.

The Admissions Office, 400 Pierce Hall, provides information to meet the varied circumstances of the applicant. The Academic Advising Center, 301 Pierce Hall, assists students in selecting courses applicable to their planned program or appropriate to their academic needs after the students have been admitted to the University.

APPLICATION FOR ADMISSION is a simple process that requires the submission of a completed admission application form and supporting academic records. The required supporting records vary with the category of admission.

Freshman applicants entering college for the first time must submit their official high school transcript and results of the American College Test (ACT) or the Scholastic Aptitude Test (SAT) and a non-refundable $20 application fee. Evidence of graduation (or results of the General Education Diploma GED test) is required if the applicant is no longer attending high school. Applicants over 21 years of age should refer to the non-traditional student category.

Students not qualifying for regular admission under the above criteria may be considered for the PASS (Promote Academic Survival and Success) program (by University selection only) or the Summer Incentives Program (SIP).

Transfer applicants who have earned credit at a college or university other than Eastern Michigan University must provide an official transcript from each institution attended. Any applicant who has earned less than 12 semester hours of transferable credit (18 quarter hours) also will be required to submit a high school transcript (or equivalent GED) and results of the ACT or SAT.

Students with credit only from a junior or community college must earn a minimum of 60 semester hours at EMU to complete degree requirements, exclusive of physical activity or junior or community college credit.

Non-traditional students who are 21 years of age or older and have a high school diploma (or its equivalent) but have not attempted college work previously may be considered for admission without further requirements. Evidence of the high school diploma is expected. The student may be required to take selected tests for advising purposes only.

Veterans who have served in the U.S. Armed Forces for more than 181 consecutive days will be admitted upon receipt of the high school transcript or its equivalent and a DD214 document verifying military duty. Veterans released from active service for reasons of disability will be considered as having met the 181 consecutive day requirement. If the veteran has attempted college work since release from active duty, the application will be reviewed as that of a transfer student.

Guest students are admitted (provided space is available) when regularly matriculated and in good standing at another regionally accredited college or university. The student assumes full responsibility for determining whether or not the courses elected at this university will apply to his/her program of study. While at EMU, the student is subject to this university's academic policies. Applications for admission as a guest student may be obtained either at the home institution or the Admissions Office of EMU. NOTE: Space is seldom available for guests during the fall semester.

Non-matriculated students are permitted to take a course or courses for one semester only without going through the regular admission process. Students in this category must present unofficial records indicating their acceptability. Any subsequent enrollment requires regular admission to the University.

Off campus and continuing education students (see Division of Continuing Education) are subject to regular admission criteria. However, they may be admitted as non-matriculated students for one semester. Applicants planning to continue with other courses should apply for regular admission in the appropriate category described above.

DUAL ENROLLMENT may be maintained by a student whose primary enrollment is in a high school (provided space is available). Applicants must submit a high school transcript, obtain high school and parental approval, and meet current academic eligibility requirements for that program.

CROSS-REGISTRATION of undergraduate students between Eastern Michigan University and Washtenaw Community College (WCC) makes it possible for each institution to better serve the needs of their mutual service area. The program, implemented in 1982, has the following guidelines:

A. Students who are officially enrolled at Eastern Michigan University and are in good academic standing upon the completing of 12 semester hours at EMU, may cross-register for one course per semester and/or session at Washtenaw Community College.

Students who are officially enrolled at Washtenaw Community College and have achieved at least a 2.0 GPA in 12 transferable
B. EMU students will be allowed to enroll on a space-available basis at WCC for a course that is not available during the same semester of session at EMU. WCC students will be allowed to enroll on a space-available basis at EMU for a course that is not available during the same semester or session at WCC.

C. EMU students wishing to enroll at WCC will complete a cross-registration form at the EMU Academic Advising Center between the last week of regular registration and the end of the Drop/Add period. An inter-institutional course number at WCC, course I.D. number and course title will be indicated on the cross-registration form. The students will pay the appropriate EMU tuition and fees for these courses to Eastern Michigan University.

WCC students wishing to enroll at EMU will complete a cross-registration form in WCC's Registrar's Office beginning the last week of regular registration through the Drop/Add period. An inter-institutional course number at EMU, course I.D. number and course title will be indicated on the cross-registration form. The students will pay the appropriate WCC tuition and fees for these courses to Washtenaw Community College.

D. At the end of each semester and/or session, the WCC Registrar's Office will send the grades for all cross-registered EMU students to the Academic Advising Center at Eastern Michigan University for processing.

At the end of each semester and/or session, the EMU Academic Advising Center will send the grades for all cross-registered WCC students to the Registrar's Office at Washtenaw Community College for processing.

E. This procedure does not prevent students from registering in the usual manner; i.e., regular student, guest student.

INTERNATIONAL STUDENTS are welcomed by the University, which is authorized under federal law to enroll non-immigrant alien students. They may apply for admission any semester but are advised to contact the Admissions Office as soon after making their decision as possible to accomplish the following admission requirements:

1. Write for and complete an application for admission.

2. Provide original documents of transcripts of academic credit or certified copies of original documents. (If the documents are not in English, they must be accompanied by an official English translation.)

3. Provide evidence of proficiency in the English language (e.g., TOEFL or Michigan Test). In some cases, foreign students will be required, as a condition of admission, to take one or more courses in spoken or written English for foreign students.

4. Present a statement of financial responsibility covering the total cost of attending the University.

Undergraduate international students’ English proficiency requirements are listed under the Department of Foreign Languages and Bilingual Studies (page 122).

Re-Enrollment

FORMER EMU STUDENTS desiring to re-enroll at EMU after an absence of one year should make application in the Registrar's Office, 302 Pierce Hall, at least two months prior to the first day of classes. The applicant should complete the application and return it to the same office.

Students who have a past due obligation to the University must clear their obligation through the Student Accounting Office, Pierce Hall, before their application for re-enrollment can be processed.

Students who have attended any institution of higher education since being enrolled at Eastern Michigan University must secure a transcript of work done elsewhere and submit it to the Registrar's Office with an application for re-enrollment.

If absence from Eastern Michigan University was by request of the University, the student must initiate any application for re-admission with the Academic Advising Center, 301 Pierce Hall.

If the student wishes to advance register for a session, the application for re-enrollment should be filed no later than the following dates:

For fall semester .................................................. July 1
For winter semester .............................................. Nov. 15
For spring session ............................................... March 15
For summer session ............................................. May 1

Alternative Credit Options

Eastern Michigan University offers students the opportunity to earn up to 30 hours of academic credit by examination and, in some instances, to enroll immediately in advanced courses through various credit-by-examination programs. Especially high test scores may warrant additional academic credit and/or higher placement.

These programs include:

1. Advanced Placement (AP)
2. International Baccalaureate (IB)
3. College Level Examination Program (CLEP)
4. Credit by examination (available through academic departments when CLEP is not available)
5. Validation (may be required to transfer junior college credit for 300 and 400 level EMU courses)

The table below illustrates academic credit available by department for AP, IB, and CLEP test scores, with the following limitations:

1. Credit may not be duplicated for separate tests and/or completed courses covering the same subject matter. Credit may be denied if the student has already successfully completed a higher level course in the same subject or enrolled in a similar course.
2. Credit by examination may be awarded up to a maximum of 30 credit hours.
3. The International Baccalaureate Diploma does not equate automatically with sophomore standing, nor does it automatically waive basic studies requirements.

For more information, contact the Academic Advising Center.

Credit by examination and validation is available through academic departments when CLEP examinations are not appropriate in assessing the student’s previous education and/or life experiences.

Credit by examination regulations are:
1. The applicant must be admitted to Eastern Michigan University.
2. Prerequisites must be met before credit by examination may be considered for any course.
3. Credit will normally not be awarded for any course below the level of a course for which the student already has credit or which the student is taking or has taken.
4. Courses such as “Workshops,” “Special Topics,” “Seminars,” and “Directed” or “Independent Studies” are excluded from credit by examination.

Validation regulations are implemented after all college-parallel credit earned at accredited community and junior colleges has been recorded on the student’s official EMU record and the transfer has been completed. If further validation of community/junior college credit is required for 300 and 400 level EMU courses, two ways to achieve this are:

1. Satisfactory completion of the next more advanced course in the series as designated by the department head.

<table>
<thead>
<tr>
<th>Department</th>
<th>Exam/Subject</th>
<th>Min. Score</th>
<th>Credit Awarded*</th>
<th>Placement</th>
<th>Departmental Credit-by-exam Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art</td>
<td>AP History of Art</td>
<td>3-4.5</td>
<td>FA 101 (3)</td>
<td>FA 107</td>
<td>with special permission</td>
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<tr>
<td></td>
<td>AP Studio Art: General</td>
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<td>FA 108 (3)</td>
<td></td>
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<tr>
<td></td>
<td>Portfolio or drawing portfolio</td>
<td>3</td>
<td>FA 179 (5) or FA 379 (3)</td>
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</tr>
<tr>
<td>Biology</td>
<td>CLEP General Biology</td>
<td>46-50</td>
<td>BIO 105 (4) - Elective</td>
<td>BOT 221 or ZOO 222</td>
<td>with special permission</td>
</tr>
<tr>
<td></td>
<td>AP General Biology</td>
<td>3</td>
<td>BIO 105 (4) - Elective</td>
<td>BOT 221 or ZOO 222</td>
<td>with special permission</td>
</tr>
<tr>
<td></td>
<td>IB (Higher Level)</td>
<td>4</td>
<td>BIO 105 (4) - Elective</td>
<td>BOT 221 or ZOO 222</td>
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<td>CLEP General Chemistry</td>
<td>48-58</td>
<td>CHEM 121 (3)</td>
<td>CHEM 123</td>
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<td>AP Chemistry</td>
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<td>CHEM 121 (3)</td>
<td>CHEM 128</td>
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<td></td>
<td>4</td>
<td>CHEM 121 (3) and CHEM 123 (3)</td>
<td>CHEM 238</td>
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<td>CLEP Information Systems A &amp; Computer Programming</td>
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<td>CSC 137 (3)</td>
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<td>CSC 138 (3)</td>
<td>CSC 228</td>
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<td>AP Computer Science AB</td>
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<td>CSC 138 (3) and CSC 228 (3)</td>
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<td>CLEP Introduction to Microeconomics</td>
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<td>ECO 202</td>
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<tr>
<td>English</td>
<td>CLEP College Composition*</td>
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<td>ENGL 225</td>
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<td>English Literature**</td>
<td>65</td>
<td>ENGL 121 (3) and ENGL 225 (3)</td>
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<td>AP English Language</td>
<td>3</td>
<td>ENGL 121 (3)</td>
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<td>4.5</td>
<td>ENGL 121 (3) and ENGL 225 (3)</td>
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<td>4-5</td>
<td>LIT 100 (3) and LIT 101 (3)</td>
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<td>any 200-300 level English course</td>
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<td>Foreign Languages*</td>
<td>AP French Language or</td>
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<td>FRN 122</td>
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<td></td>
<td>French Literature</td>
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<td>FRN 122 (3)</td>
<td>FRN 122</td>
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<td>German Language</td>
<td>3</td>
<td>GER 121 (3)</td>
<td>GER 122</td>
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<td></td>
<td>4.5</td>
<td>GER 122 (3)</td>
<td>GER 122</td>
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<tr>
<td></td>
<td>AP Latin: Vergil or Catullus-Horace</td>
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<td>LAT 121 (5)</td>
<td>LAT 122</td>
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<tr>
<td></td>
<td></td>
<td>4.5</td>
<td>LAT 122 (5)</td>
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<td>CLEP College French I</td>
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<td>PRN 121 (3)</td>
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<td>College French II</td>
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<td>PRN 122 (3)</td>
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<td>College German I</td>
<td>44-53</td>
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<td>GER 122</td>
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<tr>
<td></td>
<td>College Spanish I</td>
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<td></td>
<td>College Spanish II</td>
<td>54</td>
<td>SPN 122 (3)</td>
<td>SPN 201</td>
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<tr>
<td>History</td>
<td>CLEP American History I</td>
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<td>HIS 123 (3)</td>
<td>HIS 124 (3)</td>
<td>More courses in the department</td>
</tr>
<tr>
<td></td>
<td>American History II</td>
<td>50</td>
<td>HIS 124 (3)</td>
<td>HIS 124 (3)</td>
<td>More courses in the department</td>
</tr>
<tr>
<td></td>
<td>Western Civ. I</td>
<td>50</td>
<td>HIS 101 (3)</td>
<td>HIS 102</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Western Civ. II</td>
<td>50</td>
<td>HIS 102 (3)</td>
<td>HIS 102</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AP United States History</td>
<td>3</td>
<td>HIS 123 (3) and HIS 124 (3)</td>
<td>HIS 124 (3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AP European History</td>
<td>4</td>
<td>HIS 101 (3)</td>
<td>HIS 102</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.5</td>
<td>HIS 101 (3) and HIS 102 (3)</td>
<td>HIS 102</td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>CLEP Introduction to Business Management</td>
<td>50</td>
<td>MGT 382 (3)</td>
<td>MGT 386</td>
<td>yes</td>
</tr>
<tr>
<td>Marketing</td>
<td>CLEP Introduction to Business Law</td>
<td>55</td>
<td>LAW 293 (3)</td>
<td>LAW 293</td>
<td>yes</td>
</tr>
</tbody>
</table>

Table continued on page 12
2. Procedures for credit by examination and validation are:
1. Pick up, fill out and return application for credit by examination/validation to the Registrar’s Office. Eligibility to sit for credit by examination/validation will be determined by the Registrar’s Office.
2. Take paper provided by the Registrar’s Office to the head of the department in which the course is offered. The department head will evaluate the request and make one of the following decisions:
a. Grant permission for credit by examination/validation.
b. Deny permission for credit by examination/validation.
c. Hold request for further investigation.
3. Once permission is granted and the time and place of exam is agreed upon, the student will validate permission form by paying the fee to the EMU Cashier’s Office.
4. The student will present validated permission form to the instructor prior to taking any exam or activity for credit by examination/validation.
5. After the instructor evaluates student performance and indicates P/F on permission form, a copy of the written examination or explanation of the activity as well as the instructor’s total evaluation will be placed on file in the office of the department head. The department head will sign permission form indicating receipt of instructor’s evaluation.
6. Department head will forward permission form to the Registrar’s Office.

**Essay required**

<table>
<thead>
<tr>
<th>Department</th>
<th>Exam/Subject</th>
<th>Min Score</th>
<th>Credit Awarded*</th>
<th>Placement</th>
<th>Departmental Credit by-exam Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics</td>
<td>CLEP College Algebra</td>
<td>53</td>
<td>MTH 105 (3)</td>
<td></td>
<td>MTH 118, MTH 119 or yes</td>
</tr>
<tr>
<td></td>
<td>Trigonometry</td>
<td>53</td>
<td>MTH 120 or MTH 122</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Calculus**</td>
<td>53</td>
<td>MTH 107 (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AP Calculus AB</td>
<td>3</td>
<td>MTH 120 (4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Calculus BC</td>
<td>3</td>
<td>MTH 120 (4) and MTH 121 (4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music</td>
<td>AP Music Listening and Literature</td>
<td>3</td>
<td>MUS 107 (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Theory</td>
<td>3</td>
<td>MUS 100 (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td>AP Physics B</td>
<td>3</td>
<td>PHY 221 (40)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.5</td>
<td>PHY 221 (40 and PHY 222 (4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AP Physics C</td>
<td>3</td>
<td>PHY 222 (5) and PHY 224 (5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political Science</td>
<td>CLEP American Government</td>
<td>50</td>
<td>PLS 112 (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AP American Government and Politics</td>
<td>3</td>
<td>PLS 112 (3)</td>
<td></td>
<td>most upper-level course yes</td>
</tr>
<tr>
<td></td>
<td>AP Comparative Government and Politics</td>
<td>3</td>
<td>PLS 211 (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychology</td>
<td>CLEP General Psychology</td>
<td>50</td>
<td>PSY 101 (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sociology</td>
<td>CLEP Introduction to Sociology</td>
<td>50</td>
<td>SOC 105 (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher Education</td>
<td>CLEP Human Growth and Development**</td>
<td>50</td>
<td>EDP322/325 (4)</td>
<td></td>
<td>with special permission</td>
</tr>
</tbody>
</table>

**Essay required**

**Enter University Honors Program**

**Director: Robert Holkeboer**

**Jones-Goddard Community of Scholars**

**487-0341**

Entering freshmen, transfer, and currently enrolled students with excellent academic records may apply for admission to the University Honors Program. Admission is based on such factors as grade point average, standardized test scores, letters of recommendation, and a personal essay.

Honors certification may be pursued either on the basic studies level, in departments or professional programs; or both. Honors courses feature small class size, outstanding instructors, and enriched course materials.

Graduation with honors requires a cumulative GPA of at least 3.3 and the completion of either 18 hours of honors credit in basic studies or 12 hours of departmental honors credit including the senior thesis. The designation “with honors” is separate from the “laurel” designations, which refer strictly to GPA.

Students who complete the program are appropriately recognized by special designations on their transcripts, certificates of achievement, the honors medallion, press releases, and letters of recommendation from the honors director explaining their achievements.

Other benefits include housing in the Jones-Goddard Community of Scholars, early registration, mainframe computer access, extended library loan and advising support. Honors students and faculty serve on the Honors Advisory Council, which provides input to the director and faculty serve on all aspects of the academic program.

For further information, contact the University Honors Program office, 250 Jones Hall, Community of Scholars.
TUITION AND FEES

ALL UNIVERSITY FEES AND ASSESSMENTS ARE SUBJECT TO CHANGE WITHOUT NOTICE AND AT ANY TIME BY ACTION OF THE BOARD OF REGENTS

Registration

Official registration day is the day on which the student completes the initial registration for the semester or session and pays his registration fee and tuition assessment.

The registration fee is $40 for each fall and winter semester and $30 for each spring and summer session. This fee is assessed and collected at the time the student registers and is non-refundable.

A late registration fee of $10 is charged students who, for any cause, do not complete registration prior to the official first day of classes each semester. Checks returned by a bank constitute late registration, and a late registration fee is charged.

Financial obligation must be met by students prior to the close of the semester or session in order for students to be eligible for the next registration period (or graduation). Credits or other statements of record will be withheld and students will be ineligible for further registration until all obligations have been fulfilled (fall advance registration excepted).

Cancellation of registration by a student who decides not to return to EMU after registering in advance for classes must be initiated by the student on a cancellation-of-registration form either in person or by letter to the Registration Office, Pierce Hall. If students have applied for University housing, they also must cancel the contract in the Housing Office. This is necessary for cancellation of tuition, room and board assessments.

Tuition

Tuition is assessed for all credit hours for which the student is registered. Regardless of student class level, undergraduate tuition is assessed for all 100 through 400 level courses; graduate tuition is assessed for all 500 and 600 level courses.

Off-campus tuition rates are the same as on-campus tuition rates. Tuition for auditing classes is the same as for credit classes. Tuition rates per credit hour, using the fall 1989 levels are:

<table>
<thead>
<tr>
<th>Class Level</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate lower</td>
<td>$62.75</td>
</tr>
<tr>
<td>Undergraduate upper</td>
<td>$66.00</td>
</tr>
<tr>
<td>Graduate (500-600)</td>
<td>$89.50</td>
</tr>
</tbody>
</table>

Residence Classification for Tuition Purposes Policy

I. REGULATIONS FOR DETERMINING RESIDENCE CLASSIFICATION

A person enrolling at Eastern Michigan University shall be classified as a resident or a non-resident for tuition purposes. A student's residence status shall be determined at the time of his/her initial admission to the University. In order to determine the domicile of a student, the following regulations will be utilized:

A. Establishment of Residence

No student shall be eligible for classification as a resident for tuition purposes unless the student has demonstrated that he/she has established domicile in Michigan.

B. Minors and Dependents over 18

The domicile of a student who is not yet 18 years of age follows that of the student's parents or legal guardian. If that student's parents or legal guardian would qualify in accordance with the University's regulations for determining residence classification, that student shall be considered a Michigan resident for tuition purposes.

Students 18 years of age or older who are claimed as dependents for federal income tax purposes by their parents or guardians at the time of registration and for the tax year preceding the year in which they register will be classified for tuition purposes as though they were minors.

C. Nondependent Students

An independent student 18 years of age or older is considered eligible for residence classification if the student has demonstrated that he/she has established domicile in Michigan.

D. Spouse

The domicile of a student who otherwise would be classified as a nonresident for tuition purposes will follow that of the student's spouse, if the spouse is eligible for classification as a Michigan resident for tuition purposes. (Applicable only to U.S. citizens or to aliens admitted to the United States in accordance with Subsection E.)

E. Aliens

An alien (noncitizen) student shall be eligible for classification as a Michigan resident for tuition purposes if he/she is domiciled in the United States and also qualifies in accordance with the University's Regulations for Determining Residence Classification.

In order to demonstrate that he/she is domiciled in the United States, the student must be a permanent resident, or an alien with one of the following visa classifications, or an alien with other documentation from the Immigration and Naturalization Services that reflects such status.
Visa classifications: E-1—treaty trader, spouse and children; E-2—treaty investor, spouse and children; G-4—international organization officer or employee and members of immediate family; H-1—temporary worker of distinguished merit and ability; H-2—temporary worker performing services unavailable in the U.S.; H-3—trainee; H-4—spouse or child of H-1, H-2, or H-3; J-1—exchange visitor (limited to persons engaged as trainee, teacher, professor or research scholar); J-2—spouse or child of J-1 as limited above; L-1—intracompany transferee; L-2—spouse or child of L-1.

F. Migrants

Migrant status is one factor considered when determining if a student is domiciled in Michigan for tuition purposes. Michigan migrants are defined as individuals who have made their livelihood in seasonal work in the state of Michigan, and have traveled interstate for this purpose. Migrant students shall be considered Michigan residents for tuition purposes if they or their parents or legal guardian were employed in Michigan for at least two months during each of three of the preceding five years. Verification of employment as migrant workers should be secured from the Michigan Farm Labor and Rural Manpower Services Office. Other appropriate evidence also may be used by migrant workers to establish their status.

G. Spouse or Dependent of a U.S. Military Service Person

The spouse or dependent of a person currently serving in a branch of the U.S. military service (excluding reserve programs) or of a person who died while serving in a branch of the U.S. military service shall be eligible for classification as a Michigan resident for tuition purposes if that military service person qualified in accordance with the University’s regulations for determining residence classification immediately before entering the military service as a Michigan resident.

H. U.S. Military Service Veteran

A veteran of a branch of the U.S. military service (excluding reserve programs) shall be eligible for classification as a Michigan resident for tuition purposes if that person qualifies in accordance with the University’s regulations for determining residence classification immediately before entering the military service as a Michigan resident.

II. GUIDELINES AND CRITERIA FOR DETERMINING RESIDENCE CLASSIFICATION

Since a student normally comes to Eastern Michigan University for the primary or sole purpose of attending the University rather than to establish domicile in Michigan, one who enrolls in the University as a nonresident shall continue to be so classified throughout his/her attendance as a student, unless and until he/she demonstrates that he/she previous domicile has been abandoned and a Michigan domicile is established.

The following guidelines and criteria shall be applied when reviewing a student’s classification. It is recognized that no one of the following criteria shall, standing alone, necessarily be controlling. All factors indicating an intent to make Michigan the student’s domicile will be considered by the University in classifying a student.

A. The following facts and circumstances, although not necessarily conclusive, have probative value in support of a claim for residence classification:

1. Domicile in Michigan of family, guardian, or other relatives or persons legally responsible for the student.
2. Former domicile in Michigan and maintenance of significant connections therein while absent.
3. Self-supporting reliance upon Michigan sources for financial support. (Verification of Michigan income tax liability must be provided.)
4. Continuous presence in Michigan during periods when not enrolled as a student.
5. Long-term military commitments in Michigan.
6. Acceptance of an offer of permanent employment in Michigan (in a position not normally filled by a student).
7. Ownership of real estate in Michigan.

B. Please Note: The following circumstances, standing alone, shall not constitute sufficient evidence of domicile to effect classification of a student as a resident under these regulations.

1. Voting or registration for voting.
2. Employment in any position normally filled by a student.
3. The lease of living quarters.
4. A statement of intention to acquire a domicile in Michigan.
5. Automobile registration, drivers license.
6. Other public record, e.g., birth records.

III. RECLASSIFICATION OR RESIDENCE STATUS

A student’s residence status may be reviewed at each subsequent registration. If a student’s circumstances should change to the extent that he/she would no longer be considered a Michigan resident for tuition purposes, as herein described, that student shall be reclassified as a nonresident for tuition purposes 12 months thereafter.

It shall be the responsibility of all students, prior to registering, to raise questions in the Student Accounting Office regarding their right to be registered as a resident for tuition purposes.

The administration is authorized to establish procedures and delegate authority for determining the residence status of students for tuition purposes.

A tuition reciprocity agreement with Ohio, entered into by the Michigan State Board of Education and the Ohio Board of Regents in 1980, allows an Ohio resident to attend Eastern Michigan University at Michigan resident tuition rates. Michigan residents can attend the University of Toledo at Ohio resident tuition rates but only if they reside in Monroe County.

Tuition and fee payment for fall and winter semesters may be made in two installments. There is no installment payment plan for spring and summer sessions. The exact due date is printed on the invoice from Student Accounting and is published in the Class Schedule Bulletin for each semester. To ensure a correct billing, it is the responsibility of the student to inform the University of any address changes by completing a change of address form in the Registration Office.

Eastern Michigan University accepts VISA and MasterCard credit cards in payment of tuition, fees, room and board, and bookstore purchases.

The optional installment payment plan is offered in the fall and winter semesters only and is applicable only to tuition, room and
board. A minimum of 50 percent must be paid initially and the remainder during the eighth week of the semester. An installment service fee of $20 is assessed with the first installment payment and a late payment fee of $20 per month to a maximum of $100 per semester or session is assessed on past-due balances or if the second payment is not received by the due date.

If a student's account is past due for a current semester, enrollment, University housing and other University services (such as release of grades or certified transcript) are subject to suspension until the account is brought into current status. Payment of assessments for a current semester does not relieve the student of the obligation for payment of any balance from a prior semester.

The privilege of using the installment payment plan for tuition (room and board) is denied to students whose University account has been in arrears in amounts exceeding $50 for periods beyond 30 days.

*Any exceptions shall be by authority of the vice president for business and finance.*

Workshop sessions offered for two and three weeks during the spring and summer sessions have the same registration and tuition fees as regular class sessions. However, a student enrolled in other course work during a session will not be assessed an additional registration fee for enrolling in a workshop during the same session.

An adjustment of 100 percent of the tuition assessment will be made to students who withdraw from a workshop prior to the close of business (5 p.m.) on the first day of the workshop. No other adjustment or refund will be granted.

**Fee Adjustments**

Program adjustments may be made prior to the beginning of classes without penalty. At least 50 percent of the increased tuition resulting from adjustments may be required at the time of adjustment in the fall and winter semesters, 100 percent in the spring and summer sessions. Actual dates and requirements are printed in the Class Schedule Bulletins.

During the first five class days of the fall/winter semesters and the first four class days of the spring/summer sessions, a program fee of $10 per transaction will be assessed for each student-initiated program adjustment. For the purpose of determining the program adjustment fee, one drop accompanied by one add will be considered as one transaction. Individual adds or individual drops will be considered as individual transactions and will be assessed $10 each. At least 50 percent of the increased tuition resulting from adjustments must be paid at the time of adjustment in the fall/winter semesters, 100 percent in the spring/summer sessions. For final adjustment deadlines and coordinate fee schedules, see the Class Schedule Bulletins.

No program adjustment fees will be assessed for changes required as a result of University actions.

**WITHDRAWAL FROM THE UNIVERSITY**

A credit adjustment of 100 percent of the tuition assessment for the fall and winter semesters will be made to those students who withdraw from the University between the sixth and 15th class day. For the spring and summer sessions, a 50 percent credit adjustment will be made during the fourth through seventh class days of the session. Actual dates are printed in the Class Schedule for each semester and session.

No credit adjustment will be made after the above stipulated dates.

**DECREASE IN ACADEMIC LOAD**

A credit adjustment of 100 percent of the difference in tuition assessment for the fall and winter semesters will be made to those students who decrease their academic load prior to the sixth day of classes. For the spring and summer sessions, a 100 percent credit adjustment will be made during the first three days of classes. Actual dates are printed in the Class Schedule for each semester and session.

A credit adjustment of 50 percent of the difference in tuition assessment for the fall and winter semesters will be made to those students who decrease their academic load between the sixth and 15th class day. For the spring and summer sessions, a 50 percent credit adjustment will be made during the fourth and seventh class days of the session. Actual dates are printed in the Class Schedule for each semester and session.

No credit adjustments will be made after the above stipulated dates.

An appeals policy exists for students or parents who feel that individual circumstances warrant exceptions from the credit adjustment or University withdrawal adjustment policies above. The process is:

1. Obtain a Tuition and Fee Appeal Application from the Student Business Office in Pierce Hall (Ypsilanti, MI 48197). Complete and return the application along with an explanation of the extraordinary circumstances involved and supporting documentation of those circumstances. An approval or denial will be issued in writing by return mail. If the application is denied:
   2. Appeal in writing to the Manager of Student Business Services at the address above. Be sure to include any additional pertinent information with your written appeal.
   3. If, after following the procedures in steps 1 and 2, an acceptable solution is not achieved, a final written appeal may be made to the Vice President for Business and Finance (101 Welch Hall, Ypsilanti, MI 48197). **Tuition and fee appeal applications must be submitted as early as possible. Applications received later than 30 calendar days after the close of the semester and mailing of final grades may be denied on the basis of a lack of timeliness.**

**Service Fees**

Room and board fees are published by the Housing Office and are set by action of the Board of Regents. See the 1990-91 estimated fee schedules at the end of this section.

A Health Care fee is charged at the rate of $1.25 per credit hour. Payment entitles the student to health care at reduced rates. Students' spouses, faculty and staff and their spouses may avail
themselves of Health Center services, but at somewhat higher rates. If they desire, these persons may pay the participation fee at Snow Health Center and become eligible for reduced rates. The complete schedule of health service fees is available at Snow Health Center.

A Student Government fee shall be assessed each student enrolling for one or more on-campus undergraduate courses. This fee shall be two dollars ($2) for each of the fall and winter semesters and one dollar ($1) for each of the spring and summer sessions and shall be collected by the University as a separate charge when tuition is paid. The fee provides operating monies for the Student Senate and student organizations.

A Student Activity/Facility fee of $47 per semester for fall and winter semesters is assessed of all students not living in University housing taking four or more credit hours. All students paying this fee are eligible for free admission to home basketball and football games. All students not living in University housing are assessed a Student Activity fee of $23.50 during the spring and summer terms. This fee is used to renovate and enhance campus facilities and the campus environment.

A Graduation fee is charged each student who makes application for graduation. It covers the cost of cap and gown, mailing of diplomas and other specific graduation items. The fee is assessed once for each degree and is non-refundable.

Undergraduate degree fee .......................................................... $30
Master’s and specialist’s degrees ........................................ $35

A transcript fee charge of $5 is made for each transcript ordered by students.

Parking your motor vehicle in University parking lots requires the proper parking decal. To purchase your parking decal, you must first register your motor vehicle with the Public Safety Department, located on the ground floor of the parking structure. The 1990-91 motor vehicle rates are as follows:

<table>
<thead>
<tr>
<th>Permit Type</th>
<th>1990/91 Permit Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commuter Permit:</td>
<td></td>
</tr>
<tr>
<td>Fall/Winter</td>
<td>$70.00</td>
</tr>
<tr>
<td>Evening Fall/Winter</td>
<td>$40.00</td>
</tr>
<tr>
<td>Spring or Summer</td>
<td>$17.50</td>
</tr>
<tr>
<td>Resident Permit:</td>
<td></td>
</tr>
<tr>
<td>Apartment Housing</td>
<td>$34.00</td>
</tr>
<tr>
<td>Fall/Winter Dorm</td>
<td>$14.00</td>
</tr>
<tr>
<td>Brown-Munson</td>
<td>$90.00</td>
</tr>
<tr>
<td>Spring or Summer Dorm</td>
<td>$40.00</td>
</tr>
<tr>
<td>Staff/Faculty</td>
<td></td>
</tr>
<tr>
<td>Annual Permit</td>
<td>$48.00</td>
</tr>
</tbody>
</table>

All students meeting the requirements of the law are eligible to operate and maintain motor vehicles on campus. Motor vehicles are required to be operated within the provisions of the Traffic, Parking and Pedestrian Ordinances of the University.

Further details are available in the Parking and Traffic Regulations brochure available from campus police.

Course Fees

Music fees are charged for private lessons according to the following schedule: (1989-90 fee schedule)

Music majors: $60 per semester for all instruction.
Other University students: $60 per semester for one-hour lesson, $30 per semester for half-hour lesson.
Students from public schools, the community and EMU staff and families: $90 per semester for one-hour lesson, $45 per semester for half-hour lesson.

Lessons are arranged through the Music Department.
The applied music fee is assessed to each student’s account at the close of the program adjustment period. This fee is not refundable after the first lesson.

Nursing fees of $15 per credit hour for clinical laboratory courses are charged in addition to per credit hour fees. These courses are listed below:
NUR 251 Nursing Science I Clinical Laboratory (3) ........ $45
NUR 305 Nursing Science II Clinical Laboratory (3) ........ $45
NUR 341 Concepts of Professional Practice II Clinical Laboratory (3) ........................................ $45
NUR 351 Nursing Science III Clinical Laboratory (4) .... $60
NUR 405 Nursing Science IV Clinical Laboratory (5) ...... $75
NUR 451 Nursing Science V Clinical Laboratory (4) ....... $60

Materials and extra costs are assessed at the close of the program adjustment period in certain courses. These courses are listed near the front of each semester’s class schedule bulletin, as well as being identified individually within the bulletin with a bullet (+) before the course number.
Schedule of University Charges Per Semester
(University charges are set by action of the Board of Regents, are due in accordance with University payment plan and may be changed without notice.)

<table>
<thead>
<tr>
<th>Item Due</th>
<th>1989-90 Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition for 15 hours</td>
<td>$941.25</td>
</tr>
<tr>
<td>Michigan resident</td>
<td></td>
</tr>
<tr>
<td>Out-of-state resident</td>
<td>$2,400</td>
</tr>
<tr>
<td>Registration fee—All students ($30 spring/summer)</td>
<td>$40</td>
</tr>
<tr>
<td>Student Government fee—All students</td>
<td>$2</td>
</tr>
<tr>
<td>Healthcare fee—$1.25 per credit hour</td>
<td>$18.75</td>
</tr>
<tr>
<td>Student activity/facility fee</td>
<td></td>
</tr>
<tr>
<td>Fall or Winter—students taking 4 or more credits</td>
<td>$47</td>
</tr>
<tr>
<td>Spring or Summer—all students</td>
<td>$23.50</td>
</tr>
<tr>
<td>Music fee—Music majors</td>
<td>$60</td>
</tr>
<tr>
<td>Other students taking an applied music lesson</td>
<td>$30-$60</td>
</tr>
<tr>
<td>Residence hall room and board</td>
<td>$1,692</td>
</tr>
<tr>
<td>(double room with 20 meals per week)</td>
<td></td>
</tr>
</tbody>
</table>

Student Expenses
Estimated Academic Year Costs
(Residence Hall Students)

The following represent typical actual expenses for a single dependent student, Michigan resident, taking 15 undergraduate credit hours each semester, living in a University residence hall, and attending the full academic year (fall and winter semesters).

- Tuition and fees .................................................... $1,900
- Books and academic supplies ................................. $400
- Residence hall room and board .............................. $3,384
- Total University costs ......................................... $5,684
- Estimated additional costs of personal, transportation, and miscellaneous expenses........ $1,216

Personal expenses include such things as clothing, medical expenses, recreation, snacks and personal toilet articles. Out-of-state students should allow for additional transportation costs.

Students can anticipate the following total costs (Michigan resident tuition and fees, books, room and board, personal and miscellaneous expenses, and transportation) for an eight-month academic year (based on projected 1990-91 costs):

- Single dependent student ...................................... $6,900
  (Residence hall)
- Single dependent student ...................................... $5,800
  (Commuting from home)
- Single dependent student ...................................... $6,950
  (Apartment)
- Single independent student ...................................... $6,950
  (Apartment)
- Married student (Student and spouse only)* .............. $6,950
- Head of Household (Student and one child)* ............. $6,950

*Estimate of costs pertainst to only student and not to dependent spouse or children.

The above budgets are based on Financial Aid Office budgets for 1990-91. They include no provision for a tuition increase but should be within $200 of actual costs even if tuition should increase.
FINANCIAL AID

Four types of financial aid are available to Eastern Michigan University undergraduate students—scholarships, grants, work and loans. All financial aid programs including federal, state, institutional and private sources are administered through the Office of Financial Aid located on the fourth floor of Pierce Hall. During the 1989-90 academic year, more than 12,000 students received $28 million in financial aid.

Scholarships, grants: Awards in these two categories range from $200 to $6,000 per year and may cover tuition, fees, room, board, transportation, books, and miscellaneous costs depending on the type of the award and the amount. Scholarships are generally based on academic achievement; grants are generally based on financial need as determined by a federally approved formula.

Work and Loans: Awards in these two categories are based on financial need as determined by a federally approved formula. All students applying for need-based financial aid must complete a financial statement; Family Financial Statement by American College Testing or the Financial Aid Form by College Scholarship Service. Both of these forms are available from high school counselors, community colleges’ financial aid offices and EMU’s Office of Financial Aid, 402 Pierce Hall (487-0455).

Applications for scholarships and awards based on merit are available for new students and transfer students through the Admissions Application and for returning students through the Office of Financial Aid.

Need-Based Financial Aid

Pell Grants: These federally funded grants are available to undergraduate students who are enrolled on at least a half-time basis and have demonstrated financial need. Students must be U.S. citizens or permanent U.S. residents. Students must apply through a federally approved needs analysis system. Eligible students must submit an approved Student Aid Report to the Office of Financial Aid to receive funds. Awards range from $150 to $2,300 per year.

Supplemental Grants: These federally funded grants are available to undergraduate students who are enrolled on at least a half-time basis and have demonstrated financial need. Students must be U.S. citizens or permanent U.S. residents. Students must apply through a federally approved needs analysis system. Priority is given to students who receive a Pell Grant. Awards range from $100 to $1,500 per year.

University Grants: These grants are available to undergraduate students who have need or special circumstances. These funds are made available to students when Supplemental Educational Opportunity Grant funds are not adequate to meet the needs of EMU students. Award amounts vary depending on the situation and funding levels.

Eastern Opportunity Grants: These grants are available to needy minority undergraduate students who are enrolled on at least a half-time basis. Priority is given to students who are eligible for Pell Grants. Award amounts vary depending on the situation and funding levels.

College Workstudy Program: This federally funded work program provides part-time employment on the college campus or at one of the participating off-campus agencies. Students must be enrolled on at least a half-time basis to participate in the CWS Program. Eligible students may work up to 20 hours/week during the academic year. Limited full-time workstudy is available during the summer term. The hourly rate of pay is determined by the skills required for the job and the student’s experience; federal law requires at least minimum wage.

Perkins Loan (Formerly National Direct Student Loan): This loan program is a federally subsidized, low-interest, long-term loan. Students must be enrolled on at least a half-time basis to participate in the Perkins Loan program. Undergraduate students may borrow up to a cumulative maximum of $9,000. The amount of the award varies depending on the student’s need, previous student loan indebtedness and enrollment status.

All federally funded student aid programs require the student to sign the following statements: Anti-Drug Statement, Statement of Educational Purpose and Selective Service Registration. Students who are not making satisfactory progress toward completing the degree may be ineligible for federal student financial aid. Students who are in default on a student loan or owe a refund from student financial aid received are not eligible to participate in federally funded student financial aid programs.

Eastern Michigan University offers scholarships and awards not based on financial need to recognize academic excellence and special talents. All undergraduate students are encouraged to apply. Scholarship recipients must be full-time and maintain passing grades. Scholarships may be credited toward tuition and/or residence hallroom and board charges. Students must reapply annually for available scholarships. Applications are generally available the third week of October and are due by not later than the end of the third week in January.

The Presidential Scholarships: This scholarship program provides five full-ride academic awards valued at $24,000 ($6,000/year for four years). To compete for the Presidential Scholarship, a student must be a high school senior with a minimum 3.65 GPA and a minimum 25 ACT score or 1050 SAT score. Students are invited to participate in a day-long competitive examination held in late January. Students with the five highest scores are awarded the five $22,000 Presidential Scholarships. The awards are automatically renewed for eight semesters as long as the student maintains a 3.5 GPA at Eastern and completes 15 credit hours per semester.

Regents Scholarships: This scholarship program provides a $6,000 award for four years of undergraduate study. To be eligible for consideration, an incoming freshman must have a 3.75 GPA in high school and a 25 ACT score/1050 SAT score or a 3.65 GPA and a 25 ACT score/1050 SAT score and compete in the Presidential Scholarship Competition and score in the top 100. To automatically renew the scholarship, the recipient must maintain a 3.5 GPA at
Eastern and complete 15 credit hours per semester. An upperclassman may apply for a Regents if not received as an entering student. Awards to upperclassmen are based on GPAs earned at EMU (students are competitively ranked by GPAs) and annual funding available.

Recognition of Excellence Scholarships: This scholarship program provides a $1,000 annual award. To be eligible for consideration, an incoming freshman must have a 3.3 GPA in high school and demonstrated leadership activities. An upperclassman must have a minimum 3.5 GPA at EMU or a community college and demonstrated leadership activities at EMU or in the community. To be considered for renewal a scholarship applicant must reapply annually. Awards are competitively based.

Departmental Recognition Awards: These awards are based on funding through endowed scholarships. Each academic department determines its eligible students. Students must have a minimum 3.0 GPA for consideration and may also be required to audition, provide letters of recommendation, transcripts and portfolios. Awards vary from $50 to $2,000 per year.

Campus Leader Awards: These awards are given for outstanding leadership activities at EMU. Students must have a minimum 2.5 GPA. The awards are valued at $400. Students must reapply annually for consideration.

Service Awards: These awards are given for outstanding service and talent in the Departments of Communication and Theatre Arts and Music. Awards vary from $50 to $1,000 per year. Students must contact the departments for application procedures.

Agency/Outside Donor Scholarships: These programs are sponsored by groups external to the University and may include civic organizations, churches, synagogues, clubs, professional organizations, foundations and corporations. Qualifications and eligibility vary considerably. Some specialized books listing scholarships are available through the Office of Financial Aid and on reserve at the University Library.

State Funded Financial Aid Programs:

Michigan Competitive Scholarships: This scholarship program is based on a combination of competitive tests results from ACT and financial need as determined by a federally approved formula and state regulations. Students apply by taking the American College Test (ACT) no later than October of their senior high school year and having test results sent to the State Scholarship Program through an approved financial aid processor. Students may renew eligibility by maintaining a satisfactory academic record and by reapplying through an approved needs analysis system and demonstrating financial need.

Stafford Loans (Formerly Guaranteed Student Loans): This federally approved loan program provides funds through banks, savings and loan associations and credit unions for undergraduate students who are enrolled on at least a half-time basis. Students may borrow up to $2,625 per year for the freshmen and sophomore years; up to $4,000 per year for the junior and senior years and up to $7,500 per year for graduate study. Students must begin repaying the loans six months after graduation, withdrawal or dropping below half time enrollment status. Interest is at 8 percent simple interest for the first four years, the fifth through the tenth years the interest rate is at 10 percent simple interest. Student loans are based on grade level, financial need and maintaining satisfactory academic progress toward completing the degree program.

Three additional programs are available to Michigan residents—Michigan Adult Part-time Grant, Michigan Educational Opportunity Grant and Michigan College Work-Study. The basic requirements for these three programs are as follows: be enrolled at an approved public or private degree-granting Michigan college; demonstrate financial need for the funds; have been a Michigan resident for at least 12 months; be a U.S. citizen or permanent resident; not be incarcerated in a corrections institution; not be enrolled in a program leading to a degree in Theology or Divinity; not be in default on a Michigan Guaranteed Student Loan or Michigan Auxiliary Loan; make satisfactory academic progress, as defined by the school.

To apply for the state need-based aid programs, complete the Family Financial Statement (FFS) or the Financial Aid Form (FAF). Also, complete the Eastern Michigan University Data Form.

Michigan Adult Part-Time Grant (MAPTG) is need-based gift aid money available to undergraduates who enroll on a part-time basis. In addition to meeting the specific requirements listed above, students must qualify as self-supporting according to current federal criteria (be out of high school for at least two years and be a part-time student). Grants of up to $600 per year are available for not more than two years of study.

Michigan Educational Opportunity Grant (MEOG) is need-based gift aid assistance to undergraduates enrolled at least half-time. Students who meet the basic requirements for the Michigan programs are eligible. Grants of up to $1,000 per year are available under this program.

Michigan Work-Study Program (MWSP) is a need-based program that provides work opportunities for undergraduates. Both nonprofit and profit-based employers may sign agreements with Michigan colleges to participate in this program. Students who meet the basic requirements for the Michigan programs are eligible. MWSP awards range from $800 to $3,000 per year.

(Not based on financial need)

Native American Student Residents of Michigan who have at least 25 percent Native American blood are eligible for tuition payments. Certification of eligibility and additional information may be obtained from the Michigan Indian Commission in Lansing.

The Michigan Veterans Trust Fund (Public Act 245) is available to children of disabled or deceased veterans (death/disability must have been a result of wartime service). Eligibility is determined by the Michigan Veterans Trust Fund Board of Directors, P.O. Box 30026, 300 E. Michigan, Lansing, MI 48909. Tuition only or tuition and fees are paid by the Trust Fund.
Michigan Veterans Emergency Loan is available to Michigan veterans to cover due or past due expenses such as room and board, car repairs, and utility bills. Loans cannot be made for direct educational expenses such as tuition and books. Loan amounts cannot exceed $600, are interest free, and must be repaid in 180 days (six months). Contact the Michigan Veterans Trust Fund Board of Trustees, Ottawa Street Building, North Tower - Third Floor, P.O. Box 30026, Lansing, MI 48909 for additional information, applications, and eligibility requirements.

Other Armed Forces Programs

Army ROTC Scholarship Programs offer financial assistance to outstanding young men and women interested in completing the ROTC program and pursuing the Army as a career. Students must be citizens of the United States and meet the criteria specified under provisions of Public Law 88-647. For further information, contact EMU's Military Science Department, 18 Roosevelt Hall.

The four-year program is open on a selective basis to high school seniors who apply and intend to pursue ROTC at the University. One- to three-year scholarships are reserved for students enrolled in the EMU campus ROTC program, and a two-year scholarship program for transfer students is administered by a faculty board. All provide full tuition, textbooks, laboratory fees and $100 per month stipend while the scholarships are in effect.

Air Force ROTC Scholarships are offered by the Air Force on a competitive basis to students interested in completing the AFROTC program and entering the Air Force as a commissioned officer. Three and one-half, three, two and one-half, and two year scholarships are available. Scholarships pay full tuition and fees, a book allowance and a $100 per month stipend during the academic school year. EMU students receive AFROTC training on the University of Michigan campus. For information, call the AFROTC recruiting office at (313) 747-4093.

Veterans Benefits are administered under the new G.I. Bill by EMU's Veterans Affairs Office, 202 Goodison Hall. The applicant must furnish Certificate of Eligibility (if available) at or prior to the start of classes. Students receiving benefits and not obtaining a satisfactory grade point average will be cut off from further certification for such benefits at a point no later than one consecutive semester after the student initially fails to maintain satisfactory academic progress.

Veterans must complete necessary registration with the University and pay full tuition and fees. Subsequent procedures will be explained at the Veterans Affairs Office.

University Short Term Loans

Emergency Educational Expense Loans are available to part-time and full-time students who (1) currently are enrolled at the University, (2) have earned previous credit at Eastern, and (3) qualify academically (minimum 2.0 "C" undergraduate, 3.0 "B" graduate). Students may borrow up to $250 without a co-signer or up to $500 with a co-signer. Loans are made available from memorials to groups or individuals. Applications may be obtained at the Student Loan Accounting Office, Pierce Hall. Loans are processed within 24 hours.

The Small Loan Fund provides 30-day, short-term, interest-free loans up to $15 maximum to help students meet an emergency. Loans are available at the Cashier's Office, Briggs Hall.

Adult Tuition Loans are tuition-only loans for up to $500. Applicants must be 21 years of age or older; have an annual income of $15,000 or more; have repaid previous loans satisfactorily, and be in good academic standing.
ACADEMIC PROCEDURES

The academic year is divided into fall and winter semesters of 15 weeks each, a spring session of seven and one-half weeks, and a summer session of either six or seven and one-half weeks dependent on course selection. The new student may be admitted to the University for any semester/session. The University calendar is printed at the front of this book.

Evening courses and continuing education courses permit scheduling options within each semester/session. Two-week workshops and weekend seminars provide additional course credit opportunities.

Academic course load is the number of hours that a student carries in a semester/session. In the fall and winter semesters, the recommended full-time course load is 15-16 hours (15 with student teaching). In the seven and one-half week spring and summer sessions, it is six to eight hours and in the six-week summer session, five to six hours. Full-time enrollment for the fall and winter semesters is 12 hours or more. Full-time enrollment for the spring and summer semesters is six hours or more.

Occasionally an increased academic load is found to be necessary or desirable. Before registering for more than the recommended hours, the student is asked to consult an adviser. The following two restrictions are placed on increased academic load:

1. First semester freshmen may not take more than the recommended full-time academic load without special permission from the Academic Advising Center.
2. Students on academic probation may not take more than the recommended full-time academic load without special permission from the Academic Advising Center. Pass/Fail semester hours are included in the total course load.

Regular class attendance and active participation in classes are important elements in the learning process. Students are at the University primarily for the sake of their intellectual growth and development. Attendance and participation provide appropriate opportunities for the evaluation of the student’s progress.

Each student is personally responsible for the satisfactory completion of the course work prescribed by his/her instructors. This means specifically that he/she is expected to attend classes regularly, and that he/she is responsible for the work assigned in class, the material covered in class and for participation in class activities (including discussion and listening) designed by the instructor as part of the learning experience. However, mere physical attendance should not be a criterion for evaluation of the student’s performance.

No person is allowed to attend class unless officially registered on a credit or audit basis with appropriate fees paid or is, as full-time staff, faculty or faculty spouse, auditing under the staff benefits program. No credit will be given for work in courses not officially enrolled in or approved.

Auditing of courses is permitted for the student who wishes to have the subject matter presented but does not desire to obtain credit for the course. The student must obtain a “permission to audit” card from Registration, receive the approval of the head of the department offering the course, register by turning in the card, and pay the required tuition and fee as if enrolling for a credit course. Shifting from credit to audit or from audit to credit is not permitted after the last day for program adjustments for that specific semester.

Under provisions of the University staff benefits program, full-time staff, faculty and faculty spouses may audit classes by completing an approval process initiated at the Benefit Programs Office, 301-303 King Hall.

Credits are determined by the units of work completed. A semester hour is the credit granted in a course meeting once a week for one semester. Credits earned on the term or quarter-hours basis at other institutions are converted to EMU semester hours by multiplying by two-thirds.

Class levels are determined by the academic hours completed as follows:

<table>
<thead>
<tr>
<th>Class</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>0-24</td>
</tr>
<tr>
<td>Sophomore</td>
<td>25-55</td>
</tr>
<tr>
<td>Junior</td>
<td>56-84</td>
</tr>
<tr>
<td>Senior</td>
<td>85 or over</td>
</tr>
</tbody>
</table>

Course numbers indicate the academic level of the course as follows:

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Academic Level*</th>
</tr>
</thead>
<tbody>
<tr>
<td>100-199</td>
<td>Introductory</td>
</tr>
<tr>
<td>200-299</td>
<td>Intermediate</td>
</tr>
<tr>
<td>300-499</td>
<td>Advanced</td>
</tr>
</tbody>
</table>

Courses numbered 500 to 599 are intended primarily for graduate students but are open in some cases to seniors. To be eligible, an undergraduate student must acquire 76 hours or more of undergraduate credit, have a cumulative grade point average of 2.50 or better, and receive written permission from the Graduate School. The maximum number of graduate hours that an advanced undergraduate can take is 15. Courses numbered in the 600s and 700s are exclusively for graduate students.

*Introductory courses are appropriate for students who have had no course work at the University level in the discipline in question. Intermediate courses presuppose that the students enrolled are familiar with and able to work with the content or methods, or both, of the discipline as presented in the introductory course. Advanced courses presume that students enrolled are familiar with and able to work with content, concepts and methodology of the discipline at a level appropriate to that of undergraduate majors in the discipline.

Prerequisites designated in the catalog description of courses and in the semester Class Schedule Bulletins state requirements that must be completed with credit or are necessary to the understanding of the course selected. Any student not meeting prerequisite requirements, unless waived by instructor’s permission, may be required to drop the course. Courses at the 200, 300 and 400 levels which carry no prerequisites are taught at the academic levels described above.
Undergraduate Catalog

Final examinations are given by instructors to help evaluate a student’s achievement in a course. Whether or not that evaluation shall include the final examination shall be determined by the instructor in line with departmental and University policy. If a final examination is not given, the scheduled examination period shall be used for other class activity.

If a final examination is given, students shall take the examination with their own class and at the hour indicated on the examination schedule. Failure to take the examination at the scheduled time will result in a grade of “E” in the course, except when the requisite conditions for granting an “I” are present.

If the student finds that he/she has three examinations scheduled on one day, he/she may request the instructor of the class having the first examination of the day to arrange to take the examination at another time. If he/she finds that he/she has four examinations scheduled for one day, he/she may request the instructors of the first two examinations to make arrangements so that no more than two are scheduled in one day. He/she may appeal to the head of the department in which the course is offered if a satisfactory solution is not reached.

Students who for religious reasons find that they are not able to follow the examination schedule should make special arrangements with their instructors. If arrangements are not satisfactory, the student may appeal to the head of the department in which the course is offered.

Any deviation of the student’s examination schedule, other than to limit the exams to two in one day or to observe religious mandates, must be approved in advance by both the instructor and the department head, and will be granted only in cases of extreme emergency.

Failure to take an examination at the scheduled time without prior arrangement will result in a grade of “E” in the course.

Grades

The grades used by the University with their corresponding values in points are as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Significance</th>
<th>Grade points per semester hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Passing grade in Pass/Fail elections and credit for certification in student teaching courses</td>
<td>4.0</td>
</tr>
<tr>
<td>P</td>
<td>Passing grade in student teaching but not at level sufficient for certification</td>
<td>3.7</td>
</tr>
<tr>
<td>U</td>
<td>Failing grade in Pass/Fail and in student teaching elections</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Credits earned by student teaching, correspondence, Credit/No Credit classes, or Pass/Fail options are not accorded grade points.

The use of “+” and “-” grades was introduced in the fall semester 1979.

An “E” grade will be assigned for any course when the student stops attending a class without officially withdrawing from the course. Credit for courses in which either “E” or “U” grades have been received can be earned only by repeating the course at Eastern Michigan University.

A Credit/No Credit option can be utilized in courses for which the standard system of letter grades does not seem appropriate. Departments wishing to offer a course on a credit/no credit option must secure approval of their dean and the vice president for academic affairs.

The Pass/Fail option is available to students who wish to experiment in an unfamiliar field without jeopardizing their grade point averages or for other reasons. Limitations to the option are:

1. It may be exercised only by juniors and seniors while in good academic standing (at least 2.0 at EMU).
2. It may be applied only to free electives, that is, to courses which are outside the student’s major, minor, curriculum or basic studies requirements.
3. A maximum of six such courses may be applied toward graduation.
4. Students shall indicate their intention to take a course by filing an application with the Academic Advising Center prior to the end of program adjustment.
5. Students who elect a course on Pass/Fail may cancel the option and accept a letter grade up to the last day of class before the official University scheduled final examinations.
6. The instructor will not be notified of the student’s election of this option. The regular letter grade reported by the instructor will be converted on grade reports and transcripts as follows:
   a. Grades of “A,” “B,” “C,” or “D,” including “D-,” will be converted to “S,” and shall count as credit toward graduation.
   b. The grade of “E” will be converted to “U,” and shall not count toward graduation.
7. A course taken under this option shall not be used in any way in the computation of the student's grade point average. Thus a Pass/Fail election shall not be approved for a course in which the student previously received a letter grade.

Students should be aware that, for some scholarships offered by the University, Pass/Fail courses are not considered part of the minimum required load for scholarship.

Students should also be fully aware of the possible implications of this option for acceptance into graduate schools and competition for financial aid there. It has been ascertained that most graduate schools will accept students who have elected to take some courses on a Pass/Fail basis, but that if courses taken on this basis are sufficient in number on the transcript, the Graduate School Examination may be utilized to determine the student's acceptability. Graduate schools, in general, do tend to favor those applicants who have good letter grades on their transcripts.

An "I" (incomplete) grade is awarded only when a student has completed the majority of the work of a course and the student's work has been of acceptable quality ("C" or better) but the required amount of work has not been completed because of illness, necessary absence or other satisfactory reasons. It is never applied to poor work or to nonattendance of class by the student. It means that the student has informed the instructor of the reason for the requested incomplete, and the instructor has agreed to the request.

An "I" grade must be removed within one calendar year from the end of the semester or session in which that grade was given. The time for removal of an "I" may be extended upon written recommendation of the instructor and approval of the dean of the college. Such extension will be granted only under unusual circumstances.

The initiative for conversion of an "I" to a letter grade rests with the student. If not converted to a grade by the end of the one-year period, the "I" will remain as a permanent part of the student's academic record.

A "W" grade is assigned only when an official withdrawal has been completed. (See Withdrawals.)

Grade changes attempted by students must be initiated no later than the end of the eighth week of the next regular semester (fall or winter) following the semester or session in which the grade was given. A grade grievance must be initiated within five working days after the start of the next regular semester (see Grade Grievance Procedure in Student Reference Section). For instructor-requested changes, this means that the appropriate form has been submitted to the department head. For student appeals, it means that the instructor has refused to make a change and the issue has been formally turned over to the departmental grievance board.

An extension beyond this limitation may be permitted only by the dean of the college in which the course was taken. Such extensions will be granted only on verifiable evidence of emergency circumstances, such as serious illness or military obligation, which prevented the petitioner from acting during the prescribed period.

Repeating courses for which the student is currently eligible can be elected, regardless of the grade received. The following conditions apply:
1. No course may be taken more than three times, except by permission of the head of the department in which the course is offered.

2. No student may repeat more than 10 different courses in the process of completing a baccalaureate degree, except by permission of the Admissions Review/Academic Standards Committee.
3. All grades earned by a student will be retained on the student's permanent record and repeats will be indicated.
4. Only the grade received the last time the course is taken will be used in compiling graduation credits and in determining the cumulative grade point average.
5. A course taken at Eastern Michigan University may not be repeated at another accredited college or university to satisfy Eastern Michigan University requirements without prior written approval of the provost or the provost's designated representative.

Grade reports are mailed by the University to the home address of the student normally within one week of the end of each semester/session. Undergraduate students' academic records are kept on permanent file in the Academic Records and Certification Office, Room 302, Pierce Hall. Unless there are past due financial obligations, students may get an official transcript of their complete records by requesting them in writing from that office and upon payment of the transcript fee specified.

The scholarship index or grade point average is the total number of Eastern Michigan University grade points acquired, divided by the total number of Eastern Michigan University semester hours taken which carry grade points. When a course is repeated, only the last grade is used in the computation of the grade point average.

Calculation of GPA for transfer credits is computed as follows:
1. Credit from another accredited institution is allowed for all transferable courses in which a grade of "C" or better is received, but is not included in computation of the grade point average.
2. Non-index courses are not included in the computation of the grade point average.

Academic distinction is awarded at graduation to students whose cumulative grade point average merits special recognition. A 3.90-4.00 grade point average is accorded Summa Cum Laude; a 3.70-3.89, Magna Cum Laude; and 3.50-3.69, Cum Laude on the diploma and permanent transcript record.

Grade Grievance Procedure

The grade grievance procedure provides each student with the opportunity to appeal formally a final grade in a course because he or she believes that the grade has been awarded capriciously or unfairly. This procedure is not intended to handle disputes which may arise about the grading of individual exams or assignments during the semester. When such disputes arise, the student should contact the instructor immediately, rather than waiting until the end of the semester. Each grade grievance submitted according to this procedure must be an individual action by an individual student, and "class action" grievances by one student on behalf of several students or an entire class are not permitted.
STEP I. Instructor and Student (Informal)

If a student wishes to appeal a final grade, the student must contact the instructor within FIVE (5) WORKING DAYS after the start of the next semester; i.e., the semester following the one in which the disputed grade was given (see General Notes for the spring-summer policy). If the instructor is teaching on campus the next semester, but is temporarily unavailable or simply cannot be reached during this five-day period, then the student should deliver a written request for an appointment with him/her, stating the reason, to the department head no later than the final day of the five (5) day period. With the aid of the department head in scheduling an appointment, the instructor and student must then meet as soon as possible and discuss the disputed grade privately. Whenever possible, conflicts over grades should be resolved informally between the instructor and the student as a result of this Step I discussion.

If the instructor has left the University permanently, or is not available for a period of sixty (60) days or more (e.g., if the instructor is away on sabbatical leave, medical leave, or is in his/her “off semester” on a Plan C appointment), then the department head shall act in his/her behalf and make a decision either in support of or against the grievance. In making this decision, the department head shall review all available grade records, discuss the matter with the student, and, with the written consent of the student, request and evaluate a written statement submitted within ten (10) working days by the instructor concerning the disputed grade. The department head cannot act in this manner on behalf of the instructor during the spring-summer period simply because the instructor is not teaching during either spring or summer session, unless the disputed grade affects the student’s plans to graduate either in August, October or December of that year.

STEP II. Department Grade Grievance Committee (Formal)

If the grade dispute is not resolved in Step I to the student’s satisfaction and he or she still believes that the grievance has merit based on the facts of the case, the student has the right to file a formal written grievance to the department head who will forward it immediately to the Department Grade Grievance Committee. Guidelines for filing a formal grievance are as follows:

1. A grievance must be based on evidence that the instructor has been capricious and/or unfair in awarding a grade. The written grievance must describe specifically the perceived capricious or unfair action of the instructor. The student should also present all other evidence or documentation in support of his or her allegations. Disagreement with an instructor’s judgment in and of itself is not a basis for a grievance; nor is disagreement with an instructor’s grading standards, if such standards have been described in advance for the class, and have been applied fairly to all students in the class.

2. A grievance must be filed within FIFTEEN (15) WORKING DAYS after the start of the next semester following the one in which the disputed grade was given.

Within TEN (10) WORKING DAYS after receipt of the written grievance, the department head must schedule a hearing before the Department Grade Grievance Committee. The department head cannot simply make a personal judgment that the grievance is without merit, and thus refuse to give it to the Department Grade Grievance Committee. However, after scheduling the hearing, the department head may request a closed three-person meeting in his/her office with just the instructor and the student, to discuss informally the disputed grade one final time. If either the instructor or the student refuses to attend such a meeting, the department head cannot require his/her attendance, and the grievance hearing is then held as previously scheduled. If the closed meeting is held, the department head shall act only as a facilitator or mediator. His/her role is restricted solely to promoting further discussion, not to imposing his/her judgment and/or making a decision in the case. If the dispute is resolved in this meeting, the written grievance shall be withdrawn and the scheduled hearing cancelled. If the dispute is not resolved, the grievance hearing is then held as previously scheduled. In such cases, the department head shall not communicate his/her opinions/judgments regarding the grievance and/or the discussions in the closed meeting to the members of the Department Grade Grievance Committee.

The Department Grade Grievance Committee shall be composed of three (3) faculty members and two (2) students, selected by appropriate department procedures. The student grievant may, however, request in advance in writing that the two (2) students be excused and that his or her grievance be heard only by the three (3) faculty members. The committee shall conduct a hearing according to the following guidelines:

1. a detailed record shall be kept of the hearing, preferably a taped sound recording;
2. both the student and instructor shall be permitted an advisor—advisors must be members of the University community, i.e., students, or full-time faculty or staff members;
3. the hearing shall be open unless the student or instructor requests a closed hearing;
4. both the student and the instructor may call witnesses, and the student, instructor, advisor(s), and committee members all have the right to question any witnesses that are called; and
5. the deliberations of the committee shall be in executive session.

Within FIVE (5) WORKING DAYS of the date of the hearing, the Department Grade Grievance Committee shall present its decision/recommendations in writing to the department head for immediate distribution to the student and the instructor.

Either the student or the instructor may appeal the decision/recommendations of the Department Grade Grievance Committee to the University Grade Grievance Committee, under the conditions listed below. This appeal must be filed within FIVE (5) WORKING DAYS of receipt of the decision.

STEP III. University Grade Grievance Committee (Appeal)

Either the instructor or the student grievant may submit a written appeal of the prior decision at Step II by the Department Grade Grievance Committee within FIVE (5) WORKING DAYS of written receipt of that decision, if one of the following conditions is met:

1. there was at least one dissenting vote at the Step II level; or
2. new evidence or new witnesses not previously considered or heard at Step II become available.
In the absence of I or 2 above, simple disagreement with the decision rendered at Step II is not a sufficient basis for an appeal. In other words, there is no automatic right of appeal in every case requiring that the University Grade Grievance Committee reconsider the entire grievance case. If the appeal is based on new evidence or new witnesses, the written appeal statement must explain precisely how this evidence or testimony relates directly to the alleged unfair or capricious awarding of the disputed grade. The appeal shall be submitted to the associate provost, with a copy to the dean of the appropriate college. The University Grade Grievance Committee shall be chaired by the associate provost and shall have the following additional members: the dean of the involved college or his/her designee; two (2) faculty members, one of whom is from the involved college, but not from the department in which the grievance originated; and one (1) student, appointed by Student Government. The two faculty members shall be selected by the associate provost from an available pool of nominees representing all the colleges.

The University Grade Grievance Committee shall review all written documents which were available to the Department Grade Grievance Committee, the tape recording of the Step II hearing, and the final report and decision of the Step II Committee. The University Grade Grievance Committee may reconvene the participants in the Step II hearing to answer questions, if desired.

Within TWENTY (20) WORKING DAYS of the receipt of the appeal, the University Grade Grievance Committee shall issue a written Step III decision to both the instructor and the student. This decision shall be final; no further appeal is possible.

Records

When the Grade Grievance Procedure results in an instructor’s grade being changed without his or her agreement, then all University records containing that grade in which the name of the instructor appears shall be identified by an asterisk (*). On these records, the asterisk will be footnoted with the following statement: “This grade is the result of an appeal procedure.” On those records in which the instructor’s name does not appear, the grade will not be asterisked, nor will there be any other indication that the original grade was changed.

General Notes

1. The time limits/deadlines for submitting grievances/appeals, holding meetings, and making decisions are to be followed by all parties. However, extensions of the time limits not to exceed five working days may be requested in writing by any of the involved parties. Such requests must originate prior to the expiration of the stated time limit. The dean of the involved college will make the decision to approve or to deny each request for a time limit extension at Step I or Step II. Decisions regarding Step III time limit extensions will be made by the provost. “Working days” are defined as Monday through Friday while classes are in session.

2. Each academic department shall select a Department Grade Grievance Committee at the beginning of the academic year in September. This committee will hear all grade grievances during the next 12 months, rather than selecting a different committee for each grade grievance. Substitute members shall be selected to replace any committee member who is himself/herself involved in a grade grievance. Also substitute members shall be selected to replace any committee member (faculty or student) who is unavailable for an extended period of time (e.g., spring and/or summer).

3. Each college shall select two (2) faculty members plus one alternate who are available over a 12-month period for assignment to the University Grade Grievance Committee. These selections shall be made by the appropriate college-level faculty advisory council/committee at the beginning of the academic year in September. Unlike the Department Grade Grievance Committee, this Step III University Grade Grievance Committee may of necessity have a different membership for each grievance.

4. Grievances relating to grades awarded for the winter semester ending in April shall normally be pursued the next fall, measuring all stated deadlines with respect to the start of the fall semester in September. However, if the instructor is teaching on campus during the spring or summer session and the student is enrolled on campus during that same session, then with their mutual agreement, the grievance can be pursued during the spring or summer. However, should either the instructor or the student prefer to wait, then action on the grievance will be postponed until the fall semester. The only exception in which the grievance shall be pursued during the spring or summer session without the consent of an instructor who is teaching on campus, is for any case in which the disputed grade affects the student’s plans to graduate either in August, October or December of that year. In such cases, if the instructor is unwilling to participate, the department head may act on his/her behalf.

5. Throughout this procedure, the title “department head” shall be interpreted to include “program directors” or “program coordinators” for appropriate academic units in which there is no administrator with the title department head.

6. Students are discouraged from seeking counsel or “off the record” opinions from deans or other senior administrators (particularly the associate provost, whom may become involved later if there is a Step III appeal) while action is still pending on a grade grievance at the department level.

Student government provides services for students seeking to file a student grievance through the R.E.A.C.T. Center, 235 Goodison (487-1472).

Academic Retention and Dismissal

Academic probation occurs when the student’s cumulative grade point average at EMU is less than 2.00 (a “C” average). Placement on academic probation is automatic and applies even if the student states that official notification of probation has not been received from the University.

A student’s probationary status results from his/her academic record for the semester just completed, viewed in relation to the student’s total Eastern Michigan University academic record.

University action in placing a student on academic probation should make the student aware that satisfactory progress is not being made toward completing degree requirements. The student also should realize the need to take steps, such as seeking addi-
tional help and advice, to improve the quality of his/her academic performance.

For this reason, the Academic Advising Center notifies students in writing that within the first 30 days of the semester—preferably within the first week of the semester—they are required to have a conference with an assigned academic adviser to review the student’s program of classes and individual plans made for that semester. The adviser may require further conferences, restrict the student’s academic load or stipulate special conditions to help ensure the student’s satisfactory progress toward graduation.

While on academic probation, a student must earn a semester grade point average of at least 2.0 (a “C” average) in each succeeding period of his/her enrollment (including spring and summer sessions) until probation is removed. Probation is removed when the student’s cumulative grade point average at EMU is at least 2.0.

The College of Education restricts its students placed on academic probation from registering for, remaining in or receiving credit for professional education courses offered by the following departments or divisions: Teacher Education, Student Teaching, Guidance and Counseling, Special Education and methods classes listed by cross-reference in these departments. The restrictions do not include these introductory courses: EDP 106 Introduction to University Studies, G&C 100 Career Exploration and Decision-Making, SGN 271 Introduction to Speech Pathology and SGN 251 Education of Exceptional Children.

No credit may be earned in any graduate level course (500 level) on campus or off campus while an undergraduate student is on academic probation.

Academic dismissal may result when students on probation fail to meet the required grade point average of 2.0 in each enrollment period.

Students not on academic probation whose cumulative grade point deficit at the end of any enrollment period is 13 or more may be dismissed for academic reasons.

Exceptions to the above policies may be made under the following conditions:

1. A student on academic probation who earns less than the required grade point average of 2.0 (a “C” average) in any semester or session of enrollment may be retained on academic probation provided this is the recommended judgment of the Admissions Review/Academic Standards Committee.

2. A freshman may, with the approval of the Admissions Review/Academic Standards Committee, be permitted two full semesters of enrollment even though the grade point deficit is greater than 13 during the first semester. This is not automatic.

3. A student on academic probation, whose grades for the current enrollment period include an “I” will be retained only at the discretion of the Admissions Review/Academic Standards Committee.

Readmission is not automatic but requires the student to seek a readmission interview with an adviser in the Academic Advising Center to determine if the student is ready to return.

Students will be required to support their eligibility for readmission through:

1. Documentation of their activities during the dismissal period which relates to the reasons for dismissal and which supports their readiness to resume their academic career at Eastern Michigan University.

2. Earning a minimum grade point average of 2.0 (”C” average) if courses are taken at other accredited collegiate institutions. (See restrictions on repeating courses.)

A student who is readmitted and is dismissed a second time normally will not be readmitted again.

To apply for readmission a student must:

1. Obtain a petition for readmission form in the Academic Advising Center, 301 Pierce Hall; complete the form and return it by the deadline established on the petition.

2. If any courses have been completed at another collegiate institution since leaving EMU, transcripts of such work must be included with the petition for readmission. If a student is enrolled in such courses at the time of petition, the transcripts must be received in the Academic Advising Center no later than the first day of classes in the session for which the student first returns.

3. A student who is readmitted and is dismissed a second time must include a copy of their separation record (DD Form 214) with the petition of readmission. If students apply for readmission prior to discharge, they may be readmitted conditionally pending receipt of their separation records.

Veterans whose academic records prior to entry into the U.S. Armed Forces do not qualify them for readmission are placed on probation if desiring to renew their education. Subsequent to readmission the veteran is subject to current University dismissal-probation (DP) procedures.

Withdrawals

Withdrawals from class are permitted students according to the following stipulations:

*First three weeks: Any change in the student’s program occurring during this period is accomplished through the Registration Office as a part of the registration adjustment process. Such changes are not recorded in the student’s permanent record.

*Fourth through 10th week: All student-initiated withdrawals are accepted automatically and recorded as “W.” A withdrawal form must be obtained from the Registration Office, 302/303 Pierce Hall. The instructor’s signature must be secured on the form as evidence that the instructor and student have discussed the contemplated action including possible alternatives and consequences. (In some cases other signatures are required.) Withdrawals initiated during this period are not eligible for tuition adjustment.
and are submitted for processing at the Registration Office. (See tuition and fee information and appeal process.)

*After 10th week — until beginning of final exam period: The student must initiate the withdrawal request at the Academic Advising Center, and the decision made on the request will be communicated in writing both to the student and to the instructor in question. Students should not stop attending class until they have received official notification that their withdrawal has been approved.

If a student stops attending class without officially withdrawing from the class and does not take the final examination, University policy requires that the instructor assign a grade of “E” for the course.

A “W” may be granted to students under either of the following conditions:

1. The student’s work in the course at the time of the withdrawal request is “A” through “C-.”
2. Unexpected, emergency circumstances that have arisen after the 10th week of the semester and prevent the student from completing the work of the course. These circumstances must be specific and verifiable.

The decision to award the “W” will be made by the Academic Advising Center director or designee based upon evidence submitted and in conference with the student. If the application is denied and the student fails to complete the work of the course successfully, a grade of “E” will be recorded by the instructor.

When withdrawal from a class or from all classes brings students’ academic loads below the minimum number of hours necessary to qualify as full-time students for University housing, scholarship aid, student loans or any other benefits they enjoy for which academic enrollment was a prerequisite, the University may, at its option, take any or all of the following steps:

1. Deny permission to withdraw.
2. Cancel the benefits as of that date.
3. Declare the student ineligible for present and/or future benefits of a similar nature.
4. Deny permission to re-enroll in subsequent semesters.

*These procedures and University withdrawal procedures also apply to spring and summer sessions. The exact withdrawal and deadline dates are printed in the current Class Schedule Bulletin for the session concerned.

Withdrawal from the University and all classes currently being taken is accorded students who apply in person at the Registration Office. If students are unable to accomplish the withdrawal in person, they may send a written request to the Registration Office indicating the reasons for withdrawal. Any tuition/fee adjustment responding to written communication is based on the postmark date (see also Tuition/Fees).

Withdrawal from the University policy is:

1. Students who drop during the first seven calendar days of the semester (three calendar days for spring/summer) will receive a 100 percent tuition credit adjustment and no grades will be posted. An adjustment fee of $10 is charged.
2. Students who drop during the next 14 calendar days of the semester (the next four calendar days for spring/summer) will receive a 50 percent tuition credit adjustment and no grades will be posted.

3. Students who drop after 21 calendar days of the semester (seven for spring/summer) through the day prior to the first day of University final examinations will receive no tuition credit adjustment and grades of “W” will be posted.
4. No withdrawal will take place after the official University final examination period has begun.

The EMU Class Schedule Bulletin published each term gives exact dates for tuition credit adjustment and withdrawal deadlines.

Retroactive withdrawal from the University may be requested by a student when unexpected circumstances arise after the completion of classes for a term. Normally, the request will be considered only for the preceding term.

The retroactive withdrawal policy is dependent on one or both of the following reasons:

1. Administrative. Through an administrative problem or error, the student received an “E” grade.
2. Mental or physical stress. Subsequent to awarding the term grades the student claims that severe physical or psychological stress was present during the semester. Documentation must be presented by or on behalf of the student and a consultation may be required. In this case, the decision will affect all the classes the student was registered for during the term in question. In cases of severe mental or physical stress, it is usually assumed that students are so incapacitated they were not able to carry on with University responsibilities.

In either situation, the student must initiate the request at the Academic Advising Center, 301 Pierce Hall. Upon review of the documented evidence and possible further consultation, the director or designee will recommend action to the vice president for academic affairs.

Students with an approved retroactive withdrawal do not receive any consideration for tuition refund. Grades of “W” will be posted on their official academic records.

### Student Conduct/Grievances

University policy relating to student conduct, judicial procedures and penalties will be found in the back of this catalog in the section titled Student References. Grade grievance procedures may also be obtained from the academic department involved. Student employment grievance procedures may be obtained from the Career Services Center, Fourth Floor, Goodison Hall.
GRADUATION REQUIREMENTS

To graduate from Eastern Michigan University, students must fulfill basic studies requirements, satisfy major and minor requirements and earn a bachelor of science or bachelor of arts degree or one of the baccalaureate degrees pertinent to their fields of study as authorized by this University (see below).

The minimum number of credit hours required for graduation is 124. To earn a degree, students must complete a minimum of 40 semester hours in the basic studies (which follow), complete a major of 30 to 36 hours and a minor of 20 to 24 hours, as specified in their fields of study, and electives to equal the minimum total of 124 hours.

The catalog requirements in effect at the time of the student's initial registration at a college or university or the requirements of a subsequent catalog, including those in effect at the time of the student's graduation, may be used to complete graduation requirements. In the event the student does not complete degree requirements within seven years of the date of his/her original registration, the student may be required to have his/her credits re-evaluated by the Office of the Registrar in keeping with more recent catalog requirements. (See special time requirements in the description of the nursing program.)

DEGREES

Basic undergraduate degrees conferred by the Board of Regents on recommendation of the president and faculty are the bachelor of science (B.S.) and the bachelor of arts (B.A.) degrees, described fully in the introduction to the College of Arts and Sciences.

Bachelor's degrees also are awarded in fine arts (B.F.A.) and art education (B.A.E.)—see Department of Art, College of Arts and Sciences; business administration (B.B.A.)—see College of Business; bachelor of business administration and bachelor of arts in language and world business (B.B.A./B.A.)—see College of Business or Department of Foreign Languages, College of Arts and Sciences; business education (B.B.E.)—see Department of Business and Industrial Education, College of Technology; music education (B.M.E.), music-performance (B.Mu.), and music therapy (B.M.T.)—see Department of Music, College of Arts and Sciences; nursing (B.S.N.)—see Department of Nursing Education, College of Health and Human Services.

Many students also select pre-professional fields of study such as medicine, dentistry and forestry (listed in departments) or seek certification and/or licensing in teaching, medical technology and similar fields (listed at the end of this section).

Graduate degrees offered by this University are: master of arts, master of science, master of fine arts, master of business administration, master of science in accounting, master of public administration, master of business education, master of science in computer-based information systems, master of individualized studies, master of science in organizational behavior and development, and master of liberal studies. In addition, there is a specialist in arts degree and a post-master's program called Certificate of Advanced Study in Curriculum and Instruction (CASC). All are listed in the Graduate Catalog.

Bachelor's degree programs require all students to take courses in the various subject areas listed below as specified both in the basic studies requirements and in departmental majors and minors. These subject group areas are:

- Language and Literature (Group I)
  - Ancient language and literature, modern language and literature, speech communication, library science.
- Science and Mathematics (Group II)
  - Astronomy, biology, botany, chemistry, science-oriented geography/geology (earth science), mathematics and computer science, physics, physiology, psychology, zoology.
- Social Sciences (Group III)
  - Anthropology, economics, social science-oriented geography, history, philosophy, political science, sociology.
- Education (Group IV—Teacher Education only)
  - Education (including methods courses and student teaching).
- Fine Arts (Group V)
  - Art, music, theatre arts.
- Practical Arts (Group VI)
  - Business administration; business education; health administration; human, environmental and consumer resources; industrial education; industrial technology; medical technology; military science; nursing education; occupational therapy; social work.
- Physical Education and Health Education (Group VII)
  - Dance, health education, military science, physical education, recreation.

BASIC STUDIES PROGRAM

History

In February 1985, the provost commissioned a Basic Studies Review Committee and charged the members "with conducting a comprehensive re-examination of our present basic studies requirements and with determining what changes should be made to provide the most effective liberal/general education for today's students." The Basic Studies Review Committee met through April 1986 and recommended a series of revisions in the structure of the existing program. The recommended revisions were subjected to a thorough process of review by departmental, college, and University bodies and were finally approved by the Board of Regents on September 23, 1987.

The revised structure included the establishment of a standing Basic Studies Committee, whose task was to make recommendations about implementation of the new basic studies program. The Basic Studies Committee was commissioned in January 1988 and has met regularly since that time. The Basic Studies Committee considered extensive input from the University community. Upon recommendation of the Basic Studies Committee, the provost approved the following program.

Implementation Schedule

Effective fall semester 1990, the new basic studies program applies to all entering first time freshmen students at EMU who begin their college work in fall 1990 or thereafter. It also applies to transfer students who begin their college work at another institution in fall 1990 or thereafter. Transfer students must consult the Academic Advising Center to determine the degree to which their transfer credits may be applied towards the EMU basic studies requirements.
Rationale

The basic studies program is designed to provide you with a core of knowledge about people, things, and processes. The program also seeks to teach you how to evaluate the work of others, to add to your store of ideas and ideals, and to communicate your discoveries and insights. The basic studies courses are intended as more than introductions to fields of study; they should also develop your capacity for independent thought. The basic studies program attempts to ensure that you will not be content with the world as it is but will seek to improve and perfect it.

Requirements: 16 courses

All students are required to complete courses in four areas:

I. Symbolics and Communication: 5 courses
II. Science and Technology: 3 courses
III. Social Science: 4 courses
IV. Arts and Humanities: 4 courses

Special Note 1: At least one of the sixteen courses must be an approved course in cross cultural or international studies. Such courses appear in the following course lists preceded by an asterisk (*).

Special Note 2: A set of interdisciplinary courses may be elected by honors students and, as space is available, by students with a cumulative grade point average of at least 3.0 to satisfy the requirements in fine arts, history, literature, music, philosophy and theatre arts. For further information, consult the “Honors Courses in basic studies” on page 33.

Special Note 3: A number of majors and minors specify precisely which courses must be taken to satisfy the following basic studies requirements. It is extremely important that you confer with the Academic Advising Center and/or your departmental adviser prior to making your basic studies choices.

### AREA I: SYMBOLICS AND COMMUNICATION

**Requirements: 5 courses**

1. A course in written composition.
2. A course in speech communication.
3. A course in one of the following areas:
   a. an upper-level course in written composition.
   b. an upper-level course in speech communication.
   c. a course in foreign language composition.
4. A course in mathematical reasoning.
5. A course in computer literacy.

### B. Meeting the Requirements in Area I (Symbolics and Communication)

Courses marked with an asterisk (*) also satisfy the cross-cultural/international studies requirement.

1. A course in written composition
   
   *Note:* For those students who do not submit test scores, placement will be determined by the Academic Advising Center.

   **ENG 120 Basic English Composition**

   You must enroll in this course in your first semester if your ACT score is below 19 on the enhanced ACT (or below 17 on the old ACT) or your SAT score is 400 or lower.

   When you have completed ENG 120, you must then complete ENG 121.

   **ENG 121 English Composition**

   All students must complete ENG 121 in order to satisfy this requirement. Unusually competent students may request a waiver from this requirement if they have a score of 550 or above on the SAT or 29 or above on the English section of the enhanced ACT (or 25 on the old ACT).

2. A course in speech communication

   Complete one of the following courses:
   - **CTA 121 Fundamentals of Speech** (2 sem hrs.)
   - **CTA 124 Fundamentals of Speech** (3 sem hrs.)

   *Note:* Students with strong previous preparation in speech may seek approval for a waiver of this requirement from the Department of Communication and Theatre Arts.

3. Complete a course from one of the following options (3a, 3b or 3c):

   **3a. An upper level course in written composition**
   
   Complete one of the following courses:
   - **ENG 324 Principles of Technical Communication**
   - **ENG 225 Intermediate English Composition**
   - **ENG 226 Report and Research Writing**

   **3b. An upper level course in speech communication**
   
   Complete one of the following courses:
   - **CTA 224 Public Speaking**
   - **CTA 225 Listening Behavior**
   - **CTA 226 Nonverbal Communication**
   - **CTA 227 Interpersonal Communication**
   - **CTA 374 Intercultural Communication**

   *CTA 374 Intercultural Communication*

3c. A course in foreign language composition

   Complete one of the following courses (initial placement in language courses depends upon previous student and/or placement examinations):
   - **CLA 121/122 Beginning Latin**
   - **CLA 123/124 Beginning Ancient Greek**
   - **FRN 121/122 Beginning French**
   - **FRN 233/234 Intermediate French**
   - **GER 121/122 Beginning German**
GER 233/234 Intermediate German  
JPN 121/122 Beginning Japanese  
JPN 211/212 Intermediate Japanese  
SPN 121/122 Beginning Spanish  
SPN 201/202 Intermediate Spanish

4. A course in mathematical reasoning  
Complete one of the following courses:  
MTH 109 Functional Mathematics II  
MTH 118 Mathematical Analysis for Social Sciences I  
MTH 119 Mathematical Analysis for Social Sciences II  
MTH 120 Calculus I  
MTH 121 Calculus II  
MTH 122 Elementary Linear Algebra  
MTH 150 Mathematical Reasoning  
MTH 270 Elementary Statistics  
MTH 341 College Geometry  
SOC 250 Elementary Social Statistics

A waiver of this requirement if they have submitted a score of 22 or above on the mathematics portion of the enhanced ACT or a score of 500 or above on the SAT. A waiver form must be obtained from the Academic Advising Center.

5. A course in computer literacy  
Complete one of the following courses:  
BE 201 Microcomputers for Business Applications  
CSC 136 Computers for the Non-Specialist  
CSC 137 Introduction to Fortran Programming  
CSC 138 Computer Science I  
CSC 237 Computer Programming and Numeric Methods  
HHS 226 Computers for Health and Human Services  
IT 105 Computer Applications for Industry  
IDT 201 Microcomputer Applications in Technology  
ORI 215 Introduction to Business Information Systems

A Rationale
The sciences study the physical character of the universe and the nature of its living organisms, including the human species. Learning to use the scientific method will expand your knowledge and understanding of the universe.  
Observation of the natural world leads to theories, from which hypotheses are generated. These hypotheses are then checked against the empirical data collected by systematic observation and experimentation. Science enables you to understand the world better and, where appropriate, to modify your thinking about nature.  
The study of technology enables you to understand how scientific knowledge is employed to solve practical problems. Knowledge of scientific and technological methods will help you to be an active problem-solver rather than a mere spectator.

5. A course in computer literacy
4. A course in computer literacy

AREA II: SCIENCE AND TECHNOLOGY  
Requirements: 3 courses  
1. A course in physical science.  
a. You must complete a course in chemistry or physics unless you have submitted appropriate evidence to the Academic Advising Center that you completed a one unit course in high school with a grade of "C" or above.  
b. If you have submitted proof of having completed a one unit high school course in chemistry or physics, you may satisfy this requirement by choosing among chemistry, earth science/geology, or physics/astronomy.  
2. A course in life science (biology or psychology).  
3. A course in science or technology (3a or 3b):

A. Meeting the Requirements in Area II
1. A course in physical science

1a. Physical science courses open to all students who meet course requirements  
Complete one of the following courses:  
PHY 100 Science for Elementary Teachers  
PHY 110 Physical Science  
PHY 221 Mechanics, Sound and Heat  
PHY 223 Mechanics, Sound and Heat  
CHM 105 Survey of Chemistry  
CHM 115 Chemistry and Society (no laboratory)  
CHM 115-116 Chemistry and Society  
CHM 119 Fundamentals of Chemistry  
CHM 120 Fundamentals of Organic and Biochemistry  
CHM 121-122 General Chemistry I

1b. Additional options open to students who have submitted appropriate evidence of having completed a one unit high school chemistry or physics course with a grade of "C" or above  
Complete one of the courses listed in 1a, or one of the following courses:  
AST 203 Exploration of the Universe (no laboratory)  
AST 203-204 Exploration of the Universe  
AST 205 Principles of Astronomy (no laboratory)  
AST 204-205 Principles of Astronomy  
GES 108 Earth Science  
GLG 120 The Fossil Record (no laboratory)  
GLG 160 Physical Geology

2. A course in life science
Complete one of the following courses:  
BIO 105 Biology and the Human Species  
BOT 221 General Botany  
ESC 303 Science for Elementary Teachers  
ZOO 222 General Zoology  
PSY 101 General Psychology (no laboratory)  
PSY 102 General Psychology

3. A course in science or technology (3a or 3b):
Ja. You may choose any one of the courses listed under physical or life science, so long as you have chosen your three courses in this area from three different departments.

Jb. You may also choose your third course from the following list:
- CHM 101 Science for Elementary Teachers
- IDT 150 Understanding Technology (no laboratory)
- IT 240 Science, Technology and People (no laboratory)

AREA III SOCIAL SCIENCE
Requirements: 4 courses
1. A course in U.S. government
2. A course in history
3. A course in anthropology, economics, geography, or sociology, whose content includes the structure and methodology of the discipline.
4. One of the following:
   a. A second course in a two-course history sequence.
   b. A second course in a two-course sequence in anthropology, economics, geography, or sociology, whose content includes the structure and methodology of the discipline.
   c. An approved course in cross-cultural or international studies.

A. Rationale
As an informed person you should understand the structure and dynamics of groups of human beings and be able to study group behavior.

Analysis of American government and comparisons with other governments will help you understand how to influence your government in positive ways.

Your study of the development of human institutions and practices through time will increase your understanding of how earlier societies met challenges and adjusted to changing circumstances. You will learn how those successes and failures led to the problems and opportunities which face us now.

Learning how a given social science gathers and interprets its data will help you understand that good public decisions depend on adequate information about issues.

A knowledge of the history, social settings, values, and perceptions of other sub-cultures, cultures, and nations will broaden your appreciation of different ways of organizing social life and looking at the world.

B. Meeting the Requirements in Area III
(Social Science)
Courses marked with an asterisk (*) satisfy the cross-cultural/international studies requirement.

1. A course in U.S. government
   Complete one of the following courses:
   - PLS 112 American Government
   - PLS 113 American Government Honors

2. A course in history
   Complete one of the following courses:
   - HIS 101 History of Western Civilization to 1648
   - HIS 102 History of Western Civilization, 1648-World War I
   - HIS 103 Twentieth Century Civilization
   - HIS 104 History of Modern Europe
   - HIS 105 History of Latin America
   - HIS 106 History of Non-Western Civilization
   - HIS 123 History of the U.S. to 1877
   - HIS 124 History of the U.S., 1877-Present

Note: Some students may be eligible to fulfill the requirements in history by pursuing options described in the "Honors Courses in basic studies" on page 33.

3. A course in anthropology, economics, geography, or sociology
   Complete one of the following courses:
   - ANT 135 Introduction to Cultural Anthropology
   - ECO 201 Principles of Economics I
   - GEO 107 Introduction to Geography
   - GEO 110 World Regions
   - SOC 105 Introductory Sociology

4. Complete a course from one of the following options (4a, 4b or 4c):

4a. A second course in a two-course history sequence
   Complete one of the following courses:
   - HIS 102 (follows 101) History of Western Civilization: 1648-World War I
   - HIS 103 (follows 102) Twentieth Century Civilization
   - HIS 124 (follows 123) History of the U.S.: 1877-Present

4b. A second course in a two-course sequence in anthropology, economics, geography or sociology
   Complete one of the following courses:
   - ANT 140 (follows 135) Introduction to Prehistoric Anthropology
   - ECO 202 (follows 201) Principles of Economics II
   - GEO 111 (follows 110) Regions and Resources
   - SOC 202 (follows 105) Social Problems

4c. A course in cross-cultural or international studies
   Complete one of the following courses:
   - *AAS 101 Afro-American Studies: An Introduction
   - *ANT 205 Minority Women in the United States
   - *ANT 233 Peoples and Cultures of Mexico
   - *ANT 234 Peoples and Cultures of Latin America
   - *ANT 236 Peoples and Cultures of Africa
   - *ANT 237 Indians of North America
   - *ANT 245 People and Culture of Japan
   - *ANT 246 Racial and Cultural Minorities
   - *ANT 355 Anthropology of Women
   - *ECO 321 Minority Workers in the Labor Market
   - *ECO 328 Economics of Women
   - *HIS 305 History of Indians in the United States
   - *HIS 315 History of Black Americans
   - *HIS 336 History of Women in the United States and Great Britain, 1800 to the Present
   - *HIS 341 The Middle East, 1798 to the Present
   - *HIS 342 North Africa, 1798 to the Present
   - *HIS 348 Sub-Saharan Africa in the Twentieth Century
   - *HIS 356 Latin America: National Period
   - *HIS 375 Modern India
   - *SOC 205 Minority Women in the United States
   - *SOC 214 Racial and Cultural Minorities
   - *SOC 344 Sociology of Sex Roles
   - *WMS 200 Introduction to Women's Studies
AREA IV: ARTS AND HUMANITIES
Requirements: 4 courses
1. One of the following:
   a. a course in literature
   b. an intermediate or advanced foreign language literature course
2. One of the following:
   a. a second course in literature
   b. an intermediate or advanced foreign language literature course
   c. a course in oral interpretation
   d. a course in cross-cultural or international studies
3. A course in philosophy or religion
4. A course in art, dance, music, or theatre arts

A. Rationale
The arts and humanities help you to probe the meaning of human experience and imagine how that experience could be altered. Such probing and imagining lead to new insights and visions.

Exposure to the arts and humanities increases the repertoire of ideas, images, and sounds which you can enjoy. Your training in criticism will help you analyze your own reactions to various art forms and developed educated tastes and values. The arts and humanities include literature, aural and visual media, philosophy, religion, and the plastic and performing arts.

B. Meeting the Requirements in Area IV
(Arts and Humanities)
Courses marked with an asterisk (*) satisfy the cross-cultural/international literature requirement.

Note: Some students may be eligible to fulfill the requirements in fine arts, literature, music, philosophy and theatre arts by pursuing options described in the “Honors Courses in basic studies” on page 33.

1. Complete a course from one of the following options (1a or 1b):

1a. A course in literature
   Complete one of the following courses:
   LIT 100 The Reading of Literature
   LIT 101 The Reading of Fiction
   LIT 102 The Reading of Literature: Poetry
   LIT 103 The Reading of Literature: Drama

1b. A course in intermediate or advanced foreign language literature
   Complete one of the following courses:
   FRN 221/222 Intermediate French
   FRN 341/342 Survey of French Literature
   GER 221/222 Intermediate German
   GER 341/342 Survey of German Literature
   SPN 221/222 Intermediate Spanish Reading
   SPN 341/342 Survey of Spanish Literature
   SPN 351/352 Survey of Spanish American Literature

2. Complete a course from one of the following options (2a, 2b, 2c or 2d):

2a. A second course in literature
   Complete one of the following courses not previously chosen under 1a:
   LIT 101 The Reading of Fiction
   LIT 102 The Reading of Literature: Poetry
   LIT 103 The Reading of Literature: Drama

2b. A course in intermediate or advanced foreign language literature
   Take any course not already completed from the list under 1b above.

2c. A course in oral interpretation
   Complete CTA 210 Interpretative Reading

2d. A course in cross-cultural or international studies
   Complete one of the following courses:
   *CEN 215 The Culture of the Latino Groups in the United States
   *LIT 204 Native American Literature
   *LIT 260 Afro-American Literature

3. Complete a course from one of the following options (3a or 3b):

3a. A course in philosophy
   Complete one of the following courses:
   PHI 100 Introduction to Philosophy
   PHI 110 Philosophies of Life
   PHI 130 Introduction to Logic
   PHI 132 Critical Reasoning
   PHI 212 Philosophy of Art
   PHI 215 Philosophy of Religion
   PHI 220 Ethics
   PHI 221 Business Ethics
   PHI 225 Political Philosophy
   *PHI 226 Philosophy of Women

3b. A course in the study of religion
   Complete one of the following courses:
   HIS 100 Comparative Study of Religions
   PSY 225 Psychology of Religion

4. Complete a course from one of the following options (4a, 4b, 4c or 4d):

4a. A course in art
   Complete one of the following courses:
   FA 100 Art Appreciation
   FA 101 Introduction to Art
   FA 107 Art History Survey I
   FA 108 Art History Survey II
   FA 122 2-D Design
   FA 123 Drawing I
   FA 165 Graphic Design for Non-majors
   FA 166 Ceramics for Non-majors
   FA 167 Jewelry for Non-majors
   *FA 222 African and Afro-American Art

4b. A course in dance
   Complete DAN 106 Introduction to the Performing Arts
4c. A course in music
Complete one of the following courses:
MUS 100 Introduction to Music Theory
MUS 106 Introduction to the Performing Arts
MUS 107 Music Appreciation

4d. A course in theatre arts
Complete one of the following courses:
CTA 106 Introduction to the Performing Arts
CTA 150 Introduction to the Theatre
*CTA 151 Introduction to Black Theatre
CTA 158 Fundamentals of Acting
CTA 222 Drama and Play in Human Experience

CROSS-CULTURAL OR INTERNATIONAL STUDIES
Requirement: 1 course selected from Areas I-IV
At least one approved course in cross-cultural or international studies must be completed in the process of meeting the requirements of the foregoing Areas I-IV. Approved courses are designated with an asterisk (*).

A. Rationale
An understanding of significant U.S. minority groups, related foreign cultures, and women is important to gain an appreciation of the cultural diversity in this country. Relating each group or culture to the larger cultural and political context within this country enhances understanding of contemporary events and conditions.

B. Meeting the Requirements
This requirement may be fulfilled while also meeting the requirements in Areas I-IV. Select an approved course from Areas I-IV. Approved courses are designated with an asterisk (*).

HONORS COURSES IN BASIC STUDIES
Honors courses in basic studies may be elected to satisfy the requirements in fine arts, history, literature, music, philosophy and theatre arts.
These courses are open to members of the University Honors Program and, as space is available, to students with a cumulative grade point average of at least 3.0. These courses are listed below. For further information, consult the director of the University Honors Program.

Courses that satisfy one of the Areas as designated:
CEN 104H/HIS 104H
Quest for Power: Famous Figures in History
3 credits ............................................................. Area: LIT or HIS

CEN 106H/LIT 106H
Rome and America
6 credits ............................................................. Area: LIT

PHI 124H/LIT 124H
The Age of Wagner
3 credits ............................................................. Area: PHI or LIT

LIT 126H/CTA 126H
The Age of Shakespeare
3 credits ............................................................. Area: LIT or TA

FA 127H/HIS 127H/MUS 127H
The Splendid Centuries of Austria
3 credits ............................................................. Area: FA or HIS

HIS 128H/LIT 128H
Russia in the Age of Tolstoy and Dostoevsky
3 credits ............................................................. Area: LIT or HIS

PHI 150H/LIT 150H
Humanity and Technology
3 credits ............................................................. Area: PHI or LIT

FA 151H/HIS 151H
Reason and Revolution
3 credits ............................................................. Area: FA or HIS

HIS 152H/LIT 152H
From the Gay Nineties to the Crash
3 credits ............................................................. Area: HIS or LIT

PHI 155H/LIT 155H
Narrative in Literature and Film
3 credits ............................................................. Area: LIT or PHI

CEN 181H/FA 181H/LIT 181H
The Legacy of Greece
3 credits ............................................................. Area: LIT or FA

179H, 279H, 379H, 479H
Special Topics
3 credits ............................................................. Area: Varies

Courses that satisfy two of the Areas as designated:
HIS 107H/LIT 107H
Society in Crisis: 1848 and 1968
6 credits Area: ................................................... HIS and LIT

FUTURE CHANGES IN THE BASIC STUDIES PROGRAM
Additional courses may be approved and refinements made periodically in the basic studies program.

Basic studies transfer credit will be determined by Eastern Michigan University in cooperation with the college or university from which the student wishes to transfer credit. In most cases, equivalency lists exist.

THE MACRAO AGREEMENT
Eastern Michigan University is a signator of the MACRAO (Michigan Association of Collegiate Registrars and Admissions Officers) agreement. The purpose of this agreement is to ensure that students who complete a specified distribution of general education courses at a community college will have satisfied general education requirements at signatory four-year colleges. Eastern Michigan
University accepts the MACRAO agreement with the following provision:

“All students who graduate from EMU should have the same number and distribution of general education courses. For transfer students, EMU recognizes courses completed as part of the MACRAO agreement as satisfying comparable courses in EMU’s basic studies but students must satisfy all EMU program requirements or equivalents.”

Majors/Minors

Each student must complete a major subject of at least 30 semester hours and a minor subject of not less than 20 semester hours with the following exceptions:

1. A student on the elementary teaching curriculum may present three minors of not less than 20 semester hours each of which at least two are subject fields taught in the elementary grades.

2. A student who completes the specialized programs for teachers of art, business education, industrial education and music, or the professional programs in applied science, business administration, criminal justice, nursing, music therapy, industrial technology, occupational therapy, health administration, language and international trade and social work will automatically satisfy major-minor requirements.

Hours of credit counted on a minor may not be applied to a major or another minor or vice versa. Basic studies courses may be applied toward a major or a minor where appropriate.

Professional education courses do not count toward majors and minors except in cases where such courses are specifically required or indicated as permissible as part of a major or minor.

All students, including transfer students, must complete at Eastern Michigan University the following minimum requirements in advanced courses numbered 300 or above in their majors and minors, unless specifically exempted by the department concerned:

1. At least nine hours in majors.
2. At least six hours in minors.
3. At least 15 hours in curricula which encompass both major and minor requirements.

Degree Requirements

Residency: Candidates for the bachelor’s degree must earn at least 30 semester hours at Eastern Michigan University. Of these 30 hours, a minimum of 15 hours must be taken on the Ypsilanti campus. The remaining 15 hours may be taken off campus.

Of the last 30 semester hours prior to the granting of the degree, at least 10 hours must be taken in courses offered by EMU. These 10 hours may be taken either on or off campus.

Students with credit from a junior or community college must earn a minimum of 60 semester hours exclusive of physical activity or junior/community college credit. When a student has earned a total of 75 semester hours from community colleges and/or four year institutions, courses should not be taken at a junior or community college for transfer to Eastern Michigan University.

Subject Limitation: No more than 60 semester hours in any one area of concentration may be applied toward the minimum of 124 hours required for a bachelor’s degree.

Correspondence Credit: No more than 15 semester hours of correspondence credit may be applied toward a bachelor’s degree, nor may correspondence credit be applied to meet any of the residence requirements.

Correspondence course grades will be included in figuring the scholarship index (grade point average).

Minimum GPA: Students will not be graduated if their scholarship index (grade point average) in their degree program (major and minor) is less than 2.0. Credit earned at EMU must average at least 2.0.

Physical Education: All students shall present two semester hours of physical education activity credit for graduation. This requirement may be met in one of the following ways:

1. Students may elect to complete two hours of physical education activity from the wide range of classes offered each semester.
2. Veterans with at least one year of active duty may substitute their military service in lieu of the physical education activity requirement.
3. Any two Military Science courses may be applied in fulfillment of the physical education requirement.

This requirement may be modified or waived if, for reason of physical disability, the student is unable to participate in physical education activity courses. Physical disability shall be determined by the Health Service and, in conference with the department chairman of Health, Physical Education, Recreation and Dance, a decision will be made as to appropriate modification or waiver of the requirement to ensure maximum benefit to the student.

Any student may apply up to eight semester hours of credit earned in physical education activity courses to the minimum 124 credit hours required for graduation.

Students majoring in physical education, recreation or dance may apply to the minimum 124 credit hours the minimum number of hours in activity courses required for their respective majors.

All grades received in physical education activity courses, including those which exceed the credit hour limits prescribed above, are used in computing the student’s grade point average.

Military Service/Science: Students who have been in military service will be granted credit in Military Science as follows:

1. Those who have served for one year in the Army, Navy, Air Force, Marine Corps, Coast Guard (including attendance at service academies) will be given credit for the first two years of Military Science; those who have served for six months in service will be given credit for the first year of Military Science.
2. Students who have completed two years Junior ROTC will be given credit for the first year of Military Science with departmental approval; those who have completed three years will be given credit for the first two years of Military Science with departmental approval.

Veterans who are awarded credit for Military Science under 1. above are, nevertheless, eligible to enter the advanced course voluntarily if qualified and should consult the Military Science
Degree Candidates

Candidates for a degree and/or certificate must make formal application for graduation during the first two weeks of the final semester or session. (The application should be made after final registration is complete but not later than the last day of program adjustment for the semester or session in which the student expects to graduate.)

Application forms, obtained in the Office of the Registrar, 302 Pierce Hall, must be submitted with the $30 graduation fee to the Cashier's Office, Pierce Hall, or charged to the student’s account.

Failure to meet the application deadline will result in the candidate’s graduation being delayed until the following graduation period. Failure to satisfy degree requirements, including the removal of incompletes in required courses or providing official transcripts for course work taken at other colleges or universities, will necessitate that the student file a new application for graduation in the Office of the Registrar.

Financial obligations to the University must be met before students are eligible for graduation.

Placement forms are available at the Career Services Center and students are encouraged to complete their credential files before graduation. The credential file consists of the student’s personal and job references as well as a personal data form and a course and grade account.

Certification

Six-year Provisional Teaching Certificates are conferred by the Michigan State Board of Education upon recommendation of Eastern Michigan University. The University recommends for provisional certification only those students who have satisfied the curricular requirements in one of the teacher education degree programs.

Certificates always expire on June 30 of the calendar year; those issued in January are valid for only five and one-half years. The two certificates issued are:

State Elementary Provisional Certificate,* which certifies the holder to teach all subjects in elementary grades (kindergarten-5) and appropriate majors and/or minors in grades 6-8.

State Secondary Provisional Certificate,* which certifies the holder to teach majors and minors in grades 7-12.

*A holder of this certificate who has completed EMU’s curricular requirements in art, home economics, industrial arts, music, or physical education is normally eligible to teach in the speciality in grades K-12.

Vocational certificates qualify the holder to teach in the programs named below in schools offering programs which are reimbursed by federal and state funds allocated for that purpose. The three vocational certificates issued are:

State Secondary Provisional Vocational Certificate in Consumer Home Economics Education

State Secondary Provisional Vocational Certificate in Office and/or Distributive Education

State Secondary Provisional Vocational Certificate in Trade and Industrial Education.

Continuing certification is available on application to holders of elementary or secondary provisional certificates who meet the following qualifications:

1. Teach successfully for three years subsequent to the issuance of the Michigan provisional certificate within the validity of the individual’s Michigan provisional certificate.

2. Earn 18 semester hours credit subsequent to the issuance of the Michigan provisional certificate in an education-related planned course of study (18 semester hours earned on a master’s program following the issuance of the provisional certificate is acceptable). A person with an earned master’s or higher degree has met the academic requirements. Persons who have not satisfied the current reading methods requirement must do so to qualify for continuing certification. The planned program should be approved in advance by the Office of the Registrar.

Procedures (following three years of successful teaching and completion of 18 semester hours credit in an approved planned program subsequent to the issuance of the provisional certificate) require the applicant to:

1. Obtain an application form from the Office of the Registrar.

2. Fill out the application as required and return it to the Office of the Registrar with a copy of the front of the provisional certificate.

The office will:

1. Evaluate the credits earned and contact the school district of the candidate for recommendations concerning the teaching experience to ascertain if the requirements for the continuing certificate have been met.

2. Recommend the candidate to the State Board of Education for continuing certification if the candidate’s qualifications are found satisfactory. The Michigan State Department of Education will mail the continuing certificate to the candidate upon payment of the required fee.

Professional Certificate

As of July 1, 1992, the Continuing Certificate will be discontinued. It will be replaced by the Professional Certificate.

Qualifications and procedures for the Continuing and Professional Certificates are the same. However, the Professional Certificate is issued for a period of only five years. Renewal of the Professional Certificate requires an additional six hours of credit and payment of a fee of $125.00 every five years.

Other professional certificates and procedures are as follows:

Registration in Dietetics: The American Dietetic Association issues a certificate of membership in dietetics upon successful completion of the coordinated dietetics curriculum. Successful completion of the national examination administered by the American Dietetic Association results in professional registration status with the American Dietetic Association.

Certification as a Medical Technologist: There are four certifying agencies for medical technologists: (1) American Society of Clinical Pathologists, (2) National Certifying Agency for Clinical
Laboratory Personnel, (3) International Society of Clinical Laboratory Technologists, and (4) American Medical Technologists. Because there can be differences in hiring practice and salary differentials based on agency certification, it is recommended that students carefully consider agency certification before the examination is taken. The Clinical Laboratory Sciences Office has information on each of the agencies mentioned.

Certification in Occupational Therapy: The American Occupational Therapy Association (AOTA) requires successful completion of all academic requirements and field work experiences and recommendation by faculty for candidates for certification to be eligible for the national certification examination. A Registered Occupational Therapist (OTR) is one who has passed the certification examination and has applied to the AOTA for certification and registration.

Registration in Music Therapy: The National Association for Music Therapy, Inc. (NAMT) grants the Registered Music Therapist (RMT) status. Upon successful completion of the approved curriculum in music therapy and a continuous six-month, 1,040-hour clinical training (internship) period at an NAMT-approved clinical training center, the student is eligible to apply for registration as a music therapist.

Certificate in Speech Pathology: The American Speech and Hearing Association issues Certificates of Clinical Competence to individuals who present satisfactory evidence of their ability to provide independent clinical services to persons who have disorders of communication (speech, language, and/or hearing). An individual who meets these requirements may be awarded a Certificate in Speech Pathology or in Audiology, depending upon the emphasis of his preparation. Note: The program at Eastern Michigan prepares individuals to meet the requirements in speech pathology only. Specific requirements may be obtained from the advisers in speech pathology.

Certification for Teachers of the Hearing Impaired: The Council on Education of the Deaf issues certificates to individuals who satisfactorily complete training programs at approved teacher preparation centers. Eastern Michigan University has been an approved center for training teachers of the hearing impaired since 1967.

International Diplomas in Business French, German and Spanish: The Chamber of Commerce and Industry of Paris awards a "Certificatpratique de français économique et commercial" and a "Diplôme supérieur de français des affaires" upon successful completion of examinations held at Eastern Michigan University. Candidates should be enrolled in the Language and International Trade curriculum or in the Business German major.

Examinations leading to the "Diploma de Español Comercial" and the "Certificado de Español Comercial Básico" granted by the Chamber of Commerce and Industry of Madrid in cooperation with the Official School of Languages of Madrid are administered at Eastern Michigan University. Candidates should be enrolled in the Language and International Trade curriculum or the Business Spanish major.

Licensure in Nursing: Graduates of the nursing program receive a bachelor of science in Nursing degree and are eligible to qualify as registered nurses through the Michigan Board of Nursing licensure examination. This examination is given at times and places specified by the State Board of Nursing, usually twice a year. Candidates should file application immediately after official completion date of degree requirements. Upon receipt of application and all credentials, a temporary permit to practice will be issued and examination date assigned. Licensure is granted upon successful completion of the State Board of Nursing licensure examination.

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**GRADUATION AUDIT**

Students who have completed 95 credit hours or more should request a graduation audit by completing the required form at graduation audit in Room 302 Pierce Hall.

Night students or others unable to go to Room 302 during the day may submit a written request to obtain a card.

The card requires the student to record the expected date of graduation, legal name, local and permanent mailing address, social security number, curriculum in which enrolled, major and minor elected. In addition, a check list is provided for degree expected and teacher certification required. Accurate information is essential.

Cards are filed in the Office of the Registrar and processed according to expected graduation date. A graduation auditor checks the credit hours taken and records the credit hours still needed. One copy of this audit is mailed to the student, another is sent to the student's major department and the third copy is filed. Students should receive their audits at least a semester before they apply for graduation.

Students may return the cards by mail or in person in Room 302 Pierce Hall. Time is required by the office staff for processing, and immediate responses to requests for information cannot be made at the time of the request.
ADVISING: SEQUENCE OF COURSES
Use the following program plan to organize the sequence in which courses are likely to be taken:

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Advising Contact (Academic Advising Center) ________________________________________________

Department Adviser: __________________________________________________________ (Office No.)

 (Building ___________________)
## ADVISING: SEQUENCE OF COURSES

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Advising Contact (Academic Advising Center) __________________________ 

Department Adviser: __________________________ (Office No.) _______ (Building ________ )
Academic Advising
Interim Director: Charles B. Fulford
301 Pierce Hall (487-2170)

The Academic Advising Center provides guidance to students in a variety of circumstances. It has three major areas of responsibility: academic advising, academic support services, and academic actions, each of which is concerned with the student's total welfare.

Academic advising is the central coordinating service for academic advising activities for all new and currently enrolled students and is the first formal academic contact on campus for new students. Academic advisers assist students in evaluating academic goals and objectives, designing programs, and selecting majors; counsel students on career choices; and provide faculty advisors with information and assistance.

Academic support services address the specific needs of students by:
1. Administering the PASS program (Promote Academic Survival and Success) for a limited number of freshman students. During their first college year, PASS students are required to take a two-semester intensive writing sequence and Introduction to University Study (EDP106) in addition to other University courses. This program offers smaller classes, special tutoring assistance, and an intrusive advising program.
2. Organizing annual meetings to assist students who plan to apply to certain health occupation programs (i.e. nursing and occupational therapy) and providing workshops on program application and alternative decision-making to students competing for admission to these limited enrollment programs.
3. Providing special advising services for other groups such as undeclared students and returning adult students.

Academic actions is responsible for implementing University policies in the following areas:
1. Low scholarship, academic probation, dismissals and re-admissions.
2. Late withdrawals from individual classes.
3. Pass/Fail option, overload approval, retroactive withdrawals from the University.

The Instructional Support Center of Learning Resources and Technologies (Room 102 Library) provides a variety of services for currently registered students such as tutoring, a writing clinic, non-credit classes in reading, study skills, mathematics, and ready access to non-print materials for class assignments and personal use (see page 50).

Handicapped students are encouraged to pre-register as early as possible in order to consult with the appropriate faculty members concerning course requirements and the identification of special needs. Students who have such special needs should make them known, in writing, to the dean of students, 218 Goodison Hall (487-3116), at least two weeks before the beginning of the semester or session in which the courses are to be taken.

The residence hall program offers assistance through academic support programs such as peer tutoring and group study sessions as well as professional and paraprofessional individual assistance from residence hall program staff living in each residential unit (professional resident unit administrators and student staff advisors).

The Department of Leadership and Counseling in the College of Education, 13 Boone Hall, provides individual counseling for all students seeking personal or career information or who need assistance in making decisions related to personal, educational, and vocational goals. Graduate students administer the Strong-Campbell Inventory Tests to help students determine career interests. The service is available in the evenings during the fall, winter and spring semesters and during the day in the summer session. Appointments can be made by calling 487-3270.

Career planning information also is available at the following:

Academic Advising Center, which provides information on credit courses useful to students exploring careers, such as G&C 100 Career Exploration and Decision-Making, MTP 196 Introduction to Health Careers, BE 100 Contemporary Business, and AAD 179 Academics, Affiliation and Achievement.

The Biology Career Center, 306 Mark Jefferson, which offers self-help career materials. (The office is open only during posted laboratory hours in the fall, winter and summer terms.)

Career Services, Goodison Hall, provides a Career Resource Center, described in the following section.

Instructional Materials Center, Department of Human, Environmental and Consumer Resources, 110 Roosevelt Hall, a research center. (For admission to the room, see the department secretary or an instructor.)

Mini-Career Resource Centers located in residence halls.

Career Services
Director: Jim Vick
Fourth Floor, Goodison Hall (487-0400)

The Career Services Center provides a centralized service for part-time employment, career planning, cooperative education and graduate placement. Its objectives are to assist students in identifying employment opportunities, clarifying career objectives and developing job search skills. Services are available to enrolled students and, to a more limited extent, to alumni.

Student employment annually helps thousands of students obtain part-time positions, both on and off campus. Open positions are posted in the Student Employment Office on the Fourth Floor of Goodison.

Summer employment opportunities are available with camps, resorts, recreation, businesses and industries, governmental agencies, etc.

All students must make application with student employment to be placed in part-time positions with the University as well as off campus. On-campus employment is limited to 20 hours per week in
most cases. Students who are eligible for the College Work-Study Program first gain approval in the Office of Financial Aid, 404 Pierce Hall.

Career planning services include a variety of seminars and workshops, diagnostic testing, three computerized career guidance systems, personal career counseling and a complete resource center that contains hundreds of reference books on career opportunities, the work place of the future and self-help materials to assess interests, skills and values related to occupations and educational programs. The center also houses information on thousands of employers seeking college graduates, daily updated vacancy announcements, corporate videotapes, annual reports and other company information.

Cooperative education provides an educational strategy that integrates classroom theory and supervised work experience related to the students' career goals and/or major concentrations. Co-op serves as a source of motivation for learning and is another way for students to derive educational value from college through career exploration and reality testing of the students' academic major interest.

It is essential that students indicate their interest in cooperative education as early as possible, preferably in the freshman year, to facilitate development of an academic class schedule which will assist students in planning their co-op work placements.

Academic credit for co-op is granted by those departments offering cooperative education. Currently, all departments within the five colleges offer co-op as an option. A student may earn a total of six credits for cooperative education, three for each term of full-time cooperative education work experience. Certain departments count cooperative education toward the major requirements for graduation; others consider cooperative education credit as elective. It is important that students determine which type of credit their major department will award for co-op.

Business and industry, private and public agencies, and government cooperate with Eastern Michigan University in developing co-op work positions that are directly related to students' career goals and academic majors. Positions are developed with employers who will provide meaningful work experiences, supervision and assistance for the student during the work experience, evaluation of the student's performance at the completion of the work term and the standard rate of pay for the work being done.

The work-classroom sequence usually begins in the student's junior year; occasionally sophomores find themselves well enough prepared in their major area to start a co-op work placement. The schedule for co-op alternates full-time work experience with full-time study and generates six credits for the two-time sequence allowed. It is possible for a student to be on a parallel work assignment which entails half-time work combined with study for two consecutive terms in order to earn three credit hours. Every effort is made by the cooperative education Office to assist students in making work plans which best suit their academic schedule and career goals.

Placement services assist seniors, graduate students and alumni in seeking employment after graduation and in obtaining professional advancement throughout their careers. Notices of career opportunities in business, industry, government, health and human services, and education from preschool through university level are provided.

Such assistance includes:
1) credential reference services;
2) resume, interview and job search strategy workshops;
3) an education bulletin listing current vacancies, employers' addresses, methods of contact and interview schedules;
4) an on-campus interview program;
5) employer career literature directories and job description materials;
6) a candidate referral service;
7) several job/career fairs that attract hundreds of employers.

Health Care
Director: Ellen Gold
Snow Health Center (487-1122)

Snow Health Center provides physician and nursing services, pharmacy, laboratory, x-ray, tuberculin testing, immunizations, vaccinations, allergy injections and health education programs as well as referral services to local specialists or hospitals. Its professional staff are available to all enrolled students, faculty, staff and their spouses. You must bring your EMU identification card with you to the center.

During the fall and winter semesters, the Health Center is open from a.m. to 9 p.m. Monday through Thursday and 8 a.m. to 5 p.m. on Friday. Hours are reduced during University breaks, holidays, and spring and summer terms. The pharmacy closes one half hour prior to the closing of the center.

A health services fee assessed students at registration (see Tuition and Fees) entitles students to health care at reduced rates. The student is responsible for payment of all charges at the time of service for medications, laboratory tests, x-rays, allergy injections, flu shots or other immunizations, TB tests, specialty clinic visits, doctor fees, and other special service charges such as complete physical examination, ear irrigations, minor surgical procedures, etc. However, currently enrolled students can put their charges on their student account. In all cases, charges are comparable to and often much lower than those of area physicians and hospitals. A complete list of fees is available at the Health Center.

Insurance coverage, individually held or through parents' plans, will be utilized when applicable. A voluntary Student Health Insurance plan, designed to help defray medical expenses in case of accident or illness, is available to students at the Snow Health Insurance Office. It is strongly encouraged that all students be covered by some type of health insurance plan.

Specialty clinics staffed by physician specialists and nurse practitioners are held at the Health Center for specific problems in gynecology and dermatology.

Health education services include written materials available at no cost and programs on such topics as nutrition, weight management, smoking cessation, fitness, contraception and other aspects of health and disease.

Counseling
Associate Director: Rosalyn L. Barclay
Snow Health Center (487-1118)

Counseling Services provides personal counseling to students and their spouses who are experiencing stress, relationship problems, anxiety, depression or other personal problems. Professional staff members and graduate students from the departments of Psychology and Guidance and Counseling provide confidential individual and group counseling. Special workshops and programs
on managing test anxiety, couple communication, coping with grief and others are offered in classrooms, residence halls and at Snow Health Center.

The Campus Peer Program, sponsored by Counseling Services and the Health Center, offers student volunteers the opportunity to assist their peers with a variety of personal and social concerns, sexual health and substance abuse issues. Campus peers receive extensive training to prepare them to present programs and lead discussions throughout the campus.

All services are free to students. Counseling Services' hours are 8 a.m. to 12 p.m., 1 p.m. to 5 p.m. Monday through Friday.

**Children's Institute**
Snow Health Center (487-1126)
Rackham Building (487-2348)

The EMU Children's Institute offers a play-based, developmental child care program for children eighteen months through six years old and an evening recreational program for the three through twelve year old age groups. The program operates primarily as a service to students, faculty and staff, but is also open to community families. Hours are 7:30 a.m. to 5:30 p.m., Monday through Friday, year-round. Hours are reduced during University breaks and holidays.

The evening program is open until 10 p.m. Monday through Thursday during the fall and winter terms.

Flights of Imagination, the center's summer day camp, operates from 9 a.m. to 4 p.m. Monday through Friday with two-week sessions offered throughout the summer. The camp features swim and gym, organized games, nature study and arts and crafts and is open to children who will be entering kindergarten in the fall through 8 years of age. Extended care is available from 7:30 a.m. to 9:00 a.m. and 4:00 p.m. to 5:30 p.m.

The toddler and nursery programs are housed in Snow Health Center, while the preschool and evening programs are housed on the lower level of the Rackham Building.

Please call the Children's Institute office at 487-1126 for complete program and registration information.

**Drug Abuse Prevention**
Snow Health Center (487-2226)

Pathways is a series of programs and services designed to educate and encourage students to make their own informed decisions about involvement with alcohol and other drugs. Several student run programs exist: Student Action Team, which uses student leadership to keep activities in a positive direction; Campus Peers uses peers as role models to communicate saying no to alcohol, drugs and other hurtful substances. Our lending library has an extensive video and audio library on managing test anxiety, couple communication, coping with grief and others to make responsible changes in these patterns.

Pathways' "Checkpoint." "Checkpoint" is a series of four mandatory educational sessions for policy offenders. The program is designed to teach students accurate information about alcohol and other drugs, how to explore and identify their own use patterns, and formulate an individual plan to make responsible changes in these patterns.

The Pathways program office, on the third floor of Snow Health Center, is the primary location for the distribution of substance abuse prevention information and for the coordination of program activities. All services are free to students and student involvement is encouraged. Inquiries should be directed to 487-2226.

**Employee Assistance Program (EAP)**
Coordinator: Robert H. Dargel
Snow Health Center (487-1109)

The EAP provides confidential assessment, brief counseling, referral and follow-up services to employees and their family members who are experiencing personal or work-related problems. The EAP can assist with: family or relationship problems; stress; legal or financial difficulties; alcohol or drug abuse; eating problems or disorders; depression or anxiety; grief and loss; and other personal concerns. EAP also provides consultation services to Human Resources, supervisors, managers, administrators and union representatives related to intervening with employees who are having job performance or attendance problems and who may have a personal problem. Educational programs for staff and faculty and supervisory development programs will also be offered by the EAP.

The EAP office is open from 8 a.m. to 5 p.m. Monday through Friday. Evening and early morning hours are available by request. If EAP staff is not available, please leave a message on the confidential answering machine and your call will be returned as soon as possible. All EAP services are provided free of charge.

**Housing/Dining Services**
Director: Russell Wright
McKenny Union (487-1157)

Eastern Michigan University Housing and Dining Services welcomes all students. Housing on campus accommodates 5,500 students and families and is considered by many to be the heartbeat of the campus. Living on campus offers students convenience, friendships, college life and academic resources.

Thirteen residence halls are open to all students. Freshmen and sophomores are expected to live in University housing. There are two ways to reserve residence hall space.

By Mail:
1. Contact the Housing Office and request the Housing Information and Application packet.
2. Read all the materials in the packet including the Housing and Dining Services Information booklet, the Residence Hall/Dining Service Contract and the Residence Hall Assignment Request form.
3. Select a lifestyle option and hall that accommodates that choice. Also select a meal plan.
5. Insert the completed forms in the pre-addressed enclosed envelope with the required $100 first payment and send to EMU Cashier's Office.
6. Relax. The hall assignment will be mailed by the end of July.

At Fast Track Orientation or In Person:
1. Students participating in Fast Track have the opportunity to reserve residence hall space as part of the program.
2. Students coming to campus can reserve a space by completing steps 1-6 above in person.

Freshmen and sophomores wishing to commute must complete a request for exemption from University policy. Students complete the Request for Exemption form and attach supporting documentation. This Request for Exemption and appropriate documentation also should be sent to the Housing Office, where it will be reviewed.

The University reserves all rights regarding the assignment and reassignment of rooms or the termination of occupancy in accordance with University policies, regulations and procedures. The University is not responsible for lost, stolen or damaged property. Students living in University housing assume responsibility for their own hours.

Alternative choices among the special living options in the 13 residence halls are:

- Freshperson Center, Phelps/Sellers
- Not open to returning students, so new students can live together and take advantage of special resources to make their first year a successful one.
- Transfer Floor, Third Floor Hill
- Transfer students who are new to Eastern can enjoy the opportunity to meet others with similar experiences.
- Handicapped Rooms, Phelps/Sellers/Buell/Goddard/Best
- Space for people with special needs.
- Co-ed by Floor, Jones/Goddard
- A balance of interaction can be achieved between same and opposite sexed residents. Jones/Goddard is also the Community of Scholars.
- Co-ed by Suite, Buell/Putnam/Walton/Hill/Pittman/Phelps/Sellers/Hoyt
- Men and women residents live on the same floor but in same sexed suites with private bath facilities.
- International Residence Center, Walton/Putnam
- A cosmopolitan blending of international and American cultures, with one-third of the students from 31 different countries. Open 365 days per year.
- Quieter Hall, Pittman
- Extended quiet hours rigorously enforced, for students who want a quiet place to live and study.
- Over 21 Floor, Seventh Floor Hill
- A place where students with common interests can live.
- Community of Scholars, Jones/Goddard
- Only students with a 3.3 high school grade point average are eligible to reside in Jones/Goddard (3.0 college GPA required).
- Year Round Hall, Walton/Putnam
- Open 365 days a year for students planning to stay for a year with a single room.

University Dining Services

University Dining Services provides several options to meet the varying appetites, dining habits and scheduling needs of today's on-the-go commuters and residential students.

Eastern Eateries is a sleek, contemporary, two-level fast-food mall, offering seven distinctive dining options: burgers, pizza, confections, deli, Mexican, oriental and a hot entree shop for diners on the meal plan, plus a convenience store, the Quickfix, offering grocery items, greeting cards, video and VCR rentals. Plenty of comfortable seating at tables and booths on both levels, with video games on the lower level, make this an exceptional dining experience on campus.

HillTop Cafe is an all-you-can-eat dining room servicing residents "on the hill." Pittstop, a convenience store on the hill, offers sandwiches, some grocery items, ice cream and beverages, and caters to those late at night and last minute urges.

Dining Commons One, another conveniently located all-you-can-eat facility, is located in the heart of campus and offers residents a wide variety of hot entrees and a salad bar daily, including specialty theme dinners throughout the year. Within DC One is Fastlane, an extremely popular carry-out service offering two entrees daily and catering to those students on-the-go wanting a quick bite at breakfast or lunch.

Eastern Express, a very flexible a la carte pre-paid "credit card," permits users to purchase meals, grocery items and any last minute needs with a 5 percent savings on each purchase.

Single Student Apartment Program

On-campus apartments operated by the University for single students are available in Brown and Munson halls. Preference for leasing these apartments is given to upperclass and graduate students.

The number and type of apartments available in the Brown/Munson complex are as follows:

- 180 two-person, one-bedroom apartments
- 20 one-person efficiency apartments
- Four six-person, two-bedroom apartments

Experience with rental requests indicates that the single efficiency apartments are usually opted for by students who are residents of Brown/Munson apartments at the time a single becomes available (residency establishes first priority for assignment to any particular apartment type).

Residents desiring to apply for a two-person apartment are encouraged to apply together with the other student with whom they desire to share an apartment.

Upperclass and graduate students who wish to apply for a Brown/Munson apartment should obtain an application form from University Housing, complete the application and return it to the University Cashier's Office with the $45 non-refundable apartment deposit.
Family Housing Program

The University owns and operates 449 furnished one- and two-bedroom apartments for student families. To apply for a University apartment, either a husband or wife must be a full-time student or accepted for a full academic program. The number of children in the family establishes priority for a two-bedroom apartment assignment. However, families with more than three children cannot be assigned.

Priority for assignment is given to applicants who have been on the waiting list for the longest period of time for the particular date involved. Students with families who wish to apply for a University apartment should obtain an application from University Housing, complete the application and return it to the University Cashier's Office with the $45 non-refundable apartment deposit.

Off-Campus Housing

A variety of living arrangements are available for students who desire to live in the off-campus community and who meet the eligibility requirements to do so. Those students who plan to live off-campus are responsible for making their own arrangements to secure housing, as the Housing Office does not rate or inspect off-campus facilities.

The REACT Office in Goodison Hall assists students who desire advice on finding off-campus housing and/or addressing any problems that might be associated with off-campus apartment living.

Typical Residence Hall Room Floor Plans

Wise Hall

Jones Hall

Downing, Buell, and Goddard Halls

Residence Hall Towers
Hill, Hoyt, and Pittman Halls

Best, Phelps-Sellars and Walton-Putnam Halls
The campus climate at EMU is one of vitality, energy and involvement. Students are offered an extensive variety of opportunities for out-of-classroom social contact, leisure-time activities, group participation, intellectual challenge, cultural enrichment, government and media experience, organized athletic and recreational activities.

Office of Campus Life
Director: Glenna Frank Miller
221 Goodison Hall (487-3045)

The Office of Campus Life serves as a central resource for students seeking special opportunities for involvement both outside and inside the classroom. The Office of Campus Life programs and supports University-wide extracurricular and co-curricular events throughout the school year. The Campus Life Council serves as the student programming board.

Among the Office of Campus Life student development services are leadership training, student organization support services (for more than 150 student organizations), and freshman and parent orientation programs.

Other program offerings are the traditional all-campus celebrations such as the First Week Fling, Parents Day, Martin Luther King Jr. Day, Founders Day and the Opening Night Series. Additionally, the Office of Campus Life provides coordinative programming support to campus departments including the Equity Office’s Martin Luther King Jr./Cesar Chavez/Rosa Parks Lecture Series, the Housing/Dining Service Department’s E-Street Entertainment Club, Athletic Department’s convoys, and the programs offered through academic departments such as the Poetry Symposia, art exhibitions and the performing arts.

Below please find a list of the more than 150 registered student organizations. Students interested in exploring these and other groups or in starting a new organization should contact the Office of Campus Life directly.

### Academic/Professional
- Administrative Management Society
- Advertising Association
- Alpha Epsilon Rho National Broadcasting Society
- Alpha Kappa Psi Professional Business Fraternity
- Alpha Phi Alpha Fraternity, Inc.
- American Production and Inventory Control Society
- American Society of Interior Designers
- Army ROTC Huron Guard Drill Team
- Association for Prospective Teachers
- Association for the United States Army
- Athletic Trainer’s Club
- Beta Alpha Psi
- Beta Beta Beta Biological Honor Society
- Beta Gamma Sigma
- Chemistry Club
- Eastern Michigan Recreation Organization
- English Club
- Entrepreneurs’ Association
- Finance Club
- French Club
- German Club
- Health Administration Student Organization
- Information Systems Club
- Intermedia Gallery/Group
- Kappa Delta Pi
- Legal Assistance Club
- Legal Careers Association
- Living History Club
- Marketing Students Association
- National Association of Black Accountants
- National Computer Graphics Association
- Phi Alpha Theta History Honor Society
- Philosophic Study Group
- Philosophy Club
- Preservation Eastern
- Professional Association for Industrial Distribution (P.A.I.D.)
- Public Administration Association
- Raider Platoon (ROTC)
- Semper Fidelis Society
- Silversmith’s Guild at EMU
- Society for Creative Anachronism
- Society for Technical Communication
- Student Council for Exceptional Children
- Student Dietitian Association
- Student Government at EMU
- University Organists’ Association

### Communications
- Association of Black Communicators
- Eastern Times
English Club
Hong Kong and Macau Student Association
Society for Technical Communication, Inc.
Society of Physics Students
Student Organization for African-American Unity
Wo/Men in Communications, Inc.

Cultural/Entertainment/Coordinating
Alpha Phi Alpha Fraternity, Inc.
B’nai B’rith Hillel Extension
Campus Life Council
Caribbean Student Association
English Club
General Union of Palestinian Students
Hellenic Student Association
Hispanic Student Association
Hong Kong and Macau Student Association
Honors Student Organization
INDUS (Indian Student Association)
Intermedia Gallery/Group
International Student Association
Jazz Alive at EMU
Legal Careers Association
Living History Club
National Association for the Advancement of Colored People (NAACP)
Pakistan Student Association
Palestine Democratic Youth Organization
Phi Beta Sigma Fraternity, Inc.
Phi Beta Sigma Sweethearts
Phi Eta Psi Fraternity, Inc.
Society for Creative Anachronism
Society of Physics Students
Spanish Club
Student Dietitian Association
Student Organization for African-American Unity
Student Organization United for Peace (S.O.U.P.)
Student Psychology Association
Table Top Entertainment
United Ministries in Higher Education
Vietnamese Student Association

Ethnic/Minority
Alpha Kappa Alpha Sorority
Alpha Phi Alpha Fraternity, Inc.
Association of Black Communicators
Association of Black Social Workers
Black Greek Council
Black Student Union
Caribbean Student Association
Chinese Student Association of Taiwan
Delta Sigma Theta Sorority
Emeralds of Pi Eta Psi
Hellenic Student Association
Hispanic Student Association
Japanese Student Association
Lesbian, Gay and Bi-Sexual Student Association
Malaysian Student Association
Minority Graduate Association
National Association of Black Accountants
National Association for the Advancement of Colored People (NAACP)
Native American Indian Student Organization
Omega Pearls
Palestine Democratic Youth Organization
Student Organization for African-American Unity
Thai Student Association
Vietnamese Student Association

Honorary
Alpha Phi Alpha Fraternity, Inc.
Beta Gamma Sigma
Chi Gamma Iota Veterans Society
Golden Key National Honor Society
Kappa Delta Pi
Mortar Board, Inc.
Phi Alpha Theta
Stoic Society

Political
Alpha Phi Alpha Fraternity, Inc.
Black Student Union
College Republicans
Student Organization for African-American Unity
Student Organization United for Peace (S.O.U.P.)
Young Democrats

Religious
B’nai B’rith Hillel Extension
B.A.S.I.C. Brothers and Sisters in Christ
Bahai’ Club at EMU
Campus Crusade for Christ
Christian Life at EMU
Christians in Action
Gospel Choir
Holy Trinity Chapel Peer Ministers
InterVarsity Christian Fellowship
Latter-Day Saint Student Association
Muslim Students Association
United Ministries in Higher Education
University Christian Outreach
University Lutheran Chapel

Service
Alcoholics Anonymous
Alpha Phi Omega
Army ROTC Huron Drill Team
Arrival (Handicap Issues)
Black Student Union
Caribbean Student Association
Circle K Club
Emeralds of Phi Eta Psi
English Club
Golden Key
Hispanic Student Association
Holy Trinity Chapel Peer Ministers
Hong Kong and Macau Student Association
International Student Association
Minority Graduate Association
Mortar Board
National Association for the Advancement of Colored People (NAACP)
Omega Pearls
Phi Beta Sigma Fraternity, Inc.
Phi Beta Sigma Sweethearts
Stoic Society
Student Council for Exceptional Children
Student Organization for African-American Unity
United Ministries in Higher Education  
University Ambassadors Society  
Wo/Men in Communications, Inc.  
Ypsilanti Food Co-op

Social/Environmental Awareness  
Amnesty International  
B'nai B'rith Hillel Extension  
Bahai' Club  
Black Student Union  
Chi Gamma Iota Veterans Society  
Emeralds of Phi Eta Psi  
English Club  
Hispanic Student Association  
Honors Student Organization  
International Student Association  
Lesbian, Gay and Bi-Sexual Student Association  
National Association for the Advancement of Colored People (NAACP)  
Omega Xi  
Panhellenic Council  
Phi Beta Sigma Fraternity  
Phi Beta Sigma Sweethearts  
Phi Eta Psi Fraternity  
Student Council for Exceptional Children  
Student Organization for African-American Unity  
Student Organization United for Peace (S.O.U.P.)  
Student Psychology Association  
Support Your Sobriety  
Tau Kappa Epsilon  
United Ministries in Higher Education  
Womynspace  
Ypsilanti Food Co-op  
Zeta Phi Beta Sorority

Fraternity---All subclassifications  
Alpha Epsilon Pi  
Alpha Kappa Psi Business  
Alpha Phi Alpha  
Alpha Phi Omega  
Beta Alpha Psi  
Black Greek Council  
Delta Sigma Phi  
Greek Council  
Inter-Fraternity Council  
Kappa Alpha Psi  
Kappa Delta Psi  
Kappa Phi Alpha  
Lambda Chi Alpha  
Omega Psi Phi  
Phi Alpha Theta  
Phi Beta Sigma  
Phi Eta Psi  
Phi Sigma Kappa  
Phi Sigma Phi  
Pi Gamma Delta  
Pi Sigma Alpha  
Pi Sigma Epsilon  
Sigma Phi Epsilon  
Sigma Nu  
Delta Zeta  
Panhellenic Council  
Phi Beta Sigma Sweethearts  
Sigma Gamma Rho  
Sigma Kappa  
Sigma Nu Phi  
Sigma Sigma Sigma  
Zeta Phi Beta

Other  
Emeralds of Phi Eta Psi Fraternity  
Quest

Dean of Students  
Dean: Bette C. White  
(487-3118)

The Office of the Dean of Students serves undergraduate and graduate students through the combined offices of Foreign Student Affairs, Veterans Services and Handicapped Student Services. The office also acts as ombudsman in assisting students in solving problems related to the University.

The Conduct Code and Judicial Structure is adjudicated through the Dean of Students Office.

Office of Foreign Student Affairs  
Director: Paul Dean Webb  
209 Goodison Hall (487-3116)

The Office of Foreign Student Affairs extends a hand of welcome to all foreign students pursuing their educational goals at Eastern Michigan University. Concerned, responsible and professional staff assist students in any matter, including orientation, legal advice (immigration), academic, financial, employment and personal concerns. Personnel also provide help with the preparation of documents needed to maintain favorable status in this country.

The office serves as a consultant to faculty and staff on foreign student affairs and acts as a catalyst for the development of various international connections in the University and/or community to promote international education and understanding. It initiates enhancement programs such as cross-cultural activities on and off-campus.

Foreign students are encouraged to make regular contact with the office.

Multi-Cultural Center  
Coordinator: Pending  
216 Goodison (487-2377)

The Multi-Cultural Center is our office of minority affairs with an exciting menu of programs and events planned to enlighten students to the cultural diversity that exists at Eastern Michigan University and the nation as a whole. The center was established to aid enrolled African American, Hispanic American, and Native American students to prosper at the University.

The center consists of three components:  
1. A furnished lounge to host programs, events and meetings. The lounge can be used free of charge; however, its use is restricted to registered groups and enrolled Eastern Michigan students.  
2. Ombudsman service, a help center to answer questions
Concerns and lodge complaints.
3. Student retention service, tutorial service, academic referral service, and study hours.

**Office of Veterans Affairs**
Robert E. Teehan
201-202 Goodison Hall (487-3119)

The Office of Veterans Affairs coordinates all campus services for veterans entering or returning to the University to complete their education. It is the resource center for veterans' benefits and the office to which veterans must report successful academic progress to maintain benefits, class drops and adds, or changes in personal status affecting benefits.

The office assists veterans also in housing and financial aid, and works closely with disabled veterans to provide full educational benefits. Any questions veterans may have should be directed to a representative in this office.

**Office of Equity Programs**
Director: Lynette Findley, Ph.D.
Coordinator: Pending
204 Pierce Hall (487-2133)

The Office of Equity Programs provides support services to African American, Hispanic American, Native American and Asian American students. The programs and services provided range from College Days to doctoral scholarships. The College Days program serves junior high school and senior high school students. The Summer Incentive Program allows high school graduating seniors with high academic potential the chance to take classes at the University during the summer and, if successful, enroll in the fall. The Select Student Support Service program provides academic support services to all culturally diverse students to help them succeed and graduate from EMU. The Visiting Professor program provides culturally diverse professors the opportunity to teach at the University during the academic year. The Urban Teacher Education Program is designed to increase the number of minority teachers by providing a transition from the community college to EMU. The fellowship program grants scholarship to culturally diverse masters and doctoral candidates to offset the expenses of earning a Ph.D.

**Handicapped Student Services**
Dean: Bette C. White
205 Goodison Hall (487-3118)

Handicapped Student Services utilizes resources of the both the campus and the community and its agencies to meet the needs of handicapped students and to support them in meeting their educational goals. Michigan Vocational Rehabilitation and the Michigan Commission for the Blind are both used as supportive agencies in assisting some students.

Students may also request aid in finding notetakers, relocating classrooms, assistance with wheelchairs, special housing accommodations, and procedures for applying for interpreters. Since it is the intent of the office to respond to students' unique needs, they are urged to contact the office personally for information and/or assistance.

**Student Government**
Goodison Hall (487-1740)

Student government at EMU is committed to improving the quality of life on campus. The student body each spring elects a president, vice president and 21 senators who, along with representatives appointed from various organizations, comprise the Student Senate. Its executive officers and members provide input to the administration of the University to help solve problems and improve programs and services. Student Government also sponsors campus-wide events, and its student services office, known as R.E.A.C.T., provides personal assistance to students with legal, rental or University-related problems.

Not only do student representatives get valuable experience in the process of government, but they also represent the University on local, state and national levels. Any EMU student may run for a Student Government position. Interested students are also welcome to serve on Student Government committees and University advisory groups.

The University Judicial Board (UJB) is the first level of appeal in disciplinary cases at EMU. It has five student representatives, two appointed faculty members and two appointed administrator members.

The Judicial Appeals Board, the appeal board from UJB, has two student representatives, two faculty representatives and two administrative appointees.

**Student Media**
Manager: Pending
Video Production Manager: John C. Rice
121 Goodison Hall (487-1010)

Student media are both information and creative outlets for the total University community. They are the *Eastern Echo*, the student newspaper published thrice-weekly in the fall and winter semesters and weekly during spring and summer sessions; the *Aurora*, the University yearbook; and *Cellar Roots*, the literary arts magazine. Editors are selected each spring following interviews by the Student Media Board, a policy-review board comprised of persons both internal and external to the University community including many in professional journalism-related fields. Students are encouraged to join publication staff or to submit literary and art for magazine publication.

The *Eastern Echo* focuses on issues and events and also serves as an outlet for opinions of the University and surrounding community. It offers hands-on training and experience for those interested in the field of journalism, business, marketing, advertising, graphic design and photography. It is written and edited by student editors and reporters.

The *Aurora* focuses on the events, moods and atmosphere encompassing the Eastern Michigan University community within a single year of a student's experience on campus. Its colorful pages offer a piece of history which might otherwise be forgotten among the many memories in the hectic life of a university student.

*Cellar Roots* has become the major outlet for student creativity, whether it be photographs, paintings, fiction pieces or poetry. Published once a year, its contents are chosen by a selection committee comprised of faculty and students.

All three publications consistently win national awards for both design and content. Students who participate gain valuable experience which leads to a high job placement percentage.
Video Production, "an eye opening division of Student Media," produces videos for University departments needing help in marketing, training, and recruiting. Scripting, shooting and editing are essentials learned on the job.

**Radio Stations**

**WQBR**
129 Quirk (487-2228)

WQBR, under the auspices of the Department of Communication and Theatre Arts, is both an instructional and activity program for students studying or interested in radio broadcasting. The station offers both music and student-generated programs emanating from the Quirk Studios and is “on air” from 1 p.m. to 1 a.m. Monday through Friday.

**WEMU**
Director: Arthur J. Timko
426 King Hall (487-2229)

WEMU, founded in 1965 as a student station, remains highly reliant on EMU student employees to maintain its professional operation. WEMU has been affiliated with National Public Radio since 1978. It is under the auspices of the executive vice president and serves a broadcast coverage area from Detroit to Jackson and Flint to Toledo, 24 hours a day, seven days a week. Operating at 89.1 FM with 16,000 watts of power, WEMU offers concentrations of local and national NPR news and jazz music featuring national and local performers. During the football and basketball seasons, all EMU games are broadcast.

The station accommodates interns and employs several students in addition to its full-time staff.

**Intercollegiate Athletics**

Director: Eugene D. Smith
Associate Director: John Nordlinger
Associate Director: Lucy N. Parker
Bowen Field House (487-1050)

The Department of Intercollegiate Athletics offers a well-rounded program of varsity sports for men and women that will develop academic and athletic skills, understanding, knowledge, attitudes and values that will contribute to the student-athlete’s success in today’s complex society.

Eastern Michigan is a member of the National Collegiate Athletic Association (NCAA) and competes at the Division I-A level in both men’s and women’s sports.

In 1971, EMU joined the Mid-American Conference (MAC), which is composed of nine schools, including EMU’s sister institutions, Central and Western Michigan, and Ball State, Bowling Green, Kent State, Miami, Ohio and Toledo.

The mission of Eastern Michigan University’s intercollegiate athletic program is to sponsor competitive men’s and women’s sports. These sports represented by the team members shall strive within the contest rules and regulations to acquire the ultimate competitive goal—athletic success.

To be eligible to participate in intercollegiate athletics, the student-athlete must satisfy all University, MAC and NCAA requirements. NCAA regulations for participation in intercollegiate athletics require that the student-athlete earn an average of 12 hours per semester or 24 semester hours of additional credit between seasons of competition. These credits must be applicable toward the individual student-athlete’s declared degree program.

**Recreation and Intramural Sports**

Director: Robert England
Olds Student Recreation Center (487-1338)

The Olds Student Recreation Center, opened in 1982, provides recreational activities for the total campus community, including intramural sports programs, inter-university sports competitions, personal physical development and skill activities. All persons regardless of age, sex, skill level or sport interest are afforded the opportunity to participate in a wide range of activities.

The indoor, multi-purpose building has 15 racquetball courts; a gymnasium with four basketball courts, six volleyball courts and 12 badminton courts; two swimming pools (one 50-meter and one club pool); an indoor jogging track; two weight rooms (free weight and slimmastics); a fitness area; combatives room; utility gym; sauna; whirlpool; and an Outdoor Recreation Center (487-1319), which checks out equipment ranging from backpacks to toboggans for Rec/IM members.

Student membership is automatic with a fee assessed within the tuition and entitles the membership card holder to all facility uses. There are optional fees for such things as lockers, towel rental, outdoor equipment rental and guests. Others desiring to use the facilities regularly may purchase a membership card during building hours. A Pro Shop on the premises sells all types of sports equipment.

The Intramural Sports Program, which utilizes the Olds Student Recreation Center facilities as well as outdoor fields and tracks, provides activities in which all students may participate. Selected sports are offered on a co-educational basis or for either men or women as follows:

Coeducational activities: basketball, bowling, cross country, track, paddleball, softball, tennis and two-person volleyball competitions; free throw and sports trivia contests.

Men’s activities: basketball, bowling, floor hockey, football, golf, softball, swimming, tennis, track, volleyball, weightlifting and wrestling sports competitions, and field goal kicking and home run contests.

Women’s activities: basketball, bowling, football, golf, softball, swimming, tennis and volleyball sports competitions.

Club sports, sponsored by the program, include competition in eight sports. These inter-university sports competitions are organized and operated by a student club.

The Intramural Hotline telephone number is 487-1234.
RESOURCE CENTERS

Center for Entrepreneurship
Director: Patricia Weber
(487-0225)

The Center for Entrepreneurship was established in January 1986 to provide training and build a network of peer support for entrepreneurs and heads of high-growth companies. Its services are based on a foundation of applied research designed to increase our knowledge of entrepreneurship and growth management.

The primary purpose of the center is to increase the number and success rate of Michigan entrepreneurs and of entrepreneurially managed firms. The desired end result is the stimulation of greater job creation as well as greater job stability in Michigan's economy.

The key objectives of the Center for Entrepreneurship are:
- To provide entrepreneurs and growth managers with success tools and skills,
- To foster public recognition and understanding of the achievements and accomplishments of entrepreneurs, and
- To foster interest in and appreciation of entrepreneurship among our youth.

Talented entrepreneurs cannot be created by universities. But they can be helped to be more successful if trained in the use of the tools and skills required to run a growing business. The center is a vehicle for helping to develop and disseminate these tools and skills.

Corporate Education Center
Director: Marcia D. Harrison
1275 Huron Street (487-0600)

The Corporate Education Center is an entrepreneurial organization owned and operated by EMU that serves both the public and private sectors.

The center has 38,000 square feet of conference and seminar space designed to accommodate multiple meeting needs with advanced communications and audio-visual equipment. Such features include:
- Two auditoriums seating 100 and 200 respectively, complete with audiovisual systems including rear screen projection, a simultaneous translation system, and closed circuit teleconferencing.
- A networked computer laboratory with 15 stations
- Seven conference rooms and five seminar rooms
- An executive boardroom
- An outdoor court area for informal gatherings during the spring, summer and fall seasons.

The center is located on Ford Lake at the Huron Street exit off I-94 in Ypsilanti. It is part of a 186-acre development that includes a 236-room Radisson hotel and the Eastern Michigan University Huron Golf Club, featuring an 18-hole championship golf course.

Institute for Community and Regional Development (ICARD)
Director: Charles M. Monsma
714 Pray-Harrold (487-0243)

ICARD is a public service unit of Eastern Michigan University. Its purpose is to make the expertise and capabilities of the University available to governments, community agencies and businesses. It is part of an overall effort by EMU to establish a closer working relationship with the communities it serves and to aid them in meeting their needs and in solving their problems.

Eastern Michigan University, through ICARD, can provide expertise and resources for the identification of problems, the assessment of needs and the development of solutions in a wide variety of settings. By drawing upon University-wide resources for project development and implementation, faculty, staff and students with appropriate skills and experience are brought together from a variety of disciplines. When needs cannot be met within an organization or from outside commercial sources or private consultants, ICARD can fill the gap.

ICARD staff develops projects through personal and professional contacts and responds to requests from clients outside the University. Once a project has been identified, support staff and methodologies are determined. Individual faculty members serve as project directors, using additional faculty and student help in project implementation.

Examples of ICARD activities include economic development and planning efforts for local communities, economic impact assessments, public opinion and demographic surveys, training programs, evaluation of personnel systems, and scientific analysis of environmental concerns. Twice a year, ICARD publishes an economic forecasting newsletter, Michigan Economic Development, and an Economic Analysis Forum is held on campus each spring. ICARD also publishes a Regional Economic Forecast for Michigan twice a year that can be obtained on a subscription basis.

At an office in downtown Ypsilanti, ICARD also hosts the Higher Education Consortium for Economic Development, with participation from Cleary College, Concordia College, Eastern Michigan University, the University of Michigan and Washtenaw Community College. For further information, contact ICARD at 487-0243 or the Consortium at 487-0920.

Institute for the Study of Children and Families
Directors: Patricia Ryan, Bruce L. Warren
102 King Hall (487-0372)

The Institute for the Study of Children and Families was established in 1979 for the purpose of providing focus and support to the study of children and families through research, demonstration projects, non-credit educational activities and consultation concerned with the determinants and/or consequences of childhood and family life.
The institute promotes and encourages interdisciplinary study of children and families throughout the University and offers opportunities for undergraduates and graduate students interested in research or demonstration projects relating to children and families. Cooperative interaction extends beyond the University to other organizations, agencies and institutions.

Institute-sponsored programs include the National Foster Care Projects, the Teaching-Learning Community Intergenerational Project and the Behavioral Medicine Project. The institute cooperates in workshops sponsored with other University departments and community organizations. Its Child and Family Publications Division disseminates 46 publications based on institute projects.

Learning Resources and Technologies

(University Library, Media Services, and Instructional Support Center)

Dean: Morell D. Boone
Interim Associate Dean: Sandra G. Yee
Professors: Fred Blum, Morell D. Boone, George Grimes
Associate Professors: Sarell W. Beal, Mary Clare Beck, Margaret A. Eide, J. Rhonda Glikin, Joanne J. Hansen, Twyla Mueller Racz

Assistant Professors: Ann Andrew, Margaret E. Best, Rita Bullard, Ronald P. Colman, Walter P. Hogan, Raymond A. Lukasavitz, Keith J. Stanger

Instructors: Sarah Cogan, Edna Ewell-Watson, Rhonda Fowler, Jane Keefer, Carolyn Kirkendall, Mary A. Meemik, Glenn Mensching, Heidi Mercado, Trudie A. Root, Rosina Tammany

Learning Resources and Technologies, housed in the University Library building, includes three major units: the University Library, the Media Services Center and the Instructional Support Center. Its major purpose is to provide the services, collections, facilities and equipment to support the University's instructional programs.

The Library is essential to the instructional programs of the University. It houses more than 550,000 volumes, 168,000 government documents and 500,000 microforms. Books, bound and current periodicals, and microforms are organized by a subject divisional system in three major areas: education and psychology, humanities and social sciences, and science and technology.

Special collections include:an Instructional Materials Center in conjunction with the educational and psychology holdings, a map library, in the science and technology unit, government documents and University archives. Special library features include small study rooms, faculty and student seminar rooms, typing and microform viewing rooms and a center for copying paper and microform materials. Reserve reading materials assigned for use in course work may be checked out at the Materials Access Services Desk. Each library unit maintains pamphlet files for ephemeral materials, such as newspaper clippings and pamphlets.

A Library Orientation Office (Room 214) provides an active orientation program designed to acquaint all students with basic and subject-oriented resources. Library instruction is given progressively to prepare students for life-long learning after their formal education has been completed.

The Media Services Center, on the first floor of the Library, assists departments and/or faculty in integrating media within their instructional programs. Consultation is usually followed by the selection of appropriate existing media and/or production of original media to achieve educational goals.

The center is responsible for the purchase, storage and circulation of non-print materials which include films and videocassette recordings. Other services include providing the equipment required to utilize the non-print materials, a pool of audio-visual machines to check out, preview rooms for viewing video materials, and a campus instructional television system.

The center is equipped to produce charts, graphs, photographic slides, mounted and laminated materials, overhead visuals, and computerized visuals.

The Instructional Support Center (Room 102) provides individual and group assistance to registered students with a well-equipped facility, including an expanded microcomputer laboratory. Through these services, students receive not only tutoring assistance for classes, but also training to master academic skills. Such instruction ranges from the development of basic reading, writing or study abilities to the mastery of more specialized foreign language or computer skills. More specifically, the Instructional Support Center offers:

1. Free tutoring in a variety of basic studies areas (current schedules are posted in Room 102).
2. Individualized academic assistance.
3. Workshops, such as test-taking, vocabulary-building and time management, to enhance and sharpen students' academic success skills.
4. Audio-tape recordings and phono discs with available stereo and video equipment for personal use or class assignment.
5. A Foreign Language Laboratory equipped with audio-aural assignments for students taking classes in the Department of Foreign Languages and Bilingual Studies.
6. Microcomputers currently used for direct support of instruction and a growing library of self-help software and instructor-generated materials for use by individual students.

The LOEX (Library Orientation/Instruction Exchange) Clearinghouse, a national office collecting and sharing data and materials on teaching library skills, was established at Eastern Michigan University 10 years ago and currently provides services to more than 2,000 U.S. libraries.

The CIC (Center for Instructional Computing), housed in Room 215, is a microcomputer development center for use by faculty.

Michigan Consumer Education Center

Director: Rosella Bannister
207 Rackham (487-2292)

The Michigan Consumer Education Center, established in 1973, is a state-wide professional development center in consumer and economic education. It provides an interdisciplinary program and involves faculty from all of the colleges within the University.
Among the center's patrons are students and faculty at this and other universities, classroom teachers (elementary through adult) and representatives of business, labor, government, clergy and community groups. It also maintains networks with leaders in consumer affairs at the local, state and national levels through advisory groups, newsletters and professional associations, and is an affiliated center of the Joint Council on Economic Education.

Its objectives are to provide program development services, including courses, conferences and publications for educators; consultant and cooperative activities; and a clearinghouse of education resources in consumer and economic education.

The center houses the nation's leading collection of consumer education resources. A 1982 center publication, "Classification of Concepts in Consumer Education," is distributed internationally for use by educators in program planning and curriculum development.

Program funding in excess of $1.5 million has been received from external public and private sources since 1973.

Corporate Services
3075 Washtenaw (487-2259)

Corporate Services, established in 1988 through a consolidation of the college service centers, is an agency within the Executive Division. Its primary responsibility is to carry out the University mission of service through contract learning. Corporate Services provides business, industry, education, health, and human services agencies with short- and long-term assistance in training, research and development. Corporate Services' staff, including select University faculty and contracted outside experts, are involved in training both hourly and salaried personnel in a large number of diverse industries. To date this assistance has been provided in locations across the country as well as in Toronto, Canada; Sao Paulo, Brazil; London, England; and Cardiff, Wales. Contracts have ranged from one day to one year, with much of Corporate Services' activities relating to workforce training-on-site in manufacturing plants.

Major areas of programming include:
- Workplace literacy; basic skills enhancement
- Quality science consulting and training
- Environmental technology
- Computer training
- Hazardous waste management
- Nurse aid training
- Cross-cultural communication
- Health and safety training
- Technical writing
- Office automation and information technology
- JIT inventory systems
- Marketing and management training
- Communication skills

Corporate Services is currently regarded as one of the premier agencies capable of providing comprehensive training and consultation in workplace literacy, statistical process control (SPC), and experimental design/industrial statistics.
COLLEGE OF ARTS AND SCIENCES

Programs of Study and Course Descriptions

Dean: Barry A. Fish
Administrative Associate: Velma G. Clarke

Departments and Programs

African-American Studies
  Art
  Biology
  Chemistry
Communication and Theatre Arts
  Computer Science
  Economics
English Language and Literature
Foreign Languages and Bilingual Studies
  Geography and Geology
  History and Philosophy
  Mathematics
  Music
Physics and Astronomy
  Political Science
  Psychology
Sociology, Anthropology and Criminology
  Women’s Studies
COLLEGE OF ARTS AND SCIENCES

The College of Arts and Sciences encompasses 16 departments and two specialized programs. The liberal arts or basic studies requirements, which are traditional to universities and form the foundation of the curricula in each college, are offered primarily in the College of Arts and Sciences.

The basic undergraduate degrees, the bachelor of science (B.S.) and the bachelor of arts (B.A.), are fundamental to the programs offered in the College of Arts and Sciences. In addition, several departments offer programs leading to specialized baccalaureate degrees: the bachelor of fine arts (B.F.A.), the bachelor of art education (B.A.E.), the bachelor of music education (B.M.E.), the bachelor of music-performance (B.Mu.), and the bachelor of music therapy (B.M.T.). These specialized degrees are described more fully within the individual departments.

Several professional certificate and pre-professional programs also are offered within the College of Arts and Sciences. These programs, described more fully within the departments, are: registered music therapy (RMT); international diplomacy in business French, German, and Spanish; certified actuarial science (CAS); pre-dental hygiene; pre-dentistry; pre-forestry and a joint curriculum in forestry (with the University of Michigan); pre-law; pre-medicine and pre-osteopathic medicine; pre-mortuary science; pre-pharmacy and pre-religious careers. Two other preparatory programs are shared with the College of Technology: pre-architecture and pre-engineering.

The College of Arts and Sciences offers additional opportunities to students for enrichment and career exploration through independent study, research programs and special projects, internships and cooperative education placements, and the University Honors Program.

Baccalaureate Degrees

The bachelor of science degree is the basic degree offered by the University and is the degree generally referred to as the liberal arts degree. It provides the most flexibility in the selection of the major and minor required for fulfilling graduation requirements and is the least restrictive in the use of electives.

The bachelor of arts degree requires, in addition to the declared major and minor, one year of college credit in a foreign language and 75 semester hours in language and literature, symbols and communication, science and technology, and social sciences. Both degrees require a minimum of 40 semester hours of credit in basic studies, 18 hours of which may be acquired by completion of general humanities courses. A minimum total of 124 credit hours is required for graduation.

Basic Degree Curricula

Bachelor of Science and Bachelor of Arts
Acting Director: Charles Fulford
Academic Advising Center
301 Pierce Hall

In symbols and communication, science and technology, social science, and arts and humanities listed below, the usual number of semester hours to be completed is given, but it is the courses that must be completed, not a minimum or maximum number of semester hours in each. (A course must be awarded a minimum of two semester hours of credit.)

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbolics and communication</td>
<td>10-15</td>
</tr>
<tr>
<td>Science and technology</td>
<td>7-10</td>
</tr>
<tr>
<td>Social science</td>
<td>8-12</td>
</tr>
<tr>
<td>Arts and humanities</td>
<td>8-12</td>
</tr>
<tr>
<td>Cross-cultural or international studies</td>
<td>0-3</td>
</tr>
</tbody>
</table>

Area

Symbolics and communication
- One course in written composition.
- One course in speech communication.
- One course in the following:
  - an upper-level course in written composition.
  - an upper-level course in speech communication.
  - a course in foreign language composition.
  - One course in mathematical reasoning.
  - One course in computer literacy.

Science and technology
- One course in physical science.
  - a. You must complete a course in chemistry or physics unless you submit appropriate evidence that you completed a one unit course in high school with a grade of "C" or above.
  - b. If you have submitted proof of having completed a one unit high school course in chemistry or physics, you may satisfy this requirement by choosing among chemistry, earth science/geology, or physics/astronomy.
  - One course in life science (biology or psychology).
  - One course in science or technology, chosen from a department other than ones in which you have completed your physical and life science requirements.

Social science
- One course in United States government.
- One course in history.
  - One course in anthropology, economics, geography, or sociology whose content includes the structure and methodology of the discipline.
  - One of the following:
    - a. A second course in a two-course history sequence
    - b. A second course in a two-course sequence in anthropology, economics, geography, or sociology whose content includes the structure and methodology of the discipline.
    - c. An approved course in cross-cultural or international studies.

Arts and humanities
- One of the following:
  - a. A course in literature.
  - b. An intermediate or advanced foreign language literature course.
  - One of the following:
    - a. A second course in literature.
    - b. An intermediate or advanced foreign language literature course.
    - c. A course in oral communication.
    - d. A course in cross-cultural or international studies.
    - A course in philosophy or religion.
    - A course in art, dance, music, or theatre arts.

Cross-cultural or international studies
- One course selected from basic studies areas I-IV.
Major (minimum) ................................................................. 30
Minor (minimum) ............................................................. 20
Physical education and health ........................................... 2
(Elective courses in military science may be applied.)
Electives ........................................................................... 20-39
Total ................................................................................. 124

Individualized Interdisciplinary Concentration
Acting Director: Charles Fulford
Academic Advising Center
301 Pierce Hall

An optional, individualized interdisciplinary concentration may be designed to replace the major and minor for students whose educational, vocational or professional goals cannot be met by majors and minors currently available at Eastern Michigan University. Because of its individual design, this program is especially attractive for non-traditional students and for those with a clear personal goal.

There are specific criteria for completing this program. The basic elements are:
1. A total of 60-63 credits,
2. Three distinct discipline areas,
3. At least 15 hours at EMU in 300-400 level courses, and
4. Approval from representative departments.

All students who apply for such a program will still be responsible for other graduation requirements, such as basic studies, physical education and residency policies. Students interested in this program should meet with the director of the Academic Advising Center to discuss their goals. The following should be summarized in a written statement submitted to the director:

1. Reasons the student cannot complete a traditional major offered by the university,
2. The immediate goals of the proposed program, and
3. The way in which the proposed program will operate to fulfill stated educational and life objectives.

The student and the director will then draft a program of study, which must be reviewed and approved by appropriate faculty advisers. This approved program is forwarded by the director to the Office of the Registrar.

AFRICAN AMERICAN STUDIES
Office: 304 Goodison

Director: Ronald C. Woods
 Associate Professors: Vashti Lewis-Holman, Clovis E. Semmes

African American Studies examines the evolution and current status of persons of African descent in the United States. It studies the African American experience as an entity in its own right and as a microcosm of dynamics operating in the domestic and global setting.

Objectives of the department are 1) to cultivate and disseminate knowledge about the African American community, 2) to provide students an informational and methodological basis for confronting the future world, and 3) to increase understanding of the role of multiple factors in shaping the social order.

Programs of Study
Major:
African American studies

Minor:
African American studies

Advising is available through the African American Studies department head and faculty.

Major in African American Studies

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAS 101 Introduction to African American Studies</td>
<td>3</td>
</tr>
<tr>
<td>AAS 201 Foundations of Knowledge in African American Studies</td>
<td>3</td>
</tr>
<tr>
<td>AAS 401 African American Studies Research Seminar</td>
<td>3</td>
</tr>
<tr>
<td>AAS 221 African American Social Movements</td>
<td>3</td>
</tr>
<tr>
<td>AAS 231 Urbanization and the African American Community</td>
<td>3</td>
</tr>
<tr>
<td>AAS 311 The African Diaspora</td>
<td>3</td>
</tr>
<tr>
<td>AAS 351 The Social Context of African American Health</td>
<td>3</td>
</tr>
<tr>
<td>AAS 361 The African American Family</td>
<td>3</td>
</tr>
<tr>
<td>AAS 441 Law in the African American Experience</td>
<td>3</td>
</tr>
<tr>
<td>HIS 315 History of Black Americans</td>
<td>3</td>
</tr>
<tr>
<td>LIT 260 Afro-American Literature</td>
<td>3</td>
</tr>
<tr>
<td>3. Open elective</td>
<td>3</td>
</tr>
</tbody>
</table>

This requirement may be satisfied by any course offered by the African American Studies Department, including independent studies and special topics, or by any of the following:

CTA 151 Black Theater: An Introduction                                      | 3         |
CTA 251 Black Theater: Creative Problems                                    | 3         |
FA 222 African and Afro-American Art                                       | 3         |
ANT 236 Peoples of Africa                                                 | 3         |
ECO 321 Minority Workers in the Labor Market                               | 3         |
ECO 332 Urban Economics                                                   | 3         |
GEO 322 Geography of Africa                                               | 3         |
GEO 332 Urban Geography                                                    | 3         |
HIS 342 North Africa, 1798-Present                                        | 3         |
HIS 347 History of Sub-Saharan Africa                                      | 3         |
HIS 348 Twentieth Century Africa                                           | 3         |
AAS 101 Introduction to African American Studies. Three sem hours
An introductory examination of the African American experience. Acquaints students with the trends, issues and forces that have shaped that experience, considers the concepts of cultural adaptation, institutional development, and group self-definition, and surveys the contemporary status and condition of African Americans.

AAS 201 Foundations of Knowledge in African American Studies. Three sem hours
Examines the empirical and theoretical foundations of African American studies, the evolution of the field and the role of key scholars in its development.
Prereq: AAS 101 Introduction to African American Studies.

AAS 221 African American Social Movements. Three sem hours
Explores the collective efforts undertaken by African Americans to elevate their group status in American society. Analyzes the struggle for human freedom through an examination of resistance to chattel slavery, the quest for civil rights, and the response to structured inequality.
Prereq: AAS 101 Introduction to African American Studies.

AAS 231 Urbanization and the African American Community. Three sem hours
Prereq: AAS 101 Introduction to African American Studies.

AAS 311 The African Diaspora. Three sem hours
Examines the African diaspora—the dispersion of persons of African descent throughout the world. It studies the process of dispersion, examines selected diasporic communities, and considers the impact of the African presence on world development.
Prereq: AAS 101 Introduction to African American Studies.

AAS 351 The Social Context of African American Health. Three sem hours
Examines the health status of African Americans. Explores the interplay between environment, biology, and culture; folk and popular health practices; and the organization and delivery of health care.
Prereq: AAS 101 Introduction to African American Studies or departmental permission.

AAS 361 The African American Family. Three sem hours
Examines the historical and contemporary forces shaping the African American family. Analyzes urbanization, economic transformations, and institutionalized racism. Studies the role of the family in human survival and progress.
Prereq: AAS 101 Introduction to African American Studies or departmental permission.

AAS 377, 378, 379 Special Topics. One, two, three sem hours
Each time offered, this course will explore a topic on an experimental basis, based on student interests and needs. This course can be used in completing requirements for the major or minor in African American Studies.
Prereq: AAS 101 Introduction to African American Studies, or departmental permission.
AAS 441 Law in the African American Experience. Three sem hours
Examines the African American legal experience from the Atlantic slave trade to the present. Reviews the formation of the Constitution, the law of slavery, Reconstruction era developments, Jim Crow segregation and recent legal trends in areas such as education, voting, and employment. Emphasizes law as a social process. 
Prereq: AAS 101 Introduction to African American Studies and junior/senior standing, or departmental permission.

AAS 477, 478, 479 Special Topics. One, two, three sem hours
Each time offered, this course will explore a topic on an experimental basis, based on student interests and needs. This course can be used in completing requirements for the major or minor in African American Studies. 
Prereq: AAS 101 Introduction to African American Studies, or department permission.

AAS 497, 498, 499 Independent Study. One, two, three sem hours
Independent study of a selected topic under the supervision of the staff. Possible approaches include library research, field research and participant-observer experiences. 
Prereq: AAS 401 African American Studies Research Seminar and junior standing, or department permission.

ART
Office: 114 Ford Hall

Department Head: John E. Van Haren


Associate Professors: Christopher Bocklage, Douglas Kisor, Richard Rubenfeld, Richard E. Washington

Assistant Professors: James Mason, Julia R. Myers, Gretchen Otto

The Art Department administers programs leading to the bachelor of fine arts degree, the curriculum for teachers of art, an art major and minor, and a minor in art history. The department also participates in the arts group major and minor for elementary and special education teachers and in the arts management program.

Advanced placement is available to students having up to six semester hours of advanced placement credit as elective art credits. Students contemplating the application of advanced placement credits toward an art degree should contact the department for complete information.

Degrees: Bachelor of fine arts, bachelor of fine arts plus teacher certification, bachelor of art education, and bachelor of science in art.

Programs of Study
Curricula:
- Art Education
- Fine Arts

Major:
- Art

Minors:
- Art
- Art History

Advising Coordinators:
- Art major and minor, fine arts curriculum: Igor Beginin
- Art education curriculum: Christopher Bocklage, Gretchen Otto
- Art history minor: Ellen Schwartz, Richard Rubenfeld
- Honors in art: Lawrence Freeman

Graduate programs under the auspices of the department lead to the master's degree in art education and studio art. The M.A. (studio or art education) and M.F.A. degrees are described in the Graduate Catalog.

Curriculum for Art Education

The art education curriculum, leading to a bachelor of art education degree, satisfies all major and minor requirements for graduation. A maximum of 60 semester hours in fine arts courses is allowed. Elementary or secondary provisional certification is available*; if an Elementary Provisional Certificate in teaching is desired, consult with the director of Academic Records and Certification regarding special requirements.
Basic Studies
Refer to the basic studies requirements in the catalog on page 28.

*Note: Junior-Senior High School Certification requires that at least one social science or humanities course must be selected in cross-cultural or international studies.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGN 300</td>
<td>The Exceptional Student in the Regular Classroom</td>
<td>3</td>
</tr>
<tr>
<td>CUR 305</td>
<td>Curriculum and Methods</td>
<td>3</td>
</tr>
<tr>
<td>CUR 311</td>
<td>Teaching of Reading in the Secondary Schools</td>
<td>3</td>
</tr>
<tr>
<td>EDP 320</td>
<td>Social Aspects of Teaching</td>
<td>3</td>
</tr>
<tr>
<td>EDP 340</td>
<td>Introduction to Measurement and Evaluation</td>
<td>2</td>
</tr>
<tr>
<td>EMT 300</td>
<td>Introduction to Computer Applications</td>
<td>1</td>
</tr>
<tr>
<td>EDM 345</td>
<td>Media for Classroom Teachers</td>
<td>1</td>
</tr>
<tr>
<td>FA 416</td>
<td>Art Methods and Materials</td>
<td>2</td>
</tr>
<tr>
<td>FA 317</td>
<td>Teaching of Art</td>
<td>2</td>
</tr>
<tr>
<td>EDU 492</td>
<td>Student Teaching</td>
<td>12</td>
</tr>
</tbody>
</table>

Fine arts .................................................. 54-60

1. Required courses ........................................ 27
   FA 107, 108 Art History Survey I and II ............ 6
   FA 122 Two-Dimensional Design ....................... 3
   FA 123, 124 Drawing I and II ........................ 6
   FA 210 Life Drawing ................................. 3
   FA 215 History of 19th Century Art .................. 3
   FA 216 History of Contemporary Art I ................ 3
   FA 231 Three-Dimensional Design ..................... 3

2. Area of concentration .................................. 12
   Choose a sequence of four courses in a major area .. 12

3. Electives in fine art .................................. 15-21
   Physical education and health ......................... 2
   Physical education activity courses .................. 2
   (Any two courses in Military Science may be applied)
   Electives .............................................. 24-30

Total .................................................................. 124

Curriculum for Fine Arts
The fine arts curriculum, leading to a bachelor of fine arts degree, is designed for students who plan to enter occupations in which a substantial background in art is required. Students completing the 54-60 semester hours within this curriculum will have satisfied all major and minor requirements for graduation.

Basic Studies
Refer to the basic studies requirements in the catalog on page 28. One course in art, dance, music or theatre arts will automatically be met by the fine arts courses below.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA 201</td>
<td>Graphic Design</td>
<td>3</td>
</tr>
<tr>
<td>FA 304</td>
<td>Photography</td>
<td>3</td>
</tr>
<tr>
<td>FA 305</td>
<td>Printmaking</td>
<td>3</td>
</tr>
<tr>
<td>FA 307</td>
<td>Ceramics</td>
<td>3</td>
</tr>
<tr>
<td>FA 310</td>
<td>Sculpture</td>
<td>3</td>
</tr>
<tr>
<td>FA 313</td>
<td>Painting</td>
<td>3</td>
</tr>
<tr>
<td>FA 314</td>
<td>Painting - Watercolor I</td>
<td>3</td>
</tr>
<tr>
<td>FA 320</td>
<td>Jewelry</td>
<td>3</td>
</tr>
<tr>
<td>FA 432</td>
<td>Drawing III</td>
<td>3</td>
</tr>
</tbody>
</table>

2. Electives in art ........................................ 0-6
   Physical education and health ......................... 2
   Physical education activity courses .................. 2
   (Any two courses in Military Science may be applied)

Total ......................................................... 124-142

Bachelor of Fine Arts Plus
Teacher Certification

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA 235</td>
<td>Textiles</td>
<td>3</td>
</tr>
<tr>
<td>FA 201</td>
<td>Graphic Design</td>
<td>3</td>
</tr>
<tr>
<td>FA 304</td>
<td>Photography</td>
<td>3</td>
</tr>
<tr>
<td>FA 305</td>
<td>Printmaking</td>
<td>3</td>
</tr>
<tr>
<td>FA 307</td>
<td>Ceramics</td>
<td>3</td>
</tr>
<tr>
<td>FA 310</td>
<td>Sculpture</td>
<td>3</td>
</tr>
<tr>
<td>FA 313</td>
<td>Painting</td>
<td>3</td>
</tr>
<tr>
<td>FA 314</td>
<td>Painting - Watercolor I</td>
<td>3</td>
</tr>
<tr>
<td>FA 320</td>
<td>Jewelry</td>
<td>3</td>
</tr>
<tr>
<td>FA 432</td>
<td>Drawing III</td>
<td>3</td>
</tr>
</tbody>
</table>

2. Area of concentration .................................. 9
   Select a sequence of three advanced courses from one of the above areas (18 hour group).

3. Electives in art ........................................ 0-6
   No more than 60 semester hours in art courses may be applied to the 124 hours required for graduation.
Art Major

Students may elect the following 30 semester hour major, but one of the preceding 54-60 semester hour majors is advised.

Teacher certification in art is not obtainable using the 30 hour major.

<table>
<thead>
<tr>
<th>Sem hours</th>
<th>Academic major in art</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

1. Required courses

<table>
<thead>
<tr>
<th>Sem hours</th>
<th>FA 107, 108 Art History Survey I and II</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sem hours</th>
<th>FA 122 Two-Dimensional Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sem hours</th>
<th>FA 123, 124 Drawing I and II</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sem hours</th>
<th>FA 231 Three-Dimensional Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

2. Electives

| Sem hours | 12 |

Choose 12 credits from art studio and/or art history courses in consultation with the advising coordinator, and department permission.

When a student is obtaining the bachelor of science in art as a second major for teaching purposes, with their primary certification in an area outside the Art Department, the two courses below are required in addition to the 30 hours:

- FA 317 Teaching of Art and
- FA 416 Art Methods and Materials

Minors Offered in the Department of Art

| Minor in art | 21-25 |

1. Required courses

<table>
<thead>
<tr>
<th>Sem hours</th>
<th>FA 107, 108 Art History Survey I and II</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sem hours</th>
<th>FA 122 Two-Dimensional Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sem hours</th>
<th>FA 123, 124 Drawing I and II</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sem hours</th>
<th>FA 231 Three-Dimensional Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

2. Electives

| Sem hours | 12 |

Elect 12 additional hours in art studio and/or art history offerings, of which at least 6 hours must be in advanced courses numbered 300 or above.

FA 100 Art Appreciation, FA 101 Introduction to Art, or FA 151 Reason and Revolution may be used as electives.

An additional four hours beyond the minimum 21 semester hours for the minor must be completed to meet the Art Department and North Central Association requirements for teaching art. Art methods courses FA 317 and FA 416 must be included in the 25 hour total.

3. Art methods total requirements

| Sem hours | 4 |

<table>
<thead>
<tr>
<th>Sem hours</th>
<th>FA 317 Teaching of Art</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sem hours</th>
<th>FA 416 Methods and Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Art History

Students with an art major who elect the art history minor must replace FA 107 Art Survey I, FA 108 Art Survey II, FA 215 History of 19th-Century Art, FA 216 History of Contemporary Art I on the major with studio courses.

<table>
<thead>
<tr>
<th>Sem hours</th>
<th>Minor in art history</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

1. Required courses

<table>
<thead>
<tr>
<th>Sem hours</th>
<th>FA 107, 108 Art History Survey I and II</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sem hours</th>
<th>FA 215 History of 19th Century Art</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sem hours</th>
<th>FA 216 History of Contemporary Art I</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sem hours</th>
<th>FA 428 Seminar: Modern Art</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

2. Restricted electives

| Sem hours | 6 |

Choose six credits from art history courses in consultation with art history minor advising coordinators.

Art Courses for Non-Majors

<table>
<thead>
<tr>
<th>FA 100 Art Appreciation.</th>
<th>Three sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>A course for non-specializing students. The aim is to acquaint students with art philosophies, their elements, principles and values.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FA 101 Introduction to Art.</th>
<th>Three sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studio and lecture course designed to develop seeing and understanding of the formal and cultural aspects of the visual arts. Guided attendance at selected exhibitions on an optional basis may be provided. Non-art major.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FA 151 Reason and Revolution.</th>
<th>Three sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>An examination of the transition in political history, philosophy, art, literature and music from Puritan England and Louis XIV's France to Napoleon. Team taught by members of the Art and History departments.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FA 165 Graphic Design for Non-Majors.</th>
<th>Three sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to typography and illustration. Problems will explore fundamental design and basic production considerations and the development of a professional design thought process.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FA 166 Non-Major Ceramics Course.</th>
<th>Three sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art studio course in ceramics for non-art majors. A hands-on approach to provide students with the opportunity to develop skills and aesthetic understanding in forming, glazing and kiln stacking. The emphasis in this beginning course is on handbuilding forms; however, the use of the potter's wheel will be introduced in the latter part of the semester.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FA 167 Jewelry for Non-Majors.</th>
<th>Three sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art studio course in jewelry for non-art majors. A hands on approach to provide students with the opportunity to develop artistic and technical skills with metal and other jewelry materials.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FA 181 The Legacy of Greece.</th>
<th>Three sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>(See humanities courses, page 160.)</td>
<td></td>
</tr>
</tbody>
</table>
Art Education Courses

Art education courses cannot be substituted for studio or art history requirements.

FA 300 Art Integration for the Elementary Teacher. Four sem hours
Understanding, appreciation and awareness of art in its varied contemporary and multi-cultural contexts. Emphasis on three main areas: a) appreciation and understanding of the subject, b) art concepts and processes, aesthetic education and their relationship to general education, c) integration of art into the general classroom procedures to enhance learning. Non-majors only.

FA 317 Teaching of Art. Two sem hours
Designed to prepare students for their role in the classroom from the inception of an idea to the development of a unit of study. Planning, revising and presenting specific units which incorporate the four disciplines. Not open to students on academic probation.
Prereq: FA 317 Art Methods and Materials.

FA 377, 378, 379 Special Topics: Art Education. One, two, three sem hours
An exploration and study of topics not covered in other departmental offerings. Students may elect more than once provided different topics are studied.
Prereq: Department permission.

FA 416 Art Methods and Materials. Two sem hours
Focuses on discipline-based art education and will include library research, readings, writings, and discussions of current events aided by presentations of guest speakers. Final requirement: the development of a written personal philosophy pertaining to the teaching of art and the formulation of a general curriculum. Not open to students on academic probation.
Prereq: Art education adviser permission.

FA 477, 478, 479 Special Topics: Art Education. One, two, three sem hours
An exploration of topics not covered in other departmental offerings. Students may elect more than once provided different topics are studied.
Prereq: Department permission.

Studio Art Courses

FA 122 Two-Dimensional Design. Three sem hours
A foundation course dealing with an analytical approach to the study of the elements of design: color, line, shape, value, pattern, texture and form.

FA 123-Drawing I. Three sem hours
A beginning drawing course for students who plan to specialize in art. A variety of media and approaches help the student to achieve the control necessary in drawing. Individual problems are assigned and group criticism is frequent.

FA 124 Drawing II. Three sem hours
Emphasis is on study of composition as an extension of the principles explored in Drawing I. Imaginative organization is stressed. Extensive experimentation with various media. Subjects such as the human figure are introduced as drawing problems.
Prereq: FA 123 Drawing I.

FA 201 Graphic Design. Three sem hours
Introduction to lettering, type design and illustration. Problems examine design considerations, production services processes used in newspaper and magazine advertising, covers and posters.

FA 205 Letterforms and Typography. Three sem hours
Includes free-hand lettering, constructed alphabets, invented signs; emphasizes the importance of typographic design.
Prereq: FA 201 Graphic Design.

FA 210 Life Drawing. Three sem hours
Study of the human form through drawing. Primarily nude models are used for subject matter. Various media are explored in search of the figurative element.
Prereq: FA 123 Drawing I and FA 124 Drawing II or department permission.

FA 231 Three-Dimensional Design. Three sem hours
Basic study of three-dimensional structures and systems.

FA 232 Representational Drawing. Three sem hours
A course in analytical drawing emphasizing the use of volume, light and structure in the construction of a variety of representationally illusionistic objects and environments.
Prereq: FA 124 Drawing II.

FA 235 Textiles. Three sem hours
An introductory textiles class dealing with concepts of design as they relate to fiber structures and fabric processes.
Prereq: FA 122 Two-Dimensional Design and FA 123 Drawing I.

FA 302 Graphic Design. Three sem hours
Advanced design and illustration as applied to multicolor magazine and book illustration, direct mail advertising and other areas of two-dimensional commercial design.
Prereq: FA 201 Graphic Design.

FA 304 Beginning Photographic Imagery. Three sem hours
Introduction to photography as an art form. Basic camera and darkroom techniques demonstrated, with emphasis on exhibition printing. Student must furnish own camera equipment.
Prereq: FA 122 Two-Dimensional Design and FA 123 Drawing I.

FA 305 Printmaking. Three sem hours
Acquaintance with graphic techniques; woodcut and silkscreen.
Prereq: FA 210 Life Drawing. Art majors only.

FA 306 Printmaking. Three sem hours
Advanced graphic techniques with emphasis on development of individual style through experimentation with etching and processes.
Prereq: FA 305 Printmaking. Art majors only.
FA 307 Ceramics. Three sem hours  
Basic ceramics, including wheel throwing and handbuilding techniques, compounding earthenware and stoneware clay bodies, formulating glazes, firing electric and gas kilns.  
Prereq: FA 231 Three-Dimensional Design or department permission.

FA 308 Ceramics. Three sem hours  
Advanced ceramic techniques, emphasis on personal expression, compounding of individual clay bodies and glazes, loading and firing of kilns.  
Prereq: FA 307 Ceramics. Art majors only.

FA 310 Sculpture. Three sem hours  
Exploratory experiences in volume and space; the use of clay, stone, wood, metal, etc.  
Prereq: FA 231 Three-Dimensional Design. Art majors only.

FA 311 Sculpture. Three sem hours  
Continuing experiences in volume and space; development of further skills with sculpture materials and concepts.  
Prereq: FA 310 Sculpture. Art majors only.

FA 313 Painting. Three sem hours  
Painting problems; development of technique and concepts through experimentation with painting media.  
Prereq: FA 122 Two-Dimensional Design and FA 124 Drawing II. Art majors only.

FA 314 Painting—Watercolor I. Three sem hours  
Intensive exploration of watercolor techniques with emphasis on developing individuality and self-expression related to the medium.  
Prereq: FA 122 Two-Dimensional Design and FA 124 Drawing II.

FA 316 Life Drawing. Three sem hours  
Advanced study problems; the human form as composition and design; varied media.  
Prereq: FA 210 Life Drawing. Art majors only.

FA 320 Jewelry. Three sem hours  
Design and creation of jewelry by fabricating, casting, lapidary, stone setting and combination of metal and wood. Emphasis on the aesthetic aspect of decorative art objects.  
Prereq: FA 231 Three-Dimensional Design or department permission.

FA 321 Jewelry. Three sem hours  
Processes and techniques applied toward a professional development in jewelry design. Advanced processes, casting, setting of precious stones.  
Prereq: FA 320 Jewelry or equivalent.

FA 323 Intermediate Photographic Imagery. Three sem hours  
Advanced black and white techniques and alternative processes are demonstrated. Development of personal vision is realized through individual projects and discussion.  
Prereq: Art major and FA 304 Beginning Photographic Imagery, department permission.

FA 324 Design and Development of Public Works of Art. Three sem hours  
An experimental studio course in which students and instructors will design, plan and execute urban environmental murals, sculpture, parks and malls.  
Prereq: Department permission.

FA 346 Advertising Layout Design. Three sem hours  
Deals intensively with conceptual and technical issues, concentrating on mastery of the tools, materials and techniques in producing layouts and comprehensives.  
Prereq: FA 205 Letterforms and Typography.

FA 348 Logos and Symbols. Three sem hours  
Designing of logos and their market application to various media. Analysis of the creative and mechanical problems in the design of symbols.  
Prereq: FA 205 Letterforms and Typography.

FA 355 Textiles. Three sem hours  
An intermediate textiles class dealing with concepts and design as they relate to fiber structures, created either on or off the loom.  
Prereq: FA 235 Textiles.

FA 356 Textiles. Three sem hours  
An intermediate textiles class dealing with concepts and design as they relate to basic fabric processes of surface decoration and manipulation.  
Prereq: FA 235 Textiles.

FA 377, 378, 379 Special Topics: Studio Art. One, two, three sem hours  
An exploration and study of topics not covered in other departmental offerings. Students may elect more than once provided different topics are studied.  
Prereq: Department permission.

FA 405 Printmaking. Three sem hours  
An advanced laboratory course primarily designed for art majors specializing in graphics. Individual assignments in creative use of the more fundamental techniques learned in previous courses.  
Prereq: FA 306 Printmaking.

FA 406 Printmaking. Three sem hours  
An advanced laboratory course for art majors taking their sequence in graphics. Projects could include lithography, etching and aquatint processes plus individual assignments.  
Prereq: FA 405 Printmaking.

FA 407 Ceramics. Three sem hours  
Intensive work for art majors specializing in ceramics with an emphasis on larger scaled, increasingly complex techniques and forms. Historical and contemporary works examined.  
Prereq: FA 308 Ceramics.

FA 408 Ceramics. Three sem hours  
Summation of the undergraduate ceramics program; emphasis on individual style, production techniques, studio management, exhibition programs.  
Prereq: FA 407 Ceramics.
FA 409 Advanced Photographic Imagery. Three sem hours
The contextual development of personal vision is emphasized through discussion of the student’s work in relationship to established photographers’ work.
Prereq: FA 323 Intermediate Photographic Imagery.

FA 410 Metal Casting Techniques. Three sem hours
An advanced sculpture course covering all aspects of the lost wax casting process. Includes information on other metal casting processes and on construction and operation of an inexpensive sculpture foundry.
Prereq: FA 310 Sculpture or department permission.

FA 411 Sculpture. Three sem hours
Advanced sculpture problems, including steel and open form construction; intensive study of contemporary methods and techniques of sculpture.
Prereq: FA 311 Sculpture or department permission.

FA 412 Sculpture. Three sem hours
Advanced sculpture problems; development of individual style in three-dimensional form.
Prereq: FA 411 Sculpture.

FA 413 Painting. Three sem hours
Further development of painting skills and aesthetic understanding of the two-dimensional surface complex. Emphasis on development of individual style.
Prereq: FA 313 Painting.

FA 414 Painting—Watercolor II. Three sem hours
Further development of paintng skills and aesthetic understanding of the two-dimensional surface complex. Emphasis on development of individual style.
Prereq: FA 314 Painting—Watercolor I.

FA 418 Portraitue. Three sem hours
Emphasizes analytical drawing and painting of the volume and structure of the human form; also those specifics of detail and gesture necessary to illusionistically represent a person.
Prereq: FA 210 Life Drawing.

FA 419 Life Drawing. Three sem hours
The study of the human form as part of the development of a personal style in art.
Prereq: FA 316 Life Drawing.

FA 423 Painting—Watercolor III. Three sem hours
Further development of individual style in watercolor.
Prereq: FA 414 Painting—Watercolor II.

FA 424 Painting—Watercolor IV. Three sem hours
Further development of individual style in watercolor.
Prereq: FA 423 Painting—Watercolor III.

FA 432 Drawing III. Three sem hours
Drawing as expressive composition. Integration of the techniques of previous courses. Development of individual directions. Includes a variety of media and the study of master drawings.
Prereq: FA 210 Life Drawing.

FA 433 Color Theory. Three sem hours
An advanced course, which can be used as part of the BFA painting sequence, dealing with formal problems of color phenomena and interaction in painting. New media and contemporary concepts are emphasized. Studio and lecture.
Prereq: FA 313 Painting.

FA 439 Life Drawing. Three sem hours
The study of the human form as part of the development of a personal style of art.
Prereq: FA 419 Life Drawing.

FA 441 Studies in Clay and Glazes. Three sem hours
Research and experimentation with earthenware, stoneware and porcelain clays and slips. Students will examine, formulate, calculate, vary and correct glazes for low and high temperatures, in electric and gas firings.
Prereq: FA 407 Ceramics or department permission.

FA 442 Jewelry. Three sem hours
Advanced problems such as raising metal into hollow forms, cutting and polishing of gem stones, gem identification and advanced metal joining and forming processes.
Prereq: FA 321 Jewelry.

FA 443 Jewelry. Three sem hours
Individual advanced problems in jewelry and metalworking.
Prereq: FA 442 Jewelry.

FA 455 Textiles. Three sem hours
Advanced problems in fiber structure and fabric processes. Emphasis on innovative development of images. Art majors only.
Prereq: FA 355 Textiles or FA 356 Textiles.

FA 460 Advanced Graphic Design. Three sem hours
Advanced work in design and research of promotional brochures, annual reports and other communicational print. Portfolio development in preparation for job placement.
Prereq: FA 348 Logos and Symbols.

FA 462 Advanced Illustration. Three sem hours
Deals with attitudes, philosophies, aesthetics, techniques and experiences as demonstrated in contemporary illustration. Emphasis on problems confronting a professional illustrator.
Prereq: FA 302 Graphic Design and FA 346 Advertising Layout Design.

FA 464 Corporate Identity and Graphic Systems. Three sem hours
Formulation of a corporate image reflecting the function and philosophy of a corporation. Emphasis on the establishment of a uniform graphic system used in a campaign including print.

FA 477, 478, 479 Special Topics: Studio Art. One, two, three sem hours
An exploration and study of topics not covered in other department offerings. Students may elect more than once provided different topics are studied.
Prereq: Department permission.
FA 480, 481 Painting. Three sem hours each
Further development of individual painting style.
Prereq: FA 413 Painting.

FA 497, 498, 499 Directed Studio Problems. One, two, three sem hours
Advanced study on an individual basis in areas in which the
department does not have regular course work.
Prereq: Department permission.

Art History Courses

FA 107 Art History Survey I. Three sem hours
A survey of the development of the visual arts from cave art to the
time of the early Renaissance.

FA 108 Art History Survey II. Three sem hours
A continuation of Art History Survey I from the Renaissance through modern times.

FA 215 History of 19th-Century Art. Three sem hours
Begins with a survey of European art in the late 18th century as the
beginning of the modern period, and concludes with Post-Impressionism at the end of the 19th century.
Prereq: FA 107 Art History Survey I and FA 108 Art History Survey II.

FA 216 History of Contemporary Art I. Three sem hours
A survey of the visual arts of the 20th century, from Post-Impressionism through the latest contemporary developments.
Prereq: FA 215 History of 19th-Century Art or department permission.

FA 222 African and Afro-American Art. Three sem hours
Surveys the visual arts of African and Afro-American artists. Discussion of the form and content of African art in relation to its
function in tribal life. Historical survey of Afro-American artists with emphasis on current works.

FA 335 American Painting and Sculpture
Prior to World War II. Three sem hours
A survey of American art, including European influences and the
evolution of native American characteristics.
Prereq: FA 107 Art History Survey I and FA 108 Art History Survey II or department permission.

FA 336 History of Impressionism and Post-Impressionism. Three sem hours
Focuses on an understanding and appreciation of the painting,
sculpture and graphic arts of the last three decades of the 19th-century.

FA 340 History of Classical Art. Three sem hours
A study of the art and architecture of the classical civilization of
Greece and Rome.
Prereq: FA 107 Art History Survey I or department permission.

FA 341 History of Renaissance Art. Three sem hours
A history of art from the Proto-Renaissance (about 1250 A.D.) through the period of mannerism (1600).
Prereq: FA 107 Art History Survey I or FA 108 Art History Survey II.

FA 377, 378, 379 Special Topics: Art History. One, two, three sem hours
An exploration and study of topics not covered in other department offerings. Students may elect more than once provided different topics are studied.
Prereq: Department permission.

FA 421 History of Oriental Art. Three sem hours
A survey of the art of the Far East, with significant examples chosen
from India, China, Japan; investigation of the influences forming their styles.

FA 422 Chinese and Japanese Art History. Three sem hours
A detailed study of the major figure and landscape painters of China and Japan along with the ceramic, jade and bronze traditions.
Prereq: FA 107 Art History Survey I or FA 108 Art History Survey II or FA 421 History of Oriental Art or department permission.

FA 426 Medieval Art History. Three sem hours
The development of medieval art from the early Christian through the
Gothic periods.
Prereq: FA 107 Art History Survey I or FA 108 Art History Survey II or department permission.

FA 427 Baroque Art. Three sem hours
Principal developments in Italian and northern art of the 17th
century. Emphasis on major themes and aesthetic problems.
Prereq: FA 107 Art History Survey I or FA 108 Art History Survey II or department permission.

FA 428 Seminar: Modern Art. Two sem hours
Readings, reports and group discussions of painting and sculpture from 1900 to the present.
Prereq: FA 216 History of Contemporary Art I.

FA 429 History of American Architecture. Three sem hours
Exploration of styles and techniques in American architecture from the colonial period to the present with special emphasis on the
sources in foreign traditions. Major figures, including Thomas
Jefferson, Louis Sullivan, Frank Lloyd Wright, Eero Saarinen, and
major stylistic trends, Greek Revival, International Style, will be traced back through their origins and development.
Prereq: FA 107 Art History Survey I or FA 108 Art History Survey II or department permission.

FA 436 Women in Art. Three sem hours
A survey of the contributions of female artists in the history of art. Discussions will include the history of women as patrons of the arts, and the uses of the female image in art.
Prereq: FA 108 Art History Survey II or department permission.
FA 440 History of Contemporary Art II. Three sem hours
A study of contemporary art from 1940 to the present with an intensive concentration on recent developments in art. A continuation of FA 216 History of Contemporary Art I.
Prereq: FA 216 History of Contemporary Art I.

FA 477, 478, 479 Special Topics:
Art History. One, two, three sem hours
An exploration and study of topics not covered in other department offerings. Students may elect more than once provided different topics are studied.
Prereq: Department permission.

BIOLOGY

Office: 316 Mark Jefferson

Department Head: William E. Fennel.
Professors: Howard D. Booth, Najati S. Ghosheh,
Edith M. Hurst, Dennis C. Jackson, Stephen C.Y. Liu,
Merlyn C. Minick, Suzanne J. Stevens, Paul A. Volz,
Glenn K. Walker, Shih-An Yu

Associate Professors: Gary L. Hannan, Robert K. Neely,
P. George Simone, Elizabeth L. Waffle

Assistant Professors: Jamin Eisenbach, William L. Guy,
Allen Kurta, Paul W. Milske, John A. Novak, Peter Reinthahl,
James L. Vanden Bosch, V. Jean Wainscott

The department of biology offers a major in biology with four specified fields of concentration and four minors: biology, botany, zoology, conservation and resource use. It participates in a joint curriculum in natural resources with the University of Michigan and provides programs in pre-forestry, pre-medicine, pre-osteopathic medicine, pre-optometry and pre-podiatry.

Modern laboratories for course work and research under close personal supervision of faculty are located in the Mark Jefferson building, and the J. Milton Hover laboratory and greenhouse. The adjacent Loesell Field Laboratory, nearby Huron River, and Ford Lake are available for field course work and research.

Field-oriented courses are taught at EMU’s Kresge Environmental Education Center in Lapeer County (described under University Campuses at the back of this catalog) and at the Conservation Training School at Higgins Lake under joint auspices of EMU, Central Michigan University, Western Michigan University, the University of Michigan and the Michigan Department of Conservation.

Conservation Training School registration for any courses offered by any of the participating universities is handled by EMU’s Office of Continuing Education. Courses are normally a week long during the summer and carry one or two semester hours of credit. Only one course can be elected at a time. Students must apply in advance; enrollment is limited and acceptance is in order of application. Students desiring to receive credit from EMU and who indicate this on their application will be enrolled on EMU forms, eliminating the need for transcripts. Room and board are available. Information can be obtained from the Office of Continuing Education in Goodison Hall.

Coursework in tropical ecology is offered by the department when justified by demand and when arrangements can be made in a tropical area for laboratory facilities and living quarters for staff and students.

The department supports a student chapter of Beta Beta Beta, the national biological honorary society. All biology majors and minors are encouraged to participate in its activities.

Degrees: Bachelor of science and bachelor of arts

Programs of Study
Major:
Biologv
Concentrations:
Ecosystem Biology (aquatic and terrestrial)
General biology
Microbiology
Physiology
Minors:
- Biology
- Botany
- Zoology
- Conservation and resource use
- Joint Curriculum in Natural Resources with the University of Michigan

Pre-professional programs:
- Pre-forestry
- Pre-medicine
- Pre-osteopathic medicine
- Pre-optometry
- Pre-pediatrix

Advising procedures are posted opposite the biology office (316 Mark Jefferson) or the department office may be contacted for additional information.

SPECIAL ADvisING REQUIREMENTS:
Prospective biology majors should record their major as "biology intent" through either the Academic Advising Center or the Biology Department as soon as possible after their admission to the University.

To graduate with a major in biology, the student must meet with a biology faculty adviser to select one of the areas of concentration in the major. This meeting must take place as early as possible but no later than the end of the sophomore year. All transfer students must contact a biology faculty adviser during their first semester at EMU.

To enter EMU’s graduate program for community college biology teaching, the student should select the undergraduate general biology concentration. An adviser will indicate the courses needed to coordinate undergraduate and graduate work.

Biology majors who elect a botany or zoology minor must file an approved program of required/elective courses for the minor with their faculty adviser. Program changes will require prior written approval of the faculty adviser. Students in the curriculum for secondary teaching may elect either minor. However, they must complete a second minor outside of the Biology Department to satisfy current requirements for teacher certification.

Conservation and resource use minor electives must be approved by the advising coordinator listed below. Substitutes on the approved program will count toward its completion only if approved by the coordinator.

Joint curriculum in natural resources students must meet with the advising coordinator to establish a program between EMU and the University of Michigan.

Pre-medical and pre-osteopathic medical students must meet with the advising coordinator to take advantage of the Pre-Medical Advisory Committee system for expediting medical school admission testing and recommendation.

Advising Coordinators:
- Undergraduate coordinator: Paul W. Milske
- General biology: Paul W. Milske
- Microbiology: V. Jean Wainscott
- Physiology: P. George Simone
- Ecosystem biology: Robert K. Neely
- Conservation and resource use: Robert K. Neely
- Joint curriculum in natural resources: Robert K. Neely
- Pre-medical, pre-osteopathic medical, pre-optometry, pre-pediatrix, and pre-chiropractic: Edith M. Hurst
- Elementary science education: Suzanne J. Stevens
- Secondary biology education: John A. Novak

Graduate study leads to a Master of Science degree in biology with concentrations in community college biology teaching, ecosystem biology (aquatic and terrestrial), general biology, physiology, and molecular/cellular biology. These programs are described in the Graduate Catalog.

Biology Major

The major in biology has 11 semester hours and 19 to 33 hours in a field of concentration; general biology or physiology (19 semester hours), ecosystem biology—aquatic and terrestrial—and microbiology (29-33 semester hours). Biology majors may participate in undergraduate research by selecting special problems courses (up to six semester hours).

Majors should start with BOT 221 General Botany and ZOO 222 General Zoology in their freshman year. Majors without a strong high school biology preparation should take BIO 105 Biology and the Human Species before electing either BOT 221 or ZOO 222. (Although BIO 105 will not count toward the biology major or minor, credit earned in this course will count toward the 124 hours required for graduation.)

Chemistry Requirement: The minimum requirement in chemistry for all biology majors is CHM 121 General Chemistry I, CHM 122 General Chemistry I Laboratory, CHM 123 General Chemistry II, CHM 124 General Chemistry II Laboratory, CHM 270 Organic Chemistry, and CHM 271 Organic Chemistry Laboratory (or CHM 371, 372, 373). A course in biochemistry with laboratory is highly recommended.

Physics Requirement: The minimum requirement in physics for all biology majors is PHY 221 Mechanics, Sound and Heat and PHY 222 Electricity and Light.

Mathematics Requirement: The minimum requirement in mathematics for all biology majors is MTH 105 College Algebra and MTH 107 Plane Trigonometry. It is strongly recommended that students who plan to pursue graduate work in biology take MTH 120 Calculus I and MTH 121 Calculus II.

The following courses may not be counted on a biology major or minor: ESC 302 Elementary School Science, ESC 303 Science for the Elementary Teacher, BIO 205 Field Biology, and BIO 403 Methods and Materials for Teaching Biology.

Sem hours

Academic major in biology .............................................. 30-35
1. Required basic courses ............................................. 11
   BOT 221 General Botany ............................................. 4
   ZOO 222 General Zoology .......................................... 4
   BIO 301 Genetics ..................................................... 3
2. Field of concentration ................................................ 19-27

Ecosystem Biology Concentration

Aquatic and Terrestrial

This concentration includes 23 semester hours of required courses and a required group science minor of 31 semester hours.

Honors courses requiring that students meet certain qualifications are available with this concentration. These are listed at the end of this concentration and can be explained by the advising coordinator.
Ecosystem biology concentration

(aquatic and terrestrial) ................................................................. 54

1. Required courses ......................................................................... 23
   BIO 314 Energy Analysis and Decision Making ........................... 3
   BIO 320 Introduction to Cell Physiology ................................... 4
   A botany taxonomic field course* ........................................... 3
   A zoology taxonomic field course* ........................................... 3
   BIO 420 General Ecology ......................................................... 4
   BIO 410 Limnology or BIO 433 Stream Ecology ..................... 3
   BIO 435 Wetland Ecosystems or BIO 436 Terrestrial
   Ecosystems .................................................................................. 3
   *See list at end of general biology concentration.

2. Required group science minor ..................................................... 27
   CHM 121, 122 General Chemistry I ......................................... 4
   CHM 123, 124 General Chemistry II ....................................... 4
   CHM 270 Organic Chemistry ...................................................... 4
   CHM 271 Organic Chemistry Laboratory ................................... 1
   PHY 221 Mechanics, Sound and Heat ..................................... 4
   PHY 222 Electricity and Light ..................................................... 4
   GLG 160 Physical Geology ....................................................... 3
   GES 324 Weather ..................................................................... 3
   CSC 137 Introduction to Computer Programming,
   CSC 138 Computer Science I, or CSC 237
   Computer Programming and Numeric Methods .................... 3

Honors courses
   BIO 387, 487 Cooperative Education in
   Ecosystem Biology .................................................................. 3,3
   BIO 488 Honors Practicum in Ecosystem Biology .................... 2
   BIO 497, 498, 499 Special Problems in
   Ecosystem Biology ................................................................. 1,2,3

General Biology Concentration

Students entering pre-professional programs in dentistry,
medicine, osteopathic medicine, podiatry, veterinary medicine, or
optometry, specializing in field biology or plant and animal taxon-
omy, cell biology, pre-forestry, laboratory or museum research;
or seeking to teach at the secondary level or in a community or four-
year college may select the general biology concentration as
preparation for continuing in a professional or graduate school
program.

Students applying for teaching certification at the secondary
level must select the general biology area of concentration. They
may not use the botany or zoology minor as the required teaching
minor for certification.

Students who are uncertain about a concentration may prefer
the flexibility of the general biology concentration, which allows a
broad spectrum of biology courses to explore without precluding
later specialization.

Within this 30 semester hour major there must be at least seven
hours each in botany (may include microbiology) and at least seven
hours in zoology field. An experience at a biological station is
recommended.

Sem hours

General biology concentration ..................................................... 19
   1. Required courses ................................................................. 11
      BIO 320 Introduction to Cell Physiology ........................... 4
      One taxonomic field course* (may be prerequisite or
      corequisite with BIO 420) ................................................... 3
      BIO 420 General Ecology ...................................................... 4
      *See list at end of concentration.

   2. Electives ................................................................................. 8
      Choose eight credits in biology, botany, microbiology or
      zoology except BIO 205 Field Biology, BIO 207 Elements
      of Ecology, ZOO 326 Human Physiology, ESC 302
      Elementary School Science, ESC 303 Science for the
      Elementary Teacher, and BIO 403 Methods and Materials
      for Teaching Biology.

Courses designated as botanical taxonomic field courses:
   BOT 354 Trees and Shrubs
   BOT 450 Aquatic Tracheophyta
   BOT 451 Freshwater Algae
   BOT 453 Taxonomy and Ecology of Diatoms
   BOT 455 Systematic Botany

Courses designated as zoological taxonomic field courses:
   ZOO 300 Natural History of Invertebrates
   ZOO 310 Natural History of Vertebrates
   ZOO 421 Entomology
   ZOO 422 Ichthyology
   ZOO 425 Ornithology
   ZOO 474 Herpetology
   ZOO 480 Protozoology
   ZOO 482 Aquatic Entomology
   ZOO 485 Mammalogy

Microbiology Concentration

Students selecting this concentration will be prepared for an
entry-level position in microbiology; entry into a professional
program in medicine, osteopathic medicine, dentistry, veterinary
science or pharmacy; or to move on for a master's or doctoral degree
in microbiology, public health, or other closely related areas. It is
a good second major for students in medical technology.

This program of study meets the educational requirements
established by the American Academy of Microbiology (AAM).
Students who complete this program and then meet the additional
experience requirements set by the academy are eligible to make
formal application for the examinations to become a registered
microbiologist RM (AAM).

A biochemistry minor is required. Mathematics courses are
specified. Students with a GPA of 3.0 or better and those planning
graduate work in microbiology are encouraged to take the higher
level organic chemistry courses (CHM 371, CHM 372, and CHM
373), biochemistry courses (CHM 451, CHM 452, and CHM 453),
and physics courses (PHY 223 and PHY 224) rather than the lower
numbered courses. Pre-medical and pre-dental students should also
take CHM 371, CHM 372, and CHM 373, rather than the lower
numbered courses, to satisfy most medical and dental school
requirements for organic chemistry.
Choose at least one course from each of the following:

**Microbiology concentration** ................................................................. 29

1. **Required courses** ........................................................................ 17
   - MIC 329 General Microbiology ......................................................... 5
   - MIC 333 Principles of Immunology .................................................... 3
   - MIC 335 Immunology and Serology Lab ............................................ 2
   - MIC 444 Microbial Physiology .......................................................... 3
   - MIC 452 Advanced Microbiology ..................................................... 4

2. **Electives** ................................................................................. 12
   - MIC 329, 497, 498, 499 Special Problems in Microbiology (one, two, three credits);
   - MIC 387, 487 Cooperative Education in Microbiology (three credits each).

3. **Electives** ................................................................................ 6
   - Choose 6 credits from the following:
     - BIO 413 Animal and Plant Preservation Techniques,
     - BIO 415 Basic Histological Techniques, BIO 416
     - Biological Instrumentation—Theory and Practice,
     - BIO 420 General Ecology, BIO 480 Radiation Biology, BIO 540 Cell Biology
     - BOT 412 Plant Anatomy
     - MIC 329 General Microbiology
     - CLS 400 Pathophysiology
     - ZOO 317 Human Gross Anatomy, ZOO 323 Animal Embryology, ZOO 431 Comparative Anatomy of Vertebrates, ZOO 404 Mammalian Histology, ZOO 417 Neuroanatomy

**Physiology Concentration**

Students electing this concentration are strongly advised to take minors in botany or zoology, and chemistry or biochemistry. Students are prepared for a variety of technical laboratory and clinical positions. It is recommended that students consider continuing with graduate study to expand their career opportunities.

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Required courses</td>
<td>17</td>
</tr>
<tr>
<td>- BOT 221 General Botany</td>
<td>4</td>
</tr>
<tr>
<td>- ZOO 222 General Zoology</td>
<td>4</td>
</tr>
<tr>
<td>- BIO 301 Genetics</td>
<td>3</td>
</tr>
<tr>
<td>2. Electives*</td>
<td>9</td>
</tr>
<tr>
<td>- Choose 9 credits from the following:</td>
<td></td>
</tr>
<tr>
<td>- BOT 442 Plant Physiology</td>
<td>4</td>
</tr>
<tr>
<td>- MIC 444 Microbial Physiology, ZOO 427 Vertebrate Physiology, ZOO 437 Invertebrate Physiology</td>
<td></td>
</tr>
</tbody>
</table>

**Minors Offered in the Department of Biology**

**Biology Minor**

Students minoring in biology are strongly advised to take CHM 119 Fundamentals of Chemistry or CHM 211 and 212 General Chemistry I and II. An additional four cognate hours of sciences must be completed to meet North Central Association requirements (24 semester hours) for teaching this minor at the junior-senior high school level. The methods course, BIO 403 Methods and Materials for Teaching Biology, may be included in these four additional hours.

Students with no previous biology in high school must follow the directives stated under the biology major by starting with BIO 105 Biology and the Human Species.

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor in biology</td>
<td>20-24</td>
</tr>
<tr>
<td>1. Required courses</td>
<td>11</td>
</tr>
<tr>
<td>- BOT 221 General Botany</td>
<td>4</td>
</tr>
<tr>
<td>- ZOO 222 General Zoology</td>
<td>4</td>
</tr>
<tr>
<td>- BIO 301 Genetics</td>
<td>3</td>
</tr>
<tr>
<td>2. Electives*</td>
<td>9</td>
</tr>
<tr>
<td>- Choose 9 credits from the following:</td>
<td></td>
</tr>
<tr>
<td>- biology, botany, microbiology, or zoology except ESC 302 Elementary School Science, ESC 303 Science for the Elementary Teacher, BIO 205 Field Biology and BIO 403 Methods and Materials for Teaching Biology</td>
<td></td>
</tr>
</tbody>
</table>

**Botany Minor**

Students electing this minor must file an approved program of required/elective courses with the Biology Department undergraduate coordinator. Program changes require prior written de-
partmenial approval. Students in the curriculum for secondary teaching may elect this minor. However, they must select a second minor outside the Biology Department to satisfy the current requirements for teacher certification.

Sem hours

Minor in botany ................................................................. 20

Zoology Minor

Students electing this minor must file an approved program of required/elective courses with the Biology Department undergraduate coordinator. Program changes require prior written departmental approval. Students in the curriculum for secondary teaching may elect this minor. However, they must select a second minor outside the Biology Department to satisfy the current requirements for teacher certification.

Sem hours

Minor in zoology ................................................................. 20

Minor in Conservation and Resource Use

This program is administered jointly by the heads of the Biology Department, the Economics Department, the Geography Department and the Sociology Department.

Students electing this minor must confer with the advising coordinator for conservation and resource use to obtain an approved schedule of electives. Substitutions on the approved program will count only if approved by the adviser. Appropriate field and summer courses may be included as approved substitute electives at adviser discretion.

Students are urged to meet the required basic studies course in government by taking PLS 202 State and Local Government.

Sem hours

Minor in conservation and resource use .................................. 24

1. Required courses ........................................................... 13
   * GEO 108 Earth Science or GEO 160 Physical Geology ....... 4
   ** BIO 207 Elements of Ecology ...................................... 2
   BIO 224 Principles of Conservation .................................. 4
   *** ECO 200 The American Economy ................................ 3

2. Electives ........................................................................ 11
   Choose 11 credits from the following (approved by the advising coordinator):
   BIO 215 Economic Botany, BIO 232 Nature Interpretation
   CHM 115 Chemistry and Society; CHM 415 Environmental Chemistry
   ECO 201, 202 Principles of Economics I and II, ECO 336
   Economics of Environment and Natural Resources, ECO 337
   Energy Economics and Policies
   GES 114 National Parks and Monuments, GES 208 Natural
   Environmental Hazards, GES 200 The Oceans, GLG 229 Rocks
   of Michigan, GEO 235 Economic Geography, GEO 305 Aerial
   Photography Interpretation, GEO 310 Energy Awareness, GES
   315 Land Use Planning, GEO 320 Geography of U.S. and
   Geography of the World.

   * Students required to take GES 108 Earth Science on a major
   or minor in the Geography and Geology Department will take an
   additional four hours of electives on this minor from the approved
   list.

   ** The prerequisite for BIO 207 Elements of Ecology is BIO 105
   Biology and the Human Species. Students planning to take this
   minor should elect it for basic studies credit in the freshman year.
   Biology majors minoring in conservation will take BIO 420 Gen­
   eral Ecology on the major and substitute additional approved
   electives on the minor.

   ***Students who prefer to elect ECO 201, 202 Principles of
   Economics I and II may substitute ECO 201 for ECO 200 The
   American Economy and count ECO 202 as an elective on the minor.

   Students who are required to take ECO 201, 202 Principles of
   Economics I and II for other purposes on their curricula, as in
   business administration, may not count it on this minor and must
   substitute an additional elective for ECO 200 The American
   Economy.

Joint Curriculum in Natural Resources

Cooperative Program between Eastern Michigan University and the School of Natural Resources at the University of Michigan

The joint curriculum in natural resources includes three years at Eastern Michigan University, and four semesters plus a master's project at the School of Natural Resources at the University of Michigan.

Students completing this curriculum receive a B.S. degree in biology from EMU after the first two semesters at the SNR. They are credited with the general biology concentration within the biology major and with completing the minor in conservation and resource use at EMU. After completing their work at the SNR, students will receive the appropriate master's degree in natural resources from the University of Michigan.

The School of Natural Resources offers three master's level degrees: master of forestry (M.F.), master of landscape architecture (M.L.A.), and master of science (M.S.). Students specializing in forest resource management will receive either a M.F. or M.S. degree depending upon the curriculum followed and their specific area of interest in forest resource management. Students specializing in landscape architecture will receive the M.L.A., and those students specializing in one of the other fields of study will receive the M.S. degree.

A complete listing of the available programs at the SNR can be obtained from the joint curriculum adviser. Students who wish to be accepted in the joint curriculum must see the adviser by their fourth semester at EMU. Only with the adviser's approval can they take full advantage of the career flexibility built into the programs offered by the SNR.
Curriculum at Eastern Michigan University

<table>
<thead>
<tr>
<th>Area</th>
<th>Required general biology major</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOT 221 General Botany</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ZOO 222 General Zoology</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>BIO 301 Genetics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BIO 320 Introduction to Cell Physiology</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>BIO 420 General Ecology</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>BOT 354 Trees and Shrubs</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ZOO 310 Natural History of Vertebrates</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Electives from BIO, BOT, ZOO and MIC</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Required chemistry cognates</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>CHM 121, 122 General Chemistry I</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>CHM 123, 124 General Chemistry II</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>CHM 270, 271 Organic Chemistry</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Required mathematics, joint curriculum</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>CSC 137 Introduction to Computer Programming</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>or CSC 138 Computer Science I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MTH 120 Calculus I (note prerequisites)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Required conservation minor</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>(includes 13 hours at EMU)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 224 Principles of Conservation</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>GLG 160 Physical Geology</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>One course in government</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>(recommend PLS 112 American Government)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One course in history</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ECO 201 Principles of Economics I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ECO 202 Principles of Economics II</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>(Plus courses taken at SNR)</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Total semester hours at EMU including basic studies</td>
<td>94</td>
<td></td>
</tr>
</tbody>
</table>

Sample Curriculum at the University of Michigan

Senior Year

<table>
<thead>
<tr>
<th>Fall Courses</th>
<th>Sem Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NR 438 Natural Resources Statistics</td>
<td>4</td>
</tr>
<tr>
<td>NR 521 Biological Management</td>
<td>3</td>
</tr>
<tr>
<td>Natural Resource Elective</td>
<td>4</td>
</tr>
<tr>
<td>Cognate (elective taken outside SNR but within the University of Michigan)</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Winter Courses</th>
<th>Sem Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NR 470 Natural Resource Economics</td>
<td>3</td>
</tr>
<tr>
<td>Natural Resource Electives (2 courses)</td>
<td>7</td>
</tr>
<tr>
<td>Cognate</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year at SNR</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMU Total</td>
<td>124</td>
</tr>
</tbody>
</table>

Pre-Professional Programs

Pre-Forestry

The three years at EMU of the joint curriculum described above, with appropriate choice of electives, may be expected to meet the requirements of many professional schools. However, students are reminded that forestry schools set their own requirements for admission and it is imperative that during the first year at EMU exact requirements be obtained from current catalogs of specific schools at which students seek to complete professional training. Some flexibility in the sequence of courses is allowed to meet the needs of the individual students and the professional schools they wish to attend.

The curriculum above is designed for such diverse fields as conservation education, wildlife management and fisheries biology, as well as forestry.

Pre-Medical and Pre-Osteopathic Medical

While medical schools do not prescribe a pre-medical curriculum, they expect thorough understanding of modern concepts in biology, chemistry and physics, and all value mathematical competence, with some specifying a courses sequence in mathematics.

Most pre-medical students, therefore, elect a major in one of these areas, although this is not mandatory. Most students earn the bachelor's degree prior to admission to medical school.

An important admission requirement for most medical schools, the Medical College Admission Test (MCAT), is given in April and September in various centers throughout the nation. This test should be taken during the junior year.

Each allopathic and osteopathic medical school establishes its own admission requirements. The course requirements are similar but differ enough so that students should consult the catalogs of the schools in which they are interested. The latest edition of Medical School Admission Requirements, available at the reference desk of the EMU library, should be consulted. The introductory chapters of this book should be read by every prospective medical student.

If students electing the pre-medical sequence are not achieving at least a 2.75 grade point average, their chances of acceptance by a medical school are minimal, and they should plan their programs so that other professional or vocational goals are possible.

Students planning to apply for admission to a medical school without completing the degree should plan their schedule to include the following general requirements:

| Elective in English language or literature | 3 |
| ZOO 222 General Zoology                    | 4 |
| BIO 301 Genetics                           | 3 |
| BIO 320 Introduction to Cell Physiology    | 4 |
| CHM 121, 122, 123, 124 General Chemistry I and II | 8 |
| CHM 371, 372 Organic Chemistry I and II    | 6 |
| CHM 373 Organic Chemistry Laboratory      | 2 |
| PHY 221 Mechanics, Sound and Heat          | 4 |
| PHY 222 Electricity and Light              | 4 |
| Sociology and psychology courses           | 8 |

Because of the nature of the pre-medical program, if the student is a biology or chemistry major it is almost mandatory to follow the first year as patterned below.
First Year—Pre-Medicine

First semester .................................................. 15
CHM 121, 122 General Chemistry I ......................... 4
BOT 221 General Botany .................................. 4
*Mathematics ............................................... 2-4
Basic studies ............................................... 2-6

**Second semester ........................................... 15
CHM 123, 124 General Chemistry II .................... 4
*Mathematics ............................................... 2-4
ZOO 222 General Zoology ................................ 4
Basic studies ............................................... 3-7

*Students with one to two years of less than high quality algebra take MTH 105 Algebra. Students with only one year of algebra take MTH 104 Intermediate Algebra, followed by MTH 105 Trigonometry.
**Prior to registering for the second semester the student should see the pre-medical coordinator.

Pre-Optometry, Pre-Podiatry, and Pre-Chiropractic

Students can complete course requirements at EMU for admission to optometry, podiatry, and chiropractic programs. For information on these requirements, see the advising coordinator for pre-medical programs.

Biology Courses

BIO 105 Biology and the Human Species. Four sem hours
The basic concepts of biology, with emphasis on human structure and function, as well as key issues and problems confronting the human. Designed for the student who is taking neither major nor minor in biology. Meets for two lecture hours, one recitation hour and three laboratory hours per week. Audio-tutorial laboratory covers basic biological concepts.

Prereq: Department permission. Not open to students with credit in BOT 221 General Botany, and/or ZOO 222 General Zoology. Does not count toward the major or minor.

BIO 204 The Biology of Cancer. Two sem hours
Introduces the types, characteristics, putative causes and current treatments of cancer.
Prereq: One year of high school biology or an introductory college level biology course.

BIO 205 Field Biology. Four sem hours
A lecture, laboratory and field course in the behavior, ecology and broad classification of plants and animals, giving training in recognition of common plants and animals of Michigan. Gives background material to the nonspecialist interested in outdoor life, to those interested in nature interpretation and to the elementary school teacher. Not open to students having credit in BOT 221 General Botany or ZOO 222 General Zoology except by department permission.
Prereq: BIO 105 Biology and the Human Species or equivalent or department permission. Does not count toward the major or minor.

BIO 207 Elements of Ecology. Two sem hours
The interactions of plants and animals with their physical and biological environment. Consideration is given to the way in which principles of ecology are applied in conservation practices. Lectures and readings are supplemented by field trips to locations of ecological interest in the area.
Prereq: BIO 105 Biology and the Human Species or equivalent. Does not count toward the major.

BIO 224 Principles of Conservation. Four sem hours
Introduces the basic resources of water, soil, vegetation, animal life, land as space, land in its unaltered condition, minerals and human powers, and develops the principles by which they may be wisely utilized and conserved with major emphasis on the renewable resources.

BIO 232 Nature Interpretation. Three sem hours
Combines intensive field and museum work in natural history with practical training and experience in interpreting natural objects and settings to individuals and groups.
Prereq: Previous field course work in biology.

BIO 239 Biology of Aging. Two sem hours
The study of the aging process at the molecular, cellular, tissue and systems level of organization. Theories of aging and evolution of the process will be considered.
Prereq: BIO 105 Biology and the Human Species or equivalent.

BIO 277, 278, 279 Special Topics in Biology. One, two, three sem hours
An examination of topics in biology not covered in other departmental offerings. Students may elect this course more than once as long as different topics are studied.
Prereq: Department permission.

BIO 301 Genetics. Three sem hours
A lecture course emphasizing the basic principles of inheritance with their application to plants and animals.
Prereq: BOT 221 General Botany and ZOO 222 General Zoology or equivalent.

BIO 302 Genetics Lab. Two sem hours
A laboratory course designed to accompany or follow BIO 301. Provides opportunity to work with organisms that have proved to be most beneficial in extending our understanding of genetic principles. Practice in gathering and analyzing data from living populations will be provided.
Prereq: BIO 301 Genetics (may be taken concurrently).

BIO 307 Introduction to Hematology. Three sem hours
The study of the formed elements of the blood, their precursors and some of their products. An introduction to the theory and principles of routine medical laboratory procedure and technique. Not open to those with credit in CLS 307 Introduction to Hematology.
Prereq: Department permission.

BIO 314 Energy Analysis and Environmental Decision-Making. Three sem hours
An introductory course in techniques used in environmental decision-making, emphasizing the energy analysis approach involving both natural and technological energy flows.
Prereq: BIO 105 Biology and the Human Species or equivalent; one year of high school algebra or MTH 104 Intermediate Algebra.
BIO 320 Introduction to Cell Physiology. Four sem hours
A lecture and laboratory course in introductory general physiology devoted to the study of basic physiological mechanisms common to all living organisms. Basic processes at the cellular level emphasized, rather than the applications of such processes to a particular organism.
Prereq: BOT 221 General Botany, ZOO 222 General Zoology, CHM 121, 122 General Chemistry I and CHM 123, 124 General Chemistry II, CHM 270, 271 Organic Chemistry or equivalent.

BIO 387, 487 Cooperative Education in Biology. Three sem hours each
Four or six months of full-time employment at an industrial firm or laboratory specially chosen for imparting a practical educational experience in biology or technology. The program consists of two work experiences alternated with full-time attendance at the University. Admittance to program by application only. Graded credit/no credit basis.
Prereq: Junior standing. BIO 387 is a prerequisite for BIO 487.

BIO 403 Methods and Materials for Teaching Biology. Three sem hours
A lecture-laboratory course providing knowledge, training and practice in the presentation of biological principles, analysis of texts, selection of course content, effective classroom methods and preparation of classroom materials used in the teaching of biology. Does not count toward major or minor.
Prereq: BOT 221 General Botany, ZOO 222 General Zoology, and department permission. Junior standing. Not open to students on academic probation.

BIO 407 Advanced Hematology. Three sem hours
Theory and application of hematological test procedures. Includes interpretation of results, problem-solving and correlation of laboratory findings with disease states. Not open to those with credit in CLS 407 Advanced Hematology.
Coreq: BIO 307 Introduction to Hematology and MIC 333 Principles of Immunology.

BIO 410 Limnology. Three sem hours
A lecture, laboratory and field course dealing with physicochemical and biological interrelationships in standing waters.
Prereq: BIO 420 General Ecology and one taxonomic field course, or department permission.

BIO 412 Biogeography. Two sem hours
A lecture course involving the descriptive and historical aspects of plant and animal distribution and the basic principles governing their natural distribution in both space and time.
Prereq: A course in college biology and a course in earth science, or department permission.

BIO 413 Animal and Plant Preservation Techniques. One sem hour
A laboratory, lecture and demonstration mini-techniques course in the preservation of biological specimens: minute whole animal slide mounts to large animal and plant techniques, such as freeze-drying, pressing, skeleton making, study-skins and plastic embedding.
Prereq: At least two college biology courses.

BIO 415 Basic Histological Techniques. One sem hour
A laboratory, lecture and demonstration mini-techniques course giving basic theory and practice in mammalian tissue slide preparation including dissection, fixation, dehydration, embedding, sectioning, affixing and staining.
Prereq: At least two college biology courses.

BIO 416 Biological Instrumentation—Theory and Practice. One sem hour
A lecture and laboratory course that covers testing, adjustments, operation and maintenance of scientific instruments and their uses in the biological area.
Prereq: Two courses in biology or department permission.

BIO 420 General Ecology. Four sem hours
A field and laboratory course introducing the concepts involved in the study of terrestrial and aquatic communities, their physical environment and their integration into ecosystems. Emphasis on properties at the ecosystem, community and population levels.
Prereq: BOT 221 General Botany, ZOO 222 General Zoology and one taxonomic field course or department permission.

BIO 427 Introductory Molecular Genetics. Three sem hours
Concentrates on the molecular aspects of the subject and the properties of genetic material at the molecular level.
Prereq: BIO 301 Genetics.

BIO 433 Stream Ecology. Three sem hours
A field biology course that includes the study of physicochemical and biological aspects of stream ecosystems. Includes a study of laboratory and field methods.
Prereq: BIO 420 General Ecology and one taxonomic field course, or department permission.

BIO 434 Advanced Immunohematology. Three sem hours
Principles and procedures used in the blood bank are studied and related to problem situations in the laboratory. Not open to those with credit in CLS 434 Advanced Immunohematology.
Prereq: BIO 307 Introduction to Hematology and CLS 335 Clinical Immunology.

BIO 435 Wetland Ecosystems. Three sem hours
Advanced field ecology course in the theory and method of study of wetland ecosystems.
Prereq: BIO 420 General Ecology and one taxonomic field course, or department permission.

BIO 436 Terrestrial Ecosystems. Three sem hours
Advanced field ecology course in the theory and methods of study of the structure and dynamics of terrestrial ecosystems.
Prereq: BIO 420 General Ecology and one taxonomic field course or department permission.

BIO 461 Oncology. Three sem hours
A lecture course on phydro-chemico-biological agents and factors of non-human and human cancer etiology, pathogenesis of neoplastic transformation in vitro, histochemistry and immunobiology of cancer, host-tumor relationship, and "model system" in control.
Prereq: MIC 329 General Microbiology or equivalent; CHM 270, 271 Organic Chemistry or equivalent (lecture and laboratory).
BIO 477, 478, 479 Special Topics in Biology. One, two, three sem hours
An examination of advanced topics in biology not covered in other department offerings.
Prereq: Department permission.

BIO 480 Radiation Biology. Three sem hours
A lecture course on the molecular, cellular, organismal, supra-organismal effects of corpuscular and electromagnetic radiation. Topics will cover the basic mechanisms of biological responses of viruses, microbes, plants and animals to radiation.
Prereq: Microbial, plant or animal physiology, one year of physics, one year of chemistry. Genetics is desirable.

BIO 488 Honors Practicum in Ecosystem Biology. Two sem hours
A practical experience in an environmental field study including experimental design and collection, analysis and interpretation of data as a member of a research team. Emphasis is placed on the application of biological theory to problem solving.
Prereq: Senior status (85 hours); GPA 3.0 overall and 3.3 in biology, a sponsoring faculty member and/or approval of the Ecosystem Biology Program Committee; prior application required.

BIO 489 Practicum in Biology. Three sem hours
Provision of practical experience in a particular field of study, including experimental design and collection, analysis and interpretation of data as a member of a research team. Emphasis placed on the application of a biological theory to problem solving.
Prereq: Department and adviser permission.

BIO 497, 498, 499 Special Problems in Biology. One, two, three sem hours
Individual work in some area of biology under direction of a staff member. Preliminary draft of proposed study must be approved by the department prior to enrollment. May be elected more than once, after resubmission and approval.
Prereq: Department permission.

Botany Courses

BOT 209 Ornamental Plants. Two sem hours
A general cultural course to acquaint the student with ornamental shrubs and trees, common weeds and house plants. Stress on identification and methods of propagation. Much time is spent in the greenhouse and on short field trips.

BOT 215 Economic Botany. Three sem hours
A study of plants useful to man, especially those which yield food, fibers, wood, rubber, drugs and other products of value. It is a lecture-demonstration course supplemented by reading. Open to all students without prerequisite, though previous training in biology, botany or agriculture is desirable.

BOT 221 General Botany. Four sem hours
The structure and function of seed plants and of representative lower plants, together with the fundamentals of plant heredity, ecology and evolution. Two one-hour lectures, one one-hour recitation plus four hours of laboratory experience.
Prereq: High school biology or BIO 105 Biology and the Human Species or equivalent. Cannot be taken concurrently with ZOO 222 except by department permission.

BOT 234 General Field Botany. One sem hour
This course stresses field identification and ecological relationships of the higher plants. There is much opportunity for practice in the use of taxonomic keys.

BOT 277, 278, 279 Special Topics in Botany. One, two, three sem hours
An examination of topics in botany not covered in other department offerings. Students may elect this course more than once as long as different topics are studied.
Prereq: Department permission.

BOT 354 Trees and Shrubs. Three sem hours
A taxonomic field course on identification of native trees and shrubs in winter and summer conditions. Counts as taxonomic field course.

BOT 387, 487 Cooperative Education in Botany. Three sem hours each
Four or six months of full-time employment at an industrial firm or laboratory specially chosen for imparting a practical educational experience in botany or technology. The program consists of work experiences alternated with full-time attendance at the University. Admittance to program by application only. Graded credit/no credit basis.
Prereq: Junior standing. BOT 387 is a prerequisite for BOT 487.

BOT 404 Mycology. Three sem hours
A lecture-laboratory course on the study of molds, rusts, mildews, edible and poisonous mushrooms and other fungi. Their life history, economic importance, method of identification, and preservation are considered.
Prereq: BOT 221 General Botany.

BOT 412 Plant Anatomy. Three sem hours
A basic lecture-laboratory course in plant histology emphasizing recognition of primary and secondary tissues as variously combined in root, stem, leaf and flower of a wide variety of representative seed plants.
Prereq: BOT 221 General Botany.

BOT 442 Plant Physiology. Three sem hours
A detailed study of major plant functions with emphasis on growth and development presented by lecture, demonstration and experimentation in laboratory and greenhouse.
Prereq: BOT 221 General Botany, CHM 270, 271 Organic Chemistry or equivalent, and BIO 320 Introduction to Cell Physiology.
BOT 446 Medical Mycology. Four sem hours
The medical and public health importance of diseases caused by fungi. Diagnostic methods and significant characteristics of the causal agents of mycoses are studied in this lecture-laboratory course. Fungi included are the contaminants, dermatophytes and systemics.
Prereq: MIC 328 Introductory Microbiology or MIC 329 General Microbiology or BOT 404 Mycology.

BOT 450 Aquatic Tracheophyta. Three sem hours
Field and laboratory work in identification of herbaceous and shrubby vascular plants growing in aquatic habitats and in both vegetative and reproductive phases. Counts as taxonomic field course.
Prereq: BOT 221 General Botany.

BOT 451 Freshwater Algae. Three sem hours
A survey of the fresh water algal divisions; their morphology, taxonomy, ecology and economic importances. Lectures emphasize an evolutionary approach. Laboratory work stresses the identification of representative algal taxa. Class field collections are made. Counts as taxonomic field course.
Prereq: BOT 221 General Botany.

BOT 453 Taxonomy and Ecology of Diatoms. Three sem hours
A taxonomic field course on the collection, preservation and identification of freshwater diatoms. A survey of the diatom genera and the common or ecologically important species. Emphasis is placed on developing a familiarity with the more significant world literature. Collection required.
Prereq: BOT 451 Freshwater Algae or department permission.

BOT 455 Systematic Botany. Three sem hours
Covers the essential of the collection, identification and classification of flowering plants. The students will become familiar with the major plant groups, both from lecture and herbarium study and from field experience in varied habitats. Counts as taxonomic field course.
Prereq: BOT 221 General Botany.

BOT 477, 478, 479 Special Topics in Botany. One, two, three sem hours
An examination in topics in botany not covered in other departmental offerings. Students may elect this course more than once as long as different topics are studied.
Prereq: Department permission.

BOT 497, 498, 499 Special Problems in Botany. One, two, three sem hours
Individual work in some areas of botany under direction of a staff member. Preliminary draft or proposed study must be approved by the department prior to enrollment. May be elected more than once, after resubmission and approval.
Prereq: Department permission.

Microbiology Courses

MIC 277, 278, 279 Special Topics in Microbiology. One, two, three sem hours
An examination of topics in microbiology not covered in other departmental offerings. Students may elect this course more than once as long as different topics are studied.
Prereq: Department permission

MIC 328 Introductory Microbiology. Three sem hours
Introduction to the biology of bacteria and other microbes, transmission of infectious diseases, principles of control of, and immunity to, infectious diseases. A lecture/lab course. Does not apply on the curriculum in clinical laboratory sciences or on microbiology concentration in biology major, but will count as elective on general biology concentration or biology minor.
Prereq: BIO 105 Biology and the Human Species and CHM 120 Fundamentals of Chemistry, or ZOO 201 and 202 Human Anatomy and Physiology I and II, or department permission.

MIC 329 General Microbiology. Five sem hours
A lecture and laboratory course on the nature and biology of bacteria and other microbes, their physiological relationships in natural and controlled environments and the interactions of pathogenic microorganisms with their hosts. Laboratory includes an introduction to the techniques of isolating, cultivating and identifying bacteria and other microbes, and their physiological, serological and pathological properties. Not open to those who take MIC 328 Introductory Microbiology.
Prereq: BOT 221 General Botany or ZOO 222 General Zoology or ZOO 326 Human Physiology and CHM 270, 271 Organic Chemistry. A biochemistry course recommended.

MIC 333 Principles of Immunology. Three sem hours
A lecture course presenting the theory and basic principles of immunology and serology including antigen-antibody reactions; immunoglobulin production; cellular immunity; hypersensitivity.
Prereq: MIC 328 Introduction to Microbiology or MIC 329 General Microbiology.

MIC 335 Immunology and Serology Laboratory. Two sem hours
A laboratory course designed to accompany or follow MIC 333 Principles of Immunology. Theory and practice in serological techniques with emphasis on antigen-antibody reactions such as reaprecipitation, agglutination, viral neutralization and complement fixation. Not open to those with credit in CLS 335 Clinical Immunology.
Prereq: MIC 333 Principles of Immunology taken previously or concurrently.

MIC 340 Basic Virology. Three sem hours
A basic lecture and laboratory course on physico-chemical-biological nature of bacteriophages and viruses causing diseases in animals and plants, including their transmission, infection, replication (both transcription/translation of either DNA or RNA), cultivation in vitro, titration, host-virus interaction and their control.
Prereq: MIC 329 General Microbiology and an organic chemistry course.
MIC 387, 487 Cooperative Education

in Microbiology. Three sem hours each
Four or six months of full-time employment at an industrial firm or laboratory specially chosen for imparting a practical educational experience in microbiology or technology. The program consists of two work experiences alternated with full-time attendance at the University. Graded on credit/no credit basis. Prereq: MIC 329 General Microbiology and junior standing. Admittance to program by application only. MIC 387 is a prerequisite for MIC 487.

MIC 432 Clinical Microbiology. Four sem hours Lecture and laboratory. Mechanisms of pathogenesis and the specific bacterial and viral etiological agents of human disease. Methods of detection, isolation, enumeration and identification used in clinical laboratories. Not open to those with credit in CLS 432 Clinical Microbiology. Prereq: MIC 329 General Microbiology or permission of the instructor.

MIC 442 Microbial Ecology. Three sem hours Interactions among microbes (fungi, bacteria, some phages), other living organisms and the environment, with emphases on parasitism, mutualism, commensalism and biogeochemical recycling of matter. Includes both laboratory and field exercises. Prereq: BOT 221 General Botany or ZOO 222 General Zoology, and MIC 329 General Microbiology or equivalent.

MIC 444 Microbial Physiology. Three sem hours A lecture and laboratory course of physiological studies on bacteria and fungi. Emphasis will be placed on nutrition, metabolism, fermentation, physiology of parasitism and biosynthesis of polymers by microbes. Prereq: MIC 329 General Microbiology, CHM 270, 271 Organic Chemistry, CHM 351 Introductory Biochemistry and CHM 352 Basic Biochemical Analysis recommended.

MIC 445 Food Microbiology. Three sem hours A lecture and laboratory course on the qualitative and quantitative nature of microbiology in relation to foods and food systems, behavior and detection of bacteria, toxin production, destruction of microbes by heat and other means and food sanitation. Prereq: MIC 328 Introductory Microbiology or MIC 329 General Microbiology.

MIC 452 Advanced Microbiology. Four sem hours A lecture and laboratory course to provide an in-depth study of the morphological, biochemical and genetic relationships of bacteria. Emphasis will be on physiological transformations carried out by autotrophic and heterotrophic organisms in their environment, regulation of growth and advanced isolation and characterization techniques. Prereq: MIC 329 General Microbiology, MIC 444 Microbial Physiology and a biochemistry course.

MIC 454 Molecular Biology of Bacteria and Viruses. Three sem hours A lecture course on ultrastructure of both bacteria and viruses and expression of their genomes (such as operons, morphogenesis and control, modification and restriction, virus induced enzymes, and replication and control mechanisms), viral carcinogens and implication in disease control. Prereq: MIC 329 General Microbiology, BIO 301 Genetics, CHM 270, 271 Organic Chemistry, and BIO 320 Introduction to Cell Physiology or MIC 444 Microbial Physiology.

MIC 497, 498, 499 Special Problems in Microbiology. One, two, three sem hours Individual work in an area of microbiology under direction of a staff member. Preliminary draft or proposed study must be approved by the department prior to enrollment. May be elected more than once, after resubmission and approval. Prereq: Department permission.

Zoology Courses

ZOO 201 Human Anatomy and Physiology I. Three sem hours An intensive lecture and laboratory course investigating human anatomy and physiology with emphasis on both normal and pathological conditions, in a two-semester sequence. First semester will cover the basic structure and functions of the muscular, skeletal and nervous systems. Credit on nursing and biology programs counts only if ZOO 201 and ZOO 202 are taken consecutively. Prereq: CHM 120 Fundamentals of Chemistry.

ZOO 202 Human Anatomy and Physiology II. Three sem hours An intensive lecture and laboratory course investigating human anatomy and physiology with emphasis on both normal and pathological conditions, in a two-semester sequence. The second semester will cover circulation, metabolism, the endocrine, digestive, excretory and reproductive systems and the integration of the systems of the body. Prereq: CHM 120 Fundamentals of Chemistry and ZOO 201 Human Anatomy and Physiology I.

ZOO 222 General Zoology. Four sem hours A general survey of the groups of invertebrate and vertebrate animals according to the evolutionary sequence. Emphasis is placed upon the classification and structures, also on such aspects as physiology, life histories, habits, distribution and economic relations. Two one-hour lectures, one-hour recitation and four hours of audio-tutorial laboratory. Prereq: High school biology or BIO 105 Biology and the Human Species or equivalent. Cannot be taken concurrently with BOT 221 except by department permission.

ZOO 223 Field Bird Study. One sem hour Identification of birds and their songs and nesting habits, studied in laboratory and field.

ZOO 277, 278, 279 Special Topics in Zoology. One, two, three sem hours An examination of topics in zoology not covered in other departmental offerings. Students may elect this course more than once as long as different topics are studied. Prereq: Department permission.
ZOO 300 Natural History of Invertebrates. Three sem hours
A field course in the recognition, collection, identification and preserving of common invertebrates of Michigan, exclusive of the insects, with emphasis on their natural history, ecology and economic importance. Counts as taxonomic field course.
Prereq: ZOO 222 General Zoology.

ZOO 310 Natural History of Vertebrates. Three sem hours
A survey of vertebrates, emphasizing their adaptations and their natural history. Laboratory work will stress the taxonomic classification, identification and distribution of local and other forms. Field work will emphasize accurate observation and permanent recording of original data on local species. Counts as taxonomic field course.
Prereq: ZOO 222 General Zoology.

ZOO 317 Human Gross Anatomy. Five sem hours
A lecture, demonstration and laboratory course on gross anatomy of the human body with emphasis on the extremities.
Prereq: BIO 105 Biology and the Human Species and department permission.

ZOO 318 Laboratory in Human Anatomy. Two sem hours
Laboratory with dissection and dissection of human cadaver by students. Designed to accompany lecture material in PED 200 Anatomy and Physiology.
Coreq: PED 200 Anatomy and Physiology.

ZOO 323 Animal Embryology. Three sem hours
Fundamental facts and principles of the reproduction and development of animals with laboratory studies of the frog, chicken, pig and other forms.
Prereq: ZOO 222 General Zoology.

ZOO 326 Human Physiology. Three sem hours
A study of the functioning of the human body. Lecture, laboratory and demonstration. Not open to biology majors, but can be taken on a biology minor in which case ZOO 222 General Zoology is prerequisite. Credit will be given for both ZOO 326 and ZOO 427 Vertebrate Physiology on the minor.
Prereq: BIO 105 Biology and the Human Species. Open to Dietetics and Occupational Therapy majors only.

ZOO 366 Economic Zoology. Two sem hours
A survey of the species and breeds of animals that are used as beasts of burden, supply food, clothing, sport and recreation or serve as pets. A lecture course.
Prereq: One course in college zoology.

ZOO 387, 487 Cooperative Education in Zoology. Three sem hours each
Four or six months of full-time employment at an industrial firm or laboratory specially chosen for imparting a practical educational experience in zoology or technology. The program consists of two work experiences alternated with full-time attendance at the University. Admittance to program by application only. Graded credit/no credit basis.
Prereq: Junior standing. ZOO 387 is a prerequisite for ZOO 487.

ZOO 404 Mammalian Histology. Three sem hours
A lecture/laboratory course dealing with the structure and properties of mammalian organs and their component tissues.
Prereq: ZOO 222 General Zoology.

ZOO 417 Neuroanatomy. Three sem hours
A lecture/laboratory course concerned with the study of the human nervous system; lesions and resulting disabilities.
Prereq: ZOO 317 Human Gross Anatomy or ZOO 222 General Zoology and department permission.

ZOO 421 Entomology. Three sem hours
A field course in the recognition, collection, identification and preservation of common invertebrates of Michigan, exclusive of the insects, with emphasis on their natural history, ecology and economic importance. Counts as taxonomic field course.
Prereq: ZOO 222 General Zoology.

ZOO 422 Ichthyology. Three sem hours
A study of the biology, classification, distribution and evolution of fishes. Attention is given to the morphology, physiology, behavior, natural history and ecology of fishes through work in lecture, laboratory and in the field. Specific experience in the identification of the freshwater fishes of the Great Lakes region is provided in addition to a general survey of some marine fish families. Counts as a taxonomic field course.
Prereq: ZOO 222 General Zoology.

ZOO 425 Ornithology. Three sem hours
A course in bird biology for the secondary teacher and students with advanced interest in biology. Field identification and census methods will be used to introduce the study of bird populations, behavior and ecology. A survey of major North American bird families will be made in the laboratory. A student field project will be required. Counts as a taxonomic field course.
Prereq: ZOO 222 General Zoology.

ZOO 427 Vertebrate Physiology. Three sem hours
A detailed study of physiological phenomena of the vertebrate body at the cellular and organ level with laboratory experiments to illustrate. Organ to organ interaction is emphasized. Credit will not be given for ZOO 326 Human Physiology on the major.
Prereq: ZOO 222 General Zoology, BIO 320 Introduction to Cell Physiology, CHM 270, 271 Organic Chemistry or department permission. Physics is desirable.

ZOO 430 Invertebrate Zoology. Four sem hours
Phylogenetic and anatomical study of one or more representative types from each phylum of invertebrates, with special emphasis on taxonomy, classical literature and current research. Three lectures and two two-hour labs weekly.
Prereq: ZOO 222 General Zoology.

ZOO 431 Comparative Anatomy of Vertebrates. Four sem hours
The anatomy of the vertebrate organ systems is studied on a comparative basis, which emphasizes the evolutionary development of the groups. Laboratory work includes detailed dissection of the shark and cat. Three one-hour lectures and two two-hour laboratory periods.
Prereq: ZOO 222 General Zoology.
ZOO 437 Invertebrate Physiology. Three sem hours
A lecture/lab course to study the functional processes of both terrestrial and aquatic insects and other major invertebrate groups. Builds upon a general understanding of physiology to compare the ways different inverts have evolved solutions to common physiological problems. In the laboratory, standard physiological research techniques will be used to demonstrate the lecture concepts. Some of these techniques will be applied in a student-designed research exercise and report.
Prereq: ZOO 222 General Zoology, CHM 270, 271 Organic Chemistry, BIO 320 Introduction to Cell Physiology. ZOO 430 Invertebrate Zoology is recommended.

ZOO 462 Parasitology. Three sem hours
A survey of animal parasites that affect other animals including the human. Lecture and laboratory.
Prereq: ZOO 222 General Zoology.

ZOO 474 Herpetology. Three sem hours
The biology of amphibians and reptiles; taxonomy, origins and evolution, anatomy, adaptations, behavior, ecology, zoogeography. Local hibernating and spring-breeding populations will be studied in the field, including at night and/or during inclement weather and on two Saturday field trips. Laboratory work will cover dissection of a representative amphibian and reptile, and study of living and preserved specimens of extant orders and families and North American species. Counts as a taxonomic field course.
Prereq: ZOO 222 General Zoology and one of the following: BIO 420 General Ecology, ZOO 310 Natural History of Vertebrates or ZOO 431 Comparative Anatomy of Vertebrates.

ZOO 477, 478, 479 Special Topics in Zoology. One, two, three sem hours
An examination of topics in zoology not covered in other departmental offerings. Students may elect this course more than once as long as different topics are studied.
Prereq: Department permission.

ZOO 480 Protozoology. Three sem hours
Survey of the protozoa with emphasis on their life cycles, morphology and ecology. Both free living and parasitic forms will be discussed. Techniques of collecting, culturing and preserving protozoans and their identification will be emphasized in the laboratory. Counts as a taxonomic field course.
Prereq: ZOO 222 General Zoology.

ZOO 482 Aquatic Entomology. Three sem hours
The study of aquatic insect families and their general ecology, life histories, and taxonomy. A collection of the common aquatic insect families of the area is required. Counts as a taxonomic field course.
Prereq: ZOO 222 General Zoology. ZOO 421 Entomology is recommended.

ZOO 485 Mammalogy. Three sem hours
Some aspects of the biology of mammals: origins and evolution, anatomy, classification, adaptations and zoogeography. Natural history and aspects of their ecology are studied in the field. A collection of study specimens of different species is required of each student. Counts as a taxonomic field course.
Prereq: ZOO 222 General Zoology and one of the following: ZOO 310 Natural History of Vertebrates, BIO 420 General Ecology or ZOO 431 Comparative Anatomy of Vertebrates.

ZOO 497, 498, 499 Special Problems in Zoology. One, two, three sem hours
Individual work in some area of zoology under direction of a staff member. Preliminary draft of proposed study must be approved by the department prior to enrollment. May be selected more than once, after resubmission and approval.
Prereq: Department permission.

Elementary Science Courses
(See required courses for elementary education curricula on page 260)

BIO 205 Field Biology. Four sem hours
(See Biology Courses.)

ESC 302 Elementary School Science. Three sem hours
Intended for those planning to teach in the elementary grades. Prepares the student to organize the problems, collect the materials and direct the activities of the elementary science class. Methods of presenting simple experiments to children and conducting field trips will be demonstrated. Two one-hour lectures and one two-hour laboratory. Not open to students who have taken ESC 303 Science for the Elementary Teacher.

ESC 303 Science for the Elementary Teacher. Three sem hours
Important biological concepts, especially relating to the interrelationships of organisms within their environment; the investigative or "discovery" approach; methodology involved in the new approaches to teaching science. One hour of lecture and four hours weekly involving recitation, laboratory or field work. Concluding course in the elementary science sequence.

ESC 377, 378, 379 Special Topics in Elementary Science. One, two, three sem hours
An examination of topics in elementary science not covered in other departmental offerings. Students may elect this course more than once as long as different topics are studied.
Prereq: Department permission.
The Chemistry Department offers both professional and general level curricula in chemistry and biochemistry, and curricula in metallurgical chemistry and biochemistry/toxicology. The department also administers pre-professional programs in dentistry, mortuary science and pharmacy. Although the pre-medicine program is not administered by the department, the biochemistry and chemistry curricula provide excellent preparation for medicine.

Housed in the spacious Mark Jefferson Science Complex, the department has laboratories available for all areas of study. Major items of equipment include: research quality UV, visible, laser-Raman and Fourier-transform IR spectrophotometers; preparative and analytical gas chromatographs, X-ray diffraction and X-ray fluorescence apparatus; preparative and analytical ultracentrifuges; fluorometers; a DTA-DSC-TGA thermal analysis system; a titration microcalorimeter; live HPLC set ups. The department also has 60 MHz proton and 80 MHz proton/C-13 Varian FT-80A nuclear magnetic resonance spectrometers; preparative and analytical ultracentrifuges; fluorometers; a DTA-DSC-TGA thermal analysis system; a titration microcalorimeter; five HPLC set ups. The department also has 60 MHz proton and 80 MHz proton/C-13 Varian FT-80A nuclear magnetic resonance spectrometers. A computer laboratory with 24 IBM AT-Compatible computers, and specialized facilities and equipment for radiochemistry and cell culture are available.

An Honors Program, for which any student taking chemistry is eligible, is based on admission to the University’s Honors Program, or the student’s interest and performance in CHM 121 General Chemistry I. Prospective candidates are selected by instructors and the Chemistry Honors Committee prior to winter term registration and are invited to take CHM 134 Honors General Chemistry II in the winter term. Students also may apply to the Honors Committee for permission to enroll in an honors course. The department also offers courses in the University Honors Program.

Accreditation: The professional chemistry curriculum offered by the Department of Chemistry is accredited by the American Chemical Society.

Degrees: Bachelor of science and bachelor of arts

Programs of Study:
Major:
Chemistry

Curricula:
Professional chemistry
Professional biochemistry
General biochemistry
Biochemistry/toxicology
Metallurgical chemistry

Minors:
Chemistry
Biochemistry
Pre-professional Programs:
Pre-dentistry
Pre-mortuary science
Pre-pharmacy

Advising for students desiring to pursue a major or curriculum in chemistry is available through either the undergraduate advising coordinator or an adviser identified on the adviser list in the Chemistry Department Office or an area advising coordinator listed below. A handbook for undergraduate chemistry students is available in the department office.

Advising Coordinators:
Undergraduate advising coordinator: Elva Mae Nicholson
Metallurgical chemistry: Giles Carter
Biochemistry: Ronald M. Scott
Biochemistry/toxicology: Michael Brabec
Pre-dentistry (including dental hygiene and dental assisting programs): Ralph R. Powell, John M. Sullivan, Stewart D. Work
Pre-mortuary science and pre-pharmacy: Ralph Powell
Cooperative education in chemistry: Ellene Contis

Graduate study leads to the master’s degree in chemistry. The M.S. degree program is described in the Graduate Catalog.

Major in Chemistry

The chemistry major is appropriate for those who seek a general cultural education with emphasis on chemistry, who are preparing for careers in health fields such as medicine or dentistry, who are planning to teach chemistry in a secondary school or who are interested in a career combining chemistry with fields such as business, patent law, technical writing or industrial health and safety. Students planning to pursue a career as a professional chemist, or who are interested in graduate training in chemistry, should elect the professional chemistry curriculum.

The methods course for those students who plan to teach chemistry at the junior-senior high level is PHY 325 Methods of Teaching the Physical Sciences.

Major in chemistry ................................................................. 30

1. Required courses ............................................................ 25
CHM 121-124 General Chemistry I and II with labs ............. 8
CHM 281 Quantitative Analysis .............................................. 4
CHM 371, 372 Organic Chemistry I and II ............................. 6
CHM 373 Organic Chemistry Laboratory ............................... 2
*CHM 361 Fundamentals of Physical Chemistry ..................... 3
*CHM 362 Physicochemical Measurements ........................... 2

2. Electives ............................................................................. 5
Choose five credits from 300- and 400-level courses in chemistry.

*Prerequisites for these courses include MTH 120 Calculus I and two semesters of college physics, a total of 12-14 semester hours, all of which are required for a chemistry major.
Professional Chemistry Curriculum

This chemistry major provides the necessary background for those planning to become professional chemists. It meets the requirements established by the American Chemical Society. Students successfully completing the curriculum are prepared to undertake graduate study in chemistry. Further work at the graduate level is highly recommended for those who are capable. The program includes a group minor comprised of the required courses in mathematics and physics. No other minor is needed to meet graduation requirements.

For students planning graduate study in chemistry (especially organic chemistry), 10 semester hours or an equivalent reading knowledge of a foreign language, preferably German, are recommended.

*Required courses and electives in science and mathematics are listed below. Additional, basic studies and elective courses totaling 124 semester hours are required to complete a degree.

Sem hours

Science and mathematics .................................................. 68-73

1. Required courses .......................................................... 64
   CHM 121-124 General Chemistry I and II with labs .......... 8
   CHM 281 Quantitative Analysis ...................................... 4
   CHM 371, 372 Organic Chemistry I and II ...................... 6
   CHM 373 Organic Chemistry Laboratory ......................... 2
   CHM 432 Advanced Inorganic Chemistry ......................... 3
   CHM 433 Inorganic-Organic Synthesis Laboratory ............. 2
   CHM 461, 462 Physical Chemistry I and II .................... 6
   CHM 463 Physical Chemistry Laboratory ......................... 2
   CHM 481 Instrumental Analysis .................................... 4
   MTH 120, 121 Calculus I and II ................................... 8
   (Students deficient in high school preparation must take
   MTH 105 College Algebra before entering calculus.)
   MTH 122 Elementary Linear Algebra ................................ 2
   MTH 223 Multivariable Calculus ................................... 4
   MTH 325 Differential Equations .................................... 4
   PHY 223 Mechanics, Sound and Heat ............................... 5
   PHY 224 Electricity and Light ...................................... 5

2. Electives ....................................................................... 4-9
   Choose two advanced courses from the following (at least one must be in the Chemistry Department):

   Chemistry

Mathematics and computer science

CSC 237 Computer Programming and Numeric Methods, CSC 337 Programming Languages, MTH 425 Mathematics for Scientists, other 400-level courses with department permission

Physics

PHY 330 Intermediate Mechanics I, PHY 440 Optics, PHY 450 Electricity and Magnetism, PHY 452 Electrical Measurements, PHY 456 Electronics for Scientists, PHY 460 Heat and Thermodynamics, PHY 471 Nuclear Physics, PHY 475 Introduction to Quantum Mechanics

Professional Biochemistry Curriculum

The professional biochemistry curriculum provides preparation for students anticipating graduate study or a research career in biochemistry. The program includes a group minor comprised of the required courses in biology, mathematics and physics. No other minor is needed to meet graduation requirements.

*Required courses and electives in science and mathematics are listed below. Additional, basic studies and elective courses totaling 124 semester hours are required to complete a degree.

Sem hours

Science and mathematics .................................................... 77

1. Required courses ............................................................ 70
   CHM 121-124 General Chemistry I and II ....................... 8
   CHM 281 Quantitative Analysis ...................................... 4
   CHM 371, 372 Organic Chemistry I and II ...................... 6
   CHM 373 Organic Chemistry Laboratory ......................... 2
   CHM 451, 452 Biochemistry I and II ............................. 6
   CHM 453 Biochemistry Laboratory .................................. 2
   CHM 461, 462 Physical Chemistry I and II .................... 6
   CHM 463 Physical Chemistry Laboratory ......................... 2
   CHM 481 Instrumental Analysis .................................... 4
   MTH 120, 121 Calculus I and II ................................... 8
   MTH 122 Elementary Linear Algebra ................................ 2
   MTH 223 Multivariable Calculus ................................... 4
   MTH 325 Differential Equation and Vector Analysis ........ 3
   PHY 223 Mechanics, Sound and Heat ............................... 5
   PHY 224 Electricity and Light ...................................... 5

2. Electives ....................................................................... 4-9
   Choose one course from the following:

Choose three credits from any courses in biology numbered 300 or above.
General Biochemistry Curriculum

This curriculum is designed for those students with an interest in biochemistry but who require a less extensive background. It may be used for those planning to teach chemistry at the junior-senior high school level and is usually selected by those students in pre-medical and pre-dentistry programs.

The methods course requirements for students in the teaching curriculum may be satisfied by taking PHY 325 Methods of Teaching Physical Sciences.

The program includes a group minor comprised of the required courses in biology, mathematics and physics. No other minor is needed to meet graduation requirements.

*Required courses and electives in science and mathematics are listed below. Additional basic studies and elective courses totaling 124 semester hours are required to complete a degree.

<table>
<thead>
<tr>
<th>Science and mathematics</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Required courses</strong></td>
<td>55-57</td>
</tr>
<tr>
<td>CHM 121-124 General Chemistry I and II with labs</td>
<td>8</td>
</tr>
<tr>
<td>*CHM 270 Organic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>*CHM 271 Organic Chemistry Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>(*Pre-medicine and pre-dentistry students should substitute CHM 371 Organic Chemistry I, CHM 372 Organic Chemistry II, CHM 373 Organic Chemistry Laboratory to satisfy most medical and dental school requirements for organic chemistry.)</td>
<td></td>
</tr>
<tr>
<td>CHM 281 Quantitative Analysis</td>
<td>4</td>
</tr>
<tr>
<td>CHM 361 Fundamentals of Physical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM 362 Physical Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHM 451, 452 Biochemistry I and II</td>
<td>6</td>
</tr>
<tr>
<td>CHM 453 Biochemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>BOT 221 General Botany or ZOO 222 General Zoology</td>
<td>4</td>
</tr>
<tr>
<td>BIO 301 Genetics</td>
<td>3</td>
</tr>
<tr>
<td>MTH 120 Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>PHY 221 or PHY 223 Mechanics, Sound and Heat</td>
<td>4-5</td>
</tr>
<tr>
<td>PHY 222 or PHY 224 Electricity and Light</td>
<td>4-5</td>
</tr>
<tr>
<td><strong>2. Electives</strong></td>
<td>5</td>
</tr>
<tr>
<td>Choose five credits from any biology courses numbered 300 or above.</td>
<td></td>
</tr>
</tbody>
</table>

Biochemistry/Toxicology Curriculum

The biochemistry/toxicology curriculum is designed to prepare students for employment in laboratories doing toxicology testing in such fields as pharmaceutical chemistry, environmental studies, occupational health and safety, and forensic toxicology. This curriculum also provides preparation for students anticipating graduate study and a research career in toxicology and pharmacology-related fields. Included in the required courses is a group minor of biology, mathematics and physics. No other minor is needed to meet graduation requirements.

*Required courses and electives in science and mathematics are listed below. Additional basic studies and elective courses totaling 124 semester hours are required to complete a degree.

<table>
<thead>
<tr>
<th>Science and mathematics</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Chemistry courses</strong></td>
<td>40</td>
</tr>
<tr>
<td>Required chemistry courses</td>
<td>32</td>
</tr>
<tr>
<td>CHM 121-124 General Chemistry I and II</td>
<td>8</td>
</tr>
<tr>
<td>CHM 281 Quantitative Analysis</td>
<td>4</td>
</tr>
<tr>
<td>CHM 270, 271 Organic Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>CHM 241 Materials Science</td>
<td>3</td>
</tr>
<tr>
<td>CHM 242 Materials Science Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>CHM 341 Principles of Metallurgy</td>
<td>3</td>
</tr>
<tr>
<td>CHM 342 Experimental Metallurgy</td>
<td>1</td>
</tr>
<tr>
<td>CHM 361 Fundamentals of Physical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM 362 Physical Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHM 381 Instrumentation for Chemical Technology</td>
<td>2</td>
</tr>
<tr>
<td>Chemistry electives</td>
<td>10</td>
</tr>
</tbody>
</table>
Select ten hours from the following:
- CHM 232 Inorganic Chemistry ........................................ 2
- CHM 340 Introduction to Industrial Chemistry .............. 3
- CHM 415 Environmental Chemistry or
- CHM 411 Toxicology I .............................................. 3-2
- CHM 480 Computer/Instrument Interfacing .................... 2
- CHM 487, 488, 489 Cooperative Education in Chemistry ............................................................... 1, 2, 3

2. Required cognate courses ........................................ 26
- CSC 137 Introduction to Computer Programming ............ 3
- IT 122 Technical Drawing ........................................ 3
- IT 123 Metal Processes ............................................ 3
- IT 215 Machine Tool Metalworking ................................ 3
- MTH 120 Calculus I .................................................. 4
- MTH 122 Elementary Linear Algebra ............................ 2
- PHY 221 Mechanics, Sound and Heat ............................ 4
- PHY 222 Electricity and Light .................................... 4

3. Electives ............................................................. 2

Recommended electives:
- ACC 240 Principles of Accounting
- CSC 238 Topics in Computer Science
- ECO 201, 202 Principles of Economics I and II, ECO 310
- MGT 386 Organization Theory and Development
- MKT 360 Principles of Marketing
- MTH 121 Calculus II
- ORI 265 Business Statistics
- PHY 229 Strength and Elasticity of Materials

Minors Offered in the Department of Chemistry

Chemistry Minor

Sem hours
Minor in chemistry ..................................................... 20

1. Required courses .................................................. 13-16
- CHM 121, 123 General Chemistry I and II with labs ........ 6
- CHM 122, 124 General Chemistry I and II Laboratory ........ 2

Either:
- CHM 270 Organic Chemistry and ................................ 4
- CHM 270 Organic Chemistry Laboratory ........................ 1

or:
- CHM 371, 372 Organic Chemistry I and II, and .............. 6
- CHM 373 Organic Chemistry Laboratory ........................ 2

2. Electives ............................................................. 4-7

Choose from courses numbered above 200 in chemistry

North Central Association requirements specify that students seeking to teach this minor at the junior-senior high school level take an additional four semester hours of science (24 semester hours). The methods course, PHY 325 Methods of Teaching the Physical Sciences, may be included in that total.

Biochemistry Minor

Sem hours
Minor in biochemistry ................................................... 22

Required courses ....................................................... 22
- CHM 121-124 General Chemistry I and II with labs ........ 8
- CHM 270 Organic Chemistry ........................................ 4
- CHM 271 Organic Chemistry Laboratory ........................ 1
- CHM 281 Quantitative Analysis .................................... 4
- CHM 351 Introductory Biochemistry ............................ 3
- CHM 453 Biochemistry Laboratory ................................ 2

(The CHM 451, 452 Biochemistry I and II sequence may be substituted for CHM 351 Introductory Biochemistry if a stronger background is desired.)

An additional two semester hours of sciences (cognates) must be completed to meet North Central Association requirements (24 semester hours) for teaching a chemistry minor at the junior-senior high school level. The methods course, PHY 325 Methods of Teaching the Physical Sciences, may be included in that total.

Pre-Professional Programs

Pre-Dentistry

Most students select either a chemistry major and biology minor or a biology major and chemistry minor as preparation for admission to dental school. The exact requirements for a particular dental school can be found in the publication Admission Requirements of U.S. and Canadian Dental Schools, available in the advising coordinator's office.

The majority of pre-dental students complete four years of undergraduate work, earning a B.S. degree. It is recommended that alternative career plans be a part of every pre-dental student's program.

Students seeking admission to dental school take the Dental Aptitude Test, usually late in the junior year or early in the senior year. Application is generally made between August and December for the class beginning the following fall. A central agency, the American Association of Dental Schools Application Service, is utilized by virtually all dental schools.

Science and mathematics courses required for admission into most dental schools are listed below. Careful scheduling will allow the student to complete these courses in three years.

Recommended courses:
- CHM 121-124 General Chemistry I and II with labs, CHM 371, 372, 373 Organic Chemistry I and II and lab
- BIO 105 Biology and the Human Species
- MTH 105 College Algebra, MTH 107 Plane Trigonometry (if not taken in high school)
- PHY 221 Mechanics, Sound and Heat, PHY 222 Electricity and Light
- ZOO 222 General Zoology, ZOO 431 Comparative Anatomy of Vertebrates
Dental Hygiene and Dental Assisting

Eastern Michigan University offers no degrees or certificates in these areas. Two-year certificates and four-year degree programs are available at the University of Michigan, Ferris State University and the University of Detroit. Two-year programs also are available at numerous community colleges.

Students interested in these programs should plan on transferring after completing their freshman year at EMU. Liberal arts preparation in English composition, speech, chemistry (CHM 119 Fundamentals of Chemistry), psychology, sociology and political science, plus electives in social science, natural science and humanities, generally will be transferable. More specific descriptions of requirements should be obtained by writing to the schools in question since requirements vary from school to school. Catalogs and brochures also are available from the advising coordinator.

Pre-Mortuary Science

The pre-mortuary science program requires two academic years. Before entering the professional mortuary school, the student must complete at least 60 semester hours of college work that includes the following science and mathematics courses:

CHM 121-124 General Chemistry I and II with labs
BIO 105 Biology and the Human Species
MTH 104 Intermediate Algebra or other mathematics elective
PSY 101 General Psychology

The Board of Examiners in Mortuary Science recommends use of some elective hours for courses in the following areas, with suggested appropriate courses in parentheses:

Behavioral sciences (PSY 225 Psychology of Religion, PSY 323 Psychology of Human Aging; SOC 105 Introductory Sociology; SOC 311 Social Gerontology)
Business (LAW 214 Consumer Law, LAW 293 Legal Environment of Business, LAW 408 Administrative Law; ACC 240 Principles of Accounting; ECO 200 The American Economy, ECO 201 Principles of Economics I; MKT 360 Principles of Marketing, MKT 363 Retailing)
Counseling (G&C 405 Basic Guidance Concepts and Processes, with permission)
First aid (HED 210 Standard American Red Cross First Aid)
Public speaking (CTA 121 or 124 Fundamentals of Speech, CTA 225 Listening Behavior, CTA 226 Non-Verbal Communication, CTA 227 Interpersonal Communication)

Pre-Pharmacy

Two years of college work (60 transferable semester hours, including the courses listed below) will admit students to a professional school of pharmacy. If the student desires to continue in graduate school and research, his or her coursework should include German and French.

Although some have been lengthened to five, most professional courses require three full years of study (the "six semester rule") regardless of the number of years preceding entry. A total of four to six years is required for the degree in pharmacy.

It is suggested that eight hours of electives be chosen from economics, history, mathematics, psychology and political science.

Recommended courses:
CHM 121-124 General Chemistry I and II with labs
CHM 371, 372, 373 Organic Chemistry
BIO 105 Biology and the Human Species
BOT 221 General Botany
ZOO 222 General Zoology
PHY 221 Mechanics, Sound and Heat and PHY 222 Electricity and Light
MTH 120 Calculus I
ENG 120/121 English Composition plus two social science courses and two humanities courses (two foreign language courses may be substituted for the humanities courses).

Chemistry Courses

CHM 101 Science for Elementary Teachers.

Three sem hours
Designed for students who plan to teach in elementary school. Lectures deal with some basic principles of chemistry while the laboratory work emphasizes the discovery approach as it may be used in an elementary classroom. Simple equipment and easily obtained chemicals are used in the experiments. Lecture: one hour per week. Laboratory: four hours per week.
Prereq: PHY 100 Science for Elementary Teachers.

CHM 105 Survey of Chemistry.

Five sem hours
A survey course for non-science majors covering inorganic, organic and biological chemistry with special emphasis on nutritional, textile and household applications. No credit for both CHM 105 and CHM 119 Fundamentals of Chemistry or CHM 120 Fundamentals of Organic and Biochemistry. Lecture: three hours per week. Laboratory: four hours per week.

CHM 115 Chemistry and Society.

Three sem hours
Examines the relevance of chemistry to the problem of man's relationship to his environment. It is designed for humanities and other non-science majors. No previous mathematics or chemistry is required. CHM 116 Chemistry and Society Laboratory may be taken concurrently to satisfy the laboratory science requirement. Does not count on major or minor.

CHM 116 Chemistry and Society Laboratory.

One sem hour
Laboratory experiments based on environmental problems such as water and air pollution, drugs and pesticides. The laboratory may be taken concurrently with CHM 115 Chemistry and Society to satisfy the science requirement. Laboratory: two hours per week.
Coreq: CHM 115 Chemistry and Society.

CHM 119 Fundamentals of Chemistry.

Four sem hours
A study of the basic principles of general chemistry, designed for students who have had no prior chemistry. This course may be used to satisfy the chemistry prerequisite for CHM 121 General Chem-
CHM 120 Fundamentals of Organic and Biochemistry. Four sem hours
A survey of organic chemistry and biochemistry; completes the study of chemistry begun in CHM 119 Fundamentals of Chemistry and is a terminal course. Lecture: three hours per week. Laboratory: 17 hours per week.
Prereq: CHM 119 Fundamentals of Chemistry or one year of high school chemistry. MTH 104 Intermediate Algebra or one year of high school algebra.

CHM 121 General Chemistry I. Three sem hours
The first semester sequence covering the general principles of chemistry for science majors and others with an interest and background in science. Lecture: three hours per week. Laboratory: three hours per week.
Prereq: High school chemistry or CHM 119 Fundamentals of Chemistry; two years of high school algebra or MTH 105 College Algebra.
Coreq: CHM 122 General Chemistry I Laboratory.

CHM 122 General Chemistry I Laboratory. One sem hour
The laboratory class to accompany CHM 121 General Chemistry I Lecture. Students learn the basic techniques employed in a chemistry laboratory, including the use of analytical balances, quantitative glassware, spectrophotometry, and pH measurement. Laboratory: three hours per week.
Coreq: CHM 121 General Chemistry I.

CHM 123 General Chemistry II. Four sem hours
A continuation of the two semester sequence covering the general principles of chemistry for science majors and others with an interest and background in science. Lecture: three hours per week. Prereq: CHM 121 General Chemistry I and CHM 122 General Chemistry I Laboratory.
Coreq: CHM 124 General Chemistry II Laboratory.

CHM 124 General Chemistry II Laboratory. One sem hour
The techniques learned in CHM 122 are reemphasized and supplemented. Prereq: CHM 121 General Chemistry I and CHM 122 General Chemistry I Laboratory.
Coreq: CHM 123 General Chemistry II.

CHM 134 Honors General Chemistry II. Four sem hours
A continuation of CHM 121, 122 General Chemistry for students of superior ability. The sequence of CHM 121, 122 can constitute the customary year of general chemistry. Lecture: three hours per week. Laboratory: three hours per week.
Prereq: CHM 121, 122 General Chemistry I and lab, and consent of Honors Committee.

CHM 177, 178, 179 Special Topics in Chemistry. One, two, three sem hours
Covers specific chemical topics not discussed in any regular introductory chemistry course. Prereq: Department permission.

CHM 232 Inorganic Chemistry. Two sem hours
Descriptive inorganic chemistry; properties and reactions of the elements and their compounds are correlated with the periodic table, atomic structures and basic chemical principles. Lecture: two hours per week.
Prereq: CHM 123, 124 General Chemistry II and lab.

CHM 241 Materials Science. Three sem hours
Considers the relation of composition and structure to properties of materials: metals, plastics, ceramics, glass and composites. Lecture: three hours per week.
Prereq: CHM 123, 124 General Chemistry II and lab. PHY 221 or PHY 223 Mechanics, Sound and Heat.

CHM 242 Materials Science Laboratory. One sem hour
Measurement of mechanical properties and investigation of crystal structures, microstructures, imperfections and transformations (solidification, recrystallization, solid phase changes and corrosion) of materials.
Coreq: CHM 241 Materials Science.

CHM 270 Organic Chemistry. Four sem hours
A comprehensive one-semester survey course in organic chemistry intended primarily for chemistry minors. Includes aliphatic and aromatic compounds plus functional group chemistry. Chemistry majors and other students requiring a full year sequence of organic chemistry should enroll in CHM 371 and 372 Organic Chemistry. Lecture: four hours per week.
Prereq: CHM 123, 124 General Chemistry II and lab.

CHM 271 Organic Chemistry Laboratory. One sem hour
Instruction in the basic manipulative techniques of experimental organic chemistry and experience with organic chemicals. Laboratory: one three-hour period per week.
Prereq. or Coreq: CHM 270 Organic Chemistry.

CHM 277, 278, 279 Special Topics in Chemistry. One, two, three sem hours
Covers specific chemical topics not discussed in any regular chemistry course at this level.
Prereq: One 100-level chemistry course and department permission.

CHM 281 Quantitative Analysis. Four sem hours
A lecture and laboratory course treating instrumental, gravimetric and volumetric analysis and equilibrium. Lecture: two hours per week. Laboratory: six hours per week.
Prereq: CHM 123, 124 General Chemistry II and lab, or CHM 134 Honors General Chemistry II.

CHM 282 Honors Quantitative Analysis. Four sem hours
A lecture and laboratory course treating instrumental, trace, separation, and characterization techniques. Lecture: two hours per week. Laboratory: six hours per week.
Prereq: CHM 123, 124 General Chemistry II and lab or CHM 134 Honors General Chemistry II and consent of Honors Committee.

CHM 287, 288, 289 Cooperative Education in Chemistry. One, two, three sem hours
Full- or part-time employment at an industrial, federal or state agency chemistry laboratory providing an applied experience in
chemistry. Amount of credit granted determined by the nature of job responsibilities and/or duration of placement. Credit/no-credit. For sophomore level students. No credit granted toward chemistry degree programs, except with departmental permission.

**CHM 297 Undergraduate Research in Chemistry.** One sem hour
An independent, original endeavor involving laboratory and/or library study under the guidance of a chemistry faculty member. A formal written report is required at the end of the semester. *Prereq: Department permission.*

**CHM 311 Introduction to Food Toxicology.** One sem hour
Introduction to the terminology and methods of toxicology with special emphasis on food and nutritional toxicology. The regulatory role of the federal/state government in this area also will be examined. Intended for students in dietetics and foods/nutrition chemistry programs. Cannot be applied toward chemistry majors program. *Prereq: A course in organic chemistry.*

**CHM 340 Introduction to Industrial Chemistry.** Three sem hours
Discussion of the important aspects of the manufacture and chemistry of the major organic and inorganic chemicals and their use through commercially available products such as polymers. Includes environmental and economic aspects of industry. *Prereq: CHM 123, 124 General Chemistry II and lab, CHM 270 Organic Chemistry or equivalent.*

**CHM 341 Principles of Metallurgy.** Three sem hours
Covers the winning and refining, structure, diffusion, heat treatment, hardening and corrosion of metals. *Prereq: CHM 123, 124 General Chemistry II and lab.*

**CHM 342 Experimental Metallurgy.** One sem hour
Laboratory activity in metallography, testing of physical properties, treatment, finishing and analysis of metals and alloys. Laboratory: three hours per week. *Prereq: CHM 242 Materials Science Laboratory or CHM 341 Principles of Metallurgy as prereq. or coreq.*

**CHM 351 Introductory Biochemistry.** Three sem hours
A lecture course primarily for medical technology and dietetics students dealing with the structure, function and metabolism of biologically significant compounds and the chemistry of physiological processes. Not open to those with credit in CHM 451 Biochemistry I. Lecture: three hours per week. *Prereq: CHM 270 Organic Chemistry or equivalent.*

**CHM 361 Fundamentals of Physical Chemistry.** Three sem hours
An introduction to the principles of physical chemistry, i.e., thermodynamics, kinetics and quantum theory. Students preparing for graduate work in chemistry or biochemistry should take the CHM 461-2 sequence. Lecture: three hours per week. *Prereq: CHM 123, 124 General Chemistry II and lab, MTH 120 Calculus I and one year of college physics.*

**CHM 362 Physical Chemistry Laboratory.** Two sem hours
Laboratory experiments chosen to illustrate physical measurements in the areas of thermodynamics, kinetics, and quantum mechanics. Scientific report writing emphasized. Laboratory: four hours per week. *Prereq: CHM 281 Quantitative Analysis. Coreq: CHM 361 Fundamentals of Physical Chemistry.*

**CHM 371 Organic Chemistry I.** Three sem hours
The first semester sequence covering the general principles of organic chemistry for students specializing in science and those preparing for dentistry or medicine. Lecture: three hours per week. Not open to those with credit in CHM 270 Organic Chemistry. *Prereq: CHM 123, 124 General Chemistry II and lab.*

**CHM 372 Organic Chemistry II.** Three sem hours

**CHM 373 Organic Chemistry Laboratory.** Two sem hours
Covers the basic techniques involved in organic chemistry. Laboratory: six hours per week. *Prereq. or coreq: CHM 372 Organic Chemistry II.*

**CHM 376 Honors Organic Chemistry Laboratory.** Two sem hours
A laboratory course including the manipulative skills and techniques of organic chemistry and use of modern instrumentation. Includes, in addition to modern synthesis and reactions, introductory qualitative organic analysis. Laboratory: six hours per week. Open only to those admitted to the Chemistry Honors Program. *Prereq: CHM 371 Organic Chemistry I. Coreq: CHM 372 Organic Chemistry II.*

**CHM 377, 378, 379 Special Topics in Chemistry.** One, two, three sem hours
Covers specific chemical topics not discussed in any regular chemistry course at this level. *Prereq: Department permission.*

**CHM 381 Instrumentation for Chemical Technology.** Two sem hours
A lecture and laboratory course that surveys various types of analytical instrumentation and their uses in chemical industry. Lecture: one hour per week. Laboratory: three hours per week. *Prereq: CHM 281 Quantitative Analysis, CHM 270 Organic Chemistry and CHM 271 Organic Chemistry Laboratory or equivalent.*

**CHM 387, 388, 389 Cooperative Education in Chemistry.** One, two, three sem hours
Full- or part-time employment at an industrial, federal or state agency chemistry laboratory providing an applied experience in chemistry. Amount of credit granted determined by the nature of job responsibilities and/or duration of placement. Credit/no-credit. For junior-level students. No credit granted toward chemistry degree programs, except with departmental permission.
CHM 397 Undergraduate Research in Chemistry. 
One sem hour
An independent, original endeavor involving laboratory and/or library study, under the guidance of a chemistry faculty member. A formal written report is required at the end of the semester.
Prereq: Department permission.

CHM 411 Toxicology I. 
Two sem hours
An introduction to the principles and methods of toxicology. Special cases of toxic response including carcinogenesis, teratogenesis and mutagenesis, and the effects of radiation are discussed.
Prereq: CHM 270 Organic Chemistry or equivalent and CHM 371, 372 Organic Chemistry I and II or equivalent.

CHM 412 Toxicology II. 
Two sem hours
Discussion of the metabolism of toxicants and their effect on specific organ systems; specific classes of toxicants and legal aspects of toxicology.
Prereq: CHM 411 Toxicology I, biochemistry recommended.

CHM 413 Toxicology Laboratory. 
Two sem hours
A lecture laboratory covering the techniques employed in a toxicology laboratory including methods of calculation, interpretation and presentation of experimental data. The theory and practical aspects of toxicological procedures will be discussed.
Prereq: An organic chemistry laboratory and CHM 282 Quantitative Analysis recommended.

CHM 414 Regulatory Toxicology. 
Two sem hours
This lecture course reviews the major environmental laws, building a framework for understanding their intent and application.
Prereq: CHM 270 Organic Chemistry or CHM 371, 372 Organic Chemistry I and II or equivalent.

CHM 415 Environmental Chemistry. 
Three sem hours
A survey of environmental and energy-related problems and the ways in which chemistry may be applied to them. Important topics include air and water pollution, energy and other resources, solid wastes and recycling, and toxic chemicals.
Prereq: CHM 123, 124 General Chemistry II and lab. A course in organic chemistry and/or quantitative analysis is also recommended.

CHM 423 Advanced Inorganic Chemistry. 
Three sem hours
An advanced level treatment of the newer inorganic chemical developments, with emphasis on theoretical advances in the interpretation of bonding and reactivity of inorganic compounds. Lecture: three hours per week.
Prereq: CHM 461 Physical Chemistry I or department permission; CHM 232 Inorganic Chemistry is also recommended.

CHM 433 Inorganic-Organic Synthesis Laboratory. 
Two sem hours
Covers advanced preparative and analytical techniques of inorganic and organic chemistry including extensive use of IR, NMR, UV-visible and other instruments. Laboratory: six hours per week.
Prereq: CHM 281 Quantitative Analysis and CHM 373 Organic Chemistry Laboratory.

CHM 451 Biochemistry I. 
Three sem hours
Chemistry of biologically important substances such as proteins, nucleic acids, carbohydrates and lipids. Enzyme chemistry is introduced. Lecture: three hours per week.
Prereq: CHM 270 Organic Chemistry or equivalent and CHM 123, 124 General Chemistry II and lab.

CHM 452 Biochemistry II. 
Three sem hours
Continues the survey of biochemistry begun in CHM 451 Biochemistry. Considers the dynamic aspects of biochemistry, especially metabolism, biosynthesis and regulation. Lecture: three hours per week.
Prereq: CHM 451 Biochemistry I.

CHM 453 Biochemistry Laboratory. 
Two sem hours
Emphasis on the special analytical techniques employed by biochemists such as chromatography, electrophoresis, fluorimetry, spectrophotometry, and laboratory report writing. Laboratory: four hours per week.
Prereq: CHM 271 Organic Chemistry Laboratory or equivalent and CHM 281 Quantitative Analysis is also recommended. Coreq: CHM 351 Introductory Biochemistry or CHM 451 Biochemistry.

CHM 461 Physical Chemistry I. 
Three sem hours
Principles of thermodynamics, kinetics and atomic and molecular structure. Lecture: three hours per week.
Prereq: CHM 123, 124 General Chemistry II and lab, one year of calculus-based college physics (PHY 223 and 224) and MTH 223 Multivariable Calculus.

CHM 462 Physical Chemistry II. 
Three sem hours
Continuation of CHM 461 Physical Chemistry I. Lecture: three hours per week.
Prereq: CHM 461 Physical Chemistry I and MTH 325 Differential Equations.

CHM 463 Physical Chemistry Laboratory. 
Two sem hours
Determination of the physical properties of substances, rate studies and measurement of thermochemical and electrical properties. Emphasis on scientific report writing. Laboratory: six hours per week.
Prereq: CHM 281 Quantitative Analysis and CHM 461 Physical Chemistry I.
Coreq: CHM 462 Physical Chemistry II.

CHM 475 Introduction to Polymer Chemistry. 
Three sem hours
An emphasis on the organic chemistry involved in the preparation of synthetic high polymers. Topics include: chain-growth vinyl polymers, step-growth polymerization, co-polymerization, cationic and anionic polymerization and complex co-ordination catalysts.
Prereq: CHM 123, 124 General Chemistry II and lab, CHM 270 Organic Chemistry, or CHM 371, 372 Organic Chemistry I and II or equivalent.

CHM 477, 478, 479 Special Topics in Chemistry. 
One, two, three sem hours
Covers specific chemical topics not discussed in any regular chemistry courses at this level.
Prereq: Department permission.
CHM 480 Computer/Instrument Interfacing. Two sem hours
Introduction to the techniques of interfacing the microcomputer to various laboratory analytical instruments. Lecture: one hour per week. Laboratory: three hours per week.
Prereq: CHM 281 Quantitative Analysis, CHM 381 Instrumentation for Chemical Technology or CHM 481 Instrumental Analysis or department permission.

CHM 481 Instrumental Analysis. Four sem hours
Theory and practice of chemical analysis and measurements and data processing by instrumental methods. Lecture: two hours per week. Laboratory: six hours per week.
Prereq: CHM 281 Quantitative Analysis, CHM 461 Physical Chemistry I, CHM 462 Physical Chemistry II, and CHM 463 Physical Chemistry Laboratory.

CHM 485 Radioisotope Techniques in Chemistry and Biology. Three sem hours
Principles and practices of radiation safety, measurement of radioactivity with various detectors and laboratory techniques of handling radioactivity. Lecture: three hours per week. Laboratory: two hours per week.
Prereq: CHM 123, 124 General Chemistry II and lab and one science laboratory course above the introductory level, or department permission.

CHM 487, 488, 489 Cooperative Education in Chemistry. One, two, three sem hours
Full- or part-time employment at an industrial, federal or state agency chemistry laboratory providing an applied experience in chemistry. Amount of credit granted determined by the nature of job responsibilities and/or duration of placement. Credit/no-credit. For senior-level students.

CHM 498, 499 Undergraduate Research in Chemistry. Two, three sem hours
Independent, original endeavors involving extensive library and/or laboratory study, under the guidance of a chemistry faculty member. A formal written report is required at the end of the semester.
Prereq: Department permission.

The following graduate level chemistry courses are open to senior chemistry students:

CHM 510 Computer Applications in Chemistry
CHM 511 Introduction to Industrial Hygiene
CHM 515 Industrial and Environmental Chemistry
CHM 533 Enzymology
CHM 555 Neurochemistry
CHM 561 Quantum Chemistry and Spectroscopy
CHM 562 Statistical Mechanics and Chemical Kinetics
CHM 564 Physical-Chemical Characterization of Polymers
CHM 565 Nuclear Chemistry
CHM 571 Advanced Organic Chemistry
CHM 572 Spectrometric Organic Structure Determination
CHM 573 Qualitative Organic Chemistry Laboratory
CHM 574 Advanced Organic Chemistry Topics
CHM 590, 591, 592 Special Topics on Chemistry
Please see Graduate Catalog for course descriptions.

COMMUNICATION AND THEATRE ARTS
Office: 124 Quirk Building

Department Head: Dennis M. Beagen
Associate Professors: Lucy A. Liggett, William V. Swisher, Arthur J. Yahmmer, Patricia M. Zimmer
Assistant Professors: Geoffrey Hammill, Marvin Sims, Karen Smith
Instructor: Michael Tew

The Department of Communication and Theatre Arts provides students with communication and performance skills fundamental to careers in broadcasting, theatre, teaching, public relations, sales and such related professions as law and the ministry. Communication theory and practice are explored in various course offerings in interpersonal, small group, organizational and public communication. Production and performance theories and techniques emphasized in telecommunications and film studies are enhanced by practical experiences at two campus radio stations—WEMU-FM and WQBR, in closed-circuit TV studios and through internships and co-ops in the professional field. The arts management and communication technology curricula require business studies in addition to aesthetic and pragmatic communication skills. All the department's programs, including forensics, interpretation, theatre arts and dramatic productions for the young, provide students with opportunities for developing such personal qualities as creativity, leadership, self-expression and social responsibility.

Degrees: Bachelor of science and bachelor of arts

Programs of Study

Majors and Curricula:

- Arts management curriculum
- Communication (Options: interpersonal communication, organizational communication, speech communication)
- Communication technology curriculum (with the Department of Interdisciplinary Technology, College of Technology)
- Comprehensive major in communication and theatre arts
  (Areas of concentration: communication, oral interpretation, speech improvement, telecommunications and film, theatre arts, drama/theatre for the young)
- Telecommunications and film
- Theatre arts
- Interdisciplinary major in literature and drama/theatre for the young

Minors:

- Communication
- Communication for elementary and special education
- Comprehensive minor in communication and theatre arts
- Drama/theatre for the young
- Musical theatre
- Telecommunications and film
- Theatre arts
Advising is by assignment to a personal adviser who shares the student's interests and objectives. Coordinators listed below should be consulted by each prospective major or minor student.

**Advising Coordinators:**
- Arts management curriculum: Kenneth Stevens
- Communication major and minor: Gary Evans
- Communication minor for elementary and secondary education: Willie B. Morgan
- Communication technology curriculum: Willie B. Morgan
- Comprehensive major and minor in communication and theatre arts: Arthur Yahrmatter
- Drama/theatre for the young minor: Patricia Zimmer
- Musical theatre minor: Kenneth Stevens
- Telecommunications and film major and minor: Lucy Liggett

The arts manager is the development and secondary education: Willie B. Morgan

Graduate study leads to a master of arts in communication; a master of arts in drama/theater for the young or a master of fine arts in drama/theater for the young; and a master of arts in theater arts. For descriptions of graduate courses and programs in the Communication and Theatre Arts Department, consult the Graduate Catalog.

**Arts Management Curriculum**

The Arts Management curriculum provides career training and practical experience for those who have a passion for the arts and whose talents are in the field of administration and/or promotion. The arts manager not only must develop a variety of managing skills but also must maintain a high degree of sensitivity to aesthetics.

Students are provided a broad background in all the arts with the opportunity to study a specific art in more depth. In addition, each student gains vital practical experience working in the arts during internships on the university campus and in an approved off-campus professional theatre or arts institution.

Combined with the training in the arts is the development of skills in accounting, advertising, personnel management, labor relations and various other areas of business through a program of study in management and marketing. Graduates are equipped to enter the arts management field or to pursue further study in arts administration.

Because the arts management field is relatively new and changing rapidly, it is to the student's advantage to maintain regular contact with an adviser during the entire course of the program to avoid unnecessary difficulties before and after completion of the program. Arts institutions vary in their personnel needs.

EMU's arts management curriculum is divided into four sections as follows: basic studies requirements, arts management major, a management of marketing minor (see College of Business) and two internships.

<table>
<thead>
<tr>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic major in arts management</td>
</tr>
<tr>
<td>1. Required courses</td>
</tr>
<tr>
<td>Arts fundamentals</td>
</tr>
<tr>
<td>CTA 150 Introduction to Theatre</td>
</tr>
<tr>
<td>CTA 155 Play Production</td>
</tr>
<tr>
<td>FA 107, 108 Art History Survey I and II</td>
</tr>
<tr>
<td>MUS 107 Music Appreciation</td>
</tr>
<tr>
<td>PEG 161 Modern Dance</td>
</tr>
<tr>
<td>Media and arts management</td>
</tr>
<tr>
<td>CTA 334 Radio-Television News</td>
</tr>
<tr>
<td>CTA 452 Arts Management</td>
</tr>
<tr>
<td>JRN 215 Journalism</td>
</tr>
<tr>
<td>2. Restricted electives</td>
</tr>
<tr>
<td>Choose one course from each of the following areas: academic dance, art, music, theatre</td>
</tr>
<tr>
<td>3. Recommended electives</td>
</tr>
<tr>
<td>DAN 350 History of Dance</td>
</tr>
<tr>
<td>IED 12 Graphic Communication</td>
</tr>
<tr>
<td>A course in technical theatre</td>
</tr>
<tr>
<td>Minor in management or marketing</td>
</tr>
<tr>
<td>To be chosen in consultation with the arts management advising coordinator.</td>
</tr>
</tbody>
</table>

**Internships**

Two are required for this major: a one-semester on-campus internship and a one-semester practicum with an approved off-campus arts institution. Application procedures and minimum requirements for credit should be obtained from the advising coordinator not later than the first semester of the junior year.

On-campus internships are approved part-time work as a member of the management staff of such EMU arts institutions as the Ford Gallery or EMU Dancers.

Practicums are available to the junior-senior level student who has a minimum GPA of 2.5 in the arts management curriculum.

**Major in Communication**

The major in communication requires 36 semester hours and offers three options: interpersonal communication, organizational communication and speech communication. A minor in communication also is available.

<table>
<thead>
<tr>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic major in communication</td>
</tr>
<tr>
<td>1. Required courses</td>
</tr>
<tr>
<td>Foundation level</td>
</tr>
<tr>
<td>CTA 121 or 124 Fundamentals of Speech</td>
</tr>
<tr>
<td>Choose two courses from the following:</td>
</tr>
<tr>
<td>CTA 224 Public Speaking, CTA 225 Listening Behavior, CTA 227 Interpersonal Communication</td>
</tr>
<tr>
<td>Intermediate level</td>
</tr>
<tr>
<td>Choose two courses from the following:</td>
</tr>
<tr>
<td>CTA 350 Persuasion, CTA 354 Organizational Communication, CTA 356 Argumentation and Debate, CTA 359 Small Group Communication</td>
</tr>
<tr>
<td>Advanced level</td>
</tr>
<tr>
<td>Choose two courses from the following:</td>
</tr>
<tr>
<td>CTA 440 Survey of Public Address, CTA 440 Theory of Speech Criticism, CTA 475 Research in Speech Communication, CTA 485 Theories of Speech Communication Behavior</td>
</tr>
<tr>
<td>2. Major option</td>
</tr>
<tr>
<td>Choose one of three options below in consultation with the advising coordinator</td>
</tr>
<tr>
<td>3. Electives</td>
</tr>
<tr>
<td>Choose from communication and theatre arts courses</td>
</tr>
</tbody>
</table>
Choose 12-16 additional credits from the following:

- Speech communication option ........................................ 12-16
- Organizational communication option .......................... 12-16

Substitution options:

With department permission, 10 semester hours of course work in telecommunications or oral interpretation may be substituted to fulfill the credit requirement for the major option in speech communication.

Communication Technology Curriculum

Communication technology is a joint program offered by the Department of Communication and Theatre Arts and the Department of Interdisciplinary Technology. This curriculum is designed to provide the background for graduates who seek employment as managers in communication-based industries. The program emphasis is on business, manufacturing, media, computer and communication skills adaptable to today's communication technology industries and business organizations.

Sem hours

**Communication Major Options**

**Sem hours**

<table>
<thead>
<tr>
<th>Interpersonal communication option ........................................ 12-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choose 12-16 additional credits from the following:</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Organizational communication option ........................................ 12-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choose 12-16 additional credits from the following:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Speech communication option ........................................ 12-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choose 12-16 additional credits from the following:</td>
</tr>
</tbody>
</table>

Substitution options:

With department permission, 10 semester hours of course work in telecommunications or oral interpretation may be substituted to fulfill the credit requirement for the major option in speech communication.

**Telecommunications** ........................................ 11

1. Required courses ........................................ 7
   - CTA 130 Introduction to Telecommunications and Film .... 3
   - CTA 131 Introduction to Audio Production and Direction ... 2
   - CTA 132 Introduction to Video Production and Direction ... 2

2. Electives ........................................ 4

Choose one course from the following:


**Oral interpretation** ........................................ 10

1. Required course ........................................ 3
   - CTA 210 Interpretative Reading .................................. 3

2. Electives ........................................ 7

Choose one course from the following:

- CTA 311 Interpretation of Prose, CTA 314 Interpretation of Drama, CTA 412 Oral Interpretation of Poetry

Choose either CTA 411 Advanced Problems in Interpretation or CTA 414 Development and Theory of Oral Interpretation

One semester hour of credit in an oral interpretation activity course

**Academic major in communication technology** ............... 63

- **Communication theory and practice** ................................ 3
  - CTA 227 Interpersonal Communication ................................ 3
  - CTA 354 Organizational Communication ................................ 3

- **Media production** ........................................ 3
  - CTA 130 Introduction to Telecommunications and Film .... 3
  - CTA 141 Introduction to Radio-TV-Film Production ........ 3
  - CTA 331 Fundamentals of Radio Production and Direction or CTA 332 Fundamentals of Television Production and Direction ........................................ 3

- **Business and investment skills** ................................ 3
  - MKT 360 Principles of Marketing .................................. 3
  - OR 1265 Business Statistics I .................................... 3

- **Management skills** ........................................ 3
  - ACC 240 Principles of Accounting ................................ 3
  - MGT 202 Business Communications ................................ 3

- **Industrial technology** ........................................ 3
  - IDT 121 Graphic Communication .................................. 3
  - IDT 231 Industrial Computer Graphics ........................... 3
  - IDT 387 Cooperative Education in Interdisciplinary Technology ........................................ 3

- **Transmission systems** ........................................ 3
  - IT 200 Industrial Electricity ..................................... 3
Computer technology
- CSC 238 Topics in Computer Science .........................3
- CSC 239 Assembly and Machine Language Programming 3
- CSC 338 Computer Organization ..............................3
- CSC 435 Introduction to Microprocessors ..................3

Concentration ............................................................13

Choose 13 credits from the following concentrations:

Industry concentration
- IDT 205 Photo-Technology, IDT 207 Photographic Reproduction
- IDT 304 Advanced Photographic Communication
- IDT 404 Photo Communication Workshop
- IT 103 Introduction to Modern Industry, IT 314 Integrated Circuits

Business concentration
- ACC 241 Principles of Accounting, ACC 340 Intermediate Accounting
- BE 396 Records Administration
- FIN 350 Principles of Finance
- MGT 281 Basic Supervision, MGT 386 Organization Theory and Development
- MKT 368 Marketing Strategy, MKT 369 Advertising, MKT 470 Marketing Research, MKT 474 Promotional Strategy
- ORI 374 Production/Operations Management, ORI 390 Management Systems

Comprehensive Major in Communication and Theatre Arts

The comprehensive major of 36 semester hours allows each student to develop a variety of communication skills with one or two areas of concentration (12-18 semester hours each). Within the 36 semester hours, at least six semester hours must be in 300- and 400-level courses. Majors should plan their course selections carefully with the departmental advising coordinator and present a copy of this plan to Academic Records and Certification when requesting senior checkout.

Sem hours
Comprehensive major in communication and theatre arts .............................................36
1. Required core courses ..................................................2-3
   CTA 121 or 124 Fundamentals of Speech ...................2-3
2. Restricted electives ....................................................15
   Choose at least three credits in five of the following concentrations (communication, oral interpretation, speech improvement, telecommunications and film, theatre arts, drama/theatre for the young)
   Communication:
   CTA 224 Public Speaking, CTA 227 Interpersonal Communication, CTA 350 Persuasion, CTA 356 Argumentation and Debate, CTA 359 Small Group Communication
   Oral interpretation:
   CTA 210 Interpretive Reading
   Speech improvement:
   CTA 102, 202, 302, 402 Voice Development (one credit each), CTA 205 Voice and Articulation, CTA 404 Dynamic Speaking Skills*

Telecommunications and Film:
- CTA 130 Introduction to Telecommunications and Film
- CTA 131 Introduction to Audio Production and Direction
- CTA 132 Introduction to Video Production and Direction
- CTA 141 Introduction to Radio-TV-Film Production
- CTA 245 Introduction to Film Appreciation, CTA 445 Film Theory and Criticism, CTA 446 Contemporary Problems in Telecommunications
*Department permission required.

Theatre arts:

3. Concentration .........................................................9-15
   Choose at least one concentration (above) in consultation with advising coordinator (semester hours here are in addition to the restricted electives above)

4. Department electives ................................................3-10
   Choose from any courses in areas outside the concentration

Communication and Theatre Arts Secondary Education Program

Students who intend to apply for certification to teach speech communication and theatre arts at the secondary level should consult with the department head the first term they are enrolled at EMU. Students will be advised of various University requirements that need to be fulfilled and will be directed to departmental advisers who can help them plan course selections to greatest advantage.

Major in Telecommunications and Film
(Non-teaching)

Sem hours
Academic major in telecommunications and film .........................................................32
1. Required foundation courses ........................................10
   CTA 130 Introduction to Telecommunications and Film
   CTA 131 Introduction to Audio Production and Direction
   CTA 132 Introduction to Video Production and Direction
   CTA 236 History and Criticism of Radio and Television or CTA 245 Introduction to Film Appreciation

   Choose one of the following: CTA 165 Television Laboratory or CTA 169 Radio Station WQBR
Choose six credits from the following (at least three credits must be at the 300 or 400 level):
CTA 231 Music Repertoire and Recording Techniques, CTA 241 Radio-Television-Film Announcing, CTA 331 Fundamentals of Radio Production and Direction, CTA 332 Fundamentals of Television Production and Direction, CTA 333 Fundamentals of Film Production and Direction, CTA 341 Radio-Television-Film Dramatic Performance, CTA 431 Advanced Radio Production and Direction, CTA 432 Advanced Television Production and Direction, CTA 433 Advanced Film Production and Direction

Choose one course from the following:
CTA 334 Radio-Television News, CTA 344 Continuity Writing for Radio-Television-Film, CTA 360 Dramatic Composition

Choose six credits from the following (at least three credits must be at the 400 level):
CTA 236 History and Criticism of Radio and Television, CTA 245 Introduction to Film Appreciation, CTA 335 Studies in Film, CTA 336 Studies in Telecommunications, CTA 445 Film Theory and Criticism, CTA 446 Contemporary Problems in Telecommunications, CTA 447 Radio-Television Station Management, CTA 479 Special Topics (must be approved by adviser)

CTA 487, 488, 489 Internship in Telecommunications and Film, CTA 387, 388, 389 Cooperative Education in Telecommunications and Film

Choose three credits from telecommunications and film and the remaining hours from communication and theatre arts (except CTA 121 and 124 Fundamentals of Speech) or journalism.

Major in Theatre Arts

Drama/Theatre for the Young (CTA 322 Theatre for the Young or CTA 323 Improvising and Role-Play)
Oral Interpretation (CTA 314 Interpretation of Drama or CTA 410 Oral Interpretation of Shakespeare)
Telecommunications and Film (CTA 332 Fundamentals of Television Production and Direction or CTA 341 Radio-Television-Film Dramatic Performance)

Interdisciplinary Major in Children's Literature and Drama/Theatre for the Young

This major of 36 semester hours may be used for the bachelor of science or bachelor of arts degrees without teacher certification, as well as on the elementary education curriculum with certification. For full details, see the Department of English Language and Literature.

Group Major in Literature, Language, Communication and Theatre Arts

For details concerning this major, see group majors and minors for elementary and early childhood teachers in the Department of Teacher Education, College of Education.

Interdisciplinary Major in Public Relations

Admission to the program will require a 2.8 GPA, which must be maintained in the major as well as in the minor selected. Admission is granted by the English Department and Communication and Theatre Arts. Courses from both departments are offered as requirements and restricted electives.

Sem hours

Interdisciplinary major in public relations ........................................ 36
1. Required fundamental courses .................................................. 12
   JRN 215 Journalism ............................................................... 3
   JRN 312 Introduction to Public Relations .................................... 3
   JRN 314 Writing for Public Relations ...................................... 3
   CTA 121 or 124 Fundamentals of Speech ..................................... 2-3
   CTA 141 Introduction to Radio-Television Production ................. 3
   CTA 224 Public Speaking or CTA 350 Persuasion ..................... 3
2. Required Advanced Courses .................................................... 12
   JRN 306 Feature, Interpretive and Editorial Writing ................ 3
   JRN 408 Case Studies in Public Relations .............................. 3
   CTA 334 Radio-Television News or CTA 344 Continuity Writing for Radio, Television, Film .................. 3
   CTA 354 Organizational Communication or CTA 357 Interpreting as Communication ......................... 3
3. Restricted Electives ......................................................... 12
   JRN 307 Copy Editing, JRN 311 Editing Procedures, JRN 423 Magazine Article Writing, JRN 455 Journalism and the Law, *JRN 387-487 Cooperative Education in Journalism/Public Relations, *JRN 488, 489, 490 Internship in Journalism/Public Relations, ENG 424 Technical Writing, CTA 224 Public Speaking or CTA 350 Persuasion (whichever is not chosen above), CTA 227 Interpersonal
Communication Minor

Sem hours:

Minor in communication ........................................... 20-21
Required courses ....................................................... 20-21

Foundation level
CTA 121 or 124 Fundamentals of Speech ..................... 2-3
Choose two courses from the following:
CTA 224 Public Speaking, CTA 225 Listening Behavior, CTA 227 Interpersonal Communication ................. 6
Intermediate level
Choose two courses from the following:
CTA 350 Persuasion, CTA 354 Organizational Communication, CTA 356 Argumentation and Debate, CTA 359 Small Group Communication ....................... 6
Advanced level
Choose two courses from the following:
CTA 440 Survey of Public Address, CTA 460 Theory of Speech Criticism, CTA 475 Research in Speech Communication, CTA 485 Theories of Speech Communication Behavior ........................................ 6

Concentrations in telecommunications and oral interpretation
With department permission, 10 semester hours of course work in telecommunications or oral interpretation may be substituted to fulfill the credit requirement for the minor in communication.

Telecommunications ............................................. 11
1. Required courses ................................................... 7
CTA 130 Introduction to Telecommunications and Film .... 3
CTA 131 Introduction to Audio Production and Direction .. 2
CTA 132 Introduction to Video Production and Direction .. 2
2. Electives .......................................................... 4
Choose one course from the following:
CTA 241 Radio-Television-Film Announcing, CTA 245 Introduction to Film Appreciation, CTA 331 Fundamentals of Radio Production and Direction, CTA 332 Fundamentals of Television Production and Direction, CTA 333 Fundamentals of Film Production and Direction, CTA 334 Radio-Television News, CTA 344 Continuity Writing for Radio-Television-Film

Choose one course from the following:
CTA 431 Advanced Radio Production and Direction, CTA 432 Advanced Television Production and Direction, CTA 433 Advanced Film Production and Direction, CTA 445 Film Theory and Criticism, CTA 446 Contemporary Problems in Telecommunications, CTA 447 Radio-Television Station Management

Recommended minors:
Marketing or Management (with MKT 360 Principles of Marketing and MKT 369 Advertising) highly recommended and other courses such as statistics, marketing research, buyer behavior, promotional strategy); English writing, sociology, psychology, or a minor chosen by student in specific field of interest.

Oral interpretation ................................................. 10
1. Required course .................................................... 3
CTA 210 Interpretative Reading ................................ 3
2. Electives .......................................................... 7

Choose one course from the following:
CTA 311 Interpretation of Prose, CTA 314 Interpretation of Drama, CTA 324 Oral Interpretation of Children’s Literature, CTA 412 Oral Interpretation of Poetry
Choose either CTA 411 Advanced Problems in Interpretation or CTA 414 Development and Theory of Oral Interpretation

One semester hour of credit in an oral interpretation activity course

Communication Minor for Elementary and Special Education Students

This minor is limited to the specified teaching group.

Sem hours:

Minor in communication ........................................... 20
1. Required courses .................................................... 11-12
CTA 121 or CTA 124 Fundamentals of Speech .......... 2-3
Choose one course from the following:
CTA 205 Voice and Articulation, CTA 210 Interpretative Reading, CTA 301 Speech Science, CTA 400 Phonetics and Dialects of Spoken English ................. 3
Choose one course from the following:
CTA 155 Play Production, CTA 222 Drama and Play in Human Experience, CTA 252 Stagecraft, CTA 323 Improvising and Role-Play ........................................ 3
Choose one course from the following:
CTA 224 Public Speaking, CTA 350 Persuasion, CTA 356 Argumentation and Debate, CTA 359 Small Group Communication ........................................... 3

2. Electives .......................................................... 8-9
Choose eight to nine credits from the above courses or from the following:
CTA 141 Introduction to Radio-Television-Film Production, CTA 165 Television Laboratory, CTA 166 Forensics, CTA 167 Theatre Practice, CTA 168 Oral Interpretation, CTA 169 Radio Station WQBR, CTA 322 Theatre for the Young, CTA 497 Independent Study in Drama/Theatre for the Young
Comprehensive Minor in Communication and Theatre Arts

Sem hours

Comprehensive minor in communication and theatre arts .................................................. 24

1. Required core course .............................................. 2-3
   CTA 121 or 124 Fundamentals of Speech ..................... 2-3
   Restricted electives ................................................ 12
   Choose at least three credits in four of the six areas of concentration (communication, oral interpretation, speech improvement, telecommunications and film, theatre arts, drama/theatre for the young)

2. Concentration .......................................................... 6-9
   Choose at least one area of concentration. Minors applying for secondary certification must elect their concentration courses from either speech communication or theatre arts (semester hours here are in addition to the restricted electives above)

3. Department electives ................................................ 0-4
   Choose from any courses in areas outside the concentration

Minor in Drama/Theatre for the Young

The undergraduate minor in drama/theatre for the young is designed to serve students wishing to prepare for a variety of careers—some already existing, others emerging—involving work with and for the young through drama and communication. The minor is useful in conjunction with many other minors and majors including elementary and secondary education, special education, language and literature, history and social studies, art, music, dance, social work, sociology, psychology, recreation, business management, guidance and counseling, library science, home economics, communication and theatre arts, family and child service, gerontology.

It provides a strong base and, at the same time, flexibility is ensured through freedom in choosing from a wide range of electives.

Drama/theatre for the young is an unrestricted minor, used on non-teaching as well as on teaching programs for both elementary and secondary education students.

Sem hours

Minor in drama/theatre for the young .................................. 20

1. Required courses .................................................... 14-15
   CTA 121 or CTA 124 Fundamentals of Speech .................. 2-3
   CTA 222 Drama and Play in Human Experience ................ 3
   CTA 322 Theatre for the Young .................................... 3
   CTA 323 Improvising and Role-Play ............................. 3
   CTA 324 Oral Interpretation of Literature for the Young ...... 3

2. Electives ................................................................. 5-6
   Choose five to six credits from the following:
   CTA 326 Developmental Drama/Theatre with the Handicapped, CTA 327 Plays for the Young, CTA 429 History and Theory of Developmental Drama/Theatre, CTA 504 Oral Language and Language with the Young, CTA 522 TIE: Theatre-In-Education, CTA 523 Puppetry: Catalyst in Human Development, CTA 524 Developmental Drama/Theatre with Handicapped Persons, CTA 525 Developmental Drama/Theatre in Recreational Settings, CTA 528 Developmental Drama/Theatre in Religion, CTA 565 Studies in Drama/Theatre for the Young (all 500-level courses are available for undergraduate credit to qualified seniors)
   CTA 168, 268, 368, 468 Oral Interpretation
   CTA 377, 378, 379 Special Topics
   CTA 477, 478, 479 Special Topics (478 Touring to Young Audiences)
   CTA 497, 498, 499 Independent Study in Drama/Theatre for the Young
   ENG 207 Introduction to Children’s Literature or any course in dramatic literature or any communication or theatre arts course

Minor in Musical Theatre

Sem hours

Minor in musical theatre .................................................. 24

1. Required courses ....................................................... 6
   Choose four credits of applied music-voice and two semester hours of ensemble performance voice courses

2. Restricted electives .................................................... 18
   Choose eight credits from the theatre arts area, four credits from the dance area, and six credits from the music area

Theatre arts:
   CTA 155 Play Production, CTA 258 Mime/Pantomime and Mask, CTA 457 Tryouts and Auditions, CTA 461 Musical Theatre Acting, CTA 462 Directors on Directing, CTA 463 American Musical Stage: 1900 to 1940
   Dance:
   PEG 155 Jazz I, PEG 159 Tap Dancing, PEG 160 Ballet, PEG 161 Modern Dance, PEG 255 Jazz II, PEG 261 Intermediate Modern Dance
   Music:
   MUS 101 Music Theory, MUS 104 Elements of Music, MUS 207 Class Piano, MUS 305 Keyboard Skills, MUS 326 Conducting

Minor in Telecommunications and Film

(Non-teaching)

Sem hours

Minor in telecommunications and film .................................. 24

1. Required foundation courses ...................................... 11
   CTA 130 Introduction to Telecommunications and Film .... 3
   CTA 131 Introduction to Audio Production and Direction ... 2
   CTA 132 Introduction to Video Production and Direction ... 2
   Choose one of the following:
   CTA 236 History and Criticism of Radio and Television or CTA 245 Introduction to Film Appreciation .......................... 3
   Choose one of the following:
   CTA 165 Television Laboratory or CTA 169 Radio Station
   WQBR ............................................................................. 1

2. Restricted electives ..................................................... 9
   Choose three credits from each of the area courses listed under the major (page 87) in production, writing and theory

3. Electives ................................................................. 4
   Choose three credits from telecommunications and film and the remaining hours from communication and theatre arts (except CTA 121 and 124 Fundamentals of Speech) or journalism.
Minor in Theatre Arts

Sem hours
Minor in theatre arts .................................................. 20-24

1. Required courses .................................................. 19
   CTA 150 Introduction to Theatre .................................. 3
   (may be bypassed by examination or interview for no credit)
   CTA 152 Introduction to Technical Theatre ..................... 3
   CTA 155 Play Production ............................................. 3
   CTA 158 Fundamentals of Acting .................................. 3
   CTA 355 Play Direction ............................................. 3
   CTA 450 History of the Theatre to 1642 or CTA 451 History of
   the Theatre: 1642 to the Present ................................. 3
   CTA 167 Theatre Practice ......................................... 1

2. Electives ..................................................................... 1-4
Choose courses beyond the 100 level in theatre arts or in other
departmental areas specified under the major (see page 88).

Communication Courses

All courses in the Department of Communication and Theatre
Arts formerly carried the prefix "SPH"

Fundamentals of Speech

CTA 121 Fundamentals of Speech. Two sem hours
Theory and practice in the principles of effective speech composition
and presentation. Not open to students with credit in CTA 124
Fundamentals of Speech.

CTA 124 Fundamentals of Speech. Three sem hours
More intensive theory and practice in the principles of effective
speech composition. Not open to students with credit in CTA 121
Fundamentals of Speech.

Communication

CTA 224 Public Speaking. Three sem hours
The characteristics of various types of speeches and speech situations
and practice in the preparation and delivery of speeches for
various occasions.
Prereq: CTA 121 or CTA 124 Fundamentals of Speech.

CTA 225 Listening Behavior. Three sem hours
The study of the behavior, processes and theory of human listening;
practice in improving listening skills.
Prereq: CTA 121 or CTA 124 Fundamentals of Speech.

CTA 226 Non-Verbal Communication. Three sem hours
An examination of non-verbal and situational behaviors, relationships,
objects and events surrounding speech communication acts.
Prereq: CTA 121 or CTA 124 Fundamentals of Speech.

CTA 227 Interpersonal Communication. Three sem hours
Study and practice of the basic elements of interpersonal communica-
ing, feedback and communication barriers. Particular attention is
given to improving interpersonal communication skills. This course
may not substitute as the fundamentals of speech requirement in
the basic studies.
Prereq: CTA 121 or CTA 124 Fundamentals of Speech.

CTA 321 Parliamentary Procedure
and Meeting Management. Three sem hours
A study of the principles of parliamentary procedure with a special
emphasis on Robert's Rules of Order. Students will learn general
skills in managing meetings: how to chair a meeting and how to
serve as a parliamentarian.
Prereq: CTA 121 or CTA 124 Fundamentals of Speech.

CTA 350 Persuasion. Three sem hours
The study of the basic elements inherent in persuasion; the analysis
of representative persuasive speeches; practice in securing the
acceptance of ideas through psychological appeals as well as
logical reasoning.
Prereq: CTA 121 or CTA 124 Fundamentals of Speech.

CTA 352 Communication in Negotiation. Three sem hours
Practical communication skills for negotiating a labor union collect-
ive bargaining agreement and effective grievance handling.
Prereq: CTA 121 or CTA 124 Fundamentals of Speech or depart-
ment permission.

CTA 353 Organizational Communication
in Unions. Three sem hours
The study of the organizational communication structures and
channels involved in public and private sector labor unions. Em-
phasis is placed on the communication skills of the officers and
labor union representatives.
Prereq: CTA 121 or CTA 124 Fundamentals of Speech or depart-
ment permission.

CTA 354 Organizational Communication. Three sem hours
An investigation of information patterns and persuasion in the
formal organization.
Prereq: CTA 121 or CTA 124 Fundamentals of Speech.

CTA 356 Argumentation and Debate. Three sem hours
Emphasizes the principles of logical reasoning and oral presenta-
tion of reasoned discourse in group situations. Exercise in debate
and in general argumentative speaking.
Prereq: CTA 121 or CTA 124 Fundamentals of Speech.

CTA 357 Interviewing as Communication. Three sem hours
The principles and practices of the interview as they relate to
communication elements; the interview process, structure, func-
tions and techniques explored from both the perspective of the
interviewer and the interviewee.
Prereq: CTA 121 or CTA 124 Fundamentals of Speech or depart-
ment permission.

CTA 359 Small Group Communication. Three sem hours
Emphasizes the principles and practice of discussion as employed
in committees, panels, symposiums and forums. Students will plan
and participate in discussions of contemporary problems.
Prereq: CTA 121 or CTA 124 Fundamentals of Speech.
CTA 372 Assertive Communication. (formerly 355) Three sem hours
Individualized approach to study and training in effective assertive communication for social, conversational and career-oriented situations.
Prereq: CTA 121 or CTA 124 Fundamentals of Speech or department permission.

CTA 374 Intercultural Communication. (formerly 358) Three sem hours
Analysis of processes and problems of communication as affected by national cultures; effects of differences in verbal and non-verbal communication, values, meaning, perception and thought.
Prereq: CTA 121 or CTA 124 Fundamentals of Speech or department permission.

CTA 375 Interracial/Interethnic Communication. Three sem hours
The analysis of how ethnocentric attitudes toward perceived racial/ethnic minority group speakers/listeners influence interpersonal communication transactions.
Prereq: CTA 121, or 124 Fundamentals of Speech.

CTA 387, 388, 389 Cooperative Education in Communication. One, two, three sem hours
One term of supervised education work in speech communication. An evaluation is required at the end of each employment period.
Prereq: Nine credit hours in speech communication, approval by Cooperative Education Office and department permission.

CTA 440 Survey of Public Address. Three sem hours
An historical and critical study of the more important speakers and their speeches from classical Greek and Roman times to the present with reference to social and political movements in the world's history.
Prereq: Three courses in communication, junior standing or department permission.

CTA 460 Theory of Speech Criticism. Three sem hours
A study of the theoretical and critical works of ancient, Renaissance and modern rhetoricians.
Prereq: Three courses in communication, junior standing or department permission.

CTA 475 Research in Speech Communication. Three sem hours
An examination of methods currently employed in speech communication, as well as a review of the many types of application now being made. Course includes analysis of speech communication behavior.
Prereq: Three courses in communication, junior standing or department permission.

CTA 477, 478, 479 Special Topics. One, two, three sem hours
These courses are offered on an experimental basis or for some special need.

CTA 485 Theories of Speech Communication Behavior. Three sem hours
Study of the theories that have made significant contributions to the understanding of speech communication behavior.
Prereq: Three courses in communication, junior standing or department permission.

CTA 487, 488, 489 Internship in Communication. One, two, three sem hours
One semester of practical, on-the-job work experience and training (four hours per week minimum) at selected on-campus or off-campus facilities.
Prereq: At least 20 semester hours of speech communication courses and department permission.

CTA 497, 498, 499 Independent Study. One, two, three sem hours
Advanced study on individual basis in areas in which the department does not offer a formal course. Normally such work is restricted to proficient students in the senior year under the general conditions prescribed for honors courses.
Prereq: Department permission.

CTA 166, 266, 366, 466 Forensics. One sem hour each
Students who participate in co-instructional activities may, with the approval of the professor in charge of the activity and the department head, receive one hour of credit in a single activity during one semester. Students may earn up to four hours credit in one activity or in several. Admission to the activity does not ensure credit.
Prereq: Department permission.

Oral Interpretation

CTA 210 Interpretative Reading. Three sem hours
The fundamentals of oral interpretation; developing poise and ease before an audience, clear, forceful and flexible voice and discrimination in interpreting thought to others. Selections will be prepared and presented in class.
Prereq: CTA 121 or CTA 124 Fundamentals of Speech.

CTA 311 Interpretation of Prose. Three sem hours
The application of the fundamentals of oral interpretation to the reading of prose with emphasis on the short story and excerpts from longer works of fiction. Special attention given to problems involved in the interpretation of prose.
Prereq: CTA 210 Interpretative Reading.

CTA 314 Interpretation of Drama. Three sem hours
Specific problems involved in interpreting dramatic literature. Emphasis placed on selection of materials, cutting and arrangement of materials, dialogue, characterization and character placement. Students will work individually and collectively in interpreting scenes from plays.
Prereq: CTA 210 Interpretative Reading or department permission.

CTA 377, 378, 379 Special Topics. One, two, three sem hours
These courses are offered on an experimental basis or for some special need.
Specific problems involved in the oral interpretation of Shakespeare. Emphasis placed on language style and characterization problems. Students work individually and collectively in orally interpreting selections from Shakespeare's works.

Prereq: CTA 210 Interpretative Reading and two courses in literature, one of which should be either LIT 210 Shakespeare or LIT 103 The Reading of Literature: Drama, or department permission.

CTA 411 Advanced Problems in Interpretation. Three sem hours
The presentation of programs of some length and difficulty in prose, poetry and drama. Emphasis on programming, styles of interpretation, choral reading and experimental work. A public program will be presented by the class.

Prereq: Six hours of oral interpretation or department permission.

CTA 412 Oral Interpretation of Poetry. Three sem hours
The application of the principles of oral interpretation to the reading of poetry, with emphasis on modern and contemporary poetry.

Prereq: CTA 210 Interpretative Reading.

CTA 414 Development and Theory of Oral Interpretation. Three sem hours
The development of oral interpretation from ancient Greece to the present, including the study of modern theories in oral interpretation.

Prereq: Nine hours of oral interpretation or department permission.

CTA 420 Voice and Articulation. Three sem hours
An introductory course for improving personal speaking habits. Emphasis is placed on regular practice to develop relaxed speaking, efficient articulation and vocal variety. Recording and listening laboratory hours arranged.

Prereq: CTA 121 or CTA 124 Fundamentals of Speech or department permission.

CTA 301 Speech Science. Three sem hours
A survey of the physiological and psychological bases of speech and hearing. Emphasis is placed on understanding the physical characteristics of speech sounds and the human voice as they are used in effective oral communication.

Prereq: One of the following: CTA 205 Voice and Articulation, CTA 210 Interpretative Reading, CTA 241 Radio-Television-Fi.

CTA 168, 268, 368, 468 Oral Interpretation. One sem hour each
Students who participate in co-instructional programs may, with the approval of the professor in charge of the activity and the department head, receive one hour of credit in a single activity during one semester. Students may earn up to four hours credit in one activity or in several. Admission to the activity does not ensure credit.

Prereq: CTA 210 Interpretative Reading or department permission.

CTA 477, 478, 479 Special Topics. One, two, three sem hours
These courses are offered on an experimental basis or for some special need.

Speech Improvement and Education

CTA 102 Voice Development. One sem hour
A laboratory for developing strength and control of the speaking voice through physical and tonal exercises and choral speaking. Two regularly scheduled hours each week and additional sessions as arranged.

CTA 202, 302, 402 Voice Development. One sem hour each
Advanced laboratory exercises and specialized projects:

202—Pronouncing foreign terms for professional speaking.
302—Energetic vocal skills for theatre/interpretation.
402—Skills, theory, and individualized projects.

Prereq: CTA 102 Voice Development or department permission.

CTA 307 The Teaching of Speech. Three sem hours
Emphasizes the analysis and construction of courses of study in evaluation of textbooks and teaching materials, methods of direct instruction, co-curricular speech activities and demonstrations of teaching methods. Required of students majoring in communication or who wish to teach English in the junior or senior high school curriculum. Does not count on the major or minor. Not open to students on academic probation.

Prereq: Four courses in communication and theatre arts.

CTA 400 Phonetics and Dialects of Spoken English. Three sem hours
A survey of the physiology and physics of speech sounds. Intensive study of the international phonetic alphabet in dialectology and speech improvement. Comparative study of phonemic systems and the initial teaching alphabet.

Prereq: CTA 301 Speech Science, CTA 205 Voice and Articulation or department permission.

CTA 404 Dynamic Speaking Skills. Three sem hours
Projects emphasizing intensive application of voice and articulation theory and professional diction standards for actors, broadcasters, educators, forensic speakers, interpreters and other professional communicators. Laboratory hours arranged.

Prereq: Three courses in the department including either CTA 100 Voice Development or CTA 205 Voice and Articulation, or take CTA 402 Voice Development concurrently.

CTA 405 Voice and Dialects. Three sem hours
Advanced projects in preparing oral presentations and characterizations in regional and foreign dialects.

Prereq: CTA 102 Voice Development or CTA 402 Voice Development or CTA 205 Voice and Articulation or department permission.
Communication and Theatre Arts 95

**Telecommunications and Film**

**CTA 130 Introduction to Telecommunications and Film.** Three sem hours

An introduction to mass media and telecommunication systems in the United States. Emphasis on development of telecommunications industries including radio-television-film, programming, new technology, regulation and financial support. 

*Prereq: CTA 121 or CTA 124 Fundamentals of Speech.*

**CTA 131 Introduction to Audio Production and Direction.** Two sem hours

Class meets for three hours per week, one hour lecture and two hours laboratory. The students will work with the audio facilities in Quirk Building including audio facilities in WQBR, Quirk TV studio and the audio production booths. The course will be required of all telecommunications minors and majors. As an introductory course in audio production, CTA 131 is essential to all other advanced production courses, including video and film. As such, CTA 131 must be taken before CTA 132 or other courses in the production curriculum. Students will be instructed in audio equipment, terminology, production process, scripting, performance and techniques. Additionally, students will be acquainted with the role of audio in such visual media as television and film.

**CTA 132 Introduction to Video Production and Direction.** Two sem hours

Class meets three times per week. One hour will be devoted normally to lecture and discussion. The two remaining hours will be spent in the television studio working with production equipment under supervised conditions. Productions will include exercises, demonstrations, and complete productions written, performed, and directed by students. This course is required for all majors and minors in Telecommunications and Film. CTA 132 is designed as an introductory course in Video production. It will cover such important topics as video equipment, terminology, performance, basic aesthetics, scripting, studio production and direction, graphics, and crew positions. By the end of the course, students will be able to produce and direct a simple studio video production.

*Prereq: CTA 131 Introduction to Audio Production and Direction.*

**CTA 141 Introduction to Radio-TV-Film Production.** Three sem hours

A study and application of the technical elements of radio, television and film with emphasis on the operation of studio and remote equipment. Laboratory hours will be arranged in order to ensure adequate practical experiences in the operation of studio production facilities.

*Prereq or coreq: CTA 130 Introduction to Telecommunications and Film.*

**CTA 230 Mass Media in America.** Three sem hours

A general survey of mass media with selected radio-television programs and film used to examine key concepts in production, criticism, history and industry structure. May not be counted on major or minor in telecommunications and film.

**CTA 231 Music Repertoire and Recording Techniques.** Three sem hours

An introduction to the practical problems of recording music ensembles from soloists to symphony orchestras. Students will research, write and produce scripts for music programs on serious jazz and specialized music repertoire. A professional audio engineer will supervise on-site recording sessions and all post-production work. Two regular lecture hours and two hours of laboratory. Field work projects arranged. Laboratory fee.

*Prereq: CTA 130 Introduction to Telecommunications and Film and CTA 131 Introduction to Audio Production and Direction and CTA 132 Introduction to Video Production and Direction, or department permission.*

**CTA 236 History and Criticism of Radio and Television.** Three sem hours

An historical survey of network radio and television entertainment and public affairs programming with an emphasis on how the networks' offerings were received by a select number of social and cultural critics of the two media.

*Prereq: CTA 130 Introduction to Telecommunications and Film.*

**CTA 241 Radio-Television-Film Announcing.** Three sem hours

A study of the various types of radio, television and film non-dramatic speaking such as music (DJ), commercials, interviews and documentaries. Practice and evaluation of announcing types and styles.

*Prereq: CTA 130 Introduction to Telecommunications and Film and CTA 131 Introduction to Audio Production and Direction and CTA 132 Introduction to Video Production and Direction, or department permission.*

**CTA 245 Introduction to Film Appreciation.** Three sem hours

An introduction to the history and aesthetics of the motion picture with attention to the impact of technology, narrative technique, sociological influences, industry practices and critical approaches including genres and auteurs. Not open to those with credit in LIT 245 Introduction to Film.

*Prereq: One course in literature and CTA 121 or CTA 124 Fundamentals of Speech.*

**CTA 331 Fundamentals of Radio Production and Direction.** Three sem hours

The fundamentals of preparation, production, direction and evaluation of non-dramatic radio programs.

*Prereq: CTA 130 Introduction to Telecommunications and Film, CTA 131 Introduction to Audio Production and Direction and CTA 132 Introduction to Video Production and Direction or department permission.*

**CTA 332 Fundamentals of Television Production and Direction.** Three sem hours

The fundamentals of preparation, production, direction and evaluation of non-dramatic television programs. Emphasis is placed on basic techniques of studio and remote productions. Laboratory fee.

*Prereq: CTA 130 Introduction to Telecommunications and Film, CTA 131 Introduction to Audio Production and Direction and CTA 132 Introduction to Video Production and Direction or department permission.*
CTA 333 Fundamentals of Film Production and Direction. Three sem hours
An introduction to the principles of film-video production. Course offers theory and practice of film-video continuity, master sequencing, narrative and non-narrative editing. Three 16mm film or video projects will be required. Laboratory fees.
Prereq: CTA 130 Introduction to Telecommunications and Film, CTA 131 Introduction to Audio Production and Direction and CTA 132 Introduction to Video Production and Direction, or department permission.

CTA 334 Radio-Television News. Three sem hours
A study of the principles, techniques and forms of broadcast journalism. Emphasis is placed on broadcast news writing, editing and delivery.
Prereq: CTA 130 Introduction to Telecommunications and Film, CTA 131 Introduction to Audio Production and Direction and CTA 132 Introduction to Video Production and Direction, for majors and minors, or RN215 Journalism for majors/minors in journalism or public relations, or department permission.

CTA 335 Studies in Film. Three sem hours
Students will examine non-Hollywood films including European, Asian and Third World theatrical films or documentary, animated and experimental films. The topics will be alternated over terms to allow an in-depth approach.
Prereq: CTA 130 Introduction to Telecommunications and Film, CTA 131 Introduction to Audio Production and Direction and CTA 132 Introduction to Video Production and Direction, or department permission.

CTA 336 Studies in Telecommunications. Three sem hours
A comparative study of broadcasting services in European, Soviet and Third World nations, also international short-wave, satellite interconnections, CATV, limited application video systems and new technologies. Topics will be alternated over terms to allow an in-depth approach.
Prereq: CTA 130 Introduction to Telecommunications and Film, CTA 131 Introduction to Audio Production and Direction and CTA 132 Introduction to Video Production and Direction, or department permission.

CTA 341 Radio-Television-Film
Dramatic Performance. Three sem hours
A study of types and styles of dramatic speaking for radio, television and film. Practice in the basic techniques of acting for the three media.
Prereq: CTA 130 Introduction to Telecommunications and Film, CTA 131 Introduction to Audio Production and Direction and CTA 132 Introduction to Video Production and Direction, or department permission. CTA 210 Interpretive Reading or CTA 158 Fundamentals of Acting recommended.

CTA 344 Continuity Writing for Radio
Television-Film. Three sem hours
A study of the forms of non-dramatic writing for radio, television and film, including commercials, public service announcements, music continuity, and narrations.
Prereq: CTA 130 Introduction to Telecommunications and Film, CTA 131 Introduction to Audio Production and Direction and CTA 132 Introduction to Video Production and Direction, or department permission.

CTA 387, 388, 389 Cooperative Education in Radio-Television-Film. One, two, three sem hours
One term of supervised education work in radio-television-film. At evaluation is required at the end of each employment period.
Prereq: Nine credit hours in radio-television-film, approval by Cooperative Education Office and department permission.

CTA 431 Advanced Radio Production and Direction. Three sem hours
A continuation of CTA 331 Fundamentals of Radio Production and Direction. Advanced theory and practical experience in production of longer, more complex dramatic and non-dramatic material for radio.
Prereq: CTA 331 Fundamentals of Radio Production and Direction or department permission.

CTA 432 Advanced Television Production and Direction. Three sem hours
A continuation of CTA 332 Fundamentals of Television Production and Direction. Principles, practices and techniques of directing and producing dramatic material for television. Major television formats discussed and analyzed. Practical experience in depth provided for each student. Laboratory fee.
Prereq: CTA 332 Fundamentals of Television Production and Direction or department permission.

CTA 433 Advanced Film Production and Direction. Three sem hours
Students make complete 16mm color films or videotapes participating in all stages of production from scripting, filming-taping to developing an original soundtrack and a final edited version. Laboratory fees.
Prereq: CTA 333 Fundamentals of Film Production and Direction or department permission.

CTA 445 Film Theory and Criticism. Three sem hours
An intensive study of the key theories of film structure, historical development and sociological function. Emphasis upon theories of editing, auteur criticism, genres and textual analysis.
Prereq: CTA/15245 Introduction to Film Appreciation or department permission.

CTA 446 Contemporary Problems in Telecommunications. Three sem hours
A study of contemporary issues and problems affecting the telecommunications industries, including sociological and psychological influences, programming, new technology, regulation and research.
Prereq: Twelve semester hours of radio-television courses or department permission.

CTA 447 Radio-Television Station Management. Three sem hours
Study of station management in the areas of advertising, programming, personnel, applied research and public relations.
Prereq: Twelve semester hours of radio-television courses or department permission.
Communication and Theatre Arts 97

CTA 477, 478, 479 Special Topics. One, two, three sem hours
These courses are offered on an experimental basis or for some special need.

CTA 487, 488, 489 Internship in Radio-Television-Film. One, two, three sem hours
One semester of practical on-the-job work experience and training (10 hours per week minimum) at selected on-campus or off-campus radio-television-film facilities.
Prereq: At least 20 semester hours of radio-television-film courses and department permission.

CTA 165, 265, 365, 465 Television Laboratory. One sem hour each

CTA 169, 269, 369, 469 Radio Station WQBR. One sem hour each
Students who participate in co-instructional programs may, with the approval of the professor in charge of the activity and the department head, receive one hour of credit in a single activity during one semester. Students may earn up to four hours credit in such activities, and the credits may be earned in one activity or in several activities. Admission to the activity does not ensure credit.
Prereq: CTA 130 Introduction to Telecommunications and Film, CTA 131 Introduction to Audio Production and Direction and CTA 132 Introduction to Video Production and Direction, or department permission.

Theatre Arts Courses

Theatre

CTA 106 Introduction to Performing Arts. Three sem hours
A survey of the arts of dance, theatre and music, developing an understanding and appreciation of representative works in the three fields. The place of these arts in contemporary society and their contribution to a richer life receive special emphasis. Attendance required at specified on-campus performances. Not open to those with credit in MUS/DAN 106 Introduction to the Performing Arts.

CTA 126 The Age of Shakespeare. Three sem hours
(See humanities courses, page 160)

CTA 150 Introduction to Theatre. Three sem hours
A lecture-demonstration course with the purpose of fostering appreciation of theatre through an understanding of its production components, its forms and styles, and its historical development. Attendance required at selected EMU theatre productions. Required of theatre arts majors and minors.

CTA 151 Black Theatre: An Introduction. Three sem hours
An introductory survey of the roots, purposes and contemporary manifestations of theatre and drama reflecting the black experience.

CTA 152 Introduction to Technical Theatre. Three sem hours
An introduction to design and execution in the various areas of technical theatre: scenery, costume, properties, makeup and lighting. Laboratory will be arranged to ensure practical experience.

CTA 153 Introduction to the Theatre Crafts. Two sem hours
The principles and practical techniques of planning, constructing and coordinating scenery, lighting, costumes, make-up, sound and properties with emphasis on simple materials and techniques usable in schools and recreational situations. Designed for non-theatre arts majors.

CTA 155 Play Production. Three sem hours
An introduction to the process of analyzing, directing and staging plays; demonstration and practice. Laboratory hours by arrangement.
Prereq: CTA 150 Introduction to Theatre strongly recommended for department majors and minors.

CTA 158 Fundamentals of Acting. Three sem hours
A study of the fundamental theories and techniques of acting. Major emphasis on theatre acting, but consideration given to radio and television acting. Laboratory hours by arrangement.

CTA 251 Black Theatre: Creative Problems. Three sem hours
A consideration of those creative aspects of the theatre performance particular to the black theatre.

CTA 252 Stagecraft. Three sem hours
A study and application of the technical elements of play production with emphasis on stage mechanics, construction and scene painting. Laboratory hours will be arranged in order to ensure adequate practical experience in the scenic arts and crafts.
Prereq: CTA 155 Play Production strongly recommended for department majors and minors.

CTA 254 Stage Makeup. One sem hour
The theory and techniques of theatrical makeup. Laboratory hours to be arranged.

CTA 258 Mime/Pantomime and Mask. Three sem hours

CTA 351 Scene Design. Three sem hours
The history of design in terms of stage scenery; an investigation of current trends, techniques and media of scene design and the practical execution of models and sketches by the student.
Prereq: CTA 152 Introduction to Technical Theatre, CTA 252 Stagecraft, CTA 155 Play Production or department permission.

CTA 355 Play Direction. Three sem hours
An intensive study of the process of directing plays. Whenever possible, students in the course will direct a one-act play for public presentation. Laboratory hours by arrangement.
Prereq: CTA 155 Play Production or department permission.

CTA 358 Characterization. Three sem hours
The creation of character and characterization by the actor. Analysis, development and performance of roles studied in depth.
Prereq: CTA 158 Fundamentals of Acting or department permission.
CTA 360 Dramatic Composition. Three sem hours
An examination of the elements of dramatic structure through
the analysis and composition of works of varying scope. Emphasis on
adult plays for the stage; the special problems of drama for children
and for the various broadcast media also considered.
Prereq: CTA 155 Play Production or department permission.

CTA 361 Dramatic Writing. Two sem hours
Intensive concentration on the writing of a significant example of
adult or children's drama for the stage or the broadcast media.
Prereq: CTA 360 Dramatic Composition or department permission.

CTA 362 Stage Lighting. Two sem hours
Stage lighting; historical development, basic electrical theory,
switchboards and lighting instruments, color theory, principles and
practices in stage lighting. Laboratory hours to be arranged.
Prereq: CTA 152 Introduction to Technical Theatre, CTA 252
Stagecraft, CTA 155 Play Production or department permission.

CTA 363 Stage Costume: History and Three sem hours
Theory.
A survey of the principles and practices of stage costume from
antiquity to present.
Prereq: CTA 155 Play Production or department permission.

CTA 364 Stage Costume: Design and Three sem hours
Construction.
The fundamentals of designing theatrical costumes and a study of
specific construction problems found in the making of period
costumes.
Prereq: CTA 363 Stage Costume: History and Theory or depart-
ment permission.

CTA 387, 388, 389 Cooperative Education in Arts Management, One, two, three sem hours
Costuming and Technical Theatre.
One term of supervised work in arts management, costuming and
technical theatre. An evaluation is required at the end of each
employment period.
Prereq: Approval by Cooperative Education Office and department
permission. Nine semester hours in arts management required for co-
op in arts management.

CTA 450 History of the Theatre to 1642. Three sem hours
A history of the physical theatre and the written drama from
antiquity to 1642. Emphasis on theatre architecture and stagecraft,
including scenery, costumes and lighting.
Prereq: Junior standing or department permission.

CTA 451 History of the Theatre: 1642 Three sem hours
to the Present.
History of the physical theatre and the written drama in the western
world from the Commonwealth period in England to the present.
Prereq: Junior standing or department permission.

CTA 452 Arts Management. Three sem hours
The materials and procedures of theatrical business management,
including scheduling, budgeting, accounting, ticket sales, house
management, program editing and public relations.

CTA 453 Marketing the Arts. Three sem hours
Relates traditional marketing practices to arts administration and
provides experience in applying marketing skills to the arts. The
study of marketing in the arts and information relating to market
analysis; research and preparation of a specific market plan
for a special need. Prereq: Twelve hours in the arts management curriculum or
department permission.

CTA 454 Law, Public Policy and the Arts. Three sem hours
Examination of the impact of public policy and law on the arts
organizations and the individual artist. Particular attention is paid
to tax policy, copyright, arts advocacy and contract law.
Prereq: Twelve hours in the arts management curriculum or
department permission.

CTA 456 Experimental Approaches to Directing. One sem hour
Study of non-traditional possibilities for using the dynamics of
theatre to enhance a performance.
Prereq: One course in acting or department permission.

CTA 457 Tryouts and Auditions. One sem hour
Intensive study in the preparation of tryout and audition material for
the actor.
Prereq: One course in acting or department permission.

CTA 458 Style for the Actor. Three sem hours
Theoretical and practical considerations involved in the acting of
selected non-realistic styles of drama.
Prereq: One course in acting or department permission.

CTA 459 Style for the Director. Three sem hours
Theoretical and practical considerations involved in the direction of
selected non-realistic styles of drama.
Prereq: One course in play direction or department permission.

CTA 460 Musical Theatre Acting. Two sem hours
Analysis and application of the performance skills needed by the
actor/singer in musical theatre.
Prereq: Nine hours of credit in theatre arts or department permis-
sion.

CTA 461 Directing. Two sem hours
Study of selected noted stage directors past and present.
Prereq: Nine hours of credit in theatre arts or department permis-
sion.

CTA 462 The American Musical Stage: Two sem hours
1900 to 1940.
A survey of the early character and development in America of the
Broadway musical, concentrating on operetta, the musical revue
and musical comedy.
Prereq: Junior standing or department permission.

CTA 477, 478, 479 Special Topics. One, two, three sem hours
These courses are offered on an experimental basis or for some
special need.
CTA 487, 488, 489 Internship in Arts Management. One, two, three sem hours
One semester of practical on-the-job work experience and training (four hours per week minimum) in arts management on or off campus.
Prereq: At least 20 semester hours in arts management.

CTA 496 Seminar in Theatre. Two sem hours
Designed to provide the student with opportunities to explore areas in theatre not covered in the regular course offerings.
Prereq: Open only to departmental seniors or by department permission.

CTA 497, 498, 499 Independent Study. One, two, three sem hours
Advanced study on individual basis in areas in which the department does not offer a formal course. Normally restricted to proficient students in the senior year under the general conditions prescribed for honors courses.
Prereq: Department permission.

CTA 167, 267, 367, 467 Theatre Practice. One sem hour each
Students participating in specified positions of major responsibility in the productions of the EMU Theatre, the department’s instructional activity program in theatre arts, by prior permission of the department may receive one hour of credit during a single semester. The specified positions and prerequisites are:

167—Heading a major technical crew for a faculty-directed production.
Prereq: CTA 155 Play Production, CTA 152 Introduction to Technical Theatre or CTA 252 Stagecraft plus previous experience on a similar crew for at least one EMU Theatre production.

267—Assistant directing and/or stage managing a faculty-directed production.
Prereq: CTA 167 Theatre Practice and CTA 355 Play Direction.

367—Directing an Experimental Series production.
Prereq: CTA 167 Theatre Practice and CTA 355 Play Direction.

467—Additional experience in the responsibilities listed for 367.
Prereq: CTA 167 Theatre Practice, CTA 267 Theatre Practice or CTA 367 Theatre Practice.

Drama/Theatre for the Young

CTA 222 Drama and Play in Human Experience. Three sem hours
A study of dramatic experience as intrinsic in human development. An introduction to spontaneous dramatic games and exercises as a way of sharpening imagination, deepening interpersonal relations and strengthening individual identity. Integration of such experience in learning and growth is emphasized.

CTA 322 Theatre for the Young. Three sem hours
An introductory study of the development, philosophy and techniques of theatre for the young.
The Department of Computer Science offers training to facilitate both initial placement and continued growth in a rapidly changing and expanding field. Industrial ties are maintained through the cooperative education aspect of the program. The non-teaching minor accommodates students in mathematics, the physical and social sciences, and other fields concerned with information processing applications. The teaching major and minor train secondary school teachers of computer science. In-service employees in industrial or research information processing environments or in schools can take specific courses to improve their professional competency.

Degrees: Bachelor of science and bachelor of arts

Programs of Study

Majors and Minors:

Computer science (teaching and non-teaching)

Advising assistance may be obtained through the department office. An adviser list is posted, and the department secretary will direct students to appropriate faculty members.

Advising Coordinators:

Computer science (non-teaching): Kurt Lauckner
Computer science (teaching): Mildred Lintner

Graduate courses and a program leading to an endorsement in computer science for secondary school teachers certified in other fields are described in the Graduate Catalog.

Computer Science

(Non-teaching)

Sem hours

<table>
<thead>
<tr>
<th>Academic major in computer science</th>
<th>36</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required courses</td>
<td>24</td>
</tr>
<tr>
<td>CSC 138 Computer Science I</td>
<td>3</td>
</tr>
<tr>
<td>CSC 238 Computer Science II</td>
<td>3</td>
</tr>
<tr>
<td>CSC 239 Assembly and Machine Language Programming</td>
<td>3</td>
</tr>
<tr>
<td>CSC 330 Discrete Mathematical Structures</td>
<td>3</td>
</tr>
<tr>
<td>CSC 334 Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>CSC 337 Programming Languages</td>
<td>3</td>
</tr>
<tr>
<td>CSC 338 Computer Organization</td>
<td>3</td>
</tr>
<tr>
<td>CSC 365 Foundations of Automata and Languages</td>
<td>3</td>
</tr>
</tbody>
</table>

2. Restricted electives

Choose four courses from the following two groups with at least two courses from Group A:

**Group A**
- CSC 430 Compiler Construction
- CSC 431 Systems Programming
- CSC 433 Computer Operating Systems
- CSC 441 Computing Network Principles

**Group B**
- CSC 432 Switching Theory
- CSC 435 Introduction to Microprocessors
- CSC 437 Microcomputer Graphics or
  - CSC 438 Computer Graphics
- CSC 442 Database Principles
- CSC 443 Software Engineering Principles
- MTH 436 Numerical Analysis

*Additional required mathematics courses* ..... 17-19

- MTH 120, 121 Calculus I and II .......... 8
- MTH 122 Elementary Linear Algebra .......... 3
- MTH 360 Statistical Methods or MTH 370 Probability and Statistics I ........ 3 or 4

Choose one course from the following: 3 or 4

**Computer Science**

(Teaching)

Sem hours

1. Required courses

- CSC 136 Computers for the Non-Specialist .... 3
- CSC 138 Computer Science I ................. 3
- CSC 238 Computer Science II ............... 3
- CSC 239 Assembly and Machine Language Programming ........ 3
- CSC 330 Discrete Mathematical Structures .... 3
- CSC 334 Data Structures .................... 3
- CSC 336 Programming Languages for Educators .... 3
- CSC 340 Applications in Computer Science .... 3
- CSC 490 Seminar and Project Design for Educators .... 3
- Elective from the following courses ........ 3

- ANT 378 Contemporary Issues in Developing and Modern Technological Societies
- ECO 386 Technology and Economic Growth
- HIS 290 History of Technology
- IDT 495 Technology, Values, and the Future
- PLS 382 Politics and the 21st Century
- SOC 462 Complex Organizations

*Additional required course* .................... 3
- CSC 346 Methods of Teaching Computer Science in the Secondary Schools
Minors Offered in the Department of Computer Science

Computer Science Minor
(Non-teaching)

Students on the non-teaching minor interested in computer science applications in business may substitute courses from the College of Business with permission of the advising coordinator in computer science.

Sem hours

Academic minor in computer science ............................ 21

1. Required courses .............................................. 12
   CSC 138 Computer Science I .................................. 3
   CSC 238 Computer Science II ................................ 3
   CSC 239 Assembly and Machine Language Programming ........ 3
   CSC 334 Data Structures .................................... 3

2. Restricted electives ......................................... 9

Choose three courses from the following:
   MTH 436 Numerical Analysis

*CSC 136 may be counted only if taken prior to or concurrently with CSC 138 Computer Science I.

Computer Science Minor
(Teaching)

Sem hours

Teaching minor in computer science ............................ 21

1. Required courses .............................................. 21
   CSC 136 Computers for the Non-Specialist .................. 3
   CSC 138 Computer Science I .................................. 3
   CSC 238 Computer Science II ................................ 3
   CSC 239 Assembly and Machine Language Programming .. 3
   CSC 334 Data Structures .................................... 3
   CSC 336 Programming Languages for Educators .......... 3
   CSC 340 Applications in Computer Science ............... 3
   Additional required course ................................. 3
   CSC 346 Methods of Teaching Computer Science in the Secondary Schools

Computer Science Courses

CSC 136 Computers for the Non-Specialist. Three sem hours
A survey of computer science for non-specialists who wish to learn about the capabilities and applications of computers in our society. The student will learn to write programs in the BASIC language. Counts toward the computer science non-teaching minor if taken prior to or concurrently with CSC 138 Computer Science I. Not open to computer science non-teaching majors.

CSC 137 Introduction to FORTRAN Programming. Three sem hours
An introductory course for persons wishing to learn programming and applications of computers. Using the FORTRAN language, students develop and run programs to solve a variety of problems. Credit will not be given for more than one of CSC 137 Introduction to FORTRAN Programming and CSC 237 Computer Programming and Numeric Methods. Does not count toward computer science major or minor.
   Prereq: One and a half years of high school algebra.

CSC 138 Computer Science I. Three sem hours
An introduction to computers, programming, algorithm development, and a block structured language such as Pascal. In particular, strategies for problem solving, problem analysis, algorithm representation, and algorithm verification are balanced with actual program development using top-down, stepwise refinement design and good documentation techniques. The first course in the computer science major and minor, but open to all students.
   Prereq: High school algebra II and trigonometry or MTH 105 College Algebra and MTH 107 Trigonometry.

CSC 237 Computer Programming and Numeric Methods. Three sem hours
An introductory programming course focusing on numerical algorithms fundamental to scientific computer work. Discussion of polynomial interpolation, numerical integration, solutions of systems of equations and error analysis. Using the FORTRAN language, students develop and run programs to solve a variety of problems. Credit will not be given for more than one of CSC 137 Introduction to FORTRAN Programming and CSC 237 Computer Programming and Numeric Methods. Does not count toward computer science major or minor.
   Prereq or coreq: MTH 121 Calculus II.

CSC 238 Computer Science II. Three sem hours
The second course in an introductory sequence for the computer science major, minor and others. Continues software engineering methodology through specification, design, coding and program correctness. Nested procedures and functions, scope and recursion. Introduction to data structures such as stacks, queues, linear lists, trees, sets and files. Analysis of sorting and searching algorithms.
   Prereq: CSC 138 Computer Science I.
CSC 239 Assembly and Machine Language Programming.

Three sem hours
Computer structure, machine language, instruction execution and digital representation of data. Computer systems organization and programs. Symbolic coding and assembly systems, macro definition and generation, program segmentation and linkage.
Prereq: CSC 137 Introduction to FORTRAN Programming, CSC 138 Computer Science I, CSC 237 Computer Programming and Numeric Methods, or ORI 219 COBOL Programming.

CSC 330 Discrete Mathematical Structures.

Three sem hours
Set algebra and algebraic structures. Elements of the theory of directed and undirected graphs. Boolean algebra and propositional logic. Applications to various areas of computer science.
Prereq: CSC 238 Computer Science II, CSC 239 Assembly and Machine Language Programming and MTH 122 Elementary Linear Algebra. CSC 239 may be taken concurrently.

CSC 334 Data Structures.

Three sem hours
Linear lists, strings, arrays and orthogonal lists. Representation of trees and graphs. Storage systems, structures, storage allocation and collection. Symbol tables, searching and sorting techniques. Formal specification of data structures and data management systems.
Prereq: CSC 238 Computer Science II and CSC 239 Assembly and Machine Language Programming.

CSC 336 Programming Languages for Educators.

Three sem hours
Formal definition of programming languages; structure of simple statements; global properties of algorithmic languages; structure of list processing, string manipulation, data description and simulation languages; run-time representation of program and data structures. Special emphasis will be placed on education oriented languages. Credit will not be given for both CSC 336 Programming Languages for Educators and CSC 337 Programming Languages.
Prereq: CSC 238 Computer Science II or equivalent and CSC 239 Assembly and Machine Language Programming.

CSC 337 Programming Languages.

Three sem hours
Formal definition of programming languages; structure of simple statements; global properties of algorithmic languages; structure of list processing, string manipulation, data description and simulation languages; run-time representation of program and data structures. Credit will not be given for both CSC 337 Programming Languages for Educators and CSC 337 Programming Languages.
Prereq: CSC 238 Computer Science II and CSC 239 Assembly and Machine Language Programming.

CSC 338 Computer Organization.

Three sem hours
Basic digital circuits, data representation and transfer, digital arithmetic. Digital storage and accessing, control functions, input/output facilities, systems organization, reliability, simulation techniques. Multiprogramming, multiprocessors and real-time systems.
Prereq: CSC 238 Computer Science II and CSC 239 Assembly and Machine Language Programming.

CSC 340 Applications in Computer Science.

Three sem hours
Information systems, simulation, graphics, audio communication, artificial intelligence, instruction and training, and communications. The student will write or use previously written programs in each of the above areas using microcomputers. These programs will use many languages and programs including LOGO, PASCAL, BASIC, electronic spread sheet, and a data base program.
Prereq: CSC 334 Data Structures, CSC 336 Programming Languages for Educators or CSC 337 Programming Languages.

CSC 346 Methods of Teaching Computer Science in the Secondary Schools.

Three sem hours
Computer science programs in the high school, information and materials needed to prepare students for the teaching of computer science in these schools. Organization and content, methods of teaching and learning, security and maintenance of equipment, professional journals and magazines available for future growth, copying software and the legality of software duplication, dealing with diversity of abilities, problem solving skills and strategies for debugging programs. This methods class does not count on the major or minor.
Prereq: CSC 334 Data Structures and junior standing.

CSC 350 C Programming in a Unix Environment.

Three sem hours
An intermediate course in computer programming, using the C programming language and emphasizing software development in a Unix environment. Concepts of structured programming; operators and expressions; statements, functions, and program organization; pointers, arrays, and character strings; structured datatypes; input/output; command line arguments. Use of Unix commands, editors, and other tools related to software development. Credit will not be given for more than one of CSC 451 C for Programmers and CSC 350C Programming in a Unix Environment. Does not count toward the Computer Science major or minor.
Prereq: CSC 239 Assembly and Machine Language Programming.

CSC 355 Computer Organization.

Three sem hours
A rigorous treatment of finite state automata and the languages accepted by them: deterministic and non-deterministic automata, push-down automata, regular and context-free languages, Turing machines. Applications to lexical analysis and parsing. Students will design automata and implement language processors.

CSC 377, 378, 379 Special Topics in Computer Science.

One, two, three sem hours
Covers topics not considered in other courses when the immediate needs of the field, interests of the students and expertise of the faculty coincide.
Prereq: CSC 238 Topics in Computer Science, CSC 239 Assembly and Machine Language Programming and department permission.

CSC 388, 488 Cooperative Education in Computer Science.

Three sem hours each
Four to six months of full-time employment at an industrial firm specially chosen to provide practical experience in computer science. The program consists of two work experiences alternated...
Computer Science 103

with full-time attendance at the University. Use on computer science major subject to department permission. Graded credit/no credit.

Prereq: Junior or senior majoring in computer science, any 300-level course in computer science, admittance to program by application, department permission.

CSC 430 Compiler Construction. Three sem hours

Prereq: CSC 334 Data Structures and CSC 337 Programming Languages.

CSC 431 Systems Programming. Three sem hours
Batch-process systems programs, components and operating characteristics. Implementation techniques for parallel processing and interrupt handling. Overall structure of multiprogramming systems. Addressing techniques, file system design and management. Interprocess communication, design of system modules and interfaces.

Prereq: CSC 334 Data Structures, CSC 337 Programming Languages and CSC 338 Computer Organization.

CSC 432 Switching Theory. Three sem hours
Switching algebra, gate network and sequential circuit analysis and synthesis. Boolean algebra, sequential circuit state and combinational circuit minimization, hazards and races, elementary number systems and codes.


CSC 433 Computer Operating Systems. Three sem hours

Prereq: CSC 334 Data Structures and CSC 338 Computer Organization.

CSC 434 Computer Organization. Three sem hours
The fundamentals of small system software development as it applies to microprocessors and minicomputers. Introduction to microprocessors and peripheral hardware; software and software development; applications. Students will have access to both microcomputers and a minicomputer to gain first-hand knowledge of this field.

Prereq: CSC 338 Computer Organization or department permission.

CSC 435 Introduction to Microprocessors. Three sem hours
A course in computer graphics using micro computers. Display software. Raster graphics, displaying graphics primitives such as pixels, lines, curves, text, and scan conversion algorithms. Displaying graphs, functions, bar and pie charts and applications.

D graphics including windowing, viewporting, window to view port transformation, clipping algorithms, scaling, rotation and translation transformations. Interactive graphics. 3D graphics, including scaling, rotation and translation transformations, parallel and perspective projections. Credit will not be given for more than one of CSC 438 Computer Graphics and CSC 437 Microcomputer Graphics.

Prereq: CSC 334 Data Structures and MTH 122 Elementary Linear Algebra.

CSC 438 Computer Graphics. Three sem hours
Display technologies, display terminals, generation of points, vectors, and text; 2D transformations, homogeneous coordinates. Clipping algorithms, design of a graphics package, interactive graphics. Raster graphics, scan conversion algorithms. Display files, 3D graphics including parallel and perspective projections, transformations, and hidden line removal.

Credit will not be given for more than one of CSC 437 Microcomputer Graphics and CSC 438 Computer Graphics.

Prereq: CSC 334 Data Structures and CSC 437 Microcomputer Graphics.

CSC 439 Computer Organization. Three sem hours
The basic concepts of computer communication systems with particular emphasis on communication hardware and microcomputer networks. Students will be involved in the development and writing of software components of communications such as terminal emulators and file transfer packages. Basic communication theory and terminology, communication hardware devices, communication protocols and microcomputer networks.


CSC 440 Database Principles. Three sem hours
A technical review of the theory and principles of database design and organization. The concepts and structures necessary to design and implement a database management system. Network, hierarchical and relational database models. Data normalization, data description languages, query languages, data integrity and security.

Prereq: CSC 330 Discrete Mathematical Structures, CSC 334 Data Structures. CSC 337 Programming Languages recommended.

CSC 441 Computing Network Principles. Three sem hours
The basic concepts of computer communication systems with particular emphasis on communication hardware and microcomputer networks. Students will be involved in the development and writing of software components of communications such as terminal emulators and file transfer packages. Basic communication theory and terminology, communication hardware devices, communication protocols and microcomputer networks.


CSC 442 Database Principles. Three sem hours
A technical review of the theory and principles of database design and organization. The concepts and structures necessary to design and implement a database management system. Network, hierarchical and relational database models. Data normalization, data description languages, query languages, data integrity and security.

Prereq: CSC 330 Discrete Mathematical Structures, CSC 334 Data Structures. CSC 337 Programming Languages recommended.

CSC 443 Software Engineering Principles. Three sem hours
The design and analysis of large and complex software systems. Students will study software life cycles, analyze the requirements and conduct detailed design studies using modern design methodologies. The knowledge gained from data structures, programming languages, computer science topics will be integrated and extended to build realistic systems.

Prereq: CSC 334 Data Structures, CSC 337 Programming Languages and CSC 338 Computer Organization.

CSC 450 UNIX for Programmers. One sem hour
A course on the use of the UNIX operating system, with emphasis on those features which make it an outstanding development environment. History and design philosophy; basic commands and use of editors file system; shell constructs such as I/O redirection, pipelines, command substitution, variable substitution, and background tasks; pattern matching programs 'grep,' 'awk,' 'sed,' shell programming; internal structure. Does not count toward the Computer Science major or minor.

Prereq: Completion of at least one regular 300-level course in Computer Science.
CSC 451 Programming in C. Two sem hours
A course in the C language for those familiar with structured programming concepts, assembly language, and data structures. Syntax and semantics of expressions and statements; program organization; pointers and arrays; structures and unions; input/output; program structure; macro preprocessor; operating system environment; development tools such as 'lint' and 'make'; use of specialized program libraries such as the 'curses' screen control package. Does not count toward the computer science major or minor.
Prereq: CSC 334 Data Structures (may be taken concurrently.)

CSC 452 Programming in Ada. Three sem hours
A course in the Department of Defense language Ada for those familiar with structured programming concepts and data structures. Topics covered will be the syntax and semantics of expressions and statements. Packages and procedures, typing, abstract data types, exception handling, concurrency, generics, and operator overloading. Procedures and packages will be written and tested using an ada compiler. Does not count as a restricted elective.
Prereq: CSC 334 Data Structures or ORI 315 Applied Data Structures.

CSC 460 Computer Science Practicum. Three sem hours
A capstone course for students majoring in computer science that will provide the opportunity to develop one or more large software systems utilizing the latest software design techniques. These techniques include requirement specifications, functional specifications, architectural design, performance measurement and testing. A final written report will be required that include both the design documents and a user' guide.
Prereq: Any 400 level course in computer science.

CSC 477, 478, 479 Special Topics in Computer Science. One, two, three sem hours
Covers topics not considered in other courses when the immediate needs of the field, interests of the students and expertise of the faculty coincide.
Prereq: Senior standing in computer science and department permission.

CSC 490 Seminar and Project Design for Educators. Three sem hours
Major project design and more formalized structured programming. Each student will work on two original major programs, one of which will be a group project. The student will report on both projects (written and oral) and give a formal presentation of the individual project to the University community in the form of a public lecture.
Prereq: CSC 334 Data Structures and senior standing.

CSC 497, 498, 499 Independent Study in Computer Science. One, two, three sem hours
A report or project on an approved subject in the field of computer science under the guidance of the staff of the Department of Computer Science.
Prereq: Undergraduate grade point average in computer science of 3.0 or above and department permission.

ECONOMICS
Office: 703 Pray-Harrold

Department Head: Young-lob Chung
Professors: John E. Anderson, Young-lob Chung, Donald W. Pearson
Associate Professors: John A. Edgren, Raouf S. Hanna, Steven C. Hayworth, Kemper Moreland, Michael G. Vogt, Bill M. Woodland
Assistant Professors: Dewan A. Abdullah, David B. Crary, Sharon Erenburg, Alfredo G. Esposto, Deborah M. Figart
Lecturer: Eija Multasuo

The Department of Economics offers majors and minors in economics with diversified areas of specialization, and in labor studies. The department also participates in other University programs such as area studies offered in the Department of History and Philosophy, the minor in conservation and resource use in the Department of Biology, and Women's Studies.

Students have access to the University computer system through the department's own statistical laboratory and terminals and through facilities available at various locations on campus.

The department presents five annual student awards: the Murg Award for outstanding service to the Economics Department, the Gockerman Award for an outstanding paper on a subject related to economics, two Hanna Awards for outstanding papers in economics and the Moore Award for an outstanding essay in law and economics.

It sponsors Eta chapter of Omicron Delta Epsilon honor society in economics, established in 1975 to recognize students who demonstrate ability in the study of economics at an institute where sound economics programs are offered, and the Economics Club for students interested in economics as a major or minor or complementary field to their studies either for further study in economics or for preparation for professional programs such as law and business administration.

Degrees:
Bachelor of arts or bachelor of science in economics
Bachelor of arts in labor studies
Bachelor of business administration in economics
Bachelor of arts or bachelor of science in actuarial science and economics

Programs of Study
Majors:
Economics (with concentrations in business economics, economics of finance, labor economics, governmental economics, comparative economic systems, and theoretical and quantitative economics)

Labor Studies
Minors:
Economics
Labor studies

Advising is available to students on a walk-in basis during regularly scheduled office hours. A list of advisers is posted in the Economics Department.
Advising Coordinators:
Undergraduate: Dewan A. Abdullah, John Edgren, Sarah Duffy, Kemper Moreland, Eija Multasuo
Labor studies: Donald W. Pearson, Deborah M. Figart
B.B.A. in economics: Michael G. Vogt, Bill Woodland

Graduate study leads to a master’s degree in three different programs: master of arts in economics, master of arts in applied economics and master of arts in development, trade and planning. The degrees are described in the Graduate Catalog.

**Economics Major**

The major in economics requires 30 semester hours of which 15 semester hours are elected from economics courses without restriction or as a concentration of courses in one of the following areas: business economics, economics of finance, labor economics, governmental economics, comparative economic systems or theoretical and quantitative economics.

<table>
<thead>
<tr>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic major in economics</strong> .................................................. 30</td>
</tr>
<tr>
<td><strong>1. Required courses</strong> .......................................................... 15</td>
</tr>
<tr>
<td>ECO 201, 202 Principles of Economics I and II ................................. 6</td>
</tr>
<tr>
<td>ECO 301 Intermediate Macroeconomic Analysis .................................. 3</td>
</tr>
<tr>
<td>ECO 302 Intermediate Microeconomic Analysis .................................. 3</td>
</tr>
<tr>
<td>ECO 310 Economic Statistics or ECO 415 Introduction to Econometrics ........ 3</td>
</tr>
<tr>
<td><strong>2. Restricted electives</strong> ......................................................... 15</td>
</tr>
<tr>
<td>Although any 15 semester hours of electives in economics will complete the requirements for the major, choice of one of the six recommended course patterns provides concentration in a specific career area.</td>
</tr>
</tbody>
</table>

Business economics relates to private enterprise, including an analysis of business from a broad social perspective, and may lead directly to employment in business. Students selecting this concentration normally take additional courses in a minor in management, finance, accounting, marketing or operations research. Recommended electives are:

| ECO 320 Labor Economics .................................................. 3 |
| ECO 326 Consumer Economics .................................................. 3 |
| ECO 341 Money and Banking .................................................. 3 |
| ECO 361 Corporation and Finance ............................................ 3 |
| ECO 405 Economic Analysis for Business ................................... 3 |
| ECO 445 Economic Fluctuations and Forecasting ................................ 3 |
| ECO 460 Industrial Organization ............................................ 3 |

Economics of finance concentrates on the financial aspects of private or public enterprise and should enable students to understand the operations of financial institutions and to analyze and interpret financial data. It may lead to employment in banks, insurance companies or other financial institutions or in the finance and credit departments of industries or private firms. Recommended electives include:

| ECO 326 Consumer Economics .................................................. 3 |
| ECO 341 Money and Banking .................................................. 3 |
| ECO 350 Government Finance .................................................. 3 |
| ECO 361 Corporation Finance .................................................. 3 |
| ECO 405 Economic Analysis for Business ................................... 3 |
| ECO 445 Economic Fluctuations and Forecasting ................................ 3 |
| ECO 480 International Economics ............................................ 3 |

Labor economics is designed for those who plan to specialize in the economic aspects of human resources and labor relations. It is of interest to those who expect to be employed in occupational counseling, labor and industrial relations and government service. Recommended electives include:

| ECO 320 Labor Economics .................................................. 3 |
| ECO 321 Minority Workers in the Labor Market ................................ 3 |
| ECO 322 American Labor Unions .................................................. 3 |
| ECO 323 Labor and Government .................................................. 3 |
| ECO 324 Unionism in the Public Sector ........................................ 3 |
| ECO 325 Collective Bargaining .................................................. 3 |
| ECO 328 Economics of Women .................................................. 3 |
| ECO 420 Comparative Labor Unionism ........................................ 3 |
| ECO 422 Union Leadership ...................................................... 3 |
| ECO 424 Seminar in Labor Issues .............................................. 3 |

**Governmental economics is planned for students who desire to learn about the economic aspects of all levels of governments and their relation to the private sector. This program may lead to employment opportunities in government, in such areas as budget analysis, tax policy, collection and dissemination of governmental statistics, and positions with state and federal regulatory agencies such as public service commissions. Recommended electives include:**

| ECO 323 Labor and Government .................................................. 3 |
| ECO 332 Urban Economics ...................................................... 3 |
| ECO 336 Economics of Environment and Natural Resources .................. 3 |
| ECO 337 Energy Economics and Policies ...................................... 3 |
| ECO 338 Land Economics ......................................................... 3 |
| ECO 350 Government Finance .................................................. 3 |
| ECO 365 Public Utility Economics .............................................. 3 |
| ECO 366 Economics of Transportation ......................................... 3 |
| ECO 455 Economic Efficiency in the Public Sector ......................... 3 |

Comparative economic systems is designed for those who wish to study the various economic systems throughout the world and intend to work for international organizations or to enter foreign service. Those in an area studies program will find this concentration of special value. Recommended electives include:

| ECO 370 Comparative Economic Systems ...................................... 3 |
| ECO 375 Economic History of the United States ................................ 3 |
| ECO 385 Economic Development .................................................. 3 |
| ECO 460 Industrial Organization .............................................. 3 |
| ECO 471 Case Studies of Developing Economies ................................ 3 |
| ECO 472 The Soviet Economy .................................................... 3 |

Theoretical and quantitative economics is designed for students planning graduate study in economics or a career as a professional economist. These students are encouraged to minor in mathematics, including MTH 120 and 121 Calculus I and II, MTH 223 Multi-
variable Calculus, MTH 370 Probability and Statistics I, MTH 418 Applied Linear Algebra, and MTH 471 Probability and Statistics II in their studies. The recommended elective courses in economics are:

- ECO 400 Problems of Economic Theory ........................................ 3
- ECO 406 History of Economic Thought ........................................ 3
- ECO 415 Introduction to Econometrics ........................................ 3
- ECO 445 Economic Fluctuations and Forecasting .......................... 3
- ECO 480 International Economics .............................................. 3
- ECO 491 Research Seminar in Economics .................................... 3

**Bachelor of Business Administration in Economics (Non-teaching)**

The bachelor of business administration in economics degree program is designed to provide professional training in economics applicable to business management for students contemplating administrative or research careers in business and/or government. This program provides an additional career program option for students by permitting them to major in economics while taking the same foundation course required of all business students. This is a cooperative program with the College of Business.

Students enrolling in this program are required to follow the business administration curriculum (see page 209) in addition to fulfilling the 24 semester hours in economics.

### Academic major in economics .................................................. 24

<table>
<thead>
<tr>
<th>Required courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 301 Intermediate Macroeconomic Analysis ......................... 3</td>
</tr>
<tr>
<td>ECO 302 Intermediate Microeconomic Analysis ........................ 3</td>
</tr>
<tr>
<td><em>ECO 310 Economic Statistics or ECO 415 Introduction to Econometrics</em> ........................................ 3</td>
</tr>
</tbody>
</table>

*Students also may meet the statistics requirement by taking ORI 265, Business Statistics I. If students select ORI 265, they are not eligible to take ECO 310, Economic Statistics; ECO 415, Introduction to Econometrics is recommended in this case.

<table>
<thead>
<tr>
<th>Restricted electives</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 credits from any economics courses, ECO 301 and ECO 302 are highly recommended.</td>
</tr>
</tbody>
</table>

Although any 15 semester hours of 300-level or above electives in economics will complete the requirements for the major, students may pursue one of the six recommended career course patterns: business economics, economics of finance, labor economics, governmental economics, comparative economic systems, and theoretical and quantitative economics listed under the economics major.

Students selecting this economics major are encouraged to include at least one 400-level course offered in the College of Business as an elective.

### Labor Studies Major

This program is administered through the Economics Department and leads to a bachelor of arts degree in labor studies. A minor is also available. Students should select courses in consultation with the director of labor studies and/or the specified advising coordinators.

### Minors Offered in the Department of Economics

#### Economics Minor

### Labor Studies Minor

<table>
<thead>
<tr>
<th>Electives</th>
</tr>
</thead>
</table>
Courses

ECO 200 The American Economy. Three sem hours
Survey of the principles of economics; the basic knowledge of the functioning of the present-day American economy. Not open to students with ECO 201 or 202 Principles of Economics I and II.

ECO 201 Principles of Economics I. Three sem hours
The first half of basic principles of economics. Emphasizes macroeconomic concepts of national income, fiscal and monetary policy and problems of unemployment, inflation and economic growth.
Prereq: MTII 104 Intermediate Algebra or equivalent.

ECO 202 Principles of Economics II. Three sem hours
Second half of an introduction to basic principles of economics. Emphasizes microeconomic concepts of demand, supply and problems relating to prices and resource allocation.
Prereq: ECO 201 Principles of Economics I or equivalent, and MTII 104 Intermediate Algebra or equivalent.

ECO 300 Contemporary Economic Issues. Three sem hours
Analysis of contemporary economic problems. Topics may change each semester as the interests and/or problems change. Students may elect this course several times as long as different topics are studied but it may be taken only twice for credit toward a major or minor in economics.
Prereq: One course in economics.

ECO 301 Intermediate Macroeconomic Analysis. Three sem hours
National income theory, employment theory and stabilization policies.
Prereq: ECO 201 and 202 Principles of Economics I and II or equivalent, and MTII 119 Mathematical Analysis for Social Sciences II or MTII 120 Calculus I.

ECO 302 Intermediate Microeconomic Analysis. Three sem hours
The theory of the firm, prices and resource allocations.
Prereq: ECO 201 and 202 Principles of Economics I and II or equivalent, and MTII 119 Mathematical Analysis for Social Sciences II or MTII 120 Calculus I.

ECO 310 Economic Statistics. Three sem hours
Introduction to the statistical measurement and analysis of mass economic data; small samples and their use for description and inference; the statistical study of economic time series data; index construction and interpretation; and introductory regression analysis.
Prereq: MTII 119 Mathematical Analysis for Social Sciences II or MTII 120 Calculus I.

ECO 320 Labor Economics. Three sem hours
Survey of the economic analysis of labor resources. Labor supply and labor demand, worker mobility and unemployment, human resource development and labor market institutions.
Prereq: ECO 201 and 202 Principles of Economics I and II or equivalent.

ECO 321 Minority Workers in the Labor Market. Three sem hours
Special problems and unique employment situations of minority workers (racial and ethnic minorities, women, handicapped) involving historical and market influences, and employer, union, and government policies. Recent and proposed legislation affecting the labor force status of minorities.
Prereq: One course in economics.

ECO 322 American Labor Unions. Three sem hours
The nature, characteristics and principles of American labor unionism; the government and structure of unions and their role in the economy.
Prereq: One course in economics.

ECO 323 Labor and Government. Three sem hours
The economic aspects of labor legislation and governmental administrative rulings affecting unions and union-employer relations.
Prereq: One course in economics.

ECO 324 Unionism in the Public Sector. Three sem hours
The origins, goals and methods of union organization of public sector employees. Emphasis on teachers and other public employees at state and local levels.
Prereq: One course in economics.

ECO 325 Collective Bargaining. Three sem hours
Major problems in present-day collective bargaining including the negotiation of collective agreements, practical aspects and economic implications.
Prereq: One course in economics.

ECO 326 Consumer Economics. Three sem hours
Economic behavior, role and relationship of consumers in American economy. Some contemporary economic problems of consumers.
Prereq: One course in economics.

ECO 327 Inequality and Economic Justice. Three sem hours
The distribution of wealth and income in the U.S.; an economic analysis of income maintenance programs, including the U.S. social security system.
Prereq: ECO 201 and 202 Principles of Economics I and II or department permission.

ECO 328 Economics of Women. Three sem hours
The changing economic role of women, participants and non-participants in the labor force, labor union members and officers, consumers, unpaid household laborers, pensioners, welfare recipients, heads of households, borrowers of credit, etc. Recent and proposed legislation affecting the economic status of women.
Prereq: One course in economics or WMS 200 Introduction to Women's Studies.

ECO 329 Economics of Crime. Three sem hours
The use of economic concepts and tools to analyze economic causes of crime and economic policies relevant to crime.
Prereq: ECO 202 Principles of Economics II.
ECO 332 Urban Economics. Three sem hours
The level, distribution, stability and growth of urban income and employment. Analysis of contemporary urban problems, such as inner-city poverty, housing-land use, transportation and local public services with special reference to economic efficiency and programs. Prereq: ECO 201 and 202 Principles of Economics I and II or equivalent.

ECO 336 Economics of Environment and Natural Resources. Three sem hours
The application of economic concepts and analysis to problems of environment and management of natural resources. Prereq: ECO 202 Principles of Economics II.

ECO 337 Energy Economics and Policies. Three sem hours
Introduction to the economics of energy in the U.S. and world economies, including a critical analysis of the policies of the governments involved. Prereq: ECO 202 Principles of Economics II.

ECO 338 Land Economics. Three sem hours
The use of land in modern society, including a critical economic evaluation of alternative and optimal uses of land. Prereq: ECO 201 and 202 Principles of Economics I and II or equivalent.

ECO 341 Money and Banking. Three sem hours
The nature and role of money and credit, the banking system and other financial institutions and the relation of monetary policy to the level of economic activity. Prereq: ECO 201 and 202 Principles of Economics I and II or equivalent.

ECO 350 Government Finance. Three sem hours
An examination of theory, institutions and problems of financing the public sector; the effects of expenditures, taxes and other revenue sources, borrowing, debt management and grants-in-aid at all levels of government upon the distribution of national income and upon the allocation of resources. Prereq: ECO 201 and 202 Principles of Economics I and II or equivalent.

ECO 361 Corporation Finance. Three sem hours
The structure, financial organization, income and policy decisions of corporations. Prereq: One course in economics.

ECO 365 Public Utility Economics. Three sem hours
The economic function and significance of public utilities and the role of public regulation. Prereq: ECO 201 and 202 Principles of Economics I and II or equivalent.

ECO 366 Economics of Transportation. Three sem hours
Survey of the economic aspects of transportation, considering the role of government and the socio-economic effects of the transportation sector on the economy. Prereq: ECO 201 and 202 Principles of Economics I and II or equivalent.

ECO 370 Comparative Economic Systems. Three sem hours
Alternative approaches to organizing economic activity, emphasizing advantages and disadvantages as compared to the U.S. economic system. Illustrations are taken from noncapitalist economies such as Cuba and China. Prereq: One course in economics.

ECO 375 Economic History of the United States. Three sem hours
The economic development of the United States. Prereq: One course in economics.

ECO 385 Economic Development. Three sem hours
The causes, the consequences and possible solutions of economic problems facing the developing countries of Latin America, Africa and Asia. Emphasis on mass poverty, food shortages, overpopulation, unemployment and unequal income distribution. Prereq: One course in economics.

ECO 386 Technology and Economic Growth. Three sem hours
The nature of technology and its importance for contemporary economic growth. Includes technological change and the effect on society and the individual. Prereq: One course in economics.

ECO 387, 487 Cooperative Education in Economics or Labor Studies. Three sem hours
Provides practical experience in the student's major field for four to six months of full-time employment at an individual employer. The program consists of one or two work experiences (ECO 387 and ECO 487) alternated with full-time attendance at the University. A written report is required at the end of each employment period. Admittance to program by application only. Graded credit/no credit. Prereq: Junior standing. Major in economics or labor studies. Department permission.

ECO 400 Problems in Economic Theory. Two sem hours

ECO 401 Computer Applications in Macroeconomics. Three sem hours
Test of various hypotheses of consumption function, investment function, demand for money function, supply of money process, aggregate production function, and labor supply and demand functions. Problems of aggregation and structural vs. reduced form estimations. Prereq: ECO 301 Intermediate Macroeconomic Analysis and ECO 310 Economic Statistics, or equivalent.

ECO 402 Computer Applications in Microeconomics. Three sem hours
Applied linear and non-linear models of the consumer and the firm. Estimates demand functions (for example housing demand and energy demand), cost functions and production functions. Prereq: ECO 302 Intermediate Microeconomic Analysis and ECO 310 Economic Statistics or equivalent.
ECO 405 Economic Analysis for Business. Three sem hours

ECO 406 History of Economic Thought. Three sem hours
Introduction to the development of economic thought from the age of mercantilism to Keynes, with emphasis on the contributions of some of the major writers and schools of economic thought. Prereq: ECO 201 and 202 Principles of Economics I and II.

ECO 407 Economic Analysis and Law. Three sem hours
The application of economic analysis to the law, including property law, contract law, family law, torts, criminal law, constitutional law, antitrust and environmental law. Prereq: ECO 201 and 202 Principles of Economics I and II or department permission.

ECO 415 Introduction to Econometrics. Three sem hours
Introduction to the mathematical formulation of economic theories. The use of statistical procedures to measure the theoretical relationships and to verify or reject the theories. Quantitative predictions, measurements and statistical test of the predictions. Prereq: ECO 310 Economic Statistics or equivalent.

ECO 420 Comparative Labor Unionism. Three sem hours
Comparative survey of labor union movements in various economics. Differences in theories behind the movement to organize the working class, and differences in union movement evolution, giving ideological and functional perspective. Prereq: ECO 201 and 202 Principles of Economics I and II or department permission.

ECO 422 Union Leadership. Three sem hours
Field experience in union administration in cooperation with metropolitan area local and international unions. Emphasizes day-to-day operation of union institutions. Students are assigned to specific unions for an average of ten hours weekly, meeting with the instructor periodically for analysis and discussion. Open only to students in labor studies major or minor. Prereq: ECO 320 Labor Economics and senior standing.

ECO 424 Seminar in Labor Issues. Three sem hours

ECO 436 Health Economics. Three sem hours
The production, distribution, supply and utilization of health care resources, especially in the United States. Relevant tools of economic analysis and empirical studies, allocation of resources to the health care sector. Prereq: ECO 201 and 202 Principles of Economics I and II or equivalent.

ECO 445 Economic Fluctuations and Forecasting. Three sem hours
The nature and causes of business fluctuations. Problems of forecasting business cycles, international aspects of the business cycle and governmental stabilization policies. Prereq: ECO 201 and 202 Principles of Economics I and II or equivalent.

ECO 455 Cost-Benefit Analysis. Three sem hours
Cost-benefit analysis techniques and their application to evaluating economic efficiency of government expenditure programs. Determination and distribution of benefits and costs in specific public projects. Prereq: ECO 201 and 202 Principles of Economics I and II.

ECO 460 Industrial Organization. Three sem hours
Monopoly, competition, mergers, concentration and antitrust and other public policies affecting private enterprise in the United States. Prereq: ECO 201 and 202 Principles of Economics I and II.

ECO 471 Case Studies of Developing Economies. Three sem hours
A survey of economic problems in selected developing economies. Case studies of countries or regions among the less developed economies. Cases may change from year to year. Prereq: ECO 201 and 202 Principles of Economics I and II or equivalent.

ECO 472 The Soviet Economy. Three sem hours
The Soviet economy including institutional structure, ideological background, economic growth and development, the problems of central planning and current prospects for reform. Prereq: ECO 201 and 202 Principles of Economics I and II or department permission.

ECO 477, 478, 479 Special Topics. One, two, three sem hours
A study of topics not covered in other department offerings. Students may elect more than once provided different topics are studied.

ECO 480 International Economics. Three sem hours
Analysis of theory and economic problems of international trade, factor movements, exchange mechanisms, balance of payments, regional economic integration, assistance agencies and adjustments to changing conditions. Prereq: ECO 201 and 202 Principles of Economics I and II or equivalent.

ECO 491 Research Seminar in Economics. Three sem hours
Selected issues in economic methodology, research procedures and techniques with the preparation of a major research paper and group analysis of its findings. Prereq: Junior standing, economics major or minor.

ECO 497, 498, 499 Independent Studies. One, two, three sem hours
Advanced study on an individual research basis in areas not covered in formal course work. Restricted to economics majors and minors. Prereq: Twelve hours of economics and department permission.
ENGLISH LANGUAGE AND LITERATURE
Office: 612 Pray-Harrold

Department Head: Marcia A. Dalbey


Associate Professors: Phillip Arrington, Jean Dye, Brenda Flanagan, Thomas Hennings, Meredith Klaus, Martin Shichtman, Eleanor Wright

Assistant Professors: Cheryl Cassidy, Keith Denning, Harry Eiss, Catherine Fleischer, William Hauer, Bernard Miller, Alexandra Norton, James Pinson, Daniel Seely, Richard Wright, Ian Wocjik-Andrews

The programs offered by the English Department are designed to enhance a student’s understanding and skill in literature, English language and composition, and written communication. These programs also prepare students for a broad range of careers, especially those that are media-related and require the ability to read carefully, write clearly and understand the complexities of style and structure variations in the language.

The department supports a student chapter of Sigma Tau Delta, national honorary society for students of English; Women in Communications, Inc., national professional honorary organization for women in communications; and the student-managed English Club for all students of English.

Degrees: Bachelor of arts and bachelor of science

Programs of Study

Majors:
- English language
- English linguistics
- Journalism
- Literature
- Written communication
- Interdisciplinary and Group Majors:
  - English and American language and literature
  - Language, journalism, telecommunications and film
  - Literature and drama/theatre for the young
  - Literature, language, communications and theatre arts
- Public relations

Minors:
- Children’s literature
- English language
- English language and literature
- English linguistics
- Journalism
- Literature
- Writing

Two of the majors, literature and English language, plus the group major in English and American language and literature, are certifiable for teaching curricula. Students seeking certification in these areas are strongly advised to discuss their options with an adviser in the English Department.

Advising is available from faculty advisers whose names and office hours are posted in the English Department office.

Special requirements for students seeking admission to the written communication major include evidence that their GPA is at least 2.5 at the end of the sophomore year.

Students who score above 550 on the verbal part of the SAT or 25 on the English section of the ACT and whose high school grade point average was 2.5 or above may choose to enroll in a basic language course in a foreign language (FRN, GER or SPN 121, 122, 221 or 222) instead of ENG 121 English Composition.

Graduate study leads to the master’s degree in English. The M.A. degree is described in the Graduate Catalog. The undergraduate major in English and American language and literature also is part of an accelerated Master of Arts with concentration in language and composition. The Graduate School or the English Department can provide details.

Major in English Language

<table>
<thead>
<tr>
<th>Academic major in English language</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required courses in advanced writing</td>
<td>9</td>
</tr>
<tr>
<td>Choose three courses from the following:</td>
<td></td>
</tr>
<tr>
<td>ENG 225 Intermediate English Composition, ENG 226 Report and Research Writing, ENG 325 Expository Writing, ENG 417 Writing about Controversies</td>
<td></td>
</tr>
<tr>
<td>2. Required courses in linguistics</td>
<td>9</td>
</tr>
<tr>
<td>LIN 201 and any two other LIN courses</td>
<td></td>
</tr>
<tr>
<td>3. Electives</td>
<td>12</td>
</tr>
<tr>
<td>Any course not taken from (1) and (2) above as a required course, or any of the following:</td>
<td></td>
</tr>
<tr>
<td>ENG 335 Imaginative Writing, ENG 422 Writer’s Workshop, ENG 424 Technical Writing</td>
<td></td>
</tr>
<tr>
<td>JRN 215 News Writing and Reporting, JRN 306 Feature Writing, JRN 307 Copy Editing, JRN 314 Writing for Public Relations, JRN 423 Magazine Article Writing, JRN 453 Advanced Reporting</td>
<td></td>
</tr>
<tr>
<td>LIT 412 Medieval Literature, LIT 413 The Poetry of Chaucer</td>
<td></td>
</tr>
</tbody>
</table>

Major in English Linguistics

<table>
<thead>
<tr>
<th>Academic major in English linguistics</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required courses</td>
<td>18</td>
</tr>
<tr>
<td>LIN 301 Introduction to Language</td>
<td>3</td>
</tr>
<tr>
<td>LIN 401 Introduction to Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>LIN 402 Modern English Grammar</td>
<td>3</td>
</tr>
<tr>
<td>LIN 420 Introduction to Phonology</td>
<td>3</td>
</tr>
<tr>
<td>LIN 421 The History of the English Language</td>
<td>3</td>
</tr>
<tr>
<td>LIN 425 Introduction to Syntax</td>
<td>3</td>
</tr>
<tr>
<td>2. Electives</td>
<td>12</td>
</tr>
</tbody>
</table>

Sem hours
The remaining twelve hours of study are to be selected by the candidates and their advisers. They may include courses from inside or outside the department. Suggested areas include anthropology, composition and rhetoric, 500-level linguistics courses, foreign languages, literature (particularly the early periods), math and computer science, philosophy, psychology, reading, sociology, speech and hearing science, communications, and TESOL.

**Major in Literature**

<table>
<thead>
<tr>
<th>Academic major in literature</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required basic literature courses</td>
<td>9</td>
</tr>
<tr>
<td>a. Choose two courses from the following:</td>
<td></td>
</tr>
<tr>
<td>LIT 100 Reading of Literature, LIT 101 Reading of Literature: Fiction, LIT 102 Reading of Literature: Poetry, LIT 103 Reading of Literature: Drama, LIT 204: Native American Literature, LIT 251 The Bible as Literature, LIT 260 Afro-American Literature</td>
<td></td>
</tr>
<tr>
<td>b. LIT 210 Introduction to Shakespeare</td>
<td></td>
</tr>
<tr>
<td>(No more than nine semester hours of 100- and 200-level literature courses may count toward this major)</td>
<td></td>
</tr>
<tr>
<td>2. Restricted electives</td>
<td>12</td>
</tr>
<tr>
<td>Choose one course from each of the following groups:</td>
<td></td>
</tr>
<tr>
<td>a. LIT 305 Shakespeare: The Major Comedies and Histories, LIT 340 The Rise of British Drama to 1642, LIT 341 English Drama 1660-1779, LIT 411 Medieval Epic and Romance, LIT 412 English Literature of the Middle Ages, LIT 413 The Poetry of Chaucer, LIT 414 English Renaissance Prose and Poetry 1500-1600, LIT 415 Literature of the Neo-Classical Period 1660-1798</td>
<td></td>
</tr>
<tr>
<td>c. LIT 333 Modern British and European Novel 1914 to Present, LIT 342 The Development of the Modern Drama, LIT 401 Modern British and American Poetry 1914 to Present, LIT 460 Recent Trends in British and American Literature</td>
<td></td>
</tr>
<tr>
<td>3. Electives</td>
<td>9</td>
</tr>
<tr>
<td>Choose from two of the following:</td>
<td></td>
</tr>
<tr>
<td>LIT 300 Narrative in Literature and Film, LIT 440 Literary Types, LIT 443 Women in Literature, LIT 450 Major Authors</td>
<td></td>
</tr>
</tbody>
</table>

In the restricted electives for each concentration, students may take only the courses listed unless they obtain department permission for substitutions.

<table>
<thead>
<tr>
<th>Academic major in written communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required courses</td>
</tr>
<tr>
<td>ENG 325 Expository Writing</td>
</tr>
<tr>
<td>ENG 424 Technical Writing</td>
</tr>
<tr>
<td>JRN 215 News Writing and Reporting</td>
</tr>
<tr>
<td>CSC 136 Computers for the Non-Specialist</td>
</tr>
<tr>
<td>2. Restricted electives</td>
</tr>
<tr>
<td>Choose from the following:</td>
</tr>
<tr>
<td>ENG 225 Intermediate English Composition, ENG 226 Report and Research Writing, ENG 335 Imaginative Writing, ENG 387/487 Cooperative Education, ENG 503 Rhetoric and Advanced Composition, ENG 524 Advanced Technical Writing and Research</td>
</tr>
<tr>
<td>LIN 402 Modern English Grammar</td>
</tr>
<tr>
<td>JRN 306 Feature Writing, JRN 307 Copy Editing, JRN 312 Principles of Public Relations, JRN 314 Writing for Public Relations, JRN 423 Magazine Article Writing</td>
</tr>
<tr>
<td>CTA 344 Continuity Writing for Radio, TV and Film</td>
</tr>
<tr>
<td>FA 169 Graphic Design (Studio Experience-Non-majors)</td>
</tr>
<tr>
<td>IDT 121 Graphic Communication, IDT 204 Photographic Communication</td>
</tr>
</tbody>
</table>

**B. Concentration in imaginative writing**

<table>
<thead>
<tr>
<th>1. Required courses</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 335 Imaginative Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENG 422 Writer's Workshop</td>
<td>3</td>
</tr>
<tr>
<td>Choose two 300- or 400-level literature courses</td>
<td>6</td>
</tr>
<tr>
<td>2. Restricted electives</td>
<td>18</td>
</tr>
<tr>
<td>Choose from the following:</td>
<td></td>
</tr>
<tr>
<td>ENG 225 Intermediate English Composition, ENG 226 Report and Research Writing, ENG 325 Expository Writing, ENG 335 Imaginative Writing, ENG 417 Writing About Controversies, ENG 422 Writer's Workshop, ENG 503 Rhetoric and Advanced Composition</td>
<td></td>
</tr>
<tr>
<td>LIN 402 Modern English Grammar, LIN 421 The History of the English Language</td>
<td></td>
</tr>
<tr>
<td>JRN 215 News Writing and Reporting, JRN 306 Feature Writing, JRN 423 Magazine Article Writing</td>
<td></td>
</tr>
<tr>
<td><em>Course may be repeated for additional credit.</em></td>
<td></td>
</tr>
</tbody>
</table>

**Major in Journalism**

Students will be required to complete 30 hours in professional journalism and writing courses (see below), plus a 20-hour minor in a specified field. Admission to the program will require a 2.5 grade point average. For journalism majors, JRN 213 Introduction to Print Media is a prerequisite for all courses in the major. JRN 213 does not count toward the major.
Academic major in journalism .............................................. 30

1. Required courses .................................................... 21
   JRN 215 News Writing and Reporting, JRN 306 Feature Writing,
   JRN 307 Copy Editing, JRN 313 History of American
   Journalism, JRN 453 Advanced Reporting, JRN 454
   Contemporary Problems in Journalism, JRN 455 Journalism
   and the Law

2. Restricted electives ................................................... 9
   Choose six courses from the following:
   JRN 305 Editorial, Column and Review Writing, JRN 311
   Editing Procedures, JRN 312 Principles of Public Relations,
   JRN 314 Writing for Public Relations, JRN 387, 487
   Cooperative Education, JRN 488, 489 490 Internship
   ENG 325 Expository Writing, ENG 424 Technical Writing

Students will be required to complete a 20-hour minor from
one of these areas:
Economics, English language and literature, foreign language
(nine foreign language minors are available, in German,
Spanish, and French, each with a minor option of language,
and literature, or literature), geography, history
(several history minors are available. Students wishing a
history minor will select a minor approved by their journalism
advisor), political science, sociology.

Students are advised to choose free electives from the follow­
ing list:
LIT 210 Introduction to Shakespeare, LIT 332 The Modern
American Novel, LIT 410 Modern American Literature
HIS 101 History of Western Civilization to 18th Century,
HIS 102 History of Western Civilization to the Present, HIS
103 History of Non-western Civilization
PHI 110 Philosophies of Life, PHI 130 Introduction to Logic
PLS 112 American Government (one other PLS course from a
list available from journalism advisors)
ECO 201 Principles of Economics I, ECO 202 Principles of
Economics II
CSC 136 Computers for the Non-Specialist
ANT 135 Introduction to Cultural Anthropology

If a journalism major chooses a minor in economics, English
language and literature, history, or political science, those courses
listed here which are part of that minor should be replaced with
courses listed as restricted electives on the major. Courses taken to
fulfill the general studies requirements leave room for still other
free electives.

Science, technical, business or other minors will be encour­
gaged for those students wishing to pursue interests or careers that
might combine journalism with those specialties. Choice of those
minors will be subject to approval by the journalism advisor.

Suggested electives:
SOC 105 Introductory Sociology
CTA 141 Introduction to Radio, TV and Film Production, CTA
331 Fundamentals of Radio Production and Direction,
CTA 332 Fundamentals of Television Production and
Direction, CTA 336 History and Criticism of Radio and
Television
**Interdisciplinary Major in Public Relations**

Admission to the program will require a 2.8 GPA, which must be maintained in the major as well as in the minor selected. Admission is granted by the Department of English Language and Literature. Courses from both the Departments of English and Communication and Theatre Arts are offered as requirements and restricted electives.

**Sem hours**

<table>
<thead>
<tr>
<th>Interdisciplinary major in public relations</th>
<th>36</th>
</tr>
</thead>
</table>

**Prerequisite courses:** JRN 215 News Writing and Reporting, CTA 121 or 124 Fundamentals of Speech.

1. **Required fundamental courses**

- **JRN 312 Principles of Public Relations**, JRN 314 Writing for Public Relations, CTA 141 Introduction to Radio-TV-Film Production, CTA 224 Public Speaking or CTA 350 Persuasion

2. **Required Advanced Courses**

- **JRN 306 Feature Writing**, JRN 408 Case Studies in Public Relations, CTA 334 Radio-Television News or CTA 344 Continuity Writing for Radio, Television, Film, CTA 354 Organizational Communications or CTA 357 Interviewing as Communication

3. **Restricted Electives**

Choose 12 credits from the following but do not duplicate courses already taken as a requirement.

- JRN 305 Editorial, Column and Review Writing, JRN 307 Copy Editing, JRN 311 Editing Procedures, JRN 423 Magazine Article Writing, JRN 455 Journalism and the Law
- ENG 424 Technical Writing
- CTA 227 Interpersonal Communications or CTA 359 Small Group Communication, CTA 224 Public Speaking or CTA 350 Persuasion, CTA 334 Radio-Television News or CTA 344 Continuity Writing for Radio, Television, Film, CTA 354 Organizational Communications or CTA 357 Interviewing as Communication

**IDT 436 Electronic Publishing**

*JRN 387-487 Cooperative Education in Journalism/Public Relations, *JRN 488, 489, 490 Internship in Journalism/Public Relations

*CTA 387, 388, 389 Cooperative Education in Radio-Television-Film, *CTA 487, 488, 489 Internship in Radio-Television-Film

A maximum of six hours may be chosen from:

FA 169 Graphic Arts for the Non-Major

*IDT 121 Graphic Communication, IDT 204 Photographic Communication,*

*CSC 136 Computers for the Non-Specialist*  

*Where applicable to public relations*

**Recommended minors:**

Marketing or management (with MKT 360 Principles of Marketing and MKT 369 Advertising) and other courses such as statistics, marketing research, buyer behavior, promotional strategy; English writing, sociology, psychology, or a minor chosen by student in specific field of interest.

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**Group Major in Literature, Language, Communication and Theatre Arts**

Students may elect a group major consisting of 36 semester hours designed for the elementary teacher. See page 261, Department of Teacher Education, for description of the group major.

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**Interdisciplinary Major in Children’s Literature and Drama/Theatre for the Young**

This major may be used for the bachelor of science or bachelor of arts degrees without teacher certification, as well as on the elementary education program with certification.

**Sem hours**

| Interdisciplinary major in children's literature and drama/theatre for the young | 36 |

1. **Required courses**

Choose two courses from the following:

- LIT 100 The Reading of Literature, LIT 101 The Reading of Literature: Fiction, LIT 102 The Reading of Literature: Poetry, LIT 103 The Reading of Literature: Drama, LIT 204 Native American Literature, LIT 210 Introduction to Shakespeare, LIT 251 The Bible as Literature, LIT 260 Afro-American Literature
- ENG 450 Children’s Literature: Criticism and Response
- LIT 207 Introduction to Children’s Literature
- LIT 351 World Mythology or LIT 352 Folk Literature: Ballads and Folk Tales
- CTA 121 or 124 Fundamentals of Speech
- CTA 222 Drama and Play in Human Experience
- CTA 323 Improvising and Role-Playing
- CTA 324 Oral Interpretation of Children’s Literature
- CTA 323 Improvising and Role-Playing
- CTA 324 Oral Interpretation of Children’s Literature

2. **Restricted electives**

Choose nine to 10 credits from the following:

- CTA 387, 388, 389 Cooperative Education in Radio-Television-Film, *CTA 487, 488, 489 Internship in Radio-Television-Film*

A maximum of six hours may be chosen from:

FA 169 Graphic Arts for the Non-Major

*IDT 121 Graphic Communication, IDT 204 Photographic Communication,*

*CSC 136 Computers for the Non-Specialist*  

*Where applicable to public relations*
Minors Offered in the English Department

Four of the minors offered by the English Department are certifiable for teaching curricula: literature, English language and literature on both elementary and secondary curricula and children’s literature on the elementary curriculum. Students on both curricula may combine the English language minor with a literature major or any of the minors with a certifiable major other than English, but are advised in any case to discuss their options with an adviser in the English Department.

For a certifiable minor in grades 9-12, four hours beyond the minimum 20 hours for graduation must be completed to meet North Central Association requirements (24). English methods or additional composition (not additional journalism) can make up those additional hours. (No more than three hours of journalism will count on these minors.)

Teaching Minors

Children’s Literature Minor

Sem hours
Minor in children’s literature .................................................. 21
1. Required courses .......................................................... 6
   LIT 207 Introduction to Children’s Literature .................. 3
   ENG 450 Children’s Literature: Criticism and Response ........ 3
2. Restricted electives ...................................................... 15
Choose two courses from the following:
   LIT 100 The Reading of Literature, LIT 101 The Reading of
   Literature: Fiction, LIT 102 The Reading of Literature:
   Poetry, .................................................................
   LIT 103 The Reading of Literature: Drama, LIT 251 The Bible
   as Literature, LIT 260 Afro-American Literature
Choose three courses from the following:
   LIT 204 Native American Literature, LIT 210 Introduction to
   Shakespeare, LIT 251 The Bible as Literature, LIT 351 World
   Mythology, LIT 352 Folk Literature: Ballads and Folk Tales, LIT 451
   Controversy in Children’s Literature

English Language Minor

Sem hours
Minor in English language .................................................. 21-24
1. Required courses in advanced writing ............................ 6
   ENG 225 Intermediate English Composition or ENG 226
   Report and Research Writing
   ENG 325 Expository Writing
2. Required courses in linguistics ........................................ 6
   LIN 201 Introduction to Language and any one other LIN
   course
3. Electives ........................................................................ 9-12
   Any course not taken from (1) and (2) above as a required
   course, or any of the following:
   ENG 335 Imaginative Writing, ENG 417 Writing about
   Controversies, ENG 422 Writer’s Workshop,
   ENG 424 Technical Writing
   (No more than one journalism course may be counted by
   students seeking teacher certification)

JRN 215 News Writing and Reporting, JRN 306
Feature Writing, JRN 307 Copy Editing, JRN 314
Writing for Public Relations, JRN 423 Magazine
Article Writing, JRN 453 Advanced Reporting
LIT 412 Medieval Literature, LIT 413 The Poetry of Chaucer

English Language and Literature Minor

Sem hours
Minor in English language and literature ................................. 21-24
1. Courses in literature ....................................................... 12
   a) Restricted electives in basic literature ....................... 6
   LIT 100 The Reading of Literature, LIT 101 The Reading
   of Literature: Fiction, LIT 102 The Reading of Literature:
   Poetry, LIT 103 The Reading of Literature:
   Drama, LIT 251 The Bible as Literature, LIT 260
   Afro-American Literature
   b) Required course:
   LIT 210 Introduction to Shakespeare ............................ 3
   c) Any 300- or 400-level LIT course for which the
   prerequisites have been met, except LIT 351 World
   Mythology and LIT 352 Folk Literature: Ballads
   and Folk Tales ...................................................... 3
2. Restricted elective in writing ............................................ 3
   ENG 225 Intermediate English Composition, ENG 226
   Report and Research Writing, ENG 325 Expository
   Writing, ENG 335 Imaginative Writing, ENG 417
   Writing About Controversies, ENG 422 Writer’s
   Workshop, ENG 424 Technical Writing.
   (Note prerequisites for many advanced writing courses.)
JRN 215 News Writing and Reporting, JRN 306 Feature
Writing, JRN 307 Copy Editing, JRN 314 Writing for
Public Relations, LIT 453 Advanced Reporting
No more than one journalism course may be counted
by students seeking teacher certification.
3. Restricted elective in language or linguistics ................. 3
   LIN 201 An Introduction to Language, LIN 402 Modern
   English Grammar, LIN 421 The History of the English
   Language
4. Elective ........................................................................... 3
   Choose from courses in literature, composition or English
   language except the following:
   ENG 120 English Composition Laboratory, LIT
   207 Introduction to Children’s Literature, LIT 352
   Folk Literature: Ballads and Folk Tales, LIT 451
   Controversy in Children’s Literature.
   Note: To fulfill additional credit hour requirements
   for teacher certification, students may add to the
   above 21 hours as follows: students on the
   secondary education curriculum may, in addition,
   take ENG 308 Teaching High School English;
   students on an elementary education curriculum
   may, in addition, take LIT 207 Introduction to
   Children’s Literature. LIT 207 does not fulfill
   basic studies requirements.
   No more than nine semester hours of 100- and 200-level
   literature courses may count toward this minor in
   other curricula.
Literature Minor

Sem hours

1. Required courses ................................................... 9

Choose two courses from the following:
- LIT 101 The Reading of Literature: Poetry
- LIT 102 The Reading of Literature: Drama
- LIT 204 Native American Literature
- LIT 251 The Bible as Literature
- LIT 260 Afro-American Literature

2. Restricted electives ................................................ 3

Choose one course from the following:
- LIT 207 Introduction to Children's Literature
- LIT 328 The Rise of Children's Literature
- LIT 330 The Life of the British Novel
- LIT 331 The Development of the British Novel
- LIT 344 English Renaissance Drama and Poetry
- LIT 417 Victorian and Edwardian Literature

3. Free electives ....................................................... 6-9

Choose from courses in literature, except the following:
- LIT 207 Introduction to Children's Literature
- LIT 352 Folk Literature

Non-Teaching Minors:

The following minors do not lead to teacher certification.

Journalism Minor

Sem hours

1. Required courses ...................................................... 15

Choose six courses from the following:
- JRN 215 News Writing and Reporting
- JRN 306 Feature Writing
- JRN 307 Copy Editing
- JRN 313 History of American Journalism
- JRN 454 Contemporary Problems in Journalism

2. Restricted electives .................................................. 6

Choose six to nine credits from the following:
- ENG 325 Expository Writing
- ENG 422 Writer's Workshop
- JRN 305 Editorial, Column and Review Writing

English Linguistics Minor

Sem hours

1. Required courses ..................................................... 6

Choose from courses in literature, except the following:
- LIN 201 Introduction to Language
- LIN 401 Introduction to Linguistics

2. Restricted electives ................................................... 15

Choose nine to 12 credits from the following:
- ENG 121 English Composition
- ENG 325 Expository Writing
- ENG 335 Imaginative Writing
- ENG 422 Writer's Workshop

Writing Minor

Sem hours

1. Required courses ..................................................... 12

Choose from courses in literature, except the following:
- ENG 225 Intermediate English Composition
- ENG 417 Writing About Controversies
- ENG 422 Writer's Workshop

2. Restricted electives ................................................... 9

Choose nine to 12 credits from the following:
- ENG 325 Expository Writing
- ENG 424 Technical Writing
- JRN 215 News Writing and Reporting

Composition Courses

ENG 120 Basic English Composition. Three sem hours
An introductory course on the composing process, with emphasis on writing short expository essays that follow the conventions for paragraphing, syntax, diction and punctuation in standard American English. Required of students whose SAT verbal scores are below 400 or whose ACT English scores are below 17, as space permits. These students must take ENG 120 during their first semester at Eastern as a prerequisite for ENG 121 English Composition. ENG 120 does not apply to the basic studies requirements.
ENG 121 English Composition. Three sem hours
The fundamental skills of reading, reasoning and writing with emphasis upon the reading and analysis of prose selections and upon basic writing matters, such as thesis, organization, support and development, paragraphing, sentence structure, word choice, punctuation and documentation. Frequent papers and conferences.

Prereq: ENG 121 English Composition.

ENG 225 Intermediate English Composition. Three sem hours
A course for students, freshmen through seniors, who wish to study further the fundamentals of effective writing. Emphasis on writing in the student's own field of study.

Prereq: ENG 121 English Composition.

ENG 226 Report and Research Writing. Three sem hours
A course for students, freshmen through seniors, who wish to study the essentials of report and research writing.

Prereq: ENG 121 English Composition.

ENG 324: Principles of Technical Communication. Three sem hours
A course for juniors and seniors who wish to study the style and focus of communication that is particularly appropriate to the fields of science and technology.

Prereq: English 121 English Composition.

ENG 325 Expository Writing. Three sem hours
An advanced writing course for students who have mastered fundamental writing skills and who wish to explore stylistic options in prose. Students will analyze and write a variety of essays with emphasis on improvement of style. Some effort will be made to acquaint students with the requirements of writing for publication.

Prereq: ENG 121 English Composition and one advanced writing course, or department permission.

ENG 335 Imaginative Writing. Three sem hours
The study and practice of the techniques of imaginative writing, including poetry and prose fiction. The elements of narration, including description, character development, plot structure, and dialogue will be emphasized.

Prereq: One advanced literature course (200 level or above), or department or instructor's permission.

ENG 387, 487 Cooperative Education in English. Three sem hours each
Employment for pay in a business or industry chosen to provide practical experience in the use of English skills. Work experiences are generally alternated with full-time attendance at the University.

Prereq: Junior standing, Admitance by application only. For ENG 487, senior standing.

ENG 408 Writing for Writing Teachers. Three sem hours
A writing course for students preparing to teach English in secondary schools. Students develop their skills as writers and learn how to teach writing. Special focus on recent composition research, theory, and practices and on strategies, materials, and evaluation techniques.

Prereq: Two writing courses beyond the 100 level.

ENG 417 Writing about Controversies. Three sem hours
The reading, analysis and writing of argumentative essays on different types of controversies, with emphasis on how to use various types of arguments and appeals for different readers and on the different forms of written arguments.

Prereq: ENG 121 English Composition and two writing courses at the 200 level or above, or department permission.

ENG 422 Writer's Workshop. Three sem hours
A seminar workshop for the student who wants more experience in imaginative writing. The class schedule will specify fiction or poetry for each particular workshop. This course may be repeated for additional credit.

Prereq: ENG 335 Imaginative Writing and two literature courses at the 200 level or above, or department permission.

ENG 424 Technical Writing. Three sem hours
An advanced workshop that prepares students to communicate, particularly to write, on the job.

Prereq: Junior standing.

ENG 450 Children's Literature: Criticism and Response. Three sem hours
Practical criticism of children's literature, prose and poetry, designed to help students develop critical judgment and a clear prose style. Applies toward the minor in children's literature and the interdisciplinary major in children's literature and drama/theatre for the young.

Prereq: LIT 207 Introduction to Children's Literature.

English Language and Linguistics Courses

LIN 201 An Introduction to Language. Three sem hours
An introduction to phonology, morphology, syntax, the lexicon, semantics, sociolinguistics, psycholinguistics, and other concerns.

Prereq: Sophomore standing.

LIN 401 Introduction to Linguistics. Three sem hours
An introduction to linguistic theory and analytical procedures. Students will apply theoretical principles to problems of phonological and syntactic analysis.

Prereq: LIN 201 An Introduction to Language.

LIN 402 Modern English Grammar. Three sem hours
An introduction to the grammar of modern English: problems in the description and analysis of English grammar.

Prereq: Junior standing.

LIN 420 Introduction to Phonology. Three sem hours
An introduction to the basic principles of modern phonology, beginning with a review of phonetics.

Prereq: ENG 401 Introduction to Linguistics.

LIN 421 The History of Language. Three sem hours
A study of the development of the language from its earliest stages to the present with attention to social influences as well as matters of sound, word formation and sentence structure.

Prereq: LIN 201 Introduction to Language or LIN 401 Introduction to Linguistics.
JRN 425 Introduction to Syntax. Three sem hours
The development of a base in syntactic theory, learning both the mechanisms of a transformational grammar and the argumentation used in syntactic analysis.
Prereq: LIN 401 Introduction to Linguistics.

JRN 426 Topics in Linguistics. Three sem hours
Advanced study in specific areas of linguistics for which the department does not regularly offer a course. The area to be studied will vary and will be determined by the field of specialization of the staff members and by student interest. This course may be taken more than once, providing the topics are different.
Prereq: LIN 401 Introduction to Linguistics.

JRN 497, 498, 499 Independent Study. One, two, three sem hours
Study of topics not offered in the regular curriculum, the particular topic to be defined (and credit hours set) by the instructor and student, subject to approval by the Curriculum Committee. Restricted to students taking majors or minors in the Department of English Language and Literature.
Prereq: Nine hours in the appropriate major or minor.

Journalism and Public Relations Courses

JRN 213 Introduction to the Print Media. Three sem hours
An exploration into the multiple effects of print media on American popular culture and vice versa. Understanding the business of news, features, editorials, comics and other media formats. Tracking the development of contemporary media research. Learning to become critical consumers of print media. Student media research.

JRN 215 News Writing and Reporting. Three sem hours
An introduction to newspaper reporting. Learning to gather information and to write an approved journalistic style. Courses offer practical instruction and working exercises in interviewing, news story development, lead writing and editing skills. Substantial use of computer lab.
Prereq: Sophomore standing.

JRN 306 Feature Writing. Three sem hours
Writing of feature and interpretive articles and editorials designed for newspapers or magazines. Emphasis on research, interviewing and logical presentation of informative material. Writing assignments and analysis of writing in the mass media.
Prereq: JRN 215 News Writing and Reporting.

JRN 307 Copy Editing. Three sem hours
Practical application of professional techniques for editing copy for newspapers, magazines and books, including basic headline writing, use of pictures and understanding the laws of libel and copyright and the rights of privacy.
Prereq: JRN 215 News Writing and Reporting and JRN 306 Feature Writing.

JRN 311 Editing Procedures. Three sem hours
Presentation of the written word on the printed page relative to the use of photographs and other illustrations; copy fitting, printers' markings, visual concepts; typographical selection; page makeup; working with graphic artist and printer.
Prereq: JRN 215 News Writing and Reporting.

JRN 312 Principles of Public Relations. Three sem hours
Definition, historic aspects, evolution and ethics of public relations; the practical use of public relations by corporations, not-for-profit organizations, businesses, institutions and government; correlation of written, oral and visual skills.
Prereq: JRN 215 News Writing and Reporting, CTA 121 or CTA 124 Fundamentals of Speech.

JRN 313 History of American Journalism. Three sem hours
A survey of the historical evolution of journalism in the United States, its involvement in the social, economic and political development of the national life and its influences on the decision-making process through its effect on public officials.
Prereq: Sophomore standing.

JRN 314 Writing for Public Relations. Three sem hours
Practical experience in writing press releases, broadcast announcements, speeches and scripts to present a product; preparing brochures, newsletters, annual reports, memos and proposals; implementing the PR campaign.
Prereq: JRN 306 Feature Writing and JRN 312 Principles of Public Relations.

JRN 387, 487 Cooperative Education in Journalism/Public Relations. Three sem hours
Employment for pay in the print media, public relations or publishing fields to provide practical experience for skills learned in the classroom. Work experiences are generally alternated with full-time attendance in the classroom.
Prereq: Junior or senior standing; admittance by application to the Cooperative Education office and recommendation approved by a journalism professor.

JRN 408 Public Relations Case Studies. Three sem hours
Solving problems and managing controversy in the day-to-day pursuit of public relations; legal considerations; crisis communication; professionalism and public responsibility in public relations.
Prereq: JRN 312 Principles of Public Relations and JRN 314 Writing for Public Relations.

JRN 423 Magazine Article Writing. Three sem hours
A writing course to develop skills in investigating and writing non-fiction articles longer and more complex than feature or background articles in daily newspapers. Emphasis on individual completion of articles of professional quality.
Prereq: ENG 325 Expository Writing or JRN 306 Feature Writing or department permission.

JRN 453 Advanced Reporting. Three sem hours
Writing of news stories dealing with such topics as courts, politics, government, finance, labor, education, etc. Emphasis on study and research to provide articles of depth.
Prereq: JRN 215 News Writing and Reporting.

JRN 454 Contemporary Problems in Journalism. Three sem hours
Emphasis on student investigation, reporting and writing on selected problems such as free press vs. fair trial, media accessibility and the people's right to know.
Prereq: Junior standing.
JRN 455 Journalism and the Law. Three sem hours
A senior professional course exploring issues of libel, privacy, free
press-fair trial and the First Amendment.
Prereq: JRN 454 Contemporary Problems in Journalism.

JRN 488, 489, 490 Internship in
Journalism/Public Relations. One, two, three sem hours
Optional, practical on-the-job work experience for recommended
students electing an opportunity provided by the department or
finding an appropriate outside opportunity subsequently approved
by the intern supervisor; paid or non-paid. One hour credit for 10
hours work per week; two hours for 11-17 hours; three hours for 18
and above.
Prereq: Junior or senior standing and recommendation of journal­
ism professor.

Literature Courses

Area IV basic studies requirements may be fulfilled with the
following courses: LIT 100, 101, 102, 103, 204, 260.

LIT 100 The Reading of Literature. Three sem hours
An introduction to the techniques of critical reading with equal
emphasis on prose fiction, poetry and drama. Development of a
fundamental understanding and enjoyment of reading.

LIT 101 The Reading of
Literature: Fiction. Three sem hours
A reading and critical analysis of prose fiction intended to deepen
the student's understanding and enjoyment of prose fiction.

LIT 102 The Reading of
Literature: Poetry. Three sem hours
A reading and critical analysis of poetry intended to deepen the
student's understanding and enjoyment of poetry.

LIT 103 The Reading of
Literature: Drama. Three sem hours
A reading and critical analysis of drama intended to deepen the
student's understanding and enjoyment of drama.

LIT 106 Rome and America.
(See general humanities courses, page 159)

LIT 107 Society in Crisis: 1848 and 1968.
(See general humanities courses, page 159)

LIT 122 American Studies: Success and the Pursuit
of Happiness in 19th Century America.
(See general humanities courses, page 159)

LIT 124 The Age of Wagner.
(See general humanities courses, page 159)

LIT 126 The Age of Shakespeare.
(See general humanities courses, page 160)

LIT 128 Russia in the Age of Tolstoy and Dostoevsky.
(See general humanities courses, page 160)

LIT 150 Humanity and Technology.
(See general humanities courses, page 160)

LIT 152 From the Gay Nineties to the Crash.
(See general humanities courses, page 160)

LIT 155 Narrative in Literature and Film.
(See general humanities courses, page 160)

LIT 181 The Legacy of Greece.
(See general humanities courses, page 160)

LIT 201 Introduction to Science Fiction. Three sem hours
An introduction to science fiction as a medium for speculating on
science and technology, politics, social systems, education and the
nature of being human. Does not satisfy the basic studies literature
requirement.
Prereq: One course in literature or department permission.

LIT 204 Native American Literature. Three sem hours
Study of the written and oral literature of the Native Americans
with emphasis upon the authored poetry, fiction, autobiography,
and essay of the twentieth century.
Prereq: One course in literature or department permission.

LIT 207 Introduction to
Children's Literature. Three sem hours
A concentrated reading course designed to impart the knowledge
necessary for an appreciation and understanding of children's
literature and its use in the schools. In addition to reading the
classics and the critically acclaimed works of both fiction and non-
fiction by modern writers, students will study poetry, folklore and
mythology and examine the relationship between illustration and
text. Does not count toward a major or minor in curricula for
teachers in junior and senior high school.
Prereq: Sophomore standing.

LIT 210 Introduction to Shakespeare. Three sem hours
An introduction to at least five plays by the greatest English
dramatist with emphasis upon the tragedies.
Prereq: One course in literature or department permission.

LIT 245 Introduction to Film. Three sem hours
An introduction to the historical development of film as an art from
with attention to cinematography, editing, scenarios, lighting,
acting and directing styles. Students cannot earn credit in both CTA
245 Introduction to Film Appreciation and LIT 245 Introduction to
Film.
Prereq: One course in literature or department permission, CTA
121 or CTA 124 Fundamentals of Speech.

LIT 251 The Bible as Literature. Three sem hours
Introduction to the literary study of the Bible. The Old Testament
is represented chiefly by specimens of narrative and prophetic
writings; the New Testament, by selected incidents, parables and
sayings from the life of Jesus as portrayed in the synoptic gospels.
Discussion of Biblical influences upon English and American
literature.
Prereq: One course in literature.
LIT 260 Afro-American Literature. Three sem hours
Representative American literature by black writers with emphasis
upon the 20th century. Readings in poetry, fiction, drama, autobiogra­phy and the essay.
Prereq: One course in literature.

LIT 300 Narrative in Literature and Film. Three sem hours
A study of the aesthetic parallels in narrative technique between
certain prose forms (novel, novella, romance, satire) and film as a
means of enhancing verbal and visual literacy. Not open to those
with credit in LIT/PHI 155 Narrative in Literature and Film.
Prereq: Two courses in literature.

LIT 305 Shakespeare: The Major Comedies and
Histories. Three sem hours
A study of at least eight of the principal comedies and histories.
Prereq: Two courses in literature or department permission.

LIT 328 The Rise of the American
Novel to 1920. Three sem hours
A critical reading of the American novel from C. B. Brown and J. F.
Cooper through World War I. A study of the development of the
novel in America from its earliest appearance to its critical maturity.
Prereq: Two courses in literature or department permission.

LIT 330 The Rise of the British
Novel 1720-1832. Three sem hours
The British novel from Defoe through Scott, including such figures
as Richardson, Fielding, Sterne, Smollett and Austen and such
forms as the picaresque novel, the Gothic novel, the novel of
sentiment and the novel of manners.
Prereq: Two courses in literature or department permission.

LIT 331 The Development of the British
Novel 1832-1914. Three sem hours
A critical reading of Victorian and Edwardian fiction by such
authors as Dickens, the Brontës, Thackeray, Trollope, Eliot,
Meredith, Hardy, Moore, Wells and Conrad.
Prereq: Two courses in literature or department permission.

LIT 332 The Modern American Novel
1920 to Present. Three sem hours
A critical reading of significant American novels since World War
I as represented by Hemingway, Fitzgerald, Faulkner, Bellow,
Ellison and others.
Prereq: Two courses in literature or department permission.

LIT 333 Modern British and European
Novel 1914 to Present. Three sem hours
A study of modern British and European novels significant to our
own times by such writers as Joyce, Proust, Lawrence, Forster,
Wolle, Kafka, Camus, Golding, Fowles, Robbe-Grillet, Handke,
Calvino, Grass.
Prereq: Two courses in literature or department permission.

LIT 340 The Rise of British Drama
1660-1779. Three sem hours
A study of the significant plays from the restoration of Charles II to
the closing years of the 18th century.
Prereq: Two courses in literature or department permission.

LIT 341 English Drama 1660-1779. Three sem hours
A study of the significant plays from the restoration of Charles II to
the closing years of the 18th century.
Prereq: Two courses in literature or department permission.

LIT 342 The Development of
Modern Drama. Three sem hours
A study of modern drama from Robertson and Ibsen to the theater
of the absurd of Pinter and Beckett, including such figures as
Pirandello, Chekhov, Shaw, O'Neill, Williams and Miller.
Prereq: Two courses in literature or department permission.

LIT 351 World Mythology. Three sem hours
A study of the mythological traditions which have most signifi­
cantly informed Western civilization. The myths are discussed as
literature and as peoples' attempts to understand themselves, their
society, and their physical environment.
Prereq: Two courses in literature.

LIT 401 Modern British and American
Poetry 1914 to Present. Three sem hours
A study of the verse of such major modern British and American
poets as Yeats, Auden, Eliot, Pound, Cummings, Stevens, Williams,
Thomas, Ashbery, Plath.
Prereq: Three courses in literature or department permission.

LIT 402 Modern British and American
Literature. Three sem hours
A study of modern British literature from colonial times to 1890,
including such writers as Bradstreet, Franklin, Hawthorne, Melville,
Thoreau, Emerson, Whitman, Dickinson, Twain and James.
Prereq: Three courses in literature or department permission.

LIT 404 Modern American Literature. Three sem hours
A study of American literature from 1890 to the present, including
such writers as Crane, Frost, Cather, Eliot, O'Neill, Fitzgerald,
Faulkner, Hemingway, Bellow, Baldwin, O'Connor and Updike.
Prereq: Three courses in literature or department permission.

LIT 409 The Development of
American Literature. Three sem hours
A study of American literature from colonial times to 1890,
including such writers as Bradstreet, Franklin, Hawthorne, Melville,
Thoreau, Emerson, Whitman, Dickinson, Twain and James.
Prereq: Three courses in literature or department permission.

LIT 410 Medieval Epic and Romance. Three sem hours
A critical reading of medieval French, German and English epics
and romances (and their sources) in translation. The treatment will
be both historical and comparative.
Prereq: Two courses in literature.

LIT 411 The Poetry of Chaucer. Three sem hours
A survey of Old and Middle English literature from Beowulf to
Malory, tracing the themes, genres and literary techniques of early
English literature.
Prereq: Three courses in literature or department permission.

LIT 412 English Literature in the
Middle Ages. Three sem hours
A survey of Old and Middle English literature from Beowulf to
Malory, tracing the themes, genres and literary techniques of early
English literature.
Prereq: Three courses in literature or department permission.

LIT 413 The Poetry of Chaucer. Three sem hours
An introduction to the major works of Chaucer: a close reading of
representative poetry.
Prereq: Three courses in literature or department permission.
LIT 414 English Renaissance Prose and Poetry 1500-1660. Three sem hours
Major authors from the age of Shakespeare to the close of the Renaissance, including the humanists, lyric poets, Spenser, Bacon, Donne and the metaphysicals, and Milton.
Prereq: Three courses in literature or department permission.

LIT 415 Literature of the Neo-Classical Period 1660-1798. Three sem hours
A study of English literature from the Restoration of Charles II through the second half of the 18th century: Dryden, Swift, Pope, Johnson, Goldsmith, Gray, Collins and others.
Prereq: Three courses in literature or department permission.

LIT 416 Romantic Rebellion in Britain 1798-1832. Three sem hours
A study of the shift in literary emphasis in Britain from reason to the emotions, imagination and individualism in the works of Wordsworth, Coleridge, Lamb, DeQuincey, Hazlitt, Byron, Shelley, Keats.
Prereq: Three courses in literature or department permission.

LIT 417 Victorian and Edwardian Literature 1832-1914. Three sem hours
A study of prose and poetry of such authors as Carlyle, Mill, Tennyson, Browning, Ruskin, Arnold, Hopkins, Swinburne, Hardy, Pater, Wilde, Kipling and others.
Prereq: Three courses in literature or department permission.

LIT 440 Literary Types. Three sem hours
A study of the characteristics of a particular literary genre, independent of chronology, theme or author.
Prereq: Three courses in literature or department permission.

LIT 443 Women in Literature. Three sem hours
A study of women and their experiences as described in literature.
Prereq: Two courses in literature.

LIT 450 Major Authors. Three sem hours
An intensive study of a major literary figure or a group of related authors. The particular author to be taught in a given semester will be announced in the Class Schedule Bulletin.
Prereq: Three courses in literature or department permission.

LIT 451 Controversy in Children's Literature. Three sem hours
This course will introduce students to important areas of disagreement in children's literature, place them in a historical and contemporary context, and framework for evaluating various sides of the issues. Applies toward the minor in Children's Literature only, but may be taken as a free elective.
Prereq: LIT 207 Introduction to Children's Literature or department permission.

LIT 460 Recent Trends in British and American Literature. Three sem hours
A study of innovations in recent British and American poetry, fiction or drama. The particular focus of the course to be taught in a given semester will be announced in the Class Schedule Bulletin.
Prereq: Three courses in literature or department permission.

LIT 497, 498, 499 Independent Study. One, two, three sem hours
Study of topics not offered in the regular curriculum, the particular topic to be defined (and credit hours set) by the teacher and student, subject to approval by the Curriculum Committee. Restricted to students taking majors or minors in the Department of English Language and Literature.
Prereq: Nine hours in the appropriate major or minor.

English Education Courses

ENG 308 High School English. Three sem hours
For students preparing to teach English in high school. Attention is centered upon methods of improving the teaching of composition and literature. Does not count toward majors or minors. Not open to students on academic probation.
Prereq: Three courses in literature.
FOREIGN LANGUAGES AND BILINGUAL STUDIES
Office: 219 Alexander Music Building

Acting Department Head: William J. Cline
Professors: Ronald C. Cere, William J. Cline, J. Sanford Dugan, James P. Holoka, John R. Hubbard, Benjamin W. Palmer
Associate Professors: JoAnn Aebersold, E. Catherine Day, Shohei Koike, Ana Maria McCoy, Anne G. Nerenz, John Pisoni, Sharon Robertson, Reynaldo Ruiz
Assistant Professors: Lizabeth England, Pedro Gomez, Dianne Harper, Robert Oprandy
Instructor: Anne-Marie Bevington

Director, bilingual bicultural teacher education program: Phyllis Clemens-Noda

The Department of Foreign Languages and Bilingual Studies offers a variety of traditional and innovative majors and minors in French, German, Japanese, Spanish and English as a second language, a group minor in bilingual-bicultural teacher education leading to either elementary or secondary certification, a group minor in teaching English to speakers of other languages, a group major in language and international trade and a group major in language, journalism, telecommunications and film.

Students in the language and international trade program with concentrations in business French, German and Spanish are eligible to take examinations administered by Eastern Michigan University leading to certification in their fields.

Degrees: Bachelor of arts and bachelor of science

Programs of Study

Majors:
- Language and world business
- French language and literature
- French for business
- German language and literature
- German for business
- Japanese Language and Culture Teaching
- Spanish
- Spanish for business
- Language and international trade

Minors:
- Bilingual bicultural teacher education
- English as a second language for non-native speakers of English
- French language and literature
- French language
- French literature
- French for business
- German language and literature
- German language
- German literature
- German for business
- Spanish language
- Spanish literature
- Spanish culture
- Spanish for business
- Teaching English to speakers of other languages

Concentration:
English as a second language for non-native speakers of English

Advising is available from appropriate advising coordinators who will recommend specific courses required in each language pattern.

A placement test is required of all students of foreign language unless they are taking their first course in a foreign language or unless they successfully completed their last course in that foreign language at EMU. Because foreign language proficiency rapidly decreases through lack of use, the placement test is strongly advised also for students whose last course in a foreign language at EMU was completed more than one year before the semester for which they are currently enrolling.

The placement test is given at the beginning of the fall and winter terms. Students should inquire at the Department of Foreign Languages and Bilingual Studies office for the exact date, time and place. There is no fee for this test, but evidence of EMU registration in an appropriate foreign language course must be presented by the student at the time of the test.

Because students will need to register for their foreign language before knowing the results of the placement test, we have given below some rough equivalencies that may be used as an indication of the class level in which the student would probably place. After the results of the placement test are known, the Foreign Language Department will assist the student in switching his or her registration to the appropriate course without incurring financial penalties.

Any course for which the student registers before having been notified of his/her placement must be considered a provisional registration, to be adjusted as needed in light of the placement test results. Because changing to another foreign language class may necessitate adjustment of schedules, students should arrange their class schedules so that the appropriate periods for the next higher or lower level class will be free if a schedule change is needed.

In using the rough equivalencies given below to guess the language level for which to register, one must keep in mind that these equivalencies are a very rough and general estimate that must, perforce, ignore important factors such as the actual grades the student received, his school’s or his teacher’s standards, the amount of time elapsed since the last course was completed, etc.

One to two years of high school would probably place in 121
Three years of high school would probably place in 122
More than three years of high school would probably place in 221
(except in Spanish) and/or 233. In Spanish, most would probably place in 201.

For every year elapsed between the present and the last completed course in your foreign language, go down one level (e.g. from 200 to 100, etc.).

Department Residency Requirements:
1. "Residency," for the purposes of this section, means registering for, attending, and successfully completing the required courses.
2. Major or minor in language, business language, literature or culture (non LIT):
   Department residency requirements are that majors in a foreign language must complete at EMU 12 credit hours consisting of the
Bilingual Studies shall be rated in an oral proficiency interview. CQll[SC'al} allowsQie_stil_dent(t)imove onto the next higher level of that appropriate courses on the 300 or 400 level for the major chosen. Minors in the foreign language must complete either a) 343 and 344, or b) six (6) hours on the 400 level for which the student has the prerequisites.

3. Language and international trade major:
   Students must complete at EMU the following nine credit hours in French, German, Japanese, or Spanish: 361, 446, and 447.

Oral proficiency interview requirement:
All students on teaching curricula in Foreign Languages and Bilingual Studies shall be rated in an oral proficiency interview conducted by an oral proficiency tester certified by ETS-ACTFL. The interview shall take place in the last semester prior to graduation.

Graduate study leads to the master of arts degree in Spanish (bilingual bicultural education), in language and international trade and in TESOL (teaching English to speakers of other languages). A major emphasis in French, German or Spanish can also be developed through the master's degree in secondary school teaching or the master's degree in individualized studies. The M.A. degrees are described in the Graduate Catalog.

English as a second language courses are taught in the Department of Foreign Languages and Bilingual Studies. These courses carry academic credit; up to 20 hours of ESL credits may be used as elective credits required for graduation.

Three levels of ESL instruction are offered: intermediate, advanced and academic support, in both fall and winter terms. Only advanced and academic support levels are offered in the combined spring-summer term.

Students admitted with an official (not institutional) score of 80 or above on the Michigan English Language Assessment Battery (MELAB) or of 500 or above on the Test of English as a Foreign Language will not be required to take any ESL courses. They may choose to take an ESL class if they wish to further improve their ability.

Students admitted with scores of less than 80 or 500 are required to take the departmental placement test before registering. This test is usually given the week prior to the beginning of the semester. All students required to take this test must be on campus at that time.

Depending upon the results of the placement test, students will be placed in either part-time or full-time English (two, three, four or five courses of ESL) during their first semester.

Those students taking part-time English will be allowed to register for other University classes. Students placing in full-time English may not take any other University courses until a later semester. Some students may require two consecutive semesters of full-time English before they can register in other courses.

Once placed in ESL courses, students must complete each course with a grade of "C" or better. Successful completion of a course allows the student to move on to the next higher level of that course in the following semester. Students must immediately repeat all ESL courses in which they receive a "C-" or below. Students starting below the 400 level must continue to enroll in ESL courses until two 400-level courses are taken.

When students have successfully completed ESL 412 and 414 or 416, their admission status is changed from conditional to regular.

Admission status is based on the first English proficiency score that students send to the University. If a later test results in a higher score, it should also be sent to the Admissions Office. All scores must arrive two weeks before the first day of the term.

Failure to enroll in the required ESL courses during the first semester and any required subsequent semesters will result in the cancellation of University enrollment and a possible loss of tuition for that semester.

Regular University academic probation and dismissal policies apply to students enrolled in ESL.

Advising Coordinators:
Bilingual bicultural teacher education (Spanish): William Cline
English as a second language: E. Catherine Day
French: Benjamin W. Palmer
Gereman: Sharon Robertson
Japanese Language and Culture Teaching: Shohei Koike
TESOL: Jo Ann Abersold
Language and international trade: See the list of coordinators by appropriate language area in the department office.
Spanish: Ana McCoy
Language and world business: John R. Hubbard

The Joint Bachelor of Business Administration Bachelor of Arts Degree

The joint bachelor of business administration — bachelor of arts degree in language and world business is a double degree for undergraduates planning to enter a career in world business or international government and public administration. The major objective of the program is to prepare students for international careers with business and language skills, along with the knowledge needed to function effectively in the increasingly competitive world economy. The LWB joint degree provides students with both practical, on-site work experience as well as a thorough academic background in international affairs and world enterprise. (See page 210 for details.)

French Majors
French

It is recommended that students specializing in French or planning to continue with graduate work carry their undergraduate study beyond the minimum requirements listed below. Many graduate schools require additional course work in literature.

Students expecting to teach at the junior-senior high school level also must take FLA 411 Theory and Methods of Modern Language Teaching.

<table>
<thead>
<tr>
<th>Academic major in French</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required courses</td>
<td>18</td>
</tr>
<tr>
<td>FRN 341, 342 Survey of French Literature</td>
<td>6</td>
</tr>
<tr>
<td>FRN 343 French Composition</td>
<td>3</td>
</tr>
<tr>
<td>FRN 344 French Conversation</td>
<td>3</td>
</tr>
<tr>
<td>FRN 443 Advanced French Grammar and Composition</td>
<td>3</td>
</tr>
<tr>
<td>FRN 444 Advanced French Conversation</td>
<td>3</td>
</tr>
<tr>
<td>2. Restricted electives</td>
<td>12</td>
</tr>
<tr>
<td>Choose six credits at the 400 level; choose an additional six credits in French at any level.</td>
<td></td>
</tr>
</tbody>
</table>
French for Business

Students majoring or minor in business French are eligible to take examinations leading to the "Diplôme Supérieur de Français des Affaires" or the "Certificat Pratique de Français Commercial et Économique" granted by the Chamber of Commerce and Industry of Paris and recognized by the French National Ministry of Education. These tests are administered by Eastern Michigan University.

Sem hours

1. Required courses
   - FRN 341, 342 Survey of French Literature: 6
   - FRN 343 French Composition: 3
   - FRN 344 French Conversation: 3
   - FRN 443 Advanced French Grammar and Composition: 3
   - FRN 446, 447 Business French I and II: 6

2. Restricted electives: 6

Choose six credits in French at any level.

German Majors

German Language and Literature

Prospective teachers of junior-senior high school German also will take FLA 411 Theory and Methods of Modern Language Teaching in addition to the courses listed below.

Sem hours

1. Required courses
   - GER 343 German Composition: 3
   - GER 344 German Conversation: 3
   - GER 341, 342 Survey of German Literature: 6
   - GER 443 German Syntax and Advanced Composition: 3
   - GER 444 Advanced German Conversation: 3

2. Restricted electives: 12

Choose six credits in German at the 400 level; choose six credits in German at any level.

German for Business

Students in business German will be eligible to take examinations recognized by the German-American Chamber of Commerce, the Carl Duisberg Society and the Goethe Institute. All examinations are administered by EMU.

Sem hours

1. Required courses
   - GER 341, 342 Survey of German Literature: 6
   - GER 361 German for International Trade: 3
   - GER 443 German Syntax and Advanced Composition: 3
   - GER 446, 447 Business German: 6
   - Additional German courses at the 400 level: 6

2. Restricted electives: 6

Choose six credits in German at any level.

Japanese Language and Culture Teaching

Sem hours

Major in Japanese language and culture teaching

1. Required courses
   - CEN 233 Introduction to Language: 3
   - JPN 211, 212 Intermediate Japanese: 10
   - JPN 344 Japanese Conversation: 3
   - JPN 361 Japanese for International Trade: 3
   - JPN 444 Advanced Japanese Conversation: 3
   - HIS/GEO 326 History and Geography and Modern Asia: 6
   - JPN 494 Seminar in Japanese Studies: 3
   - ANT 460 Seminar in Japanese Culture: 3

2. Restricted electives: 9

Choose one course from each of the following groups:

1. ANT 340 Language and Culture: 3
   - CTA 358 Intercultural Communication: 3

2. ECO 370 Comparative Economic Systems: 3
   - ECO 480 International Economics: 3

3. PLS 374 Asian Political Systems: 3
   - PLS 412 Comparative Legal Systems: 3

The following is a sample of the courses required for professional certification; in this case, for teaching at the secondary level:

Education (Secondary)
   - EDT 300 Introduction to Computer Applications: 1
   - SGN 300 The Exceptional Child in the Regular Classroom: 1
   - CUR 305 Curriculum and Methods-Secondary: 3
   - CUR 311 Teaching Reading in the Secondary School: 3
   - EDP 322 Human Development and Learning: 4
   - SFD 328 Social Aspects of Teaching: 3
   - EDP 340 Introduction to Measurement and Evaluation: 2
   - EDM 345 Media for the Classroom Teacher: 1
   - FLA 411 Methods for Teaching Modern Language: 3

Language and International Trade

(Non-teaching)

The major in language and international trade is designed to integrate the study of modern foreign languages and cultures with preparation in the field of international business. The major objective of the program is to provide students with skills, knowledge and understanding needed to function in a foreign environment and in professional dealings with business people and clients who speak foreign languages. Students completing this group major have met the major and minor requirements for graduation. No outside minor is needed.

Qualified students in French, German, Japanese and Spanish have the option of participating in a cooperative work exchange in an area of the world where French, German, Japanese or Spanish is spoken. Students may take examinations leading to foreign certification in business French, German or Spanish.

Sem hours

Group major in language and international trade

1. Required courses
   - Business and economics courses: 57
     - Business minor: 21-24

Students must complete requirements for a minor in an operational area of business of their choosing. These areas include
marketing, management, accounting, finance, business computers, general business and office administration, among others. Special combinations of business courses equivalent to a minor are possible in consultation with an advisor.

**MKT 460 International Business** 3

**ECO 370 Comparative Economic Systems or ECO 480 International Economics** 3

b. **Language and area studies courses** 27

- **Language courses** 18

Students must choose one language in which to specialize—we currently offer French, German, Japanese, and Spanish—and must complete 18 hours in that chosen language. This 18-hour minimum must include:

FRN/GER/JPN/SPN 361 French/German/Japanese/Spanish for International Trade, FRN/GER/JPN/SPN 446 and 447 Business French/German/Japanese/Spanish

One additional language course at the 300 or 400 level and one additional language course at the 400 level.

Students with prior language study or knowledge will be placed at an appropriate level in consultation with an advising coordinator.

- **Geography/history courses** 6

GEO/HIS 316 History and Geography of Modern Europe, GEO/HIS 317 History and Geography of Spanish America or GEO/HIS 326 Modern Asia

Three of these credit hours may be used as electives in history and geography; prerequisite is GEO 110 World Regions and either HIS 101, 102 History of Western Civilization, or HIS 105 The World in the 20th Century.

- **Political science courses** 3

Choose one course from the following:

PLS 211 Introduction to Comparative Government, PLS 212 Introduction to International Relations, PLS 341 International Law, PLS 342 International Organization, PLS 354 Government and Politics of Canada, PLS 367 Contemporary Political Systems of Latin America, PLS 412 Comparative Legal Systems

2. **Field experience** 3

FLA 489 Internship in International Trade or FLA 387, 487 Cooperative Education in Language and International Trade

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**Group Major in Language, Journalism, Telecommunications and Film**

**Sem hours**

**Group major in language, journalism, telecommunications and film** 60

**Language component** 20

Choose one of the languages (French, German or Spanish) and complete the following:

1. **Required courses** 12

FRN/GER/SPN 343 Composition 3

FRN/GER/SPN 344 Conversation 3

FRN/GER/SPN 443 Advanced Composition/Syntax 3

FRN/GER/SPN 444 Advanced Conversation 3

Students with advanced language proficiency will select appropriate courses in consultation with the advising coordinator.

2. **Restricted electives** 8

Choose eight credits in the language studied at any level

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**Journalism component** 18

1. **Required courses** 12

JRN 215 Journalism 3

JRN 306 Feature, Interpretive and Editorial Writing 3

JRN 307 Copy Editing 3

JRN 453 Advanced Reporting 3

2. **Restricted electives** 6

Choose six to nine credits from the following:

JRN 311 Editing Procedures, JRN 313 History of American Journalism, JRN 314 Writing for Public Relations, JRN 423 Writing Magazine Articles, JRN 454 Contemporary Problems in Journalism

ENG 417 Writing about Controversies, ENG 422 Writer’s Workshop, ENG 424 Technical Writing

Telecommunications and film 20

1. **Required courses** 15

CTA 140 Introduction to Telecommunication and Film 3

CTA 334 Radio-Television News 3

CTA 336 Telecommunications Topics: New Technology 3

CTA 374 Intercultural Communications 3

CTA 479 Special Topics: Seminar in International Telecommunications Issues 3

2. **Restricted electives** 5

Choose five to six credits from the following:

CTA 165 Television Laboratory, CTA 169 Radio Station WQBR, CTA 227 Interpersonal Communication, CTA 236 History and Criticism of Radio and Television, CTA 241 Radio-Television-Film Announcing, CTA 245 Introduction to Film Appreciation, CTA 331 Fundamentals of Radio Production and Direction, CTA 332 Fundamentals of Television Production and Direction, CTA 335 Studies in Film, CTA 344 Continuity Writing for Radio-Television-Film, CTA 354 Organizational Communication, CTA 359 Small Group Communication

Spanish Majors

**Spanish**

Students majoring in Spanish will take FLA 411 Theory and Methods of Modern Language Teaching if they are on the junior-senior high school curriculum.

The courses listed below meet the minimum requirements only; it is recommended that students specializing in Spanish or planning to continue with graduate work carry their undergraduate study beyond the minimum. Many graduate schools require additional course work in literature.

**Sem hours**

**Academic major in Spanish** 30

1. **Required courses** 12

SPN 343 Spanish Grammar and Composition 3

SPN 344 Spanish Conversation and Composition 3

SPN 443 Advanced Spanish Grammar and Composition 3

SPN 444 Advanced Spanish Conversation and Composition 3

2. **Restricted electives** 18

Choose 12 credits in Spanish at the 300 level or above; choose six credits at any level in consultation with the advising coordinator.
Spanish for Business

Students with concentrations in business Spanish may take examinations leading to the "Diploma de Español Comercial" and the "Certificado de Español Comercial Básico" granted by the Chamber of Commerce of Madrid in cooperation with the Official School of Languages of Madrid.

Language proficiency in both Spanish and English is required; proficiency will be determined by examination.

Sem hours

<table>
<thead>
<tr>
<th>Academic major in business Spanish</th>
<th>30</th>
</tr>
</thead>
</table>

1. **Required courses**

- SPN 301 The Cultures of Spain ............... 3
- SPN 302 The Cultures of Spanish America .... 3
- SPN 342 Survey of Spanish Literature ........ 3
- SPN 352 Survey of Spanish American Literature .... 3
- SPN 361 Spanish for International Trade ....... 3
- SPN 443 Advanced Grammar and Composition or SPN 456 Scientific and Technical Spanish .... 3
- SPN 446, 447 Business Spanish ................. 6

2. **Restricted electives**

Choose six credits in Spanish at any level in consultation with the advising coordinator.

Minors Offered in the Department of Foreign Languages and Bilingual Studies

Bilingual-Bicultural Education

Spanish-English

Language proficiency in both Spanish and English is required; proficiency will be determined by examination.

All students are required to fulfill four semester hours of student teaching with English-speaking pupils and an additional four semester hours of student teaching in bilingual education. Students must pass the required language proficiency examinations before student teaching.

Sem hours

<table>
<thead>
<tr>
<th>Group minor in bilingual bicultural education (Spanish-English)</th>
<th>24</th>
</tr>
</thead>
</table>

1. **Required courses**

- FLA 421 History and Theory of Bilingual Education .......... 3
- FLA 422 Teaching Hispanic Culture and Language ............. 3
- TSL 410 Teaching English as a Second Language .............. 3
- SPN 471 Culture and Literature of Hispanic Groups in the U.S. .... 3
- SPN 482 Language of Hispanic Groups in the U.S. ............ 3

2. **Restricted electives**

Choose nine credits from the following:

- ANT 233 Peoples and Cultures of Mexico
- FLA 215 Culture of the Latino Groups in the United States,
- LNG 223 Introduction to Language
- LIN 201 An introduction to Linguistics, LIN 401 Introduction to Linguistic Science, ENG 402 English Grammar
- GEO 321 Geography of Latin America
- HIS 457 History of Mexico

PSY 340 Psychological Perspectives on Prejudice and Discrimination
SOC 214 Racial and Cultural Minorities
SPN 443 Advanced Spanish Grammar and Composition,
SPN 444 Advanced Spanish Conversation

Group Minor in Teaching English as a Second Language

Sem hours

| Group Minor in Teaching English as a Second Language | 24 |

1. **Required courses**

- CEN 223 Introduction to Language ..................... 3
- CTA 358 Intercultural Communication .................... 3
- TSL 410 Methods of Teaching ESL ....................... 3
- TSL 420 ESL Materials ..................................... 3
- LNG 425 Second Language Acquisition .................. 3

2. **Restricted electives**

Choose at least one course from each group:

**Group 1**
- ENG 301 Introduction to English Language .............. 3
- ENG 402 Modern English Syntax ........................... 3
- ENG 419 Introduction to Linguistic Science ............. 3

**Group 2**
- ENG 325 Expository Writing .............................. 3
- CTA 226 Non-verbal Communication ....................... 3
- SLI 337 Language Acquisition ............................ 2

**Group 3**
- SOC 314 Racial and Cultural Minorities .................. 3
- ANT 340 Language and Culture ............................ 3

_Prereq. or Coreq.: One year of university foreign language study._

English as a Foreign Language for Non-Native Speakers of English (Non-teaching)

This minor is limited to international students who are non-native speakers of English with test scores in the ranges indicated below. It is administered jointly by the Department of Foreign Languages and Bilingual Studies and the Department of English Language and Literature.

Students who have placed at the 300 level on the departmental placement test will complete all of the following courses. Students who have placed at the 400 level will begin this minor by taking TSL 410 Methods of Teaching ESL, Writing and ESL 414 Academic ESL Reading and/or ESL 416 Academic ESL Speaking and Listening.

Sem hours

| Minor in English as a foreign language for non-native speakers of English | 23-24 |

1. **Required courses**

- ESL 310, 312 Advanced ESL Grammar, Writing .......... 3
- ESL 314, 316 Advanced ESL Reading, Speaking and Listening ............ 3
- ESL 412 Academic ESL Writing ............................ 3
- ESL 414 Academic ESL Reading ............................ 3
- ESL 416 Academic ESL Speaking and Listening .......... 3
ENG 125 Report Writing .............................................. 3
ENG 225 Intermediate Composition, or other approved
English writing course (written permission required) .......... 3
2. Restricted elective .................................................. 3
Choose one course from the following:
LIN 201 Introduction to the English Language, ENG 402
Modern English Syntax, or other English language or
linguistics course (written permission required)
CTA 224 Public Speaking, CTA 350 Persuasion, CTA 356
Argumentation and Debate, CTA 359 Small Group
Communication, or other speech communication course
(write permission required)
Other advanced CTA (speech) courses not including theatre arts
courses, with written permission

Minors Offered in French Language and Literature

<table>
<thead>
<tr>
<th>Minor in French language and literature</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required courses</td>
<td>12</td>
</tr>
<tr>
<td>FRN 341, 342 Survey of French Literature</td>
<td>6</td>
</tr>
<tr>
<td>FRN 343 French Composition</td>
<td>3</td>
</tr>
<tr>
<td>FRN 344 French Conversation</td>
<td>3</td>
</tr>
<tr>
<td>2. Restricted electives</td>
<td>8</td>
</tr>
<tr>
<td>Choose eight credits in French at any level</td>
<td></td>
</tr>
</tbody>
</table>

Minors Offered in German Language and Literature

<table>
<thead>
<tr>
<th>Minor in German language and literature</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required courses</td>
<td>12</td>
</tr>
<tr>
<td>GER 343 German Composition</td>
<td>3</td>
</tr>
<tr>
<td>GER 344 German Conversation</td>
<td>3</td>
</tr>
<tr>
<td>GER 341, 342 Survey of German Literature</td>
<td>6</td>
</tr>
<tr>
<td>2. Restricted electives</td>
<td>8</td>
</tr>
<tr>
<td>Choose eight credits in German at any level</td>
<td></td>
</tr>
</tbody>
</table>

Business French

Student minoring in business French are eligible to take the
examinations listed under the major in business French.

<table>
<thead>
<tr>
<th>Minor in business French</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required courses</td>
<td>18</td>
</tr>
<tr>
<td>FRN 343 French Composition</td>
<td>3</td>
</tr>
<tr>
<td>FRN 344 Advanced French Grammar and Composition</td>
<td>3</td>
</tr>
<tr>
<td>FRN 443 French Syntax</td>
<td>3</td>
</tr>
<tr>
<td>FRN 444 Advanced French Conversation</td>
<td>3</td>
</tr>
<tr>
<td>FRN 446, 447 Business French I and II</td>
<td>6</td>
</tr>
<tr>
<td>2. Restricted electives</td>
<td>2</td>
</tr>
<tr>
<td>Choose two credits in French at any level</td>
<td></td>
</tr>
</tbody>
</table>

Literature

<table>
<thead>
<tr>
<th>Minor in French literature</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required courses</td>
<td>12</td>
</tr>
<tr>
<td>FRN 341, 342 Survey of French Literature</td>
<td>6</td>
</tr>
<tr>
<td>Courses in French literature at the 400 level</td>
<td>6</td>
</tr>
<tr>
<td>2. Restricted electives</td>
<td>8</td>
</tr>
<tr>
<td>Choose eight credits in French at any level</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor in German literature</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required courses</td>
<td>12</td>
</tr>
<tr>
<td>GER 343 German Composition</td>
<td>3</td>
</tr>
<tr>
<td>GER 344 German Conversation</td>
<td>3</td>
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<tr>
<td>GER 443 German Syntax</td>
<td>3</td>
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<tr>
<td>GER 444 Advanced German Conversation</td>
<td>3</td>
</tr>
<tr>
<td>2. Restricted electives</td>
<td>8</td>
</tr>
<tr>
<td>Choose eight credits in German at any level</td>
<td></td>
</tr>
</tbody>
</table>

Courses in German literature at the 400 level
Courses in French literature at the 400 level

Courses in French literature at the 400 level
Courses in German literature at the 400 level

Courses in French literature at the 400 level
Courses in German literature at the 400 level

Courses in French literature at the 400 level
Courses in German literature at the 400 level

Courses in French literature at the 400 level
Courses in German literature at the 400 level

Courses in French literature at the 400 level
Courses in German literature at the 400 level

Courses in French literature at the 400 level
Courses in German literature at the 400 level
Business German

Examinations listed under the major in business German also may be taken by students minoring in this subject.

Minor in business German .......................................................... 20
1. Required courses ................................................................. 12
   GER 341, GER 342 Survey of German Literature .......................... 3
   GER 361 German for International Trade ...................................... 3
   GER 443 Advanced Syntax and Composition ................................. 3
   GER 446 or GER 447 Business German ....................................... 3
2. Restricted electives ............................................................... 8
   Choose eight credits in German at any level

Minors Offered in Spanish

Language

Minor in Spanish language .......................................................... 20
1. Required courses ................................................................. 12
   SPN 343 Spanish Grammar and Composition .................................. 3
   SPN 344 Spanish Conversation and Composition .............................. 3
   Choose either of the following options ...................................... 6
   a. SPN 443 Spanish Grammar and Composition and
      SPN 444 Advanced Spanish Conversation and Composition,
   b. Additional courses in Spanish at the 300 level or above
2. Restricted electives ............................................................... 8
   Choose eight credits in Spanish at any level in consultation with
   the advising coordinator

Literature

Minor in Spanish literature .......................................................... 20
1. Required courses ................................................................. 12
   Choose two courses from the following:
   SPN 341 Survey of Spanish Literature, SPN 342 Survey of
   Spanish Literature, SPN 351 Survey of Spanish American
   Literature, SPN 352 Survey of Spanish American
   Literature ................................................................. 6
   Choose six credits in Spanish at the 300 level or above (students
   on teaching curricula should include SPN 343 Spanish
   Grammar and Composition, SPN 344 Spanish Conversation
   and Composition)
2. Restricted electives ............................................................... 8
   Choose eight credits in Spanish at any level in consultation with
   the advising coordinator

Spanish Culture

Minor in Spanish culture .......................................................... 20
1. Required courses ................................................................. 12
   SPN 301 The Cultures of Spain ............................................ 3
   SPN 302 The Cultures of Spanish America .................................. 3
   Choose additional courses in Spanish at the 300 level or above
   (students on teaching curricula should include SPN 343 Spanish
   Grammar and Composition, SPN 344 Spanish Conversation
   and Composition)
2. Restricted electives ............................................................... 8
   Choose eight credits in Spanish at any level in consultation with
   the advising coordinator

Business Spanish

Examinations listed under the major in business Spanish may be taken by students minoring in this subject.

Minor in business Spanish .......................................................... 20
1. Required courses ................................................................. 12
   SPN 301 The Cultures of Spain or SPN 302 The Cultures
   of Spanish America ......................................................... 3
   SPN 342 Survey of Spanish Literature or SPN 352
   Survey of Spanish American Literature .................................. 3
   SPN 361 Spanish for International Trade .................................. 3
   SPN 446 Business Spanish ..................................................... 3
2. Restricted electives ............................................................... 8
   Choose eight credits in Spanish at any level in consultation with
   the advising coordinator

French Courses

FRN 121 Beginning French. ......................................................... 5
   Introductory course including practice in listening, speaking,
   reading and writing in French. Sessions in the language labora­
   tory are part of regular assignments. Satisfies basic studies
   foreign language composition requirement, Area I.

FRN 122 Beginning French. ......................................................... 5
   Introductory course including practice in listening, speaking,
   reading and writing in French. Sessions in the language labora­
   tory are part of regular assignments. Satisfies basic studies foreign language
   composition requirement, Area I.
   Prereq: FRN 121 Beginning French or equivalent. Placement
   exam required.
FRN 221 Intermediate French. Three sem hours
Rapid reading of large quantities of French. Materials include readings in literature and civilization. Students who plan to continue in French should take this course concurrently with FRN 233 Intermediate French (Grammar, Composition and Conversation). Satisfies basic studies intermediate or advanced foreign language literature requirement, Area IV.
Prereq: FRN 122 Beginning French or equivalent. Placement exam required.

FRN 222 Intermediate French. Three sem hours
Rapid reading of large quantities of French. Materials include readings in literature and civilization. Students who plan to continue in French should take this course concurrently with FRN 234 Intermediate French (Reading). Does not satisfy basic studies literature requirement. Satisfies basic studies foreign language composition requirement, Area I.
Prereq: FRN 122 Beginning French or equivalent. Placement exam required.

FRN 233 Intermediate French (Grammar, Composition, Conversation). Three sem hours
A review of grammar; practice in writing and speaking. Sessions in the language laboratory are available. Students who plan to continue in French should take this course concurrently with FRN 221 Intermediate French (Reading). Does not satisfy basic studies literature requirement. Satisfies basic studies foreign language composition requirement, Area I.
Prereq: FRN 122 Beginning French or equivalent. Placement exam required.

FRN 234 Intermediate French (Grammar, Composition, Conversation). Three sem hours each
A review of grammar; practice in writing and speaking. Sessions in the language laboratory are available. Students who plan to continue in French should take this course concurrently with FRN 222 Intermediate French (Reading). Does not satisfy basic studies literature requirement. Satisfies basic studies foreign language composition requirement, Area I.
Prereq: FRN 233 Intermediate French (Grammar, Composition, Conversation) or equivalent. Placement exam required.

FRN 341, 342 Survey of French Literature. Three sem hours
The introductory survey course in French literature. It covers, during the two semesters, major writers from the beginning of French literature to the present and is a prerequisite for all later courses in literature, as well as for majors in French and Business French. Students must have sufficient comprehension to follow lectures in French. Satisfies basic studies intermediate or advanced foreign language literature requirement, Area IV.
Prereq: FRN 222 Intermediate French (Reading) or department permission.

FRN 343 French Composition. Three sem hours
Review and drill of intermediate and advanced linguistic patterns in French. Written compositions.
Prereq: FRN 234 Intermediate French (Grammar, Composition, Conversation) or department permission.

FRN 344 French Conversation. Three sem hours
Additional classwork in conversation: improving pronunciation and acquiring a larger active vocabulary for daily life.
Prereq: FRN 234 Intermediate French (Grammar, Composition, Conversation) or department permission.

FRN 361 French for International Trade. Three sem hours
This course is intended for students who already have a solid intermediate-level command of French and who wish to acquire minimum professional competence in the French language as it is used in the world of international business. It includes practice in various forms of business communication, both oral and written.
Prereq: FRN 343 French Composition or department permission.

FRN 431 Studies in French Theatre. Three sem hours
A study of selected French drama. Specific topic (themes, authors, genres, periods) will vary depending on the instructor’s field of specialization and student interest. The course may be repeated for credit with department permission. In French.
Prereq: FRN 341, 342 Survey of French Literature or department permission.

FRN 432 Studies in French Poetry. Three sem hours
A study of selected French poetry. Specific topic (themes, authors, genres, periods) will vary depending on the instructor’s field of specialization and student interest. The course may be repeated for credit with department permission. In French.
Prereq: FRN 341, 342 Survey of French Literature or department permission.

FRN 433 Studies in French Prose. Three sem hours
A study of selected French prose. Specific topic (themes, authors, genres, periods) will vary depending on the instructor’s field of specialization and student interest. The course may be repeated for credit with department permission.
Prereq: FRN 341, 342 Survey of French Literature or department permission.

FRN 443 Advanced French Grammar and Composition. Three sem hours
Prereq: FRN 343 French Composition.

FRN 444 Advanced French Conversation. Three sem hours
This course aims to develop advanced fluency. Group discussions are based on the reading of periodical literature. May be repeated for credit.
Prereq: FRN 343 French Composition and FRN 344 French Conversation, or department permission.

FRN 446 Business French I. Three sem hours
Study of principles and practices of business communication in France with emphasis on business correspondence and translation. Introduction to the French economy including business law, industry, business and services. In French.
Prereq: FRN 361 French for International Trade or department permission.
FRN 447 Business French II. Three sem hours
Further study of business practices, business law and the French
economy. Emphasis on business correspondence and translation
and on French ties with the European economic community, the
U.S.A., the East, developing countries and francophone countries.
Prepares student for language proficiency examinations (CCIP
diplomas).
Prereq: FRN 446 Business French I or department permission.

FRN 451, 452 Readings in French. One or two sem hours
Special projects in directed readings for majors and minors who
have completed the available offerings in French or who, because
of most unusual circumstances, are granted department approval to
substitute one or both of these for the regular courses.
Prereq: FRN 341, 342 Survey of French Literature or department
permission.

FRN 456 Scientific and Technical French. Three sem hours
In-depth study of French scientific and technical vocabulary and
terminology needed for Franco-American business interaction in
three scientific and technical fields. Topics covered may include
food industry, automobile mass transportation and energy. In
French.
Prereq: Any two 300-level French courses or department permiss

FRN 457 Scientific and Technical French. Three sem hours
Study of French scientific and technical vocabulary and terminol
ogy in three scientific and technical fields not covered in FRN 456.
Topics may include electronics, computers, glass or robotics. In
French.
Prereq: Any two 300-level French courses or department permis

FRN 388, 488, 489 Internship. One, two, three sem hours
Provides an opportunity for the student to extend theoretical class
room learning through working experience in an appropriate set
ning. Field experience will be supplemented by regular meetings
with the faculty supervisors. Credit/No Credit.
Prereq: Department permission.

FRN 490 Intensive French Abroad. Three sem hours
An intensive spring/summer course offered in a French-speaking
environment. Instruction at many different levels. May be counted
for equivalent hours on 100-200 levels. May be repeated for credit.
Prereq: Department permission.

FRN 497, 498, 499 Independent Study. One, two, three sem hours
Advanced study on an individual research basis in areas not covered
in formal course work.
Prereq: Department permission.

FRN 277, 377, 477 Special Topics. One sem hour
FRN 278, 378, 478 Special Topics. Two sem hours
FRN 279, 379, 479 Special Topics. Three sem hours
These courses deal with subject matter not provided in other
department offerings. Students may elect such a course several
times as long as different topics are studied.
Prereq: Department permission.
GER 344 German Conversation. Three sem hours
Builds on the foundation in speaking skills acquired in GER 233 and 234 Intermediate German Conversation. Emphasizes vocabulary and idiom building and improvement in basic sentence structure. Readings, slides, tapes, films and other aids stimulate discussion. Meets three times per week.
Prereq: GER 234 Intermediate German Conversation or department permission.

GER 361 German for International Trade. Three sem hours
Develops working knowledge of commercial material including economics and business in multinational setting. Cross-cultural references provide opportunity for comparative and contrastive analysis of American and German cultural patterns in a business setting.
Prereq: GER 343 German Composition or department permission.

GER 425 German Literature from the Middles Ages to the Baroque. Three sem hours
Readings from the period are discussed in class meetings and taken as topics for student essays and reports. The literature is considered in the broad context of culture. In German.
Prereq: GER 341, 342 Survey of German Literature or department permission.

GER 426 German Literature from 1750-1850. Three sem hours
The literature of Germany from the pre-classical period through Romanticism discussed in class meetings and treated in student essays and reports. Perspectives of the other arts and of political and social developments enable the student to appreciate the literature in the context of European civilization. Taught in German.
Prereq: GER 341, 342 Survey of German Literature or department permission.

GER 427 German Literature from 1850-1945. Three sem hours
Selections from the literature of Poetic Realism, Biedermeier, Naturalism, Neo-Romanticism and Expressionism, viewed against the background of political and cultural history. Classroom discussion and student reports.
Prereq: GER 341, 342 Survey of German Literature or department permission.

GER 428 German Literature from 1945 to the Present. Three sem hours
Those works that have shaped and are shaping current German literary and cultural life. Classroom discussion, papers and reports. In German.
Prereq: GER 341, 342 Survey of German Literature or department permission.

GER 444 Advanced German Conversation. Three sem hours
Development of advanced conversational fluency. A variety of media are employed to increase the student's facility in oral comprehension and to stimulate conversational exchange among the class members.
Prereq: GER 343 German Composition and GER 344 German Conversation or department permission.

GER 446 Business German I. Three sem hours
The idiom and terminology of the West German economy and economic geography. Emphasis on business communication in German.
Prereq: Three years of college German or the equivalent, or department permission.

GER 447 Business German II. Three sem hours
The idiom and terminology of the West German economy and economic geography. Emphasis on business communication in German.
Prereq: GER 446 Business German I or department permission.

GER 451, 452 Readings in German. One, two sem hours
Special projects in directed reading for majors and minors who have completed the available offerings in German or who, because of most unusual circumstances, are granted department approval to substitute this for the regular courses.
Prereq: Department permission.

GER 456 Technical German I. Three sem hours
Specialized vocabulary and jargon used in selected fields of technology. Basic technical concepts and terminology that students may encounter in German industry. Development of oral and reading facility as well as accurate translation of technical documents. Selected aspects of electricity, wood and metalworking, and gasoline and diesel engines. Content areas will occasionally be changed and updated in order to keep pace with changed student needs and changes in technology.
Prereq: GER 343 German Composition or department permission.

GER 457 Technical German II. Three sem hours
Specialized vocabulary and jargon used in selected fields of technology. Basic technical concepts and terminology that students may encounter in German industry. Development of oral and reading facility as well as accurate translation of technical documents. Automotive ignition systems, transmissions, suspension and brake systems, passenger safety and environmental protection, auto production and distribution, computers, robotics, and telecommunications. Content areas will occasionally be changed and updated in order to keep pace with changed student needs and changes in technology.
Prereq: GER 456 Technical German I or department permission.

GER 388, 488, 489 Internship. One, two, three sem hours
An opportunity for the student to extend theoretical classroom learning through working experience in an appropriate setting. Field experience will be supplemented by regular meetings with the faculty supervisors. Credit/No Credit.
Prereq: Department permission.
GER 490 Intensive German in Europe. Three sem hours
An intensive summer course offered in Europe. Instruction at many
different levels available. May be counted for equivalent hours on
100-400 levels. May be repeated for credit.

GER 497, 498, 499 Independent
Study. One, two, three sem hours
Advanced study on an individual research basis in areas not covered
in formal course work.
Prereq: Department permission.

GER 277, 377, 477 Special Topics. One sem hour
GER 278, 378, 478 Special Topics Two sem hours
GER 279, 379, 479 Special Topics Three sem hours
These courses deal with subject matter not provided in other
departmental offerings. Students may elect such a course several
times as long as different topics are studied.
Prereq: Department permission.

Japanese Courses

JPN 121, 122 Beginning Japanese. Five sem hours each
Practice in elementary conversation with special attention to reading
and writing the two Japanese syllabaries and basic ideographs.
Laboratory attendance required. Satisfies Area I 3.c of the basic
studies requirements.

JPN 211, 212 Intermediate Japanese. Five sem hours each
Practice in intermediate Japanese conversation, with heavy empha­
sis on reading and writing common ideographs in non-technical text.
Laboratory attendance required. Satisfies Area I 3.c of the basic
studies requirements.
Prereq: JPN 121, 122 Beginning Japanese or equivalent.

JPN 344 Japanese Conversation. Three sem hours
Emphasizes acquisition of an active vocabulary for daily life and
greater oral facility. Intensive study of casual or familiar levels of
speech as well as polite forms and honorifics. About 80 percent in
Japanese.
Prereq: JPN 212 Intermediate Japanese or department permis­
sion.

JPN 345 Japanese Composition. Three sem hours
Writing for a variety of purposes and a review of kanji (ideographs)
and grammar constitute the core of the course. Frequent written
assignments.
Prereq: JPN 344 Japanese Conversation or department permis­
sion.

JPN 361 Japanese for International
Trade. Three sem hours
Introduction to Japanese business culture and business communication
in Japanese. The course provides opportunity for comparative
analysis of American and Japanese cultural patterns in business
Prereq: JPN 345 Japanese Composition or department permis­
sion.

JPN 444 Advanced Japanese
Conversation. Three sem hours
The course aims to develop advanced conversational fluency.
Students are expected to participate actively in group discussion.
Instruction includes extensive vocabulary building for discussing a
variety of subjects in Japanese.
Prereq: JPN 345 Japanese Composition or department permis­
sion.

JPN 446 Business Japanese I. Three sem hours
The course aims to increase proficiency in business communication
in Japanese and to develop knowledge of Japanese economy,
industry, and foreign trade. Extensive work on the vocabulary and
Prereq: JPN 361 Japanese for International Trade and JPN 444
Advanced Japanese Conversation or department permission.

JPN 447 Business Japanese II. Three sem hours
The course provides an overview of the system of organization,
managerial style, and personnel relations of the Japanese company.
Study of business communication focuses on business correspon­
dence and translation. In Japanese.
Prereq: JPN 446 Business Japanese I or department permis­
sion.

JPN 494 Seminar in Japanese Studies. Three sem hours
Required of students majoring in teaching Japanese language and
culture. Extensive study and discussion of issues related to Japa­
nese society and to political and economic systems. Students are
required to apply Japanese language skills in research, present­
ations and papers. About 50 percent in Japanese.
Prereq: JPN 361 Japanese for International Trade or department
permission.

Spanish Courses

SPN 121 Beginning Spanish. Five sem hours
Basic principles of grammar. Practice in elementary conversation,
pronunciation, composition and reading. One-half hour per day in
the laboratory required. Satisfies the basic studies foreign language
composition requirement, Area I.

SPN 122 Beginning Spanish. Five sem hours
Basic principles of grammar. Practice in elementary conversation,
pronunciation, composition and reading. One-half hour per day in
the laboratory required. Satisfies the basic studies foreign language
composition requirement, Area I.
Prereq: SPN 121 Beginning Spanish or equivalent. Placement
exam required.

SPN 134 Spanish for the Bilingual. Five sem hours
Basic grammar and composition for students with an oral command
of Spanish. Conducted in Spanish. Prepares the student for entry
into more advanced Spanish classes. Satisfies the basic studies
foreign language composition requirement, Area I.
Prereq: Native command of oral Spanish and department permis­
sion.
SPN 201 Intermediate Spanish Conversation and Composition. Three sem hours
A review of Spanish grammar, frequent simple written compositions each semester and extensive oral work. Meets three times per week and students will spend two half-hour periods per week in the laboratory. In Spanish. Satisfies the basic studies foreign language composition requirement, Area I. Does not satisfy the basic studies literature requirement.
Prereq: SPN 122 Beginning Spanish or equivalent. Placement exam required.

SPN 202 Intermediate Spanish Conversation and Composition. Three sem hours
A review of Spanish grammar, frequent simple written compositions each semester and extensive oral work. Meets three times per week and students will spend two half-hour periods per week in the laboratory. In Spanish. Satisfies the basic studies foreign language composition requirement, Area I. Does not satisfy the basic studies literature requirement.
Prereq: SPN 201 Intermediate Spanish Conversation and Composition or equivalent.

SPN 221 Intermediate Spanish Reading. Three sem hours
An introduction to literary criticism as applied to Hispanic literature. Extensive reading of materials in Hispanic literature and culture. In Spanish. Satisfies Area IV of the basic studies requirements.
Prereq: SPN 202 Intermediate Spanish Conversation and Composition or department permission.

SPN 222 Intermediate Spanish Reading. Three sem hours
An introduction to literary criticism as applied to Hispanic literature. Extensive reading of materials in Hispanic literature and culture. In Spanish. Satisfies Area IV of the basic studies requirements.
Prereq: SPN 221 Intermediate Spanish Reading or department permission.

SPN 231, 232 Survey of Spanish Literature. Three sem hours
The development of different literary movements in Spain and the major writers of the country from the Middle Ages to the present. In Spanish. Satisfies the basic studies literature requirement, Area IV.
Prereq: SPN 202 Intermediate Spanish Conversation and Composition and SPN 222 Intermediate Spanish Reading or department permission.

SPN 343 Spanish Grammar and Composition. Three sem hours
A systematic review of Spanish grammar and practice in composition. Frequent written assignments.
Prereq: SPN 202 Intermediate Spanish Conversation and Composition and SPN 222 Intermediate Spanish Reading or department permission.

SPN 344 Spanish Conversation and Composition. Three sem hours
Improved pronunciation, the acquisition of an active vocabulary for daily life, frequent written compositions and the development of greater oral facility. Meets three times per week and students spend three half-hour periods in the laboratory each week.
Prereq: SPN 202 Intermediate Spanish Conversation and Composition and SPN 222 Intermediate Spanish Reading or department permission.

SPN 351, 352 Survey of Spanish American Literature. Three sem hours
These courses deal with the major writers of Spanish America from the colonial period to the present. In Spanish.
Prereq: SPN 202 Intermediate Spanish Conversation and Composition and SPN 222 Intermediate Spanish Reading or department permission.

SPN 361 Spanish for International Trade. Three sem hours
This course is intended for students who already have a solid intermediate level command of Spanish and who wish to acquire minimum professional competence in the Spanish language as it is used in the world of international business. It includes practice in various forms of business communication, both written and oral.
Prereq: SPN 343 Spanish Grammar and Composition or department permission.

SPN 443 Advanced Spanish Grammar and Composition. Three sem hours
A review of selected points of Spanish grammar and extensive practice in writing Spanish.
Prereq: SPN 343 Spanish Grammar and Composition and SPN 344 Spanish Conversation and Composition, or department permission.

SPN 444 Advanced Spanish Conversation and Composition. Three sem hours
Improved pronunciation, greater oral facility and frequent written compositions. Meets three times per week and students spend three half-hour periods in the laboratory each week. May be repeated for supplementary credit.
Prereq: SPN 343 Spanish Grammar and Composition and SPN 344 Spanish Conversation and Composition, or department permission.

SPN 445 Spanish-American Prose. Three sem hours
A study of selected topics in Spanish-American literature. May be repeated for credit if the material of the course is in another area of Spanish.
Prereq: SPN 352 Survey of Spanish American Literature or department permission.
SPN 446, 447 Business Spanish. Three sem hours each
Required of students majoring in business Spanish. Practice with
Spanish commercial correspondence, translation of Spanish busi-
ess documents and reading of foreign periodical publications on
economics and international trade. An overview of international
economic organizations and trade agreements related to Spanish-
speaking countries and a review of existing bibliography on com-
mercial Spanish.
Prereq: SPN 361 Spanish for International Trade or the equivalent,
or department permission.

SPN 448 Modern Drama. Three sem hours
The development of modern Spanish drama and its various types.
Works of the principal dramatists of the 19th and 20th centuries. In
Spanish.
Prereq: SPN 342 Survey of Spanish Literature or department
permission.

SPN 449 Romanticism. Three sem hours
A study of the major works of Hispanic Romanticism. In Spanish.
Prereq: SPN 342 Survey of Spanish Literature or department
permission.

SPN 451, 452, 453 Readings in
Spanish. One, two, three sem hours
Special projects in directed readings for majors or minors who have
completed the available offerings in Spanish or who, because of
unusual circumstances, are granted departmental approval to sub-
stitute this for regular courses.
Prereq: Department permission.

SPN 454 Modernism in Spanish
America. Three sem hours
A survey of the literary movement known as "modernismo" in the
literature of Spanish America. In Spanish.
Prereq: SPN 352 Survey of Spanish American Literature or depart-
ment permission.

SPN 455 The Generation of 1898. Three sem hours
A study of the works of the main authors of the generation of 1898,
from Unamuno to Ortega y Gasset. In Spanish.
Prereq: SPN 342 Survey of Spanish Literature or department
permission.

SPN 456 Scientific and Technical
Spanish I. Three sem hours
Study of the fundamental Spanish terminology required for scient-
ific and technical contexts, including basic vocabulary for math-
ematics, geometry and physics. In-depth study of at least one
scientific or technical field (e.g., automobile industry, automated
processes). Students will explore the vocabulary and resources in
their chosen fields.
Prereq: SPN 343 Spanish Composition or department permission.

SPN 457 Scientific and Technical
Spanish II. Three sem hours
Study of the fundamental Spanish terminology required for scient-
ific and technical contexts, including basic vocabulary for com-
puters, chemistry and biology. In-depth study of at least one
scientific or technical field (e.g., data processing, nutrition). Stu-
dents will explore the vocabulary and resources in their chosen
fields.
Prereq: SPN 456 Scientific and Technical Spanish I or department
permission.

SPN 464 Drama of the Golden Age. Three sem hours
The drama of the 16th and 17th centuries. Works of the major
authors will be read and discussed. In Spanish.
Prereq: SPN 341 Survey of Spanish Literature or department
permission.

SPN 465 Modern Novel. Three sem hours
Study of the development of the modern novel in Spain during the
19th and 20th centuries. Representative novels will be read and
discussed in Spanish.
Prereq: SPN 342 Survey of Spanish Literature or department
permission.

SPN 466 Don Quixote. Three sem hours
The universal qualities of both the book and its author, as well as
their relation to Spanish life and literature of the period. In Spanish.
Prereq: SPN 341 Survey of Spanish Literature or department
permission.

SPN 471 Culture and Literature of the
Hispanic Groups in the U.S. Three sem hours
A study of the cultures of the major Hispanic groups in the U.S. The
study of representative literary works will lead to an increased
appreciation of the cultural roots and current life styles of these
groups. In Spanish. A minimum of 24 hours of field experience
required.

SPN 477, 478, 479 Special Topics. One sem hour
SPN 478, 479 Special Topics. Two sem hours
SPN 479 Special Topics. Three sem hours
These courses deal with subject matter not provided in other
departmental offerings. Students may elect such a course several
times as long as different topics are studied.
Prereq: Department permission.

SPN 482 Language of the Hispanic
Groups in the U.S. Three sem hours
A survey of present-day social and regional variations in the
Spanish spoken in the U.S. and the historical background of these
variations. In Spanish. Good skills in Spanish and at least one
introductory course in linguistics are strongly recommended. A
minimum of 24 hours of field experience required.

SPN 488, 489 Internship. One, two, three sem hours
Provides an opportunity for the student to extend theoretical class-
room learning through working experience in an appropriate set-
ing. Field experience will be supplemented by regular meetings
with the faculty supervisors. Credit/No Credit.
Prereq: Department permission.

SPN 490 Intensive Spanish. Six sem hours
An intensive summer course offered in Mexico. Instruction in a
small-group (four to five students), basis, with many different
instructional levels available. Students advance according to indi-
vidual progress. Students live with Mexican families. May be
counted for equivalent hours in Spanish on 100-400 levels. May be
repeated for credit.
SPN 497, 498, 499 Independent Study. One, two, three sem hours
Advanced study on an individual research basis in areas not covered in formal course work.
Prereq: Department permission.

General Language and Bilingual-Bicultural Education Courses

FLA 387, 487 Cooperative Education in Foreign Languages. Three sem hours each
Four to six months of full-time employment in a position designed to give practical experience in a field related to the student's foreign language major. The program ordinarily consists of two work experiences alternated with full-time attendance at the University. Credit/No Credit.
Prereq: For FLA 387, junior standing; admission to the program by application only. For FLA 487, FLA 387; admission to the program by application only.

FLA 411 Theory and Methods of Modern Language Teaching. Three sem hours
The history, theory and techniques of modern language teaching. Not counted in the language area of the degree requirements, nor toward a major in any modern language. Should be taken during the fall semester prior to student teaching. Not open to students on academic probation.

FLA 421 History and Theory of Bilingual Education. Three sem hours
Sociolinguistic and psycholinguistic aspects of bilingualism, language acquisition and cognitive development in the bilingual child, different instructional models for bilingual education programs, and school and community relations. A minimum of 24 hours of field experience required. Not open to students on academic probation.

FLA 422 Teaching Hispanic Culture and Language. Three sem hours
The techniques and materials for teaching the language and culture of Hispanic groups within the bilingual classroom. Techniques and materials for teaching other subject matter areas in Spanish. A minimum of 24 hours of field experience required. Not open to students on academic probation.

FLA 277, 377, 477 Special Topics. One sem hour
FLA 278, 378, 478 Special Topics. Two sem hours
FLA 279, 379, 479 Special Topics. Three sem hours
These courses deal with subject matter not provided in other departmental offerings.
Prereq: Department permission.

FLA 497, 498, 499 Independent Study. One, two, three sem hours
Advanced study on an individual basis in areas not covered in formal course work.
Prereq: Department permission.

Classical Languages Courses

LAT 121, 122 Beginning Latin. Five sem hours each
A course to bring students to the level of facility necessary to read ancient authors with enjoyment and understanding. Satisfies Area I 3.c of the basic studies requirements.

GRK 121, 122 Beginning Ancient Greek. Five sem hours each
For students with a strong interest in archaic and classical Greek culture. Acquaints students with sufficient ancient Greek grammar, vocabulary, and syntax to facilitate the reading of the masterpieces of Greek literature. Satisfies Area I 3.c of the basic studies requirements.

Courses in English for Foreign Students

ESL 210 Intermediate ESL Grammar. Three sem hours
The remaining basic sentence components emphasizing verb tenses and usage. Some work on complex sentence structures.
Prereq: ESL 110 Beginning ESL Grammar, department permission or placement.

ESL 212 Intermediate ESL Writing. Three sem hours
Expanding paragraph constructions while developing unity, cohesion and transition.
Prereq: ESL 112 Beginning ESL Writing, department permission or placement.

ESL 214 Intermediate ESL Reading. Three sem hours
Continued development of techniques to build vocabulary and reading skills. Materials emphasize informational reading.
Prereq: ESL 114 Beginning ESL Reading, department permission or placement.

ESL 216 Intermediate ESL Speaking and Listening. Three sem hours
Continued development of conversational skills, both speaking and listening. Delivery of short speeches and the development of listening for details.
Prereq: ESL 116 Beginning ESL Speaking and Listening, department permission or placement.

ESL 218 ESL Laboratory. Two sem hours
Individual and/or group lab sessions.
Prereq: Department permission or placement.

ESL 310 Advanced ESL Grammar. Three sem hours
The formation and manipulation of clauses in complex sentences and the sequence of verb tenses across clauses. A review of verb tenses and problematic grammar points.
Prereq: ESL 210 Intermediate ESL Grammar, department permission or placement.

ESL 312 Advanced ESL Writing. Three sem hours
Development of knowledge of organization patterns used in writing both paragraphs and compositions. The principal parts of a composition, writing devices used to achieve coherence.
Prereq: ESL 212 Intermediate ESL Writing, department permission or placement.
ESL 314 Advanced ESL Reading. Three sem hours
Practice in comprehending and analyzing unsimplified texts of greater length and linguistic complexity in a variety of fields.
Prereq: ESL 214 Intermediate ESL Reading, department permission or placement.

ESL 316 Advanced ESL Speaking and Listening. Three sem hours
Continued development of conversational, speaking and listening skills. Production and comprehension of short discourses on personal and non-personal topics.
Prereq: ESL 216 Intermediate ESL Speaking and Listening, department permission or placement.

ESL 318 ESL Laboratory. One sem hour
Individual and/or group lab sessions.
Prereq: Department permission or placement.

ESL 412 Academic ESL Writing. Three sem hours
A review of the components of compositions; practice in composition, research, outlining, formatting and writing a short research paper. Fulfills Area 1.1., a course in written composition, of the basic studies requirements.
Prereq: ESL 312 Advanced ESL Writing, department permission or placement.

ESL 414 Academic ESL Reading. Three sem hours
Reading in specialized fields at professional levels. Practice in outlining, summarizing and synthesizing ideas from different sources.
Prereq: ESL 314 Advanced ESL Reading, department permission or placement.

ESL 416 Academic ESL Speaking and Listening. Three sem hours
Strategies for and practice in comprehending lectures, taking notes and effectively participating in informal and formal classroom speaking activities.
Prereq: ESL 316 Advanced ESL Speaking and Listening, department permission or placement.

ESL 420 Review of English as a Second Language. Three sem hours
For non-native English speakers who need an additional semester of intensive English training before entering a regular full-time program of study. Includes practice in reading, writing, note-taking, listening and speaking. May be repeated for credit.
Prereq: Department permission.

ESL 456 English for Special Purposes: Science and Technology. Three sem hours
Development of English speaking, listening, reading and writing skills for those foreign students who plan to major in scientific and/or technical fields. Students will read and summarize articles in their fields, practice reporting technical information, formally and informally, listen and take notes on technical lectures, and develop skills needed in reading technical books.
Prereq: ESL 310, 312, 316 Advanced English as a Second Language or department permission.

ESL 477, 478, 479 Special Topics. One, two, three sem hours
These courses deal with subject matter not provided in other department offerings. Students may elect such a course several times as long as different topics are studied.
Prereq: Department permission.

Courses Given in English

CLA 104 Quest for Power: Famous Figures in History. Three sem hours
(See humanities courses, page 159)

CLA 106 Rome and America. Six sem hours
(See humanities courses, page 159)

LNG 134 Etymology. Three sem hours
Greek and Latin words and roots that are current in English forms are studied in order to enlarge the vocabulary and to produce a more discriminating use of words.

CLA 181 The Legacy of Greece. Three sem hours
(See humanities courses, page 160)
An introduction to Greek epic, drama, poetry, history and philosophy, illustrating the influence of the Greek tradition on Western civilization. Literature read in English translation. Representative examples of Greek architecture and sculpture.

FLA 215 The Culture of the Latino Groups in the United States. Three sem hours
(A formerly CEN 215.) A study of contemporary life of the principal Latino groups in the United States. Since their language reflects a unique socio-cultural situation, it will be used as a point of departure. Topics will include traditional family structure, economic, political, educational, ethnic and religious backgrounds, artistic contributions and prospects for the future.

LNG 223 Introduction to Language. Three sem hours
The basic principles of linguistic structure as they apply to the Western European languages taught in the department.

CEN 301 Mythology. Three sem hours
The general field of classical mythology and the psychology underlying it. The poet's and artist's selection and use of the classic myths from early until modern times; an interpretation of mythological allusions in literature.

TSL 410 Teaching English to Speakers of Other Languages. Three sem hours
Study and practice of various approaches to the teaching of oral and written skills in English to speakers of other languages. The fundamental structures (phonology, morphosyntax, and semantics) of English will be contrasted with those of foreign languages commonly found in Michigan.
Prereq: One year college-level foreign language or equivalent and LIN 201 An Introduction to the English Language or ENG 402 Modern English Syntax, or department permission.
TSL 420 Materials and Tests for TESOL. Three sem hours
Review of existing materials and tests used with limited English
proficient students in public schools. Practice in adapting and
developing materials for varying audiences in the public schools.
Practice administering ESL tests used in public schools.
Prereq: TSL 410 Teaching English to Speakers of Other Languages
or concurrent enrollment, or department permission.

LNG 425 Second Language Acquisition. Three sem hours
Examines the nature of learning a second language simultaneously
with or subsequent to one’s first language. Linguistic, cognitive,
affective, cultural and social factors influencing the acquisition of
another language will be explored. Focus will be on birth through
teen years with particular attention paid to language used in
English-medium, elementary and secondary schools.
Prereq: LNG 223 Introduction to Language.
Major in Earth Science

Sem hours

Academic major in earth science ........................................ 30

I. Required courses ................................................. 25-27
GES 108 Earth Science .................................................. 4
GES 200 The Oceans ........................................................ 3
GLG 228 Mineralogy or GLG 229 Rocks of Michigan .... 2-3
GLG 161 Historical Geology ............................................ 4
AST 203 Exploration of the Universe ................................ 3
GES 309 Plate Tectonics .................................................. 3
GES 324 Weather and Climate ...................................... 3
GLG 331 Paleontology or GLG 325 Geomorphology ..... 3-4

2. Restricted electives .............................................. 3-5
Choose three to five credits from the following:
GES 114 National Parks and Monuments, GES 208 Natural
Environmental Hazards, GES 227 Topographic Maps, GES
250 Introduction to Coastal Processes, GES 327 Soil Science,
GES 424 Climatology
GLG 370 Glacial Geology
AST 204 Astronomical Investigation

Major in Geography

Sem hours

Academic major in geography ............................................. 30

1. Required courses ...................................................... 16
GES 108 Earth Science .................................................. 4
GEO 110 World Regions .................................................. 3
GEO 235 Economic Geography ........................................ 3

Technique courses ....................................................... 6
Choose two courses from the following:
GEO 300 Location and Site Analysis, GES 401 Cartography,
GES 303 Field Geography, GES 305 Aerial Photograp
Interpretation, GES 470 Quantitative Methods in
Geography and Geology

Physical courses .......................................................... 2-3
Choose one course from the following:
GES 200 Oceans, GES 324 Weather and Climate, GLG 325
Geomorphology, GES 327 Soil Science, GLG 448
Subsurface Water Resources

Systematic courses ....................................................... 6
Choose two courses from the following:
GEO 310 Energy Awareness, GEO 332 Urban Geography,
GEO360 Cultural Geography, GEO 361 Population Geography,
GEO 431 Historical Geography of the U.S., GEO438
Industrial Location

Regional courses .......................................................... 3
Choose one course from the following:
GEO 314 Geography of the U.S.S.R., GEO 318 Geography of
Asia, GEO 319 Geography of Europe, GEO 320 Geography
of the U.S. and Canada, GEO 321 Geography of Latin America,
GEO 322 Geography of Africa, GEO 323
Geography of Australia and Pacific Islands, GEO 328 Geography of Canada

2. Restricted electives .................................................. 5-6
Choose five to six credits in consultation with advising
coordinator (Students on the later elementary curriculum
who elect this major should choose at least five semester

hours from the following:
GEO 313 Geography of Michigan, GEO 314 Geography of the
U.S.S.R., GEO 318 Geography of Asia, GEO 319 Geography
of Europe, GEO 320 Geography of the United States
and Canada, GEO 321 Geography of Latin America, GEO 322 Geography of Africa)

Major in Geology

Sem hours

Academic major in geology .............................................. 30

1. Required courses ...................................................... 24-28
GLG 160 Physical Geology ............................................. 4
GLG 228 Mineralogy ...................................................... 3
GLG 161 Historical Geology ............................................ 4
GLG 326 Structural Geology ............................................ 3
GLG 329 Petrology ......................................................... 3
GLG 330 Sedimentation and Stratigraphy ....................... 3

Field Geology ........................................................... 5-8
2. Electives ............................................................... 2-5
*Students on a bachelor of arts curriculum may substitute GLG
311 Paleontology and three semester hours of electives for
field geology, with the total required for the major to remain at 30
semester hours.

Major in Land Use Planning
(Non-teaching)

This interdisciplinary major emphasizes current land use
problems including the deterioration of urban cores, lack of coordina
tion in land development, loss of open space and other environmental
amenities, and the difficulty of educating local decision makers.
The courses are designed to provide the necessary skills to develop
zoning ordinances, analyze site plans and critique general develop
ment plans as well as to review grant applications, environmental
impact statements and regional management policies.

Incorporated in the major are courses from several other
departments, particularly in the areas of biological science, public
policy and government and real estate management. Courses rec
ommended to fulfill Basic Studies requirements include BIO 105
Biology and the Human Species, MTH 105 College Algebra, SOC
105 Introductory Sociology, GES 108 Earth Science, ECO 201, 202
Principles of Economics I and II, PL S 202 State and Local Govern
ment, and ENG 225 Intermediate Composition.

Sem hours

Academic major in land use planning .................................. 36
1. Required courses ...................................................... 16
GES 108 Earth Science .................................................. 4
GES 215 Land Use Planning ............................................. 3
RES 210 Real Estate Principles and Practices .................... 3
GEO 423 Principles of City and Regional Planning ............. 3
GES 495 Environmental Impact Assessment ....................... 3
2. Techniques courses ..................................................... 9
Choose three courses from the following:
GEO 300 Location and Site Analysis, GES 303 Field Methods,
GES 305 Aerial Photograph Interpretation, GES 401
Cartography;
One course from: GES 475 Computer Mapping, CSC 137
Introduction to Computer Programming, ORI 215
Introduction to Business Information Systems, IT 231
Industrial Computer Graphics;
or one of the applied statistics courses: ECO 310 Economic
Statistics, ORI 265 Basic Statistics I or GES 470
Quantitative Methods in Geography and Geology
3. Restricted electives .................................................... 11
Choose 11 credits from the following in consultation with the
advising coordinator:
GES 208 Natural Environmental Hazards, GES 327 Soil
Science, GEO 332 Urban Geography, GHP 335 Historic
Preservation, GEO 344 Recreation Geography, GEO 361
Geography of Population, GEO 438 Industrial Location
and Development, GEO 441 Transportation Geography
and Planning, GEO 448 The Subsurface Water Resource
ACC 426 Accounting for Public Administrators
BIO 207 Elements of Ecology, BIO 410 Limnology, BIO 420
General Ecology
CHM 415 Environmental Chemistry
ECO 332 Urban Economics, ECO 350 Government Finance,
ECO 455 Cost-Benefit Analysis
HIS 362 United States Urban History
IT 400 Site Planning
ORI 367 Computer Augmented Statistics
PLS 270 Introduction to Public Administration
PLS 330 Urban Politics
REC 270 Organization and Administration of Community
Recreation
SOC 306 The Urban Community

Major in Travel and Tourism

The new travel and tourism major is a response to continuing
needs for strong liberal arts programs with directed career
opportunities. Careful attention is given to course offerings that provide
graduates with distinct possibilities for enhancing the travel and
tourism profession. Students who successfully complete the cur-
riculum will have: a) increased awareness of the world, particularly
in those regions where travel and tourism are commonly associated;
b) increased understanding of business, especially from a marketing
perspective; and c) increased written and oral skills in English or a
foreign language.

The travel and tourism major leading to either a bachelors or
bachelor of science degree consists of: 1) an equal number of
credit hours (21 each) required in geography and business courses;
2) electives chosen from a selection of courses from the colleges of
Arts and Sciences and Business; and 3) a choice from one of two
communications skills options—either a general concentration
with courses emphasizing writing and speaking skills, or a foreign
language and area studies concentration. The travel and tourism
curriculum totals 75-76 credit hours of course work.

<table>
<thead>
<tr>
<th>Major in travel and tourism</th>
<th>Sem hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required courses ..........</td>
<td>41</td>
</tr>
<tr>
<td>GEO 110 World Regions ..........</td>
<td>3</td>
</tr>
<tr>
<td>GEO 112 Introduction to Travel and Tourism ..........</td>
<td>3</td>
</tr>
<tr>
<td>GEO 212 Geography of Travel and Tourism ..........</td>
<td>3</td>
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<tr>
<td>GEO 312 Travel Business Applications ..........</td>
<td>3</td>
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<tr>
<td>GEO 320 Geography of the U.S. and Canada ..........</td>
<td>3</td>
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<tr>
<td>GEO 441 Transportation Geography ..........</td>
<td>3</td>
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<tr>
<td>GEO 445 Cultural Tourism Resources ..........</td>
<td>3</td>
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<tr>
<td>ACC 240 Principles of Accounting ..........</td>
<td>3</td>
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<tr>
<td>MGT 386 Organization Theory and Development ..........</td>
<td>3</td>
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<tr>
<td>MGT 202 Business Communications ..........</td>
<td>3</td>
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<tr>
<td>MKT 261 Contemporary Selling ..........</td>
<td>3</td>
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<tr>
<td>MKT 360 Principles of Marketing ..........</td>
<td>3</td>
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<tr>
<td>MKT 365 Buyer Behavior ..........</td>
<td>3</td>
</tr>
<tr>
<td>MKT 369 Advertising ..........</td>
<td>3</td>
</tr>
<tr>
<td>2. Elective courses .............</td>
<td>15-16</td>
</tr>
</tbody>
</table>
| Choose 15-16 credits from the following (not more than three
courses may be chosen from the College of Business): | |
| ANT 135 Introduction to Cultural Anthropology .......... | 3 |
| ANT 233 Peoples and Cultures of Mexico .......... | 3 |
| GEO 113 Foundations of Guest Service .......... | 3 |
| GEO 313 Geography of Michigan .......... | 2 |
| GEO 315 Travel and Tourism: The European Scene .......... | 3 |
| GEO 318 Geography of Asia .......... | 3 |
| GEO 319 Geography of Europe .......... | 3 |
| ANT 234 Peoples and Cultures of Latin America .......... | 3 |
| or GEO 321 Geography of Latin America .......... | 3 |
| or ANT 236 Peoples of Africa .......... | 3 |
| or GEO 322 Geography of Africa .......... | 3 |
| or ANT 248 Peoples and Cultures of the Pacific .......... | 3 |
| or GEO 323 Geography of Australia and Pacific Islands .......... | 2 |
| or GEO 115 Observing the Human Landscape .......... | 2 |
| or GEO 333 Settlement Geography .......... | 3 |
| or GEO 344 Recreation Geography .......... | 3 |
| or GEO 345 Geography of Resorts .......... | 2 |
| or GEO 360 Cultural Geography .......... | 3 |
| or GEO 387 and/or GEO 487 Co-op Education .......... | 3 |
| or GEO 435 Urban Form and Function .......... | 3 |
| or GEO 436 Tourism and Socio-Economic Development .......... | 3 |
| or GEO 446 Heritage Interpretation and Tourism .......... | 3 |
| or GEO 478 Special Topics .......... | 2-3 |
| or GEO 488 Internship .......... | 4 |
| or GES 114 National Parks and Monuments .......... | 2 |
| or FA 429 History of American Architecture .......... | 3 |
| or MGT 402 Business Report Writing .......... | 3 |
| or LAW 293 Legal Environment of Business .......... | 3 |
| or LAW 393 Law of Business Enterprises .......... | 3 |
| or MKT 368 Marketing Strategy .......... | 3 |
| or MKT 460 International Marketing .......... | 3 |
| or MKT 473 Marketing Environment .......... | 3 |
| or MKT 474 Promotional Strategy .......... | 3 |
| 3. Concentrations ............... | 18 |
| Choose either Option A: General or Option B: Foreign language
and area studies |
Cartography or map-making begins with the maps of early man, which were attempts to depict graphically the earth and objects thereon in order to visualize them better. In the modern world, the map performs a number of significant functions, among which is its use as a necessary tool in understanding spatial phenomena, an efficient device for storage of information and a fundamental research tool permitting an understanding of distributions and relationships not otherwise known or imperfectly understood.

The goal of the minor is to provide a track for undergraduates that leads directly to entry level positions as cartographers and remote sensors. An objective of the minor is to provide balanced training between traditional cartographic work and machine processed maps. Emphasis is placed on map properties, spatial concepts, mapping techniques, drafting skills, graphic storage and display of data. A strongly recommended aspect of this training is the internship or cooperative education experience at nearby private and public agencies.
Historic Preservation

Sem hours

Minor in historic preservation ........................................... 24-26

1. Required courses ..................................................... 20
   GEO 115 Observing the Human Landscape ....................... 2
   GHP 335 Historic Preservation .................................... 3
   *HIS 223 History of the United States to 1877 ............... 3
   *HIS 224 History of the United States, 1877 to the Present 3
   GEO 333 Settlement Geography .................................. 3
   FA 429 History of American Architecture ..................... 3
   GEO 332 Urban Geography ......................................... 3
   *American history majors will substitute electives for HIS 223, HIS 224

2. Restricted electives .................................................. 4-6
   Choose two courses from the following:
   ANT 135 Cultural Anthropology, ANT 150 Introductory Archeology
   GEO 338 Land Economics
   GEO 235 Economic Geography, GEO 300 Location and Site Analysis, GES 401 Cartography, GEO 313 Geography of Michigan, GES 315 Land Use Planning, GEO 360 Cultural Geography, GEO 344 Recreation Geography, GEO 345 Geography of Resorts, GEO 423 Principles of City and Regional Planning
   HEC 350 History of Interiors: Ancient-1800, HEC 351 History of Interiors Lab: Ancient-1800
   HIS 313 Michigan History, HIS 362 United States Urban History, HIS 466 History of the Indians in the United States
   IE 105 History of Industrial Technology
   IT 201 Construction Technology, IT 228 Construction Drawing, IT 400 Site Planning and Development
   PSY 350 Environmental Psychology
   RES 210 Real Estate Principles and Practices, RES 310 Real Estate Finance
   SOC 306 The Urban Community
   (The suggested electives are not intended to be all inclusive; students may choose some elective courses not listed in consultation with the advising coordinator.)

Land Use Planning
(Non-teaching)

Sem hours

Minor in land use planning .............................................. 24

1. Required courses ..................................................... 24
   GES 315 Land Use Planning ..................................... 6
   GES 495 Environmental Impact Assessment .................. 3
   GES 324 Weather and Climate .................................. 3
   GES 300 Location and Site Analysis, GES 401 Cartography, GES 303 Field Methods, GES 305 Aerial Photograph Interpretation

2. Restricted electives .................................................. 12
   Choose four courses from the following in consultation with the advising coordinator:
   GES 208 Natural Environment Hazards, GES 327 Soil Science
   GHP 335 Historic Preservation, GEO 361 Geography of Population, GEO 344 Recreation Geography, GEO 438 Industrial Location and Development
   B&O 224 Principles of Conservation
   ECO 332 Urban Economics, ECO 338 Land Economics, ECO 455 Cost-Benefit Analysis
   IT 400 Site Planning and Development
   PLS 330 Urban Politics
   RES 210 Real Estate Principles and Practices
   SOC 306 The Urban Community

Coastal Environments
(Non-teaching)

Sem hours

Minor in coastal environments ......................................... 22

1. Required courses ..................................................... 16
   GES 108 Earth Science or GLG 160 Physical Geology .......... 4
   GES 200 The Oceans ............................................... 3
   GES 250 Introduction to Coastal Processes .................... 3
   GES 350 Coastal Ecological Biogeography ....................... 3
   GES 450 Shorelands Management Analysis ....................... 3

2. Restricted electives .................................................. 6
   Choose six credits from the following:
   GES 208 Natural Environmental Hazards, GES 305 Aerial Photograph Interpretation, GES 315 Land Use Planning, GLG 325 Geomorphology, GLG 330 Sedimentation and Stratigraphy, GES 495 Environmental Impact Assessment
   (The suggested electives are not intended to be all inclusive; students may choose some elective courses not listed in consultation with the advising coordinator.)

Earth Science

Sem hours

Minor in earth science .................................................. 21

1. Required courses ..................................................... 18
   GES 108 Earth Science ............................................ 4
   GES 200 The Oceans ............................................... 3
   GLG 229 Rocks of Michigan ...................................... 2
   AST 203 Exploration of the Universe .......................... 3
   GES 309 Plate Tectonics ......................................... 3
   GES 324 Weather and Climate .................................. 3

2. Restricted electives .................................................. 3
   Choose one course from the following:
   GLG 228-Mineralogy, GLG 161 Historical Geology, GLG 325 Geomorphology, GLG 331 Paleontology, GLG 370 Glacial Geology
   (The suggested electives are not intended to be all inclusive; students may choose some elective courses not listed in consultation with the advising coordinator.)
Geography and Earth Science Courses

GES 108 Earth Science. Three sem hours
Selected topics and concepts from geology, physical geography, meteorology and oceanography provide the basis for understanding current environmental problems and for perceiving fundamental options as man increases pressure on the world's resources and ecosystems. A requirement for both the major and minor in geography. Not open to students who have credit in GES 202 Science for Elementary Teachers. Lecture: three hours per week. Laboratory: one- two-hour period per week.

GES 114 National Parks and Monuments. Two sem hours
An analysis of the geology, vegetation and wildlife that led to the designation of certain U.S. lands as national parks, monuments and recreational areas. The environmental impact of man on the ecology of these areas resulting from population pressures of camping, trail use, fire, tourist services and recreational facilities; N.P.S. conservation policies that govern preservation of our heritage. Illustrated lectures and demonstrations.

GES 200 The Oceans. Three sem hours
A study of the world's oceans, including coasts, waves, currents, tides, sediments, marine geology, properties of sea water, the energy balance, oceanographic research techniques and marine resources, stressing physical oceanography.
Prereq: GES 108 Earth Science or GLG 160 Physical Geology or GES 202 Science for Elementary Teachers or department permission.

GES 202 Science for Elementary Teachers. Three sem hours
Lectures and laboratory deal with earth science concepts and teaching methodology. Nationally used elementary science curricula acquaint the student with techniques of teaching basic earth science concepts. Emphasis on student-centered, process-oriented approaches widely used in elementary classrooms. Not open to students with credit in GES 108 Earth Science. Lecture: two hours per week. Laboratory: one- two-hour period per week.

GES 208 Natural Environmental Hazards. Three sem hours
Analysis of devastating earthquakes, volcanic eruptions, floods, violent storms, freezes and other earth science catastrophes, emphasizing their causes and human adjustments to these events.
Prereq: GES 108 Earth Science or department permission.

GES 227 Topographic Maps. Two sem hours
Interpretation of distances, slopes and terrain features as shown on topographic contour maps. Preparation of contour maps from numerical data and of topographic profiles from contour maps; the correlation of landforms and landform patterns with the geologic materials and processes responsible for them.
Prereq: GES 108 Earth Science.

GES 250 Introduction to Coastal Processes. Three sem hours
Description and analysis of the physical and biogeographical processes of the coastal ocean and lakes. Distribution and origin of the coastal environments. Natural and human modification of beach, river valley, estuary, marsh, delta and coral reef environments by waves, currents and tides. Classroom demonstrations and field trips.
Prereq: GES 108 Earth Science or BIO 105 Biology and the Human Species or department permission.

GES 303 Field Geography. Three sem hours
Techniques in the observation of geographic features in the field. Emphasizes individual and group problem formulation, problem solving of geographic questions by using the scientific method, and combining traditional field exploration with the use of library aids.

GES 305 Aerial Photograph Interpretation. Three sem hours
Analysis of remote sensing imagery, including black and white, color and color infrared photography. Use of aerial environmental studies. Two hours lecture and one- two-hour lab per week.
Prereq: GES 108 Earth Science or department permission.

GES 309 Plate Tectonics. Three sem hours
An introduction to plate tectonics — i.e., continental drift and seafloor spreading — emphasizing the historical development of this new theory, its influence on improving our understanding of the close relationships between earthquakes, volcanic eruptions, mountain building, the formation of continents, and the origin of and eventual destruction of oceans. Lecture: three hours per week.
Prereq: GES 108 Earth Science or GLG 160 Physical Geology or GES 202 Science for Elementary Teachers or department permission.

GES 315 Land Use Planning. Three sem hours
An analysis of planning concepts and techniques to include population forecasts, use standards and comprehensive planning. Emphasis on developing zoning ordinances, reviewing site plans and grant applications and preparing general development plans. Enabling legislation and regional planning discussed. Not open to freshmen.

GES 324 Weather. Three sem hours
Introduction to the properties and processes that create weather, including an analysis of conditions aloft, the formation of storms and methods and problems of weather forecasting.
Prereq: GES 108 Earth Science or GES 202 Science for Elementary Teachers or department permission.

GES 325 Severe and Unusual Weather. Three sem hours
An analysis of cyclones, blizzards, thunderstorms, tornadoes, hurricanes, and other catastrophic weather phenomena. Includes their environmental impact and methods used in their prediction.

GES 327 Soil Science. Three sem hours
The mineralogical, physical, chemical and engineering properties of soils as related to soil formation, groundwater movement, soil erosion, plant-soil relationships and land development capability. Field trips and exercises required. Fall semester only.
Prereq: GES 108 Earth Science or GLG 160 Physical Geology or department permission.

GES 350 Coastal Ecological Biogeography. Three sem hours
Analysis of physical setting and ecological function of the Great Lakes coastal types in relation to the macro vegetation, fish and wildlife communities. Impact of land use on coastal wetlands and techniques for assessing the values of fish and wildlife resources.
Prereq: GES 250 Introduction to Coastal Processes or department permission.
GES 377, 477 Special Topics in Earth Science. Two, three sem hours
An experimental course for subject matter not provided in other department offerings. The content will change from semester to semester. Students may elect this course several times as long as different topics are studied.
Prereq: Department permission.

GES 387, 487 Cooperative Education in Earth Science, Land Use Analysis. Three sem hours
Four to six months of full-time employment at a firm or agency chosen for imparting a practical educational experience in earth science or land use analysis. The program consists of two work experiences alternated with full-time University attendance. A written report is required at the end of each employment period.
Prereq:Completion of sophomore year, earth science or land use planning major. Admittance by applications only. Graded on credit/no credit basis.

GES 401 Cartography. Three sem hours
A lecture-laboratory course in the techniques of map making and visual representation of geographic materials. The study and construction of several map projections, the evaluation of maps and the use of map-drawing instruments. One hour lecture and four hours laboratory per week.

GES 402 Advanced Cartography. Three sem hours
A continuation of GES 401 Cartography. Emphasizes the student's production of thematic maps; the use of press-on materials, tapes and acetate overlays; scribing, computer mapping; reproduction techniques. One hour lecture, four hours laboratory per week.
Prereq: GES 401 Cartography or department permission.

GES 424 Climatology. Three sem hours
An analysis of the world's climate types, including characteristics, classification, controls, and their effects on world soils and natural vegetation.
Prereq: GES 324 Weather.

GES 450 Shorelands Management Analysis. Three sem hours
An analysis of modern coastal management problems in the Great Lakes with emphasis on Michigan's shorelands. Selected topics, which are team-taught, include beach erosion, flood hazards, loss of wetlands, endangered coastal species and coastal planning. Field trips and guest speakers.
Prereq: GES 250 Introduction to Coastal Processes or department permission.

GES 470 Quantitative Methods in Geography and Geology. Three sem hours
Introduction to current techniques and methods applicable to geographic and geologic problems. A laboratory course emphasizing statistical analyses and computer applications.
Prereq: Geography, geology or earth science major, junior standing, or department permission.

GES 475 Computer Mapping. Three sem hours
A laboratory course introducing interactive operation of microcomputers to produce maps on line printers and plotters. Students learn to develop and apply computer mapping graphics, data bases, digitized data and a simple geographic information system. Two hours instruction and two hours laboratory each week.

GES 485 Introduction to Remote Sensing. Three sem hours
An introduction to the various remote sensing techniques and interpretation of Landsat, thermal and radar imagery. Electromagnetic spectra, energy interactions and spectral signatures. Some computer-assisted interpretation.

GES 488, 489, 490 Internship. Four, five, six hours
Supervised internship in some aspect of earth science or land use that is of mutual interest to the qualified student and the place the student will work. This experience is designed to integrate academic training with practical application. May be taken only once for credit.
Prereq: Department permission and placement.

GES 495 Environmental Impact Assessment. Three sem hours
An examination of the program elements of environmental impact statements. Geobased data sources are explored and analyzed. Impact statements are prepared by the class and existing impact statements are evaluated.
Prereq: GES 108 Earth Science or BIO 105 Biology and the Human Species or BIO 106 Orientation to Biology, junior or senior standing, or department permission.

GES 497, 498, 499 Individual Problems. One, two, three sem hours
Advanced study on individual basis in which the department does not offer a formal course. Normally such works is restricted to proficient students in the senior year under the general conditions prescribed for honors courses.
Prereq: Department permission.

Geology Courses

GLG 160 Physical Geology. Four sem hours
Geological concepts, processes, materials and surface features of the physical earth; internal features such as heat and volcanism, earthquakes and deformation, and plate tectonics; and external processes that have shaped the landscape. Lecture: three hours per week. Laboratory: one two-hour period per week. Required for the geology major.

GLG 161 Historical Geology. Four sem hours
The origin, development and succession of earth materials, surface and life forms, culminating in the present scene and organismic population. Field trips and reports may be required. Winter term only. Required for the geology major and minor. Lectures: three hours per week. Laboratory: one two-hour period per week.
Prereq: GLG 160 Physical Geology or department permission.
GLG 228 Mineralogy. Three sem hours
A study of the crystallography, crystal chemistry and identification of the most important rock forming and economic minerals of the crust of the earth. Lecture: two hours weekly. Laboratory: two hours weekly.
Prereq: CHM 131 General Chemistry 1.

GLG 229 Rocks of Michigan. Two sem hours
The identification and classification of rocks with special emphasis on characteristics used in the field.
Prereq: GES 108 Earth Science or GLG 160 Physical Geology.

GLG 255 Field Geology I. Two sem hours
Theory and practice of precision mapping using tape, alidade, plane table and stadia rod in local area. With GLG 356 Field Geology II, satisfies the field requirement for major in geology. May include field study in a quarry.
Prereq: GES 108 Earth Science or GLG 160 Physical Geology or department permission.

GLG 325 Geomorphology. Three sem hours
A detailed study of surface features and the degradational, aggradational and structural process by which they are formed. World-wide examples are used extensively.
Prereq: GES 108 Earth Science or GLG 160 Physical Geology and GLG 161 Historical Geology or department permission.

GLG 326 Structural Geology. Three sem hours
Introduction to the terminology, relationships and deformation of rocks with examples from specific areas. Laboratory problems are directed toward understanding of geological structures in three dimensions and their representation, interpretation, projection and illustration as applied to economic problems. Lecture: two hours weekly. Laboratory: two hours weekly.
Prereq: GES 108 Earth Science or GLG 160 Physical Geology.

GLG 329 Petrology. Three sem hours
The origin, occurrence, association, chemical relationships and distribution of igneous, sedimentary and metamorphic rocks; laboratory study of rocks. Not open to students with credit in GLG 229 Rocks of Michigan. Winter term only.
Prereq: GLG 228 Mineralogy.

GLG 330 Sedimentation and Stratigraphy. Three sem hours
The properties, description and classification of sedimentary rocks; processes and environments of deposition of sediments; the relationships between deformation of the earth’s crust and sedimentation; procedures in study and interpretation of sedimentary rocks. Field trips and reports required.
Prereq: GES 108 Earth Science or GLG 160 Physical Geology or equivalent and GLG 228 Mineralogy.

GLG 331 Paleontology. Three sem hours
Origin and development of life on earth and the environments in which animal assemblages lived. Study of the principles involved in the interpretation of fossils. Systematic study of the features of the animal groups most important in the fossil record. Winter semester only.
Prereq: GES 108 Earth Science or GLG 160 Physical Geology or GLG 161 Historical Geology or BIO 105 Biology and the Human Species or department permission.

GLG 334 Geology of Construction. Three sem hours
Geologic features of near-surface soil and bedrock materials; how the materials and their chemical and physical properties are related to construction. Exploration and exploitation of the materials associated with ground water supply and disposal, aggregates and construction problems of dams, reservoirs, excavations, foundations, highways and beach control structures.
Prereq: GES 108 Earth Science or GLG 160 Physical Geology or department permission.

GLG 355 Geologic Field Methods. One sem hour
Construction principles and use of conventional instruments in geologic surveying, note taking and preparation of illustrations and reports. Not open to students with credit in GLG 356 Field Geology II.
Prereq: GLG228 Mineralogy, GLG 326 Structural Geology, GLG 329 Petrology completed or currently enrolled or department permission.

GLG 356 Field Geology II. Three sem hours
Instruction and practice in pace-traverse mapping, measurement of stratigraphic sections, and a mapping of areal geology and geologic structure in Rocky Mountain west. With GLG 255 Field Geology I satisfies field requirement for geology major.
Prereq: GLG 161 Historical Geology, GLG 330 Sedimentation and Stratigraphy or department permission.

GLG 370 Glacial Geology. Three sem hours
A study of the glacial geomorphology and stratigraphy of the Pleistocene drift with emphasis on the character of the drift, sheets, their soils and lithology and the techniques of study as applied to the Wisconsin Stage in the state of Michigan. Comparisons drawn with the movements and deposits of modern glaciers; Paleoclimatic cycles of Precambrian and Paleozoic glacial ages and theories stressed. Field trips and reports required.
Prereq: GES 108 Earth Science or GLG 160 Physical Geology, GLG 161 Historical Geology, GLG 329 Petrology and GLG 330 Sedimentation and Stratigraphy or department permission.

GLG 379 Special Topics in Geology. Two sem hours
Treats subjects not provided for in the regular department offerings.
Prereq: Department permission.

GLG 387, 487 Cooperative Education in Geology. Three sem hours
Four to six months of full-time employment at a firm or agency, chosen for imparting a practical educational experience in geology. The program consists of two work experiences alternated with full-time University attendance. A written report is required at the end of each employment period.
Prereq: Completion of sophomore year, geology major. Admit­dance by application only. Graded on credit/no credit basis.
GLG 428 Optical Mineralogy. Four sem hours
Study of the optical properties of crystalline matter with petrographic microscope used to identify non-opaque and some opaque minerals, using crushed fragments and some thin-sections.
Prereq: GLG 228 Mineralogy and PHY 224 Electricity and Light.

GLG 430 Petroleum Geology. Three sem hours
A study of the origin, migration and accumulation of oil and natural gas. Exploration techniques in the use of structural geology, sedimentology and stratigraphy. The various drilling coring methods, drilling equipment and the procedures of drilling. Field trips to active drilling and/or producing areas and reports are required. Studies of specific oil and gas fields will be assigned. Fall semester only.
Prereq: GLG 161 Historical Geology, GLG 326 Structural Geology, GLG 330 Sedimentation and Stratigraphy or department permission.

GLG 439 Economic Geology. Three sem hours
A study of the geochemical behavior of metallic elements; the origin, processes, controls and classification of ore deposits; and fossil fuels. The occurrence and distribution of metallic and nonmetallic deposits.
Prereq: GLG 228 Mineralogy.

GLG 448 The Subsurface Water Resource. Three sem hours
Subsurface water occurrence, distribution, relationships to surface water and precipitation; subsurface flow, especially as related to well water production, test of aquifers; well drilling and installation; groundwater exploration and recharge; legal problems. Fall semester only.
Prereq: GES 108 Earth Science or GLG 160 Physical Geology and junior standing.

GLG 479 Special Topics in Geology. Three sem hours
An experimental course for subject matter not provided in other departmental offerings. The content will change from semester to semester. Students may elect this course several times as long as different topics are studied.
Prereq: Department permission.

GLG 488, 489, 490 Internship. Four, five, six hours
Supervised internship in some aspect of geology that is of mutual interest to the qualified student and the place the student will work. This experience is designed to integrate academic training with practical application. May be taken only once for credit.
Prereq: Department permission and placement.

GLG 497, 498, 499 Individual Problems. One, two, three sem hours
Advanced study on individual basis in which the department does not offer a formal course. Normally such work is restricted to proficient students in the senior year under the general conditions prescribed for honors courses.
Prereq: Department permission.

Geography Courses in Social Science

GEO 100 Future Worlds. Three sem hours
Introduces the student to reasons for studying the future from a geographical perspective, methods used in futuristic studies, the state of future shock today, the consequences of a shrinking world, and growing interdependence. Possible worlds that may exist in the year 2000 and beyond.

GEO 107 Introduction to Geography. Three sem hours
A survey of the major concepts and subfields in modern geography. Physical, cultural, economic, political, and social geography are among the major areas explored.

GEO 110 World Regions. Three sem hours
Geographic evaluation of man's imprint on the world, focusing on how peoples of various societies have approached the problems of living in their natural environments and with each other. A requirement for both the major and minor in geography.

GEO 111 Regions and Resources. Three sem hours
A comparative analysis of the economic resources of major regions of the world. The relationships among countries, corporations, and multiple levels of technology are examined.
Prereq: GEO 110 World Regions.

GEO 112 Introduction to Travel and Tourism. Three sem hours
An introduction to the types of careers in the travel industry. Designed to help the student set career goals and choose the appropriate class work to be successful in the travel business.

GEO 113 Foundations of Guest Service. Three sem hours
Analysis of guest-host service concepts and interactions in the travel and tourism industry, emphasizing the requisite attitudes and role of the professional host. The course will improve student motivation and skills toward providing positive guest experiences.
Prereq: GEO 112 Introduction to Travel and Tourism.

GEO 115 Observing the Human Landscape. Two sem hours
A geography course for students of any curriculum designed to enlighten travel experiences by developing observational awareness and perceptual appreciation of human landscapes and by enhancing sensitivity to the personality of places.

GEO 212 Geography of Travel and Tourism. Three sem hours
A review of the philosophy, historical development and geographical distribution of travel and tourism. The economic, social and environmental impacts of these activities; case studies illustrating their significance from all regions of the world.
Prereq: GEO 110 World Regions or GEO 112 Careers in Travel and Tourism or department permission. (May be taken concurrently)

GEO 235 Economic Geography. Three sem hours
Systematic treatment of economic activities in selected world locations. Areal factors included in the evaluation, production, and distribution of goods and services.
GEO 240 Geographic Perspectives on Third World Development.  
Three sem hours
A course designed to help internationalize the curriculum and to involve students of any program in the study of the geographic nature of critical development issues. This course explores world interdependence and the creation of a global economy. Students will assess both positive and negative consequences.  
Prereq: GEO 110 World Regions or department permission.

GEO 300 Location and Site Analysis.  
Three sem hours
Practical and theoretical application of models that explain the location of man's activities on earth.  
Prereq: GEO 235 Economic Geography or department permission.

GEO 310 Energy Awareness.  
Three sem hours
A study of production, transportation and consumption of energy, including analysis of historic, modern and future energy sources and the environmental effects of their development. GEO 110 World Regions or GES 108 Earth Science recommended.

GEO 312 Travel Business Applications.  
Three sem hours
The basic knowledge required to be a travel agent. Students will learn to use reference materials, write airline tickets, design itineraries and make reservations. Sales techniques, presentations and proposal writing.  
Prereq: GEO 110 World Regions and GEO 112 Careers in Travel and Tourism.

GEO 313 Geography of Michigan.  
Two sem hours
Detailed analysis of the natural setting, population and settlement characteristics, industry, recreation and agriculture in the state.  
Prereq: GEO 110 World Regions or GES 108 Earth Science.

GEO 314 Geography of the U.S.S.R.  
Three sem hours
A systematic and regional study of physical, cultural and economic factors in the Soviet Union; environmental resources, economic activities, population, transportation and communications.  
Prereq: GEO 110 World Regions or GES 108 Earth Science.

GEO 315 Travel and Tourism: 
The European Scene.  
Three sem hours
Consideration of Europe as the most significant continent for modern tourism. Emphasis is on the natural, cultural, and historical factors which form the foundation of this industry; and on the major economic, social, and environmental impacts which can be attributed to tourism.  
Prereq: GEO 112 Introduction to Travel and Tourism and GEO 212 Geography of Travel and Tourism.

GEO 316 History and Geography of Modern Europe.  
Six sem hours
An interdisciplinary geographical-historical study of modern Europe with the geographical component emphasizing information of an urban, demographic, occupational and environmental nature and the historical stressing major political, social and cultural developments. Must be taken concurrently with HIS 316 History and Geography of Modern Europe.  
Prereq: GEO 110 World Regions and one of HIS 101, 102 History of Western Civilization, or HIS 105 The World in the 20th Century.

GEO 317 History and Geography of Spanish America.  
Six sem hours
An interdisciplinary presentation of the history and geography of Spanish America with emphasis on political, cultural and socioeconomic forces from the conquest to the present. Similarities and differences within and between nations are stressed as are the special relationships that exist between the nations and the United States. Not open to those with credit in HIS 317 History and Geography of Spanish America.  
Prereq: GEO 110 World Regions and one of HIS 101, 102 History of Western Civilization, or HIS 105 The World in the 20th Century.

GEO 318 Geography of Asia.  
Three sem hours
Natural setting, culture traits, ecological circumstances, economic systems, population-resource bases and regional development problems of the major Asian realms.  
Prereq: GEO 110 World Regions or GES 108 Earth Science.

GEO 319 Geography of Europe.  
Three sem hours
Systematic treatment of the natural setting, cultural patterns, economic activities and developmental problems of the continent; selected significant regions analyzed in detail.  
Prereq: GEO 110 World Regions or GES 108 Earth Science.

GEO 320 Geography of the United States and Canada.  
Three sem hours
A regional treatment of natural setting, distribution of the people, important occupations and problems of future development in each of several regions.  
Prereq: GEO 110 World Regions or GES 108 Earth Science.

GEO 321 Geography of Latin America.  
Three sem hours
A regional treatment of natural setting, distribution of the people, important occupations and problems of future development in each of several regions.  
Prereq: GEO 110 World Regions or GES 108 Earth Science.

GEO 322 Geography of Africa.  
Three sem hours
A human ecological treatment of the African continent, involving resource identification and use as well as the varied nature of evolving human landscapes.  
Prereq: GEO 110 World Regions or GES 108 Earth Science.

GEO 323 Geography of Australia and Pacific Islands.  
Three sem hours
The natural setting, distribution of the people, important occupations and the problems of future development in each of several regions.  
Prereq: GEO 110 World Regions or GES 108 Earth Science.

GEO 328 Geography of Canada.  
Two sem hours
A detailed regional treatment of natural setting, distribution of the people, important occupations and problems of future development in each part of Canada.  
Prereq: GEO 110 World Regions or GES 108 Earth Science.

GEO 332 Urban Geography.  
Three sem hours
A study of geographic principles related to distribution, function, structure and regional setting of urban centers.  
Prereq: GEO 110 World Regions.
GEO 333 Settlement Geography. Three sem hours
Cultural, functional and ecological factors underlying man's settlement patterns.
Prereq: GEO 110 World Regions or GES 108 Earth Science or GEO 115 Observing the Human Landscape.

GEO 340 Medical Geography. Three sem hours
An inquiry into ecosystemic relationships between human health and conditions of the environment, both natural and cultural. The application of geographic concepts and techniques to interregional and intercultural health and health care problems.
Prereq: GEO 110 World Regions or department permission.

GEO 343 Geography of Sport. Three sem hours
A study of the geographic dimensions of sport, emphasizing such topics as origin, diffusion and distribution of American sports and athletes, sports regions, and regional recruiting patterns.

GEO 344 Recreation Geography. Three sem hours
A study of the relationship between human recreation activities and the environment. The environment as a recreation resource; recreation travel patterns; types of recreational facilities; impact of leisure activities upon the environment; recreational surveys and planning.
Recommended: GES 114 National Parks and Monuments or GEO 115 Observing the Human Landscape or GEO 315 Land Use Planning or GEO 360 Cultural Geography or BIO 224 Principles of Conservation or PED 270 Organization and Administration of Community Recreation.

GEO 345 Geography of Resorts. Two sem hours
Historical and systematic study of resorting and the resort as a functionally specialized settlement type; major resort areas of the world.
Prereq: GEO 110 World Regions and GEO 212 Geography of Travel and Tourism or department permission.

GEO 360 Cultural Geography. Three sem hours
Human landscape patterns; emphasis upon the processes concerned with their origins, locations and persistence.
Prereq: GEO 110 World Regions or department permission.

GEO 361 Geography of Population. Three sem hours
An analytical study of population characteristics and growth, world patterns of fertility, mortality and migration. Major attention is given to human population problems, including ecology, resources depletion and impacts of urbanization.
Prereq: GEO 110 World Regions or department permission.

GEO 378 Special Topics in Geography. Two sem hours
Treats subjects not provided for in the regular department offerings.
Prereq: Department Permission.

GEO 387 Cooperative Education in Geography. Three sem hours
Four to six months of full-time employment at a firm or agency, chosen for imparting a practical educational experience in geography. The program consists of two work experiences alternated with full-time University attendance. A written report is required at the end of each employment period.
Prereq: Completion of sophomore year, geography major. Admission by application only. Graded on credit/no credit basis.

GEO 423 Principles of City and Regional Planning. Three sem hours
Theory and practice of planning in the urban and regional context, with emphasis on the United States. Planning process at local, state and regional levels.
Prereq: GEO 332 Urban Geography or department permission.

GEO 432 Political Geography. Three sem hours
A study of the theory and concepts of political geography, using contemporary examples. Size, location, resources, boundaries, population and level of technology within and without the political framework.
Prereq: GEO 110 World Regions or department permission.

GEO 433 Political Geography of the United States. Three sem hours
A study of the variety and diversity of geographic forms of political behavior, organization and structure in the United States.
Prereq: GEO 110 World Regions or department permission.

GEO 434 The Geopolitical World. Three sem hours
Views of political space by world and regional states; strategies and capabilities for employing national power to carry out geopolitical goals.
Prereq: GEO 110 World Regions or department permission.

GEO 435 Urban Form and Function. Three sem hours
Analysis of urban cultural tradition. Evolving forms and functions of the Western city and principles of townscape analysis as applied to European and North American cities.
Prereq: GEO 115 Observing the Human Landscape or GEO 332 Urban Geography or HIS 101 or 102 History of Western Civilization; or senior standing.

GEO 436 Tourism and Socio-Economic Development. Three sem hours
For students majoring in travel and tourism. Socio-economic impacts of tourism, national and international development strategies.
Prereq: GEO 110 World Regions and GEO 112 Careers in Travel and Tourism.

GEO 438 Industrial Location and Development. Three sem hours
Basic principles of industrial development including industrial location theory, industrial site strategy, corporate facilities planning and community industrial development programming. Strengths and weaknesses of Michigan for economic expansion. Case studies and practical applications.
Prereq: GEO 300 Location and Site Analysis or department permission.

GEO 440 World Food Systems. Three sem hours
An analysis of world agricultural technologies and patterns. The interrelationships among ecosystems, economic development and political decision making in a variety of world settings.
Prereq: GEO 235 Economic Geography or department permission.
GEO 441 Transportation Geography and Planning. Three sem hours
Analysis of existing transportation modes and networks. Assessing future transportation needs, including mass transit. Traffic counts and origin/destination studies. Location factors in planning new routes; corridor and route selection. Impact of transportation developments.

GEO 444 Census Applications to Spatial Analysis. Three sem hours
Utilization of census materials as data resources and tools with application to spatial analysis and social service problems. Designed to prepare students to intelligently assemble, organize, analyze and utilize U.S. census data.

GEO 445 Cultural Tourism Resources. Three sem hours
Study of relationships between tourism and cultural heritage such as visitation to museums, archaeological sites, centers of folk craft production, architecturally significant buildings, ethnic landscapes, historic cities and towns, and other types of historic landscapes. Prereq: GEO 212 Geography of Travel and Tourism or GEO 335 Historic Preservation.

GEO 478 Special Topics in Geography. Three sem hours
An experimental course for subject matter not provided in other department offerings. The content will change from semester to semester. Students may elect this course several times as long as different topics are studied. Prereq: Department permission.

GEO 487 Cooperative Education in Geography. Three sem hours
Four to six months of full-time employment at a firm or agency chosen for imparting a practical educational experience in geography. The program consists of two work experiences alternated with full-time attendance at the University. A written report is required at the end of each employment period. Use on geography major subject to department approval. Offered on graded credit/no credit basis. Prereq: GEO 387 Cooperative Education in Geography. Admittance by application only.

GEO 488, 489, 490 Internship. Four, five, six hours
Supervised internship in some aspect of geography that is of mutual interest to the qualified student and the place the student will work. Designed to integrate academic training with practical application. May be taken only once for credit. Prereq: Department permission and placement.

GEO 497, 498, 499 Individual Problems. One, two, three sem hours
Advanced study on individual basis in which the department does not offer a formal course. Normally such work is restricted to proficient students in the senior year under the general conditions prescribed for honors courses. Prereq: Department permission.

GEO 436 Historic Preservation Field Project. Three sem hours
Specially arranged supervised field experiences and application of theoretical viewpoints to field problems in historic preservation. Prereq: Department permission.

GEO 444 Census Applications to Spatial Analysis. Three sem hours
Utilization of census materials as data resources and tools with application to spatial analysis and social service problems. Designed to prepare students to intelligently assemble, organize, analyze and utilize U.S. census data.

GEO 445 Cultural Tourism Resources. Three sem hours
Study of relationships between tourism and cultural heritage such as visitation to museums, archaeological sites, centers of folk craft production, architecturally significant buildings, ethnic landscapes, historic cities and towns, and other types of historic landscapes. Prereq: GEO 212 Geography of Travel and Tourism or GEO 335 Historic Preservation.

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GEO 488, 489, 490 Internship. Four, five, six hours
Supervised internship in some aspect of geography that is of mutual interest to the qualified student and the place the student will work. Designed to integrate academic training with practical application. May be taken only once for credit. Prereq: Department permission and placement.

GEO 497, 498, 499 Individual Problems. One, two, three sem hours
Advanced study on individual basis in which the department does not offer a formal course. Normally such work is restricted to proficient students in the senior year under the general conditions prescribed for honors courses. Prereq: Department permission.

GEO 436 Historic Preservation Field Project. Three sem hours
Specially arranged supervised field experiences and application of theoretical viewpoints to field problems in historic preservation. Prereq: Department permission.
GHP 437 Historic Preservation
Field Project. Six sem hours
Specially arranged supervised field experiences and application of theoretical viewpoints to field problems in historic preservation.
Prereq: Department permission.

GHP 477 Special Topics in Historic Preservation. Three sem hours
Treats subjects not provided for in the regular program offerings.
Prereq: Department permission.

GHP 487 Cooperative Education in Historic Preservation. Three sem hours
Four to six months of full-time employment at a firm or agency, chosen for imparting a practical educational experience in historic preservation, historic administration or heritage interpretation. The program consists of two work experiences alternated with full-time attendance at the University. A written report is required at the end of each employment period. Offered on graded credit/no credit basis.
Prereq: Completion of junior year, historic preservation or related minor.

GHP 488, 489, 490 Internship in Cultural Resource Management. Four, five, six sem hours
Supervised internship in some aspect of historic preservation, historic administration or heritage interpretation that is of mutual interest to the qualified student and the place the student will work. This experience is designed to integrate academic training with practical application. May be taken only once for credit.
Prereq: Department permission and placement.

GHP 497, 498, 499 Individual Problems. One, two, three sem hours
Advanced study on individual basis in an area in which the department does not offer a formal course. Normally such work is restricted to proficient students in the senior year under the general conditions prescribed for honors courses.
Prereq: Department permission.

HISTORY AND PHILOSOPHY
Office: 701 Pray-Harrold

Department Head: Ira M. Wheatley
Assistant Professors: Margaret Crouch, Kate Mehuron, Michael Reed, Francille Wilson

Through study in this department students can gain knowledge of past events and ideas, develop skills in analysis and evaluation and prepare for success in a variety of positions in education or with local, state, national and international governmental and private agencies. Students also may develop a sound foundation for postgraduate study in the humanities or social studies, or in such applied fields as law, religion and business. Additional educational opportunities are offered regularly through overseas travel-study programs and other off-campus enrichment experiences.

The department also participates in offering honors courses, programs in public law and government, public administration, language and international trade, African-American studies, technology and society, and women’s studies.

Degrees: Bachelor of arts and bachelor of science

Programs of Study
 Majors:
- Area studies (Africa, Asia-Far East, Latin America, Middle East and North Africa, Soviet Union)
- History
- Philosophy
- Social science

 Minors:
- Area studies (Africa, Asia-Far East, Latin America, Middle East and North Africa, Soviet Union)
- History
- Philosophy
- Religious studies

Graduate programs under the auspices of the department are the master of arts in history, the M.A. program in social science and the M.A. program in liberal studies with a concentration in social science and American culture. See the Graduate Catalog for program descriptions.

Major in Area Studies

The interdisciplinary area studies majors help students understand the background and specific problems of a world cultural or geo-political area: Africa, Asia-Far East, Latin America, Middle East and North Africa, or the Soviet Union. Courses drawn from several departments supply information on the area’s economy, geography, history, politics, society and general cultural back
The program also provides a foundation for graduate work with an area of specialization or preparation for careers in government service or private business. Students who enter the program choose either a 30 semester hour major or a 20 semester hour minor in area studies.

Each of the above majors and minors list required and/or elective courses. Students can also utilize the individual directed (independent) study courses available through some departments for one, two, or three semester hours of credit to be applied as elective credit in the major area. Majors are required to minor in one of the following: anthropology (except Soviet Union), economics, geography, history, political science or sociology; except that Latin America majors may instead elect a minor in Spanish culture, Spanish language, or Spanish literature.

### Major in Area Studies: AFRICA (Non-teaching)

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required basic courses</td>
<td>9</td>
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<tr>
<td>ECO 201, 202 Principles of Economics I and II</td>
<td>6</td>
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<tr>
<td>GEO 110 World Regions</td>
<td>3</td>
</tr>
<tr>
<td>2. Required area courses</td>
<td>15</td>
</tr>
<tr>
<td>ANT 236 Peoples and Cultures of Africa</td>
<td>3</td>
</tr>
<tr>
<td>ECO 385 Economic Development</td>
<td>3</td>
</tr>
<tr>
<td>GEO 322 Geography of Africa</td>
<td>3</td>
</tr>
<tr>
<td>HIS 347 Sub-Saharan Africa to 1885</td>
<td>3</td>
</tr>
<tr>
<td>PLS 372 Government and Politics of Sub-Saharan Africa</td>
<td>3</td>
</tr>
<tr>
<td>3. Area electives</td>
<td>6</td>
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<tr>
<td>Choose six credits from the following:</td>
<td></td>
</tr>
<tr>
<td>ANT 135 Introduction to Cultural Anthropology, ANT/SOC 336 Social and Cultural Change, ANT 339 Economic Anthropology</td>
<td></td>
</tr>
<tr>
<td>ECO 370 Comparative Economic Systems</td>
<td></td>
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<tr>
<td>FA 222 African and Afro-American Art</td>
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<tr>
<td>GEO 240 Geographical Perspectives on Third World Development</td>
<td></td>
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<tr>
<td>GEO 518 Problems of Sub-Saharan Africa</td>
<td></td>
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<tr>
<td>HIS 342 North Africa, 1798 to Present, HIS 348 Twentieth Century Africa</td>
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</table>

### Major in Area Studies: ASIA-FAR EAST (Non-teaching)

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem hours</th>
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</thead>
<tbody>
<tr>
<td>1. Required basic courses</td>
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<tr>
<td>ECO 201, 202 Principles of Economics I and II</td>
<td>6</td>
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<tr>
<td>GEO 110 World Regions</td>
<td>3</td>
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<tr>
<td>2. Required area courses</td>
<td>14</td>
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<tr>
<td>ECO 385 Economic Development</td>
<td>3</td>
</tr>
<tr>
<td>GEO 318 Geography of Asia</td>
<td>3</td>
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<tr>
<td>*HIS 441 The Far East to 1800 or HIS 442 Modern China</td>
<td>3</td>
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<tr>
<td>HIS 555 Studies in Far Eastern History</td>
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</tr>
</tbody>
</table>

### Major in Area Studies: LATIN AMERICA (Non-teaching)

Students electing the Latin American area studies major are strongly urged to minor in Spanish language, literature, or culture.

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>1. Required basic courses</td>
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</tr>
<tr>
<td>ECO 201, 202 Principles of Economics I and II</td>
<td>6</td>
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<tr>
<td>GEO 110 World Regions</td>
<td>3</td>
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<tr>
<td>2. Required area courses</td>
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</tr>
<tr>
<td>*ANT 233 Peoples and Cultures of Mexico, *ANT 234 Peoples and Cultures of Latin America</td>
<td>3</td>
</tr>
<tr>
<td>ECO 385 Economic Development</td>
<td>3</td>
</tr>
<tr>
<td>GEO 321 Geography of Latin America</td>
<td>3</td>
</tr>
<tr>
<td>*HIS 355 Latin America: Colonial Period, *HIS 356 Latin America: National Period or *HIS 457 History of Mexico</td>
<td>3</td>
</tr>
<tr>
<td>PLS 367 Contemporary Political Systems of Latin America</td>
<td>3</td>
</tr>
<tr>
<td>3. Area electives</td>
<td>6</td>
</tr>
<tr>
<td>Choose six credits from the following:</td>
<td></td>
</tr>
<tr>
<td>ANT 135 Introduction to Cultural Anthropology, *ANT 233 Peoples and Cultures of Mexico, *ANT 234 Peoples and Cultures of Latin America</td>
<td>3</td>
</tr>
<tr>
<td>ECO 370 Comparative Economic Systems</td>
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<td>GEO 240 Geographical Perspectives on Third World Development</td>
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<td>GEO 518 Problems of Sub-Saharan Africa</td>
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<tr>
<td>HIS 342 North Africa, 1798 to Present, HIS 348 Twentieth Century Africa</td>
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</tbody>
</table>

*One of these courses must be taken to fulfill area requirements. The other may be taken as an area elective.*
## Major in Area Studies: MIDDLE EAST AND NORTH AFRICA

### Area studies major: Middle East and North Africa

<table>
<thead>
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<th>Course</th>
<th>Sem hours</th>
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</thead>
<tbody>
<tr>
<td>1. Required basic courses</td>
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</tr>
<tr>
<td>ECO 201, 202 Principles of Economics I and II</td>
<td>6</td>
</tr>
<tr>
<td>GEO 110 World Regions</td>
<td>3</td>
</tr>
<tr>
<td>2. Required area courses</td>
<td>3</td>
</tr>
<tr>
<td>ECO 385 Economic Development</td>
<td>3</td>
</tr>
<tr>
<td>PLS 371 Government and Politics of the Middle East</td>
<td>3</td>
</tr>
<tr>
<td>3. Area electives</td>
<td>12</td>
</tr>
<tr>
<td>Choose 12 credits from the following:</td>
<td></td>
</tr>
<tr>
<td>a. ECO 385 Economic Development</td>
<td></td>
</tr>
<tr>
<td>b. HIS 341 Middle Eastern History 1798 to Present or</td>
<td></td>
</tr>
<tr>
<td>c. HIS 342 North Africa 1798 to Present</td>
<td></td>
</tr>
<tr>
<td><em>One of these courses must be taken to fulfill area requirements. The other may be taken as an area elective.</em></td>
<td></td>
</tr>
</tbody>
</table>

## Major in Area Studies: SOVIET UNION

### Area studies major: Soviet Union

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required basic courses</td>
<td>30</td>
</tr>
<tr>
<td>ECO 201, 202 Principles of Economics I and II</td>
<td>6</td>
</tr>
<tr>
<td>GEO 110 World Regions</td>
<td>3</td>
</tr>
<tr>
<td>2. Required area courses</td>
<td>15</td>
</tr>
<tr>
<td>ECO 472 The Soviet Economy</td>
<td>3</td>
</tr>
<tr>
<td>GEO 314 Geography of the U.S.S.R.</td>
<td>3</td>
</tr>
<tr>
<td>HIS 344 Russia Since 1855</td>
<td>3</td>
</tr>
<tr>
<td>HIS 547 Nineteenth Century Ideological Background of the Russian Revolution</td>
<td>3</td>
</tr>
<tr>
<td>PLS 361 Government and Politics of the U.S.S.R.</td>
<td>3</td>
</tr>
<tr>
<td>3. Area electives</td>
<td>6</td>
</tr>
<tr>
<td>Choose six credits from the following:</td>
<td></td>
</tr>
<tr>
<td>a. ECO 370 Comparative Economic Systems</td>
<td></td>
</tr>
<tr>
<td>b. GEO/HIS 316 History and Geography of Modern Europe</td>
<td></td>
</tr>
<tr>
<td>c. GEO 516 Problems in Soviet Geography</td>
<td></td>
</tr>
<tr>
<td>d. HIS 332 Modern Europe 185-1919, HIS 333 Europe</td>
<td></td>
</tr>
<tr>
<td>e. HIS 343 Russia to 1855, HIS 550 Twentieth-Century Russia</td>
<td></td>
</tr>
<tr>
<td>f. PLS 462 Foreign Relations of the Soviet Union</td>
<td></td>
</tr>
</tbody>
</table>

## Major in History

Students majoring in history may count no more than four [0] numbered courses toward the major.

Students pursuing certification in secondary education should include at least eight hours of United States history in the major. HIS 100 Comparative Study of Religions and HIS 481 Teaching of Social Studies may not be counted toward the major.

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIS 101 Western Civilization to 1648, or</td>
<td>9</td>
</tr>
<tr>
<td>HIS 102 Western Civilization 1648 to World War I, or</td>
<td>3</td>
</tr>
<tr>
<td>HIS 103 Twentieth Century Civilization</td>
<td>3</td>
</tr>
<tr>
<td>HIS 123 The United States to 1877, or</td>
<td>3</td>
</tr>
<tr>
<td>HIS 124 The United States 1877 to the Present</td>
<td>3</td>
</tr>
<tr>
<td>HIS 300 Historical Research and Writing</td>
<td>3</td>
</tr>
<tr>
<td>2. Restricted electives</td>
<td>15</td>
</tr>
<tr>
<td>Choose six hours of courses 300-level or above in two of the following areas and three hours in the remaining area:</td>
<td></td>
</tr>
<tr>
<td>a. United States and Canada</td>
<td></td>
</tr>
<tr>
<td>b. Europe</td>
<td></td>
</tr>
<tr>
<td>c. Latin America, Africa, Asia, History of Religions</td>
<td></td>
</tr>
<tr>
<td>3. Unrestricted electives</td>
<td>6</td>
</tr>
</tbody>
</table>

## Major in Social Science

(For secondary education or non-teaching curriculum)

The social science major requires a total of 36 semester hours, including electives, chosen from history, anthropology, sociology, economics, geography, and political science.

Students minoring in any of the fields listed above may not choose any courses from that field for this major.

The major must include at least eight semester hours each in three of the areas listed below.

- Of the 36 semester hours, at least 14 must be in courses at the 300-level or above.

<table>
<thead>
<tr>
<th>Area of concentration (choose three)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. World history</td>
<td>8-9</td>
</tr>
<tr>
<td>a. Choose two of the following:</td>
<td>6</td>
</tr>
<tr>
<td>a. HIS 101 Western Civilization to 1648</td>
<td>3</td>
</tr>
<tr>
<td>b. HIS 102 Western Civilization 1648 to World War I</td>
<td>3</td>
</tr>
<tr>
<td>c. HIS 103 Twentieth Century Civilization</td>
<td>3</td>
</tr>
<tr>
<td>2. United States history</td>
<td>8-9</td>
</tr>
<tr>
<td>a. HIS 123 The United States to 1877</td>
<td>3</td>
</tr>
<tr>
<td>b. HIS 124 The United States 1877 to the Present</td>
<td>3</td>
</tr>
<tr>
<td>c. One United States history course at the 300-level or above</td>
<td>2-3</td>
</tr>
<tr>
<td>3. Anthropology</td>
<td>8-9</td>
</tr>
<tr>
<td>a. ANT 135 Introduction to Cultural Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>b. An anthropology course at the 300-level or above</td>
<td>3</td>
</tr>
<tr>
<td>c. Any other anthropology course</td>
<td>2-3</td>
</tr>
</tbody>
</table>
Minors in Area Studies

Minors Offered in the Department of History and Philosophy

Minors in Area Studies
(Non-teaching)

Sem hours

Area studies minor: Africa ........................................ 20
1. Required area courses (as listed for the major) .......... 15
2. Area electives (as listed for the major) ................. 5

Sem hours

Area studies minor: Asia-Far East ............................... 20
1. Required area courses (as listed for the major) ........ 14
2. Area electives (as listed for the major) ................. 6

Sem hours

Area studies minor: Latin America ............................. 20
1. Required area courses (as listed for the major) ........ 15
2. Area electives (as listed for the major) ................. 5

Sem hours

Area studies minor: Middle East and North Africa ....... 20
1. Required area courses (as listed for the major) ........ 9
2. Area electives (as listed for the major) ................. 11

Sem hours

Area studies minor: Soviet Union .............................. 20
1. Required area courses (as listed for the major) ........ 15
2. Area electives (as listed for the major) ................. 5

Minor in History

Students pursuing certification in secondary education should include at least eight hours of United States history in the major. HIS 100 Comparative Study of Religions and HIS 481 Teaching of Social Studies may not be counted toward the minor.

No more than three 100-level courses may be counted toward the minor.

Sem hours

Minor in History ....................................................... 20-21
1. Required courses ..................................................... 6
HIS 101 Western Civilization to 1648 or
HIS 102 Western Civilization 1648 to World War I, or
HIS 103 Twentieth Century Civilization ..................... 3
HIS 123 The United States to 1877 or
HIS 124 The United States, 1877 to the Present ........... 3
2. Restricted electives .................................................. 12
Choose six hours of courses at the 300-level or above in one of the following areas and three hours in each of the other two areas:
A. United States and Canada
B. Europe
C. Latin America, Africa, Asia, History of Religions
3. Unrestricted electives ............................................ 2-3

Minor in Religious Studies
(Non-teaching)

Sem hours

Minor in religious studies .......................................... 20-21
1. Required course ....................................................... 3
HIS 100 The Comparative Study of Religion .................. 3
2. Restricted electives* ............................................... 12
Choose four courses from the following:
PHI 215 Philosophy of Religion
ANT 338 Anthropology of Religion
HIS 301 The Religions of South and East Asia, HIS 302 Near Eastern and Western Religions, HIS 303 History of American Religion
LIT 251 The Bible as Literature
PSY 225 Psychology of Religion
SOC 320 Sociology of Religion
3. Electives* ............................................................... 5-6
Choose two additional courses from the restricted electives list or from the following:
PHI 220 Ethics, PHI 260 Existentialism
ANT 135 Introduction to Cultural Anthropology
CEN 301 Mythology
FA 107 Art History Survey I, FA 340 History of Classical Art, FA 341 History of Renaissance Art, FA 426 Medieval Art History
HIS 327 Europe in the Making, HIS 330 Europe in the Renaissance and Reformation
LIT 351 World Mythology, LIT 409 The Development of American Literature, LIT 414 English Renaissance Prose and Poetry 1500-1660

(No more than three of the seven courses in the minor may be
chosen from a single area—fine arts, literature and history.)
*Certain independent study courses and special topics courses may be counted as restricted electives or electives with the approval of the advising coordinator of religious studies.

Group Minor in Social Science
(For secondary education or non-teaching curriculum)

The social science minor requires a total of 24 semester hours, including electives, chosen from history, anthropology, sociology, economics, geography, and political science.

Students majoring in any of the fields listed above may not choose any courses from that field for this minor.

This minor cannot be taken together with the social science major.

The minor must include at least eight semester hours each in two of the areas listed below.

Of the 24 semester hours, at least eight must be in courses at the 300-level or above.

Sem hours
Minor in social science .............................................. 24

Areas of concentration (choose two)
1. World history ...................................................... 8-9
   a. Choose two of the following: ............................ 6
      HIS 101 Western Civilization to 1648 .................. 3
      HIS 102 Western Civilization 1648 to World War I .... 3
      HIS 103 Twentieth Century Civilization ............... 3
   b. One world history course at the 300-level or above .... 2-3

2. United States history ............................................. 8-9
   a. HIS 123 The United States 1877 ......................... 3
   b. HIS 124 The United States 1877 to the Present ....... 3
   c. One United States history course at the 300-level or above ............................................... 2-3

3. Anthropology ..................................................... 8-9
   a. ANT 135 Introduction to Cultural Anthropology ....... 3
   b. An Anthropology course at the 300-level or above ........ 3
   c. Any other Anthropology course ............................ 2-3

4. Sociology .......................................................... 8-9
   a. SOC 105 Introductory Sociology ............................ 3
   b. A Sociology course at the 300-level or above ........ 3
   c. Any other Sociology course ............................... 2-3

5. Economics ........................................................ 8-9
   a. ECO 201 Principles of Economics I ...................... 3
   b. ECO 202 Principles of Economics II .................... 3
   c. An Economics course at the 300-level or above ....... 2-3

6. Geography ....................................................... 8-9
   a. GEO 110 World Regions .................................. 3
   b. An area III Geography course at the 300-level or above ... 3
   c. Any other area III Geography course ................. 2-3

7. Political science ................................................. 8-9
   a. Choose one of the following: ............................ 3
      PLS 112 American Government .......................... 3
      PLS 113 American Government Honors .................. 3
   b. A political science course at the 300-level or above .... 3
   c. Any other political science course ..................... 2-3

Electives
Two or three courses from any of the above fields, to complete the required 24 hours.

Information for prospective teachers:
Students should be aware of the following North Central Association minimum semester hour standards:
a. At least eight hours: economics, political science, sociology, United States history, world history
b. At least five hours: geography, anthropology

Students seeking social studies certification for secondary education are urged to consult a history adviser before pursuing this minor.

History Courses

World History

HIS 100 The Comparative Study of Religion. Three sem hours
An introduction to the systematic study of religious experience and expression; organized around representative motifs, phenomena, and institutions, and illustrated with relevant examples from various historical religious traditions. (Satisfies basic studies philosophy/religion requirement. Does not satisfy basic studies history requirement. Does not count for social science major or history major or minor.)

HIS 101 Western Civilization to 1648. Three sem hours
A topical survey of western civilization from its Greco-Roman origins to the 17th century. Cultural development and institutional growth are emphasized. Greco-Roman contributions, the Judeo-Christian heritage, Byzantine and Islamic cultures, European expansion and militarism, the Renaissance and the Reformation are among the major topics considered.

HIS 102 Western Civilization, 1648 to World War I. Three sem hours
A topical survey of western civilization from the 17th century to World War I. Cultural development and institutional growth are emphasized. The Baroque era, Enlightenment, political and industrial revolutions, nationalism and imperialism are among major topics considered.

HIS 103 Twentieth Century Civilization. Three sem hours
An examination of the international developments of the twentieth century, with particular emphasis on the interactions between the West and other world cultures.

HIS 106 Asian and African Civilizations. Three sem hours
The civilizations of the Moslem world, Africa, India and East Asia in historical perspective. Philosophical outlook, cultural development and technological advances are emphasized with attention also being given to social and economic changes in the period since 1500.
HIS 277, 278, 279 Special Topics in History. Each offering will focus on a historical theme of limited scope but significant potential interest. Topics will change from semester to semester; up to three different topics may be offered in any one semester. Students may not count more than three hours of this course as credit towards the major or minor. It may not be used to satisfy basic studies requirements.

HIS 290 Introduction to the History of Technology. Three sem hours An introduction to Western technology from medieval times to the present. Examines the process of technical change, the nature of technological systems, the diffusion of technological improvements and the role of technology in broader historical movements.

HIS 300 Historical Research and Writing. Three sem hours Practice and development of the historian's skills by means of frequent written student exercises. Students will examine and criticize their own and one another's work. Required of history majors.

HIS 301 The Religions of South and East Asia. Three sem hours A survey of the religious traditions of India, Ceylon, Burma, Thailand, China, Tibet and Japan, showing the interaction of folk religion with the developing concepts and institutions of Hinduism, Buddhism, Confucianism, Taoism and Shinto.

HIS 302 Near Eastern and Western Religions. Three sem hours A survey of the historical evolution of the several religions originating in Western Asia, concentrating especially on the development and interaction of Judaism, Christianity and Islam.

HIS 325 The Family in History. Three sem hours A history of the family in a selected geographical area (for example, the United States or Europe), exploring the interaction between the family and broader cultural and economic forces over time, and examining in historical perspective the various stages of life, such as childhood, adolescence, courtship, marriage and old age. May be taken only once for credit.

HIS 377, 378, 379 Special Topics in History. One, two, three sem hours An exploration of historical subject matter not provided in other departmental offerings. Content will change from semester to semester; up to three different topics may be offered in any one semester. Students may not count more than six hours of special topics courses as credit toward the major or minor.

Prereq: One course in history or department permission.

HIS 477, 478, 479 Special Topics in History. One, two, three sem hours An exploration of historical subject matter not provided in other departmental offerings. Content will change from semester to semester; up to three different topics may be offered in any one semester.

Ancient and Medieval History

HIS 104 Quest for Power: Famous Figures in History. Three sem hours (See humanities courses, page 159)

HIS 323 Greek History. Three sem hours Examines the Greeks' achievements from the Bronze Age to the Roman conquest, focusing on the period after 800 B.C. Emphasizes political, social and economic developments; also considers literary, intellectual and artistic accomplishments.

Prereq: One course in history or department permission.

HIS 324 Roman History. Three sem hours Examines the Romans' achievements from earliest times to the German conquest, focusing on the period 500 B.C.-A.D. 500. Emphasizes political, social and economic developments; also considers literary, intellectual and artistic accomplishments.

Prereq: One course in history or department permission.

European History

HIS 127 The Splendid Centuries of Austria. Three sem hours (See humanities courses, page 160.)

HIS 128 Russia in the Age of Tolstoy and Dostoevsky. Three sem hours (See humanities courses, page 160.)

HIS 151 Reason and Revolution. Three sem hours (See humanities courses, page 160.)

HIS 309 France to 1789. Three sem hours A study of the main currents in early modern times with special emphasis on the impact of the Protestant Revolt and the Renaissance on French society, the rise of absolutism and the political and intellectual background of the French Revolution.

HIS 310 France Since 1789. Three sem hours An examination of the major trends in French history since the start of the Revolution. Stresses cultural, social, economic, intellectual and political trends, and treats the ways in which France has been a seedbed for new movements in Europe.
HIS 316 History and Geography of Modern Europe. Three sem hours
An interdisciplinary and geographical-historical study of modern Europe with the geographical component emphasizing information of an urban, demographic, occupational and environmental nature, and with history stressing major political, social and cultural developments. A requirement for majors in language and international trade. Must be taken concurrently with GEO 316 History and Geography of Modern Europe.
Prereq: GEO 110 World Regions and either HIS 101 Western Civilization to 1648, HIS 102 Western Civilization, 1648 to World War I or HIS 103 Twentieth Century Civilization.

HIS 330 Europe in the Renaissance and Reformation. Three sem hours
A survey of the political, cultural, religious and economic history of Europe from the Italian Renaissance to the Peace of Westphalia.

HIS 332 Modern Europe 1815-1919. Three sem hours
A study of the development and conflicts of the national states of Europe from the Congress of Vienna to the Treaty of Versailles.

HIS 333 Europe Since 1919. Three sem hours
A history of Europe since Versailles with emphasis upon the Communist, Fascist and Nazi revolutions and their impact on the world, the origins and outbreak of the Second World War and the post-1945 era.
Prereq: Junior standing or department permission.

HIS 335 History of Women in Europe. Three sem hours
A study of the history of women and views of women in Western society from the 18th century to the present. Emphasizes the struggles, setbacks and achievements of the women's movements in the context of modern European history.
Prereq: One course in history.

HIS 338 German History Since 1815. Three sem hours
Considers unification and Empire, World War I, the Weimar Republic, the rise of National Socialism, World War II and postwar Germany.
Prereq: Junior or department permission.

HIS 343 Russia to 1855. Three sem hours
A survey of political, economic and cultural trends in the history of Russia from Rurik to the death of Tsar Nicholas I, with special emphasis on the growth of Tsarist absolutism.
Prereq: Junior standing or department permission.

HIS 344 Russia Since 1855. Three sem hours
A survey of the political, economic and diplomatic history of Imperial Russia and the Soviet Union from the great reforms of the 1860s to the present.
Prereq: Junior standing or department permission.

HIS 411 England to 1689. Three sem hours
The general history of England to the Revolution of 1688, with emphasis on its cultural and constitutional contributions to the modern world.

HIS 412 England 1689 to Present. Three sem hours
England in the period of imperial expansion, its industrial and social revolutions and its transition into a modern socially-minded nation. A continuation of HIS 411 England to 1689.

HIS 427 Europe from Absolutism to Revolution, 1648-1815. Three sem hours
A political, social and cultural study of Europe from the Peace of Westphalia through the Napoleonic Era. Emphasizes the development of absolutism in France, constitutionalism in England, the Enlightenment and the French Revolution.

HIS 435 Italy Since 1815. Three sem hours
The political, social and economic development of Italy from the Congress of Vienna to the present. Emphasizes the unification movement, domestic and foreign problems of the 19th and 20th centuries, World War I and its effects, Mussolini and Fascism, World War II and the new liberal republic.
Prereq: Junior standing or department permission.

HIS 456 Europe Since 1945. Three sem hours
Study of the political, economic, social and diplomatic history of Europe since the end of WWII, with emphasis on the Cold War, economic recovery and decline, the European integration movement, solidarity and dissension within the communist bloc, stability and unrest within the democracies and the impact of U.S.-Soviet detente.
Prereq: Junior standing or department permission.

HIS 471 Social and Intellectual History of Nineteenth Century Europe. Three sem hours
A detailed study of the original concepts of Europe's 19th-century intellectuals whose works were of major influence in the 19th and 20th centuries.
Prereq: Junior standing or department permission.

American History

HIS 107 Society in Crisis: 1848 and 1968. Three sem hours
(See humanities courses, page 161. Student must take LIT 107 Society in Crisis: 1848 and 1968 concurrently.)

HIS 123 The United States to 1877. Three sem hours
A study of the United States history through the Reconstruction following the Civil War.

HIS 124 The United States, 1877 to the Present. Three sem hours
A study of United States history from the end of Reconstruction to the present.

HIS 152 From the Gay Nineties to the Crash. Three sem hours
(See humanities courses, page 160.)

HIS 303 History of American Religion. Three sem hours
A survey of religious institutions and ideas in relation to American culture from colonial times to the present.
Prereq: One course in American history.
HIS 305 Indians of the United States. Three sem hours
An ethnography of Indian peoples and nations of the United States from their origins to the present.
Prereq: One course in history or department permission.

HIS 313 Michigan History. Three sem hours
A survey of major economic, social and political developments in Michigan from prehistoric times to the present. Emphasizes the period prior to the 20th century.

HIS 315 History of Black Americans. Three sem hours
A history of Americans of African ancestry from colonial times to the present. Emphasizes slavery, the post-Civil War South, northward migration and urban settlement and philosophies of racial progress.
Prereq: One course in American history.

HIS 317 History and Geography of Spanish America. Three sem hours
An interdisciplinary geographical-historical study of Spanish America, emphasizing political, cultural and socio-economic forces from the conquest to the present. Stresses similarities and differences within and between nations and the special relationships that exist between the nations and the United States. A requirement for majors in language and international trade. Must be taken concurrently with GEO 317 History and Geography of Spanish America.
Prereq: GEO 110 World Regions and either HIS 101 Western Civilization to 1648, HIS 102 Western Civilization 1648 to World War I or HIS 103 Twentieth Century Civilization.

HIS 336 History of Women in the United States and Great Britain, 1800 to the Present. Three sem hours
A comparative study of the history of women in the United States and Great Britain. Examines the ideology of the nature and role of women, the history of women's lives, the impact of industrialization and the feminist movements of the 19th and 20th centuries.
Prereq: One course in history or department permission.

HIS 350 History of Canada. Three sem hours
A survey of the development of Canada from prehistoric times to the present with an emphasis on social and economic topics.

HIS 355 Latin America: Colonial Period. Three sem hours
Surveys the history of Spanish America and Portuguese America from the conquest to the independence era; stressing political, social and economic aspects.
Prereq: Junior standing or department permission.

HIS 356 Latin America: National Period. Three sem hours
Surveys the history of Latin America from the independence era to the present, stressing political, social, intellectual and economic topics.
Prereq: Junior standing or department permission.

HIS 362 United States Urban History. Three sem hours
The development of United States cities from the commercial town of colonial times to the industrial metropolis of today. Emphasizes urban economic activities, boss and reform politics, immigrant and racial minorities and city and suburban expansion.
Prereq: Junior standing or HIS 123 The United States to 1877 or HIS 124 The United States, 1877 to the Present.

HIS 364 United States Military History. Three sem hours
A study of the origins and developments of military institutions, traditions and practices in the United States from the colonial period to the present, with attention given to the interrelationship between military history and political, social and economic conditions in the United States and the world. A requirement for cadets in ROTC programs.
Prereq: One course in history.

HIS 365 The Old South. Three sem hours
The South from the colonial foundations to the formation of the Confederacy in 1861.
Prereq: HIS 123 The United States to 1877 and junior standing.

HIS 380 American Colonies to Independence. Three sem hours
A study of the European prelude to colonization; the founding of the colonies and their political, economic and social development; the deterioration of the relationship between Great Britain and the American colonies after 1763.
Prereq: HIS 123 The United States to 1877 or equivalent.

HIS 383 The Age of Jackson. Three sem hours
A study of the United States from the end of the War of 1812 through the Mexican War, with the major emphasis on the transportation revolution, sectionalism, the second American party system, Manifest Destiny and the social movements of the era.

HIS 385 Civil War and Reconstruction. Three sem hours
A study of the United States from the Mexican War through the era of Reconstruction. Examines the sectional tensions leading to the Civil War; the political, social, military and economic aspects of the war; the problems of reconstruction and the rise of the solid South.
Prereq: Junior standing.

HIS 414 The Automobile Industry and Modern America. Three sem hours
An examination of the European and American origins of the automobile industry, the emergence of Michigan's dominant position in the industry and the social, economic and general cultural influence that the automobile and the industry has exerted on 20th-century America.

HIS 425 The United States from 1917 to 1945. Three sem hours
A study of the United States from World War I through World War II, including diplomatic relations, the domestic impact of both wars, modernization and culture conflict of the 1920s and the Depression and New Deal of the 1930s.
Prereq: HIS 124 The United States, 1877 to Present.

HIS 426 The United States Since World War II. Three sem hours
The origin of the Cold War and containment theory, McCarthyism, the Supreme Court and civil liberties, the military-industrial complex, the United States vis-a-vis the Third World, the Vietnam venture and contemporary political and social trends.
Prereq: HIS 124 The United States, 1877 to Present or junior standing.
HIS 457 History of Mexico. Three sem hours
An introduction to Mexican history from the Amerindian period through the recent past. Examines political, social, economic and cultural developments in the area comprising the present day nation as well as those areas in North America once included in Mexico. Prereq: Junior standing.

HIS 460 The Age of Washington and Jefferson. Three sem hours
The formation of the new nation during the War for Independence, the creation of the Constitution, the Federalist era, the Republican administration through Madison’s term in office, the War of 1812 and post-war diplomacy. Prereq: HIS 123 The United States to 1877 or equivalent.

HIS 461 Foreign Relations of the United States. Three sem hours
A survey of the foreign relations of the United States emphasizing the diplomacy of the period after the Civil War.

HIS 462 The American Mind to the Civil War. Three sem hours
Ideas and culture in America during the 17th, 18th and early 19th centuries. Includes such subjects as Puritanism, the Enlightenment and Romanticism/Transcendentalism, together with their general cultural implications. Prereq: One course in history.

HIS 463 United States Labor History. Three sem hours
A history of workers in the United States from colonial times to the present with special emphasis on developments occurring between 1820 and 1940. Considers working-class life and culture, labor unions, government-labor relations and the impact of economic change. Prereq: One course in history.

HIS 464 The Old West, 1540-1890. Three sem hours
A study of Spanish settlement, the fur trade, great explorations, settlement and expansion, transportation and mining frontiers, the cattle industry and cowboy culture, and the impact on the Indians. Prereq: One course in history.

HIS 465 United States Constitutional History. Three sem hours
A history of the development of the American Constitution from English and American colonial origins to the present. Prereq: HIS 123 The United States to 1877 or HIS 124 The United States, 1877 to the Present or department permission.

HIS 466 The American Mind since the Civil War. Three sem hours
Ideas and cultures in America during the late 19th and 20th centuries. Includes such subjects as pragmatism, social Darwinism, nationalism and internationalism, and liberal and conservative thought together with their general cultural implications. Prereq: One course in history and junior standing.

HIS 467 United States Labor History. Three sem hours
A history of workers in the United States from colonial times to the present with special emphasis on developments occurring between 1820 and 1940. Considers working-class life and culture, labor unions, government-labor relations and the impact of economic change. Prereq: One course in history.

HIS 468 The American Mind since the Civil War. Three sem hours
Ideas and cultures in America during the late 19th and 20th centuries. Includes such subjects as pragmatism, social Darwinism, nationalism and internationalism, and liberal and conservative thought together with their general cultural implications. Prereq: One course in history and junior standing.

HIS 469 The American Mind since the Civil War. Three sem hours
Ideas and cultures in America during the late 19th and 20th centuries. Includes such subjects as pragmatism, social Darwinism, nationalism and internationalism, and liberal and conservative thought together with their general cultural implications. Prereq: One course in history and junior standing.

HIS 470 Modern India. Three sem hours
The development and maturing of British rule in India against the background of Indian culture. Examines the rise and development of Indian nationalism, the struggle for independence, and the problems faced by India since 1947. Prereq: Junior standing or department permission.

HIS 471 The Far East to 1800. Three sem hours
A detailed examination of black Africa’s response to the historical experience of European colonialism, along with the evolution of those responses, forms and patterns applicable not only to Africa, but also to the entire non-western world.

HIS 472 Modern India. Three sem hours
The development and maturing of British rule in India against the background of Indian culture. Examines the rise and development of Indian nationalism, the struggle for independence, and the problems faced by India since 1947. Prereq: Junior standing or department permission.

HIS 473 The United States as an Emerging World Power. Three sem hours
The passing of the frontier after the Civil War, the Industrial Revolution, the big city and its problems, Populist revolt and Progressive reform, Imperialism and World War I. Prereq: HIS 123 The United States to 1877 or HIS 124 The United States, 1877 to the Present or equivalent.

HIS 474 The American Mind Since the Civil War. Three sem hours
Ideas and culture in America during the late 19th and 20th centuries. Includes such subjects as pragmatism, social Darwinism, nationalism and internationalism, and liberal and conservative thought together with their general cultural implications. Prereq: One course in history and junior standing.

HIS 475 Modern India. Three sem hours
The development and maturing of British rule in India against the background of Indian culture. Examines the rise and development of Indian nationalism, the struggle for independence, and the problems faced by India since 1947. Prereq: Junior standing or department permission.

HIS 476 Asian and African History. Three sem hours
An interdisciplinary geographical-historical study of modern Asia and Africa. The geography component emphasizes urban, demographic, occupational and environmental trends and developments; the history component stresses major political and social developments and international relations. A requirement for majors in the Japanese program in language and international trade. Must be taken concurrently with GEO 326 History and Geography of Modern Asia. Prereq: GEO 110 World Regions and either HIS 103 Twentieth Century Civilization or HIS 106 Asian and African Civilizations.

HIS 477 Modern India. Three sem hours
The development and maturing of British rule in India against the background of Indian culture. Examines the rise and development of Indian nationalism, the struggle for independence, and the problems faced by India since 1947. Prereq: Junior standing or department permission.

HIS 478 Twentieth Century Africa. Three sem hours
A detailed examination of black Africa’s response to the historical experience of European colonialism, along with the evolution of those responses, forms and patterns applicable not only to Africa, but also to the entire non-western world.

HIS 479 The United States as an Emerging World Power. Three sem hours
The passing of the frontier after the Civil War, the Industrial Revolution, the big city and its problems, Populist revolt and Progressive reform, Imperialism and World War I. Prereq: HIS 123 The United States to 1877 or HIS 124 The United States, 1877 to the Present or equivalent.

HIS 480 Asian and African History. Three sem hours
An interdisciplinary geographical-historical study of modern Asia and Africa. The geography component emphasizes urban, demographic, occupational and environmental trends and developments; the history component stresses major political and social developments and international relations. A requirement for majors in the Japanese program in language and international trade. Must be taken concurrently with GEO 326 History and Geography of Modern Asia. Prereq: GEO 110 World Regions and either HIS 103 Twentieth Century Civilization or HIS 106 Asian and African Civilizations.

HIS 481 Modern India. Three sem hours
The development and maturing of British rule in India against the background of Indian culture. Examines the rise and development of Indian nationalism, the struggle for independence, and the problems faced by India since 1947. Prereq: Junior standing or department permission.

HIS 482 The Age of Washington and Jefferson. Three sem hours
The formation of the new nation during the War for Independence, the creation of the Constitution, the Federalist era, the Republican administration through Madison’s term in office, the War of 1812 and post-war diplomacy. Prereq: HIS 123 The United States to 1877 or equivalent.
HIS 442 Modern China. Three sem hours
China from 1800 to the present: traditional Confucian China in crisis, impact of the West, reform and revolution. Republican China, the Communist revolution, China since 1949.
Prereq: Junior standing or department permission.

Teaching Methods:
History and Social Studies

GEO 348 Teaching Social Studies in Elementary Schools. Three sem hours
(See Geography and Geology Department)

HIS 481 The Teaching of Social Studies. Three sem hours
For teachers in junior and senior high schools. Examines the nature of the subjects included in social science in the public schools and the problems related to the teaching of history and other social studies. Not open to students on academic probation.

Independent Study

HIS 497, 498, 499 Independent Study in History. One, two, three sem hours
Study on an individual basis in areas where the department does not currently offer formal courses. These courses are restricted to highly proficient students. Students are limited to a maximum of three semester hours of independent study in history during any semester or session.
Prereq: Department permission.

Cooperative Education

HIS 387, 487 Cooperative Education in History. Three sem hours
Four to six months of full-time employment in a business or industry chosen to provide practical experience in the student's major field. The program consists of one or two such work experiences (HIS 387 and 487), alternated with full-time attendance at the University.

Philosophy Major

The philosophy major provides basic knowledge in the general field of philosophy and strikes a balance between topical philosophical groups. The program supplements those in many other disciplines, such as teaching, the performing arts and the sciences. A philosophy major also prepares students for graduate work in philosophy, law, theology and other related liberal arts subjects. It is a non-teaching major.

Sem hours

Philosophy major ................................................................. 30

I. Required courses ........................................................... 11
PHI 100 Introduction to Philosophy ...................................... 3
PHI 130 Introduction to Logic ............................................. 3
PHI 230 History of Philosophy: Ancient and Medieval .......... 3
PHI 381 Symbolic Logic ..................................................... 3
PHI 442 Philosophy of Mind ................................................ 3
PHI 460 Philosophy of Language ......................................... 3
PHI 470 Contemporary European Philosophy ...................... 3
PHI 471 Contemporary British and American Philosophy ........ 3
PHI 375 Metaphysics .......................................................... 3

2. Non-required topics ....................................................... 10
Choose two courses from the following: PHI 325 Theory of Knowledge, PHI 442 Philosophy of Mind, PHI 460 Philosophy of Language, PHI 470 Contemporary European Philosophy, PHI 471 Contemporary British and American Philosophy, PHI 375 Metaphysics.

3. Electives .............................................................................. 10
Choose 10 credits from other philosophy courses

In most cases it is recommended that students planning to attend graduate school in philosophy take PHI 381 Symbolic Logic and choose a majority of their electives from PHI 325 Theory of Knowledge, PHI 442 Philosophy of Mind, PHI 460 Philosophy of Language, PHI 470 Contemporary European Philosophy, PHI 471 Contemporary British and American Philosophy, PHI 375 Metaphysics.

Philosophy Minor

The philosophy minor is both a teaching and non-teaching program.

Sem hours

Minor in philosophy ............................................................. 20

1. Required courses ........................................................... 12
PHI 100 Introduction to Philosophy ...................................... 3
PHI 130 Introduction to Logic ............................................. 3
PHI 230 History of Philosophy: Ancient and Medieval .......... 3
PHI 231 History of Philosophy: Modern ............................... 3

2. Electives .............................................................................. 8
Choose eight credits from other philosophy courses

Philosophy Courses

I. Basic Courses

PHI 100 Introduction to Philosophy. Three sem hours
An introduction to philosophy by the study of important philosophical thinkers, problems and methodology.

PHI 110 Philosophies of Life. Three sem hours
An introduction to differing accounts of what constitutes a meaningful life and how an individual can attain it. Representative topics include the notions of pleasure, love, empathy and power as discussed by such writers as Plato, Epicurus, Nietzsche, Lao Tse and Buddha.

PHI 130 Introduction to Logic. Three sem hours
An introduction to the analysis of arguments using the theory and techniques of formal logic. The theory underlies most formal systems, including computer applications. Students learn such concepts as deduction and induction and how to prove that arguments are valid or invalid.
PHI 132 Critical Reasoning.  
Three sem hours  
An introduction to the techniques of identifying and evaluating arguments. The emphasis will be on the enhancement of reasoning skills through the study of arguments in their natural setting in newspapers, political speeches, advertising, etc. The course may also include such related topics as fallacies, inductive reasoning, and the logic of explanation in the social sciences.

II. Intermediate Courses of General Interest

PHI 212 Philosophy of Art.  
Three sem hours  
Can "art" be defined? Do artists owe a responsibility to society? Should works of art be primarily analyzed as "significant form" or as an expression of the artist's personality? Can we isolate a uniquely "aesthetic" attitude? Through considering such questions, the course introduces the student to philosophical reasoning and analysis.

PHI 220 Ethics.  
Three sem hours  
An introduction to the major problems of ethical theory such as the nature of value, the justification of ethical decisions, the idea of obligation and the application of ethical theory to specific ethical problems, which may concern both personal relationships and important public issues—e.g., abortion, euthanasia, medical experimentation, privacy and surveillance.

PHI 221 Business Ethics.  
Three sem hours  
An examination of the relationships between contemporary business values and traditional ethical values. Students will investigate various ethical theories and critically examine by means of case studies controversial current business issues.

PHI 222 Professional Ethics.  
Three sem hours  
An analysis of professionalism and the relationships between contemporary professional values and traditional ethical values. Students will investigate various ethical theories and analyze current ethical issues in various professions by means of controversial case studies. Issues will come from such areas as accounting, architecture, clinical psychology, computer technology, engineering, journalism, law, medicine, ministry, nursing, pharmacology, physical therapy, politics, public administration, real estate, social work, teaching, veterinary medicine, and more.

PHI 225 Political Philosophy.  
Three sem hours  
Examines the philosophical bases of political ideology and theory through analysis of a variety of political theories, their component parts and their basic assumptions. Examples may be taken from the works of such writers as Plato, Aristotle, Hobbes, Locke, Rousseau, Mussolini, Marx and Thoreau.

PHI 226 Philosophy of Women.  
Three sem hours  
A consideration of philosophical issues concerning the nature and status of women. Readings from both traditional and contemporary sources. Topics may include scientific and religious views, the ideal society and women's place in it, varieties of feminism, views on sexuality, family and reproduction, and work and the economy.

PHI 260 Existentialism.  
Three sem hours  
An examination of contemporary existentialist thought about the nature of reality and human existence as reflected in the works of such men as Marcel, Heidegger, Sartre and Camus and the sources of existentialism as found in the works of Kierkegaard and Nietzsche.

PHI 270 Philosophical Issues in Literature.  
Three sem hours  
An examination of questions concerning human nature, the nature of the world humans confront and the quest for self-identity as these issues are illustrated in selected works of literature.  
Prereq: PHI 100 Introduction to Philosophy or PHI 110 Philosophies of Life or PHI 130 Introduction to Logic.

III. Studies in the History of Philosophy

PHI 230 History of Philosophy: Ancient and Medieval.  
Three sem hours  
A study of important philosophical developments in Western thought from the pre-Socratics to the later medieval philosophers. Covers the pre-Socratics, Plato, Aristotle, the Stoics, St. Augustine, St. Thomas Aquinas, Occam and Duns Scotus.  
Prereq: One course in philosophy.

PHI 231 History of Philosophy: Modern.  
Three sem hours  
Prereq: One course in philosophy.

PHI 240 American Philosophy.  
Three sem hours  
An examination of the philosophical tradition in the United States through a study of such movements as idealism, transcendentalism, realism and pragmatism; from Jonathan Edwards to the present day.  
Prereq: A course in philosophy.

PHI 470 Contemporary European Philosophy.  
Three sem hours  
An examination of some of the major philosophical developments in continental Europe since approximately 1900. Considers consciousness, meaning, intentionality, the life-world and social process, as reflected in the works of such philosophers as Brentano, Husserl, Sartre, Merleau-Ponty and Ricoeur.  
Prereq: Two courses in philosophy.

PHI 471 Contemporary British and American Philosophy.  
Three sem hours  
An examination of some of the major philosophical developments in England and the United States since approximately 1900. Considers logical atomism, logical positivism, pragmatism and ordinary language philosophy as reflected in the works of such philosophers as Russell, Carnap, Ayer, James, Dewey, Ryle, Austin and Quine.  
Prereq: Two courses in philosophy.
IV. Areas of Special Interest.

PHI 122 American Studies: Success and the Pursuit of Happiness in 19th Century America. Three sem hours (See humanities courses, page 159.)

PHI 124 The Age of Wagner. Three sem hours (See humanities courses, page 159.)

PHI 150 Humanity and Technology. Three sem hours (See humanities courses, page 160.)

PHI 151 Reason and Revolution. Three sem hours (See humanities courses, page 160.)

PHI 155 Narrative in Literature and Film. Three sem hours (See humanities courses, page 160.)

PHI 215 Philosophy of Religion. Three sem hours A philosophical study of the nature, goals and proper function of religion. Some possible topics are traditional arguments for the existence of God, grounds for disbelief in God, immortality, religious experience, the nature of religious language, the relation of science to religion, the role of faith and revelation, the connection between religion and ethics.

PHI 310 Aesthetics. Three sem hours A study of philosophical issues relating to works of art and other aesthetic objects. Possible topics include the nature of aesthetic attitude, evaluation, aesthetic meaning and truth, expression in art, the nature of a work of art and basic value of art, the kinds of concepts used to talk about the arts. Prereq: One course in philosophy.

PHI 325 Theory of Knowledge. Three sem hours An investigation of the nature, scope and limits of knowledge. Some possible topics are the connection between belief and knowledge, knowledge of other people's minds, the reliability of memory, the possibility of certainty in knowledge, theories of truth. Prereq: One course in philosophy.

PHI 355 Philosophy of Law. Three sem hours A consideration of philosophical questions about the law such as: What sorts of behavior should be illegal? What is punishment supposed to accomplish? When are we justified in punishing a person? How do judges arrive at decisions? Are there really legal principles that cover all the hard cases judges must deal with or do they use their own personal moral values? What is a legal system and how does it differ from a moral code? Prereq: PHI 100 Introduction to Philosophy or PHI 130 Introduction to Logic or department permission.

PHI 375 Metaphysics. Three sem hours A study of questions concerning basic structure and ultimate nature of reality. Possible topics include universals and particulars, space and time, determinism and freedom, the self, materialism, idealism, substance and process. Prereq: Two courses in philosophy.

PHI 380 Philosophy of Science. Three sem hours A systematic examination of the main philosophical problems raised by the results and methods of the physical and social sciences. Topics include the problem of meaning, measurement, the interpretation of probability statements, the justification of induction, the concept of cause, the laws of nature, description and explanation, determinism and indeterminism. Prereq: Two courses in philosophy.

PHI 381 Symbolic Logic. Three sem hours An introduction to the notation and proof procedures of symbolic logic with emphasis upon the clarification and development of the notion of a formal language. Prereq: PHI 130 Introduction to Logic or department permission.

PHI 400 Philosophy Seminar - Topics. Two sem hours An intensive study of selected topics in philosophy. Class work consists of the analysis of philosophical texts and is designed primarily for students majoring or minoring in philosophy. Since the subject matter changes, the course may be taken more than once for credit. Prereq: Two courses in philosophy.

PHI 442 Philosophy of Mind. Three sem hours A philosophical study of the nature of mind. Examines the logical relations among mental concepts such as consciousness, choice, intention, emotion, feeling, the unconscious; also treats human action and the possibility and meaning of an adequate explanation of psychological phenomena. Prereq: Two courses in philosophy.

PHI 460 Philosophy of Language. Three sem hours An examination of the philosophically important aspects of language. Possible topics include theories of meaning, analysis of referring and predication, the relation between language and reality, analysis of vagueness and metaphor, the role of language in philosophical method, the relation between language and necessary truth. Prereq: Two courses in philosophy.

PHI 477, 478, 479 Special Topics in Philosophy. One, two, three sem hours An exploration of philosophical subject matter not provided in other department offerings. Prereq: Two courses in philosophy.

PHI 497, 498, 499 Independent Study in Philosophy. One, two, three sem hours Advanced study on an individual basis in areas in which the department does not offer a formal course. Restricted to juniors and seniors majoring or minoring in philosophy. Prereq: Department permission.
GENERAL HUMANITIES COURSES

Humanities Committee Chairperson: James Holoka

General humanities courses offer an introduction to the liberal arts and satisfy the University's basic studies requirements in history, religion, philosophy, English literature, art, music and theatre arts. The courses may be taken by all students, regardless of their major. (See basic studies requirements, page 32.)

The courses ask the question, "What can we learn about ourselves and our own culture by studying other cultures remote in time or place?" Courses address this question in a variety of ways—by comparing contemporary America with a past culture, by concentrated study of a past period, by surveying an important cultural legacy, or by considering a problem or issue of contemporary significance. Most courses are interdisciplinary and taught by specialists from various departments. Classes meet in lectures and small discussion groups.

Humanities courses satisfy certain requirements for a major or minor in English, history or philosophy.

English major: Students selecting the group major in English and American literature and language; the group major in literature, language, speech and theatre arts; or the minor in language and literature will be given three to six hours in substitution for three to six hours of literature. Students choosing the major in literature or the minor in children's literature will be given six hours in substitution for six hours of literature.

After completing 12 hours in the freshman humanities program, students will be permitted to enroll in English courses for which two courses in literature are prerequisites.

History major or minor; social science major: A student who completes two humanities courses in which members of the History Department have been instructors is understood to have completed the equivalent of two 100-level courses toward the history major or minor, or the social science major.

Philosophy major or minor: Students who have completed two humanities courses in which members of the philosophy section have been instructors may enroll in any course for which PHI 100 Introduction to Philosophy is a prerequisite.

Students who have taken PHI 122 American Studies: Success and the Pursuit of Happiness in 19th-Century America, may enroll in:

PHI 240 American Philosophy
PHI 270 Philosophical Issues in Literature
Students who have taken PHI 124 The Age of Wagner, may enroll in:

PHI 260 Existentialism
PHI 270 Philosophical Issues in Literature

Students wishing to apply hours completed in humanities courses toward a philosophy major or minor should meet with the chairman of the philosophy section to determine the adjustment of credit.

Courses

CLA 104/HIS 104 Quest for Power: Famous Figures in History.
Three sem hours
An examination of the lives and times of selected leaders from the ancient and modern worlds. Examples of figures to be covered are Pericles, Nero, Napoleon I and Adolf Hitler. Major literary monuments of the periods will be examined as well. Team taught by a member of the History Department and a classicist. This course satisfies one literature or one history requirement.

CLA 106/LIT 106 Rome and America.
Six sem hours
An investigation into problems and pressures comparing the people and culture of ancient Rome and modern America, considering individual hopes and ideals, religious beliefs and ideas about death, government, morality, love and sex. Team taught by a member of the English Department and a classicist. These courses must be taken concurrently and satisfy two literature requirements.

Six sem hours
A comparison and contrast of the social crisis that culminated in two revolutionary aftermaths (1848 in Europe and 1968 in the United States and Europe), focusing on alienation, women, the rise of nationalism and ethnic consciousness and the revolutionary outlook and its ultimate frustration. Team taught by members of the History and English departments. These courses must be taken concurrently and satisfy one history requirement and one literature requirement.

FA 121/HIS 121 Islam: The Golden Age.
Three sem hours
An investigation of the cultural accomplishments of Syria, Arabia, Persia, Egypt, North Africa, Spain and Sicily in the medieval period and a consideration of their source, the Muslim religion. Included are readings in translation from Islamic literature, films, music and slide presentations. Team taught by an art historian and a specialist in medieval Islam from the History Department. This course satisfies one history or one art requirement.

Three sem hours
An examination of the widespread 19th-century belief that worldly success produces happiness and an exploration of the proper relationship of knowledge and power, history and progress, wealth and happiness. Readings include such authors as Benjamin Franklin, H.D. Thoreau, William James, Mark Twain and Horatio Alger. Team taught by members of the English and Philosophy departments. This course satisfies one philosophy or one literature requirement.

PHI 124/LIT 124 The Age of Wagner.
Three sem hours
An exploration of the personal, intellectual and artistic influences on Wagner's life and work and a consideration of artists influenced by Wagner. Team taught by members of the English and Philosophy departments. This course satisfies one philosophy or one literature requirement.
LIT 126/CTA 126 The Age of Shakespeare. Three sem hours
An introduction to basic areas of Renaissance thought as background to at least three of Shakespeare's plays, which are considered from the theatrical point of view as well as philosophical and literary. Team taught by members of the English and Communication and Theatre Arts departments. This course satisfies one literature or one theatre arts requirement.

FA 127/HIS 127/MUS 127/CTA 127 The Splendid Centuries of Austria. Three sem hours
A survey of the art, music and literature of Austria from the 17th to early 20th century in its intellectual, political and social setting. Baroque and Rococo art, and Classical and Romantic music and literature are considered. Extensive use is made of recordings and slides. Team taught by a member of one of the fine arts departments and a member of the History Department. This course satisfies one fine arts or one history requirement.

LIT 128/LIT 128 Russia in the Age of Tolstoy and Dostoevsky. Three sem hours
An introduction to the rise of the revolutionary movement in Russia in the half century preceding World War I due to developments in peasant, urban and aristocratic life. Students examine selected works of literature and some art and music. Team taught by members of the English and History departments. This course satisfies one literature or one history requirement.

PHI 150/LIT 150 Humanity and Technology. Three sem hours
A brief study of distinctive and influential perceptions of the impact of technology on human values just after the first Industrial Revolution, with critical emphasis on problems concerning the use of special, refined technologies. Primary readings from Thoreau, Mark Twain, Henry Adams, Aldous Huxley, Lewis Mumford and Garrett Hardin. This course satisfies one philosophy or one literature requirement.

FA 151/HIS 151/PHI 151 Reason and Revolution. Three sem hours
An examination of the transition in political history, philosophy, art, literature and music from Puritan England and Louis XIV's France to Napoleon. Team taught by members of the Art and History departments. This course satisfies one art or one history requirement.

LIT 152/LIT 152 From the Gay Nineties to the Crash. Three sem hours
A series of biographical portraits providing an intensive look at the profound cultural changes of the era 1890 to 1930, in both Europe and the United States. Team taught by members of the History and English departments. This course satisfies one history or one literature requirement.

PHI 155/LIT 155 Narrative in Literature and Film. Three sem hours
An introduction to cinematic concepts and terminology, focusing primarily on narrative techniques in literature and parallel devices in film. Readings include several prose forms and a text dealing with the theory of film. Team taught by members of the English and Philosophy departments. This course satisfies one literature or one philosophy requirement. Students may not earn credit in both this course and LIT 300 Narrative in Literature and Film.

179 Special Topics in Humanities. Three sem hours
This special topics course will be used to teach some aspects of the humanities that would not regularly be explored. A new course may be taught on an experimental basis using this heading. Dependent on the course offered, the special topic may satisfy a basic studies requirement. It will carry one of the following prefixes: HIS, PHI, FA, MUS, CTA, CEN or LIT.

CLA 181/LIT 181 The Legacy of Greece. Three sem hours
An introduction to Greek epic, drama, poetry, history and philosophy, illustrating the influence of the Greek tradition on Western civilization. The literature is read in English translation. Representative examples of Greek architecture and sculpture are also examined. Team taught by a classicist and/or a member of the English Department. This course satisfies one literature requirement.

FA 182/HIS 182 The Legacy of China. Three sem hours
A survey of China's history of achievements in polity, literature, art and philosophy, illustrating China's influence on human history and culture. Included are readings in translation from Chinese literature and feature films and slides. Team taught by members of the History and Art departments. This course satisfies one history or one art requirement.
MATHEMATICS
Office: 601 Pray-Harrold

Department Head: Don R. Lick
Professors: Larry L. Badii, Donald A. Buckeye, John L. Ginther, Geraldine Green, Paul E. Howard, K.G. Janardan, Don R. Lick, Richard W. Marshall, James H. Northey, Joanne S. Rankin, Nelly S. Ullman
Associate Professors: Gisela Ahlbrandt, Timothy Carroll, Rita Chattopadhyay, C. J. Gardiner, Bob L. Goosey, Christopher E. Hee, David C. Johnson, Walter Parry, Mohammad Rafiq, Kim Rescorla, Ken Shiskowski, Bette Warren
Assistant Professors: Mahmoud Al-Khafaji, Shenghui Chu, Lora Durham, David Folk, Carla Tayeh, James R. Walter, Mary Yorke

The program in mathematics is designed to give majors certain basic courses, ensure a broad background yet allow enough electives for students to adapt programs to one area of mathematics with which they may be concerned: junior and senior high school teaching, statistics, engineering, the physical sciences, or graduate work in pure or applied mathematics.

Degrees: Bachelor of science and bachelor of arts

Programs of Study

Majors and Minors:
- Mathematics (teaching and non-teaching)
- Mathematics with concentration in statistics
- Mathematics for the Elementary Teaching Certificate

Joint Program with Economics:
- Actuarial science and economics

Advising for students desiring to pursue a major in mathematics is available from the undergraduate advising coordinators. These students are listed initially as“mathematics intent. 6 To be accepted into one of the Mathematics Department programs, the student should go to the appropriate advising coordinator and pick up a form for student program identification. Academic Advising will update the student’s computer record code to indicate the program into which the student has been accepted. Other students needing general program advising should contact the appropriate undergraduate advising coordinator or the department secretary, who will direct students to appropriate faculty members.

No student outside the elementary teaching major or minor may receive credit in courses MTH 104, 105, 107, 108, 112 or 119 after credit for MTH 120 has been earned.

Students majoring in mathematics must complete at least nine semester hours, and minors must complete at least six semester hours from courses numbered 300 or above.

Majors preparing to teach mathematics in high school must complete a course in the teaching of mathematics in addition to the requirements for a major.

Degrees: Bachelor of science and bachelor of arts

Programs of Study

Majors and Minors:
- Mathematics (teaching and non-teaching)
- Mathematics with concentration in statistics
- Mathematics for the Elementary Teaching Certificate

Joint Program with Economics:
- Actuarial science and economics

Advising for students desiring to pursue a major in mathematics is available from the undergraduate advising coordinators. These students are listed initially as“mathematics intent. 6 To be accepted into one of the Mathematics Department programs, the student should go to the appropriate advising coordinator and pick up a form for student program identification. Academic Advising will update the student’s computer record code to indicate the program into which the student has been accepted. Other students needing general program advising should contact the appropriate undergraduate advising coordinator or the department secretary, who will direct students to appropriate faculty members.

No student outside the elementary teaching major or minor may receive credit in courses MTH 104, 105, 107, 108, 112 or 119 after credit for MTH 120 has been earned.

Students majoring in mathematics must complete at least nine semester hours, and minors must complete at least six semester hours from courses numbered 300 or above.

Majors preparing to teach mathematics in high school must complete a course in the teaching of mathematics in addition to the requirements for a major.

Advising Coordinators:
- Mathematics: Richard W. Marshall
- Secondary mathematics education: Richard W. Marshall
- Elementary mathematics education: John L. Ginther
- Accelerated or advanced standing in mathematics sequence: Bob L. Goosey
- Actuarial examinations: Nelly S. Ullman, Bette Warren
- Actuarial science and economics: Nelly Ullman and Bette Warren (mathematics), Young-Job Chung (economics)

Graduate study leads to the master’s degree in mathematics. The M.A. degree is described in the Graduate Catalog. For information, contact the graduate advising coordinator, Ken Shiskowski.

Mathematics Majors

Students interested in lucrative careers in business and industry are advised to take the Actuarial Examinations. Part I after completing MTH 223 Multi variable Calculus and Part II after completing MTH 471 Probability and Statistics II. These are the first two of a series of examinations sponsored by the Society of Actuaries.

Major in Mathematics
(Teaching and non-teaching)

Sem hour:

Academic major in mathematics ............................................................... 30-34
The major in mathematics, teaching requires 30 semester hours, while the major in mathematics, non-teaching, requires 34 semester hours.

I. Required courses (teaching and non-teaching) .............................. 19
MTH 120, 121 Calculus I and II ............................................................. 8
MTH 122 Elementary Linear Algebra .................................................... 3
MTH 223 Multivariable Calculus ......................................................... 4
MTH 370 Probability and Statistics I .................................................... 4

Teaching Major
Teaching majors are expected to take MTH 306 Teaching of High School Mathematics in addition to the 30 semester hour teaching major.

2. Required courses for teaching majors ........................................... 5-6
MTH 341 College Geometry or MTH 342 Elementary
Space-Time Geometry ........................................................................ 23
CSC 137 Introduction to Computer Programming
or CSC 237 Computer Programming and Numeric Methods ..................... 3

3. Restricted electives .......................................................... 5-6
Choose five to six credits from the following:
Non-teaching major

In addition to the 34 semester hour requirement, non-teaching majors must take MTH 211 Discrete Mathematics or CSC 330 Discrete Mathematical Structures, as well as CSC 137 Introduction to Computer Programming, CSC 138 Computer Science I or CSC 237 Computer Programming and Numeric Methods or an equivalent course as determined by the mathematics advising coordinator.

2. Restricted electives for non-teaching majors ......... 15

Choose 15 credits from the following:

- MTH 307 Elementary Number Theory
- MTH 319 Mathematical Modeling
- MTH 325 Differential Equations
- MTH 341 College Geometry or MTH 342 Elementary Space-Time Geometry
- MTH 375 Statistical Data Analysis
- MTH 406 Introduction to Computability
- MTH 411 Modern Algebra with Applications
- MTH 416 Linear Algebra
- MTH 418 Applied Linear Algebra
- MTH 420 Introduction to Analysis
- MTH 424 Introduction to Complex Variables
- MTH 425 Mathematics for Scientists
- MTH 426 Differential Equations II
- MTH 436 Numerical Analysis
- MTH 460 Applied Survey Sampling
- MTH 461 Linear Regression Analysis
- MTH 462 Design and Analysis of Experiments
- MTH 471 Probability and Statistics II
- MTH 472 Problems in Actuarial Studies II
- MTH 475 Applied Combinatorics

3. Recommended courses for double majors

Students electing a double major with mathematics—business, the social sciences, biological or physical science—should consult an advising coordinator to choose appropriate courses.

- MTH 411 Modern Algebra with Applications
- MTH 416 Linear Algebra
- MTH 420 Introduction to Analysis
- MTH 424 Introduction to Complex Variables
- MTH 425 Mathematics for Scientists
- MTH 426 Differential Equations II
- MTH 436 Numerical Analysis
- MTH 460 Applied Survey Sampling
- MTH 461 Linear Regression Analysis
- MTH 462 Design and Analysis of Experiments
- MTH 471 Probability and Statistics II
- MTH 472 Problems in Actuarial Studies II
- MTH 475 Applied Combinatorics

Major in Mathematics with Concentration in Statistics

Sem hours

Academic major in mathematics with concentration in statistics .................................. 37

I. Required Courses ...................................................... 28
- MTH 120 Calculus I ...................................................... 4
- MTH 121 Calculus II ..................................................... 4
- MTH 122 Elementary Linear Algebra ................................ 3
- MTH 223 Multivariable Calculus .................................... 4
- MTH 370 Probability and Statistics I ................................ 4
- MTH 461 Linear Regression Analysis ................................ 3
- MTH 462 Design and Analysis of Experiments .................... 3
- MTH 471 Probability and Statistics II .............................. 3

2. Restricted electives .................................................. 9

Students must take nine hours from among the following, at least six of which must be taken from the applied statistics electives:

Applied statistics electives:
- MTH 375 Statistical Data Analysis .................................. 3
- MTH 460 Applied Survey Sampling ................................... 3

Mathematics Electives:
- MTH 416 Linear Algebra .............................................. 3
- MTH 418 Applied Linear Algebra ..................................... 3
- MTH 420 Introduction to Analysis .................................... 3
- MTH 472 Problems in Actuarial Studies II ......................... 2
- MTH 475 Applied Combinatorics ................................. 3

Additional Requirement .................................................. 3
- CSC 137 Introduction to FORTRAN Programming or CSC 138 Computer Science I or CSC 237 Computer Programming and Numeric Methods

Major in Mathematics for the Elementary Teaching Certificate

Prospective elementary teachers are expected to take MTH 381 The Teaching of Mathematics K-6 in addition to the 30 semester hour major. Further information can be obtained from the advising coordinator for mathematics education.

Sem hours

Academic major in mathematics for the Elementary Teaching Certificate .................................. 30

I. Required courses ...................................................... 19
- MTH 108, 109 Functional Mathematics I and II .................. 6
- MTH 120 Calculus I ..................................................... 4
- MTH 240 Geometry for Elementary Teachers ..................... 3
- MTH 301 Advanced Topics in Elementary Mathematics ....... 3
- MTH 403 Current Research in Elementary School Mathematics .................................. 3

2. Restricted electives .................................................. 11

Choose 11 credits from the following:

- MTH 105 College Algebra
- MTH 107 Plane Trigonometry
- MTH 118 Mathematical Analysis for Social Sciences I
- MTH 119 Mathematical Analysis for Social Sciences II
- MTH 121 Calculus II
- MTH 122 Elementary Linear Algebra
- MTH 210 Algebra for Elementary Teachers
- MTH 223 Multivariable Calculus
- MTH 319 Mathematical Modeling
- MTH 370 Probability and Statistics I
- CSC 136 Computers for the Non-Specialist, CSC 137 Introduction to Computer Programming, CSC 237 Computer Programming and Numeric Analysis; or other mathematics or computer science courses approved by the advising coordinator
Actuarial Science and Economics

Actuarial science and economics is a joint program of the Mathematics and Economics Departments. In addition to following a prescribed series of courses, students are expected to pass the first two actuarial examinations. The examinations are sponsored by the Society of Actuaries and administered by the Educational Testing Service in Princeton, NJ. The first of these covers calculus and linear algebra and the second covers mathematical statistics. Math 372 and 472 are designed to prepare students for these examinations.

Sem hours

Major in actuarial science and economics ......................... 60

1. Required courses ........................................... 53
   a. Basic studies ........................................... 9
      CSC 137 Introduction to Computer Programming or CSC 237 Computer Programming and Numeric Methods ......................... 3
   b. Mathematics ........................................ 29
      MTH 120, 121 Calculus I and II ..................... 4
      MTH 122 Linear Algebra ................................ 3
      MTH 223 Multivariable Calculus ...................... 4
      MTH 370, 471 Probability and Statistics I and II ..... 7
      MTH 436 Numerical Analysis ......................... 3
      MTH 372, 472 Problems in Actuarial Studies I and II .... 4
   c. Economics .............................................. 15
      ECO 201, 202 Principles of Economics I and II ...... 6
      ECO 301 Intermediate Macroeconomic Analysis ........ 3
      ECO 302 Intermediate Microeconomic Analysis .......... 3
      ECO 320 Labor Economics ................................ 3
      ECO 341 Money and Banking ............................ 3
      ECO 415 Introduction to Econometrics ................ 3

2. Restricted electives ......................................... 7

3. Required courses for non-teaching minors .................... 34
     MTH 211 Discrete Mathematics or MTH 270 Elementary Statistics or MTH 370 Probability and Statistics I ........................................... 34

3. Restricted electives ......................................... 3-5

4. Additional requirement ...................................... 3
     CSC 137 Introduction to Computer Programming or CSC 138 Computer Science I or CSC 237 Computer Programming and Numeric Methods

*Students minor in mathematics must complete at least six hours at EMU from courses numbered 300 or above.

Minors Offered in the Department of Mathematics

Mathematics Minors
(Teaching and Non-teaching)

Sem hours

Minor in mathematics ........................................ 20

1. Required courses (teaching and non-teaching) ............. 11
   MTH 120, 121 Calculus I and II ......................... 8
   MTH 122 Elementary Linear Algebra .................... 3

2. Teaching Minor
   2. Required courses for teaching minors .................. 5-6
      CSC 137 Introduction to Computer Programming or CSC 237 Computer Programming and Numeric Methods ......................... 3
      MTH 341 College Geometry or MTH 342 Elementary Space-Time Geometry .................. 2-3

3. Restricted electives ......................................... 3-4
     Choose three to four credits from the following*: MTH 105 College Algebra or MTH 107 Plane Trigonometry (if taken prior to MTH 120 Calculus I), MTH 223 Multivariable Calculus, MTH 307 Elementary Number Theory, MTH 319 Mathematical Modeling, MTH 325 Differential Equations, MTH 341 College Geometry, MTH 342 Elementary Space-Time Geometry, MTH 370 Probability and Statistics I, MTH 400 History of Mathematics, MTH 411 Modern Algebra with Applications, MTH 416 Linear Algebra, MTH 418 Applied Linear Algebra, MTH 420 Introduction to Analysis, MTH 424 Introduction to Complex Variables, MTH 425 Mathematics for Scientists, MTH 436 Numerical Analysis, MTH 471 Probability and Statistics II, MTH 475 Applied Combinatorics

Non-teaching Minor

2. Required courses for non-teaching minors .................. 34
     MTH 211 Discrete Mathematics or MTH 270 Elementary Statistics or MTH 370 Probability and Statistics I ........................................... 34

3. Restricted electives ......................................... 3-4

4. Additional requirement ...................................... 3
     CSC 137 Introduction to Computer Programming or CSC 138 Computer Science I or CSC 237 Computer Programming and Numeric Methods

*Students minor in mathematics must complete at least six hours at EMU from courses numbered 300 or above.

Minor in Mathematics with Concentration in Statistics

Sem hours

Minor in mathematics with concentration in statistics .......... 23

1. Required courses ......................................... 14
   MTH 120 Calculus I ....................................... 4
   MTH 121 Calculus II ....................................... 4
   MTH 122 Elementary Linear Algebra .................... 3
   MTH 360 Statistical Methods* ........................... 3
     *MTH 370 Probability and Statistics I can be substituted for MTH 360 Statistical Methods

2. Restricted electives ......................................... 9
     Students must take nine hours from among the following, at least six of which must be taken from the statistics electives: Statistics Electives:
      MTH 375 Statistical Data Analysis ...................... 3
Minor for the Elementary Teaching Certificate

Prospective elementary teachers must take MTH 381 The Teaching of Mathematics K-6 in addition to the 20 semester hours required on the minor. Students seeking further information should consult with the advising coordinator for mathematics education.

Sem hours

Minor in mathematics for the Elementary Teaching Certificate 20

1. Required courses
   MTH 108, 109 Functional Mathematics I and II 12
   MTH 20 Geomerty for Elementary Teachers 6
   MTH 301 Advanced Topics in Elementary Mathematics 3

2. Restricted electives 8
   Choose one of the following options:
   MTH 206 College Algebra and Trigonometry for Elementary Teachers and MTH 120 Calculus I or MTH 210 Algebra for Elementary Teachers and electives chosen in consultation with the advising coordinator for mathematics education.

Mathematics Courses

MTH 104 Intermediate Algebra. Three sem hours
A review of elementary algebra and a continuation into the study of functions, graphs and quadratic equations.
Prereq: One year of high school algebra.

MTH 105 College Algebra. Three sem hours
Properties of the real numbers; equations and inequalities; functions; sequences; mathematical induction; polynomial, rational, exponential and logarithmic functions; introduction to probability.
Prereq: One and one-half years of high school algebra or MTH 104 Intermediate Algebra.

MTH 107 Plane Trigonometry. Two sem hours
An elementary course in plane trigonometry. Students who have good records in high school courses including trigonometric identities, trigonometric equations and oblique triangles should not take the course.
Prereq: One and one-half years of high school algebra or MTH 104 Intermediate Algebra, and one year of plane geometry.

MTH 108 Functional Mathematics I. Three sem hours
An introductory course to acquaint the student with the principal ideas of mathematics. Includes sets, logic, study of integers, rational and real numbers, number bases, exponents and logarithms and axiomatic geometry. Emphasis is placed on the concepts involved. Open only to prospective elementary teachers.

MTH 109 Functional Mathematics II. Three sem hours
Review and extension of the real numbers to a study of the complex numbers, elementary number theory, logic and nature of proof, basic probability and statistics and informal geometry. Open only to prospective elementary teachers.
Prereq: MTH 108 Functional Mathematics I.

MTH 112 Topics in Precalculus Mathematics. Four sem hours
Provides a thorough preparation for calculus for students who are insufficiently prepared in college algebra and trigonometry, or who need to review these subjects. Emphasis will be on topics from college algebra and trigonometry which are used in calculus.
Prereq: Two years high school algebra or MTH 105 College Algebra, and a high school course in trigonometry or MTH 107 plane trigonometry; or department permission.

MTH 118 Mathematical Analysis for Social Sciences I. Three sem hours
Solutions of linear equations and inequalities, vectors and matrices, linear programming, sets, probability. Emphasis on applications.
Prereq: Two years of high school algebra or MTH 104 Intermediate Algebra or equivalent. Students who feel weak in algebra are encouraged to elect MTH 104 Intermediate Algebra or MTH 105 College Algebra first.

MTH 119 Mathematical Analysis for Social Sciences II. Three sem hours
Functions, differentiation of algebraic functions, optimization, exponential and logarithmic functions and their derivatives, an introduction to the definite integral. Emphasis on problem setup and interpretation and applications.
Prereq: Two years of high school algebra or MTH 104 Intermediate Algebra or equivalent. Students who feel weak in algebra are encouraged to elect MTH 104 Intermediate Algebra or MTH 105 College Algebra first.

MTH 120 Calculus I. Four sem hours
Calculus of functions of a single variable; differential calculus, including limits, derivatives, techniques of differentiation, the Mean Value Theorem and applications of differentiation to graphing, optimization, rates. Integral calculus, including indefinite integrals, the definite integral, the Fundamental Theorem of Integral Calculus and applications of integration to area and volume.
Prereq: Students who feel well-prepared in precalculus mathematics (for example, with a "B" average in at least two years of high school algebra and a course in trigonometry) may take this course without further preparation. Those weak in algebra should complete MTH 105 College Algebra with a "B" or better; those weak in trigonometry should complete MTH 107 plane trigonometry with a "B" or better. Others should enroll in MTH 112 Topics in Precalculus Mathematics (provided they satisfy its prerequisites).
MTH 121 Calculus II. Four sem hours
Calculus of functions of a single variable continued: additional applications of definite integration to moments, centroids, arc length, surface area and work. Transcendental functions, infinite series, methods of integration, review of conic sections.
Prereq: MTH 120 Calculus I or equivalent.

MTH 122 Elementary Linear Algebra. Three sem hours
Vectors and matrices, operations on matrices, determinants, systems of linear equations, linear independence, linear transformations, applications.
Prereq: Students having“B” average in high school and in high school mathematics through trigonometry may take this course in their first semester. Others should enroll in MTH 105 College Algebra first (and in MTH 107 Plane Trigonometry if not taken in high school).

MTH 150 Mathematical Reasoning. Three sem hours
An introduction to contemporary mathematical thinking for the nonspecialist, with the aim of developing the capacity to engage in logical thinking and to read critically the technical information which is so prevalent in modern society. Topics include elementary logic, basic probability and statistics, and applications.
Prereq: One and one-half years of high school algebra or MTH 104 Intermediate Algebra or equivalent.

MTH 177, 178, 179 Special Topics in Mathematics. One, two, three sem hours
These special topics courses will be used to teach some aspects of mathematics or computer science at an elementary level that would not be regularly offered. This course does not count on a regular major or minor in mathematics.

MTH 206 College Algebra and Trigonometry for Elementary Teachers. Four sem hours
Basic algebraic and trigonometric concepts. Real and complex number systems, solutions of equations and inequalities, graphs of functions, determinants, sequences and series, permutations, combinations and probability. Open only to prospective elementary teachers.
Prereq: One year high school algebra, plane geometry and MTH 109 Functional Mathematics I or MTH 210 Algebra for Elementary Teachers or MTH 301 Advanced Topics in Elementary Mathematics.

MTH 210 Algebra for Elementary Teachers. Three sem hours
Field properties, complex numbers, number sentences, introduction to coordinate geometry, nature of proof and concept of limit. Open only to prospective elementary teachers.
Prereq: MTH 108 Functional Mathematics I.

MTH 211 Discrete Mathematics. Three sem hours
Logic, proofs, mathematical induction, sets, relations, equivalence and order relations, graphs, trees, functions, binary operations, semi-groups, groups, rings, fields, finite combinatorics, pigeon-hole principle, permutations, combinations, discrete probabilities.
Prereq: MTH 121 Calculus II and MTH 122 Elementary Linear Algebra.

MTH 223 Multivariable Calculus. Four sem hours
Vector products, lines and planes in three-dimensional space, quadric surfaces, cylindrical and spherical coordinates. Differential calculus of vector functions of a single variable: velocity and acceleration vectors, curvature. Partial differentiation, gradient, chain rule, directional derivatives, tangent planes, application to optimization. Multiple integration, change of coordinates, applications. Taylor's Theorem for Functions of Several Variables, line and surface integrals, Stokes' Theorem, Gauss' Theorem.
Prereq: MTH 121 Calculus II and MTH 122 Elementary Linear Algebra or equivalent.

MTH 240 Geometry for Elementary Teachers. Three sem hours
Informal geometry of the plane and space, congruence and measurement, elementary theorems and proof and plane coordinate geometry. Open only to prospective elementary teachers.
Prereq: MTH 108 Functional Mathematics I.

MTH 270 Elementary Statistics. Three sem hours
An introduction to standard methods in statistics, emphasizing the rationale behind them and their application to problems in a variety of fields. Data summary and representation, measures of center and dispersion, correlation and regression, basic probability, point and interval estimation and hypothesis testing.
Prereq: MTH 105 College Algebra or two years of high school algebra.

MTH 301 Advanced Topics in Elementary Mathematics. Three sem hours
Acquaints prospective elementary teachers with new topics in the elementary mathematics curriculum such as algebraic systems, conic sections, trigonometry, statistical procedures and topics in number theory.
Prereq: MTH 109 Functional Mathematics I or MTH 210 Algebra for Elementary Teachers or MTH 240 Geometry for Elementary Teachers.

MTH 304 Middle School Mathematics Methods and Content. Three sem hours
Consideration of the mathematics program in middle school and junior high school, its organization and content, methods of teaching and learning. Not open to freshmen, sophomores or students on academic probation.
Prereq: MTH 240 Geometry for Elementary Teachers or MTH 120 Calculus I.

MTH 306 Teaching of High School Mathematics. Three sem hours
Consideration of the mathematics program in the high school, its organization and content, methods of teaching and learning. This Group IV methods class does not count on the major or minor. Not open to freshmen, sophomores or students on academic probation.
Prereq: MTH 120 Calculus I.

MTH 307 Elementary Number Theory. Three sem hours
Primes, Euclidean algorithm and prime factorization, congruences, multiplicative functions, quadratic residues and reciprocity, continued fractions, Diophantine equations, possible applications to cryptography and/or primality testing.
Prereq: MTH 211 Discrete Mathematics.
MTH 319 Mathematical Modeling. Three sem hours
The modeling process; model building and evaluation, techniques of modeling; model fitting and models requiring optimization; empirical model construction—experimental models, dimensional analysis, simulation models, dynamic models; use of derivatives in the modeling process, single and multivariable dynamic models. Prereq: MTH 120 Calculus I and MTH 122 Elementary Linear Algebra.

MTH 325 Differential Equations. Three sem hours

MTH 341 College Geometry. Three sem hours
An introduction to several geometries such as affine, projective, space-time, and non-Euclidean. Prereq: MTH 120 Calculus I and MTH 122 Elementary Linear Algebra.

MTH 342 Elementary Space-Time Geometry. Two sem hours
In-depth study of a geometry other than Euclidean. Both synthetic and analytic treatment of Special Relativity. Prereq: MTH 121 Calculus II.

MTH 360 Statistical Methods. Three sem hours
A comprehensive overview of statistical methods and analysis with applications. Topics include descriptive statistics, probability theory, random variables and probability distributions, sampling distributions, estimation and testing hypotheses, correlation and regression, introduction to computer-assisted statistical analysis. A statistical software package (SAS) is used. Prereq: MTH 121 Calculus II.

MTH 370 Probability and Statistics I. Four sem hours
Basic concepts of probability; expectation, variance, covariance distribution functions and their application to statistical tests of hypothesis; bivariate, marginal and conditional distributions; treatment of experimental data. Applications to problems in science and/or social science are emphasized. Prereq: MTH 223 Multivariable Calculus.

MTH 372 Problems in Actuarial Studies. Two sem hours
Applications of mathematics to actuarial science. Particular attention paid to subject matter not covered in the regular mathematics curriculum and to special techniques of problems solving appropriate to actuarial science. (This course can be useful in preparing for the Actuarial Examination, Part I—General Mathematics.) Prereq: MTH 223 Multivariable Calculus; a minimum GPA in mathematics of 3.4 is strongly recommended.

MTH 375 Statistical Data Analysis. Three sem hours
This course stresses the empirical approach to statistics: Monte Carlo methods to generate samples and to model distributions; tests of fit to assumed distributions; medians vs. means and range vs. standard deviations; demonstrations of basic theorems; randomness and independence; Biostatistics. This is a companion course to MTH 370 Probability and Statistics I or MTH 360 Statistical Methods, which emphasize the theoretical aspects of Statistics. Prereq: MTH 360 Statistical Methods or MTH 370 Probability and Statistics I.

MTH 381 The Teaching of Mathematics K-6. Three sem hours
Learning to teach children in the elementary grades (K-6) the understanding processes of mathematics. Attention is focused on learning-teaching situations and effective use of learning aids. Required of all students on early elementary and later elementary curriculums. Not open to students on academic probation. Prereq: MTH 105 Functional Mathematics I and junior standing.

MTH 387, 487 Cooperative Education in Mathematics. Three sem hours each
Four to six months of full-time employment at an industrial firm specially chosen to provide practical experience in mathematics. The program consists of two work experiences alternated with full-time attendance at the University. Use on mathematics major subject to department permission. Graded credit/no credit basis. Prereq: Junior or senior majoring in mathematics, MTH 223 Multivariable Calculus, admittance to program by application only, department permission. For MTH 487, MTH 387.

MTH 400 History of Mathematics. Three sem hours
Designed to show students how the subjects they are to teach have developed. Students have access to a large collection of books in the library. Prereq: MTH 121 Calculus II.

MTH 403 Current Research in Elementary School Mathematics. Three sem hours
A brief history of mathematics education, 1890 to present. Special emphasis on important recent research studies. Consideration of various textbook series, use and evaluation of supplementary materials, the place and value of teaching aids. Professional journals will be utilized throughout the course. Prereq: MTH 301 Advanced Topics in Elementary Mathematics and MTH 381 The Teaching of Mathematics K-6.

MTH 406 Introduction to Computability. Three sem hours
Turing machines, computable and non-computable functions and relations, machine enumerability. Prereq: MTH 223 Multivariable Calculus or CSC 330 Discrete Mathematical Structures.

MTH 411 Modern Algebra with Applications. Three sem hours
An introduction to the theory and concepts of modern algebra as well as to their role in unifying other mathematical notions and to their application in such areas as switching circuit design and coding theory: groups, rings, fields, Boolean algebras. Prereq: MTH 121 Calculus II, MTH 122 Elementary Linear Algebra and MTH 211 Discrete Mathematics; or departmental permission.
MTH 416 Linear Algebra. Three sem hours
Vector spaces, linear transformations, eigenvalues, inner product spaces, principal axis theorem, applications.
Prereq: MTH 121 Calculus II, MTH 122 Elementary Linear Algebra and MTH 211 Discrete Mathematics; or departmental permission.

MTH 417 Applied Linear Algebra. Three sem hours
Discussion of mathematical algorithms that make wide use of linear algebra methods; their implementation in computer systems and applications to real life problems. Numerical solution of simultaneous linear equations, the simplex algorithm, linear programming and their applications.
Prereq: MTH 120 Calculus I, MTH 122 Elementary Linear Algebra, CSC 137 Introduction to Computer Programming or departmental permission.

MTH 418 Mathematical Modeling II. Three sem hours
A course involving an in-depth study of mathematical models of greater complexity than is possible in MTH 319, including both deterministic and probabilistic models. An important part of the course should include an opportunity for a student to become involved in an actual modeling problem.
Prereq: MTH 319 Mathematical Modeling and MTH 370 Probability and Statistics I.

MTH 419 Introduction to Analysis. Three sem hours
Real numbers, elementary topology of the real line, sequences and series, continuity, uniform continuity, differentiation, integration, sequences and series of functions.
Prereq: MTH 121 Calculus II and MTH 211 Discrete Mathematics; or departmental permission.

MTH 420 Introduction to Complex Variables. Three sem hours
Complex numbers, analytic functions, elementary functions and their mapping properties, conformal mapping and applications; contour integrals, Cauchy-Goursat Theorem and its consequences, Taylor and Laurent series, calculus of residues.
Prereq: MTH 223 Multivariable Calculus.

MTH 421 Mathematics for Scientists. Three sem hours
The scientific applications of mathematics. Topics chosen will reflect the interests of the class. Possible areas of study include Fourier series and transforms, complex variables, generalized functions, Laplace transform, Bessel functions, curve fitting, partial differential equations and the calculus of variations. A record of topics studied each semester will be kept in the mathematics files.
Prereq: MTH 223 Multivariable Calculus.

MTH 422 Differential Equations II. Three sem hours
Systems of linear differential equations, transforms, qualitative theory of systems, existence and uniqueness theorems.
Prereq: MTH 325 Differential Equations.

MTH 423 Numerical Analysis. Three sem hours
Introduction to the theory and application of numeric methods using the digital computer as a tool: finite differences, polynomial approximation, numeric integration, solution of equations and non-linear systems, numeric solution of differential equations, error analysis.
Prereq: MTH 223 Multivariable Calculus and CSC 137 Introduction to Computer Programming or departmental permission.

MTH 424 Design and Analysis of Experiments. Three sem hours
A basic course in principles of experimental designs and analysis: randomized blocks and Latin squares, nested experiments, experimental and sampling errors, fixed and random effects models, factorial and fractional designs. A statistical software package (SAS) is used extensively.
Prereq: MTH 122 Elementary Linear Algebra and MTH 360 Statistical Methods or MTH 370 Probability and Statistics I.

MTH 425 Probability and Statistics II. Three sem hours
Nature of statistics; distributions, measure of central value and dispersion; sampling; statistical inference estimation and tests of hypothesis. Methods of computation applications and data analysis will be stressed. Non-parametric statistics: sequential tests, analysis of variance.
Prereq: MTH 223 Multivariable Calculus, MTH 370 Probability and Statistics I and CSC 137 Introduction to Computer Programming or departmental permission.

MTH 426 Problems in Actuarial Studies II. Two sem hours
Applications of probability and statistics to actuarial science. Particular attention paid to subject matter not covered in the regular mathematics curriculum and to special techniques of problem solving appropriate to actuarial science. (This course can be useful in preparing for the Actuarial Examination, Part II—Probability and Statistics).
Prereq: MTH 471 Probability and Statistics II (may be taken concurrently); a minimum GPA in mathematics of 3.4 is strongly recommended.
MTH 475 Applied Combinatorics.  Three sem hours 
An introduction to general counting methods, generating functions, 
recurrence relations, principle of inclusion-exclusion, Polya’s enumera-
tion formula and selected topics in combinatorics.  
Prereq: MTH 223 Multivariable Calculus and a computer science course.

MTH 477, 478, 479 Special Topics in Mathematics.  One, two, three sem hours  
A senior level course in a specific area of mathematics. The area to be 
studied will be determined by the field of specialization of the 
staff member teaching the course and the interest of the students enrolled.  
Prereq: Undergraduate grade point average in mathematics 3.0 or above and department permission.

MTH 480 Honors Course in Mathematics.  Two sem hours  
The content of this course varies with the instructor and the 
individual student. It consists of advanced reading and/or an indi-
vidual project of a difficult nature. The work will be done indepen-
dently with periodic reports to the instructor.  
Prereq: Completion of the requirements for a major with 3.5 grade point average in mathematics.

MTH 497, 498, 499 Independent Study in Mathematics.  One, two, three sem hours  
A report on an approved subject in the field of mathematics under 
the guidance of the Mathematics Department staff.  
Prereq: Undergraduate grade point average in mathematics 3.0 or above and department permission.

MUSIC  
Office: N101 Alexander  

Department Head: James B. Hause  
Professors: Armand R. Abramson, Nelson Amos, Carter J. Eggers,  
Joseph Gurt, James B. Hause, Oscar M. Henry, Rodney L. Hill,  
Anthony Iannaccone, Sylvan S. Kalib, Dady Mehta, Max E.  
Plank, Russell D. Reed, Edward J. Szabo, Mary D. Teal,  
Mary Ida Yost  
Associate Professors: Ernest Brandon, Rachel B. Harley,  
Glenda E. Kirkland, J. Whitney Prince, Leonard L. Riccinto,  
Willard Zirk  
Assistant Professors: Lettie Alston, Daniel Foster, Anne B. Gajda,  
Michael G. McGuire, Kristy Meretta, Garik Petersen,  
John R. Smith, Diane Stein  

The department of music offers five baccalaureate degree programs as well as cultural enrichment for all students. Music is 
presented in the context of a broad liberal education; as preparation 
for teaching of vocal and instrumental music at the elementary and 
secondary levels; as preparation for becoming a music therapist; as 
individual and group study for performance media; as basic training 
for professional careers as instrumentalists, singers, conductors, 
composers, arrangers, and music scholarship; and as preparation 
for concentrated graduate study and college teaching. 

The department collaborates with other departments in dance, 
radio, television and theatre. A marketing minor also is available to 
students who have interest in businesses related to music. 

Now housed in expanded facilities opened in the winter of 
1981, the new Alexander Music Building, the department has three 
rehearsal halls, a recital hall, an organ recital/teaching studio, an 
electronic music studio, a computer lab and 65 practice rooms. 

The Music Department is a member of the National Associa-
tion of Schools of Music.

Degrees:  
Bachelor of arts  
Bachelor of music  
Bachelor of music education  
Bachelor of music therapy  
Bachelor of science

Programs of Study  
Curricula:  
Music education (instrumental and vocal)  
Music performance  
Music therapy  

Major:  
Music  

Minors:  
General music  
Elementary music education  

Advising is according to student interest. Advisers are posted 
each term in the department office, or the specific advising coor-
dinator may be contacted for further information.
Advising Coordinator:
Curricula for teachers of instrumental music, vocal music and music therapy: Mary Teal
Curriculum for music performance: Mary Teal
Music major: Mary Teal
General music, elementary music education majors: Mary Teal

Enrollment in any music curriculum will be determined by the results of instrumental or vocal auditions and theory-placement examinations in musicianship. All new students should write the director of music auditions and scholarships well in advance of their intended registration date to arrange these auditions and examinations. Transfer students may apply at the same time for advanced standing in music.

Auditions and examinations will be held on the following dates during the 1990-91 academic year:

<table>
<thead>
<tr>
<th>Fall semester</th>
<th>Winter semester</th>
<th>Spring session</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>April 19, 1991</td>
<td></td>
</tr>
</tbody>
</table>

Music fees for students accepted for private music lessons are assessed according to the following applied music fee schedule:

Music majors: $60 per semester for all instruction.
Other University students: $60 per semester for one-hour lesson.
Students from public schools and the community, and EMU staff and families: $90 per semester for one-hour lesson, $45 per semester for half-hour lesson.

Student recitals are a participatory expectation of all music students. These performances may take place in studio classes, informal departmental recitals or, where the special qualifications are met, in public recitals.

A senior recital to fulfill requirements of graduation must be prepared and approved by an appropriate faculty committee. Ensemble music may be included on the programs. In such event, the recitalist must have a principal solo role in the music performed. Additional approval of senior programs for public performance will rest with the committee's recommendation.

All public recitals are subject to prior review and approval by a faculty committee.

All full-time (minimum 12 hours) music majors are required to attend a quota of music recitals and concerts each semester. Majors should consult with their major applied instructor or department adviser for specific requirements.

Graduate study leads to the master of arts degree in music. For description of graduate courses, see the Graduate Catalog.

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**Curriculum for Teachers of Instrumental Music**

This curriculum leads to a bachelor of music education degree and the Secondary Provisional Certificate. Candidates for an Elementary Education Provisional Certificate must consult the director of Academic Records and Certification regarding special requirements.

Students must complete all courses specified under education and fine arts listed below. One approved course in cross-cultural and international studies must be completed in the process of meeting the basic studies requirements. (Complete pattern sheet is available from the department.)

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Symbols and communication</strong></td>
<td>14-18</td>
</tr>
<tr>
<td>Requirements 1, 2 and 3, 4, and 5 (Box page 29)</td>
<td></td>
</tr>
<tr>
<td><strong>Science and technology</strong></td>
<td>9-12</td>
</tr>
<tr>
<td>Requirement 1, 2, and 3 (Box page 30)</td>
<td></td>
</tr>
<tr>
<td><strong>Social sciences</strong></td>
<td>12</td>
</tr>
<tr>
<td>Requirements 1, 2, 3, and 4 (Box page 31)</td>
<td></td>
</tr>
<tr>
<td><strong>Art and humanities</strong></td>
<td>9</td>
</tr>
<tr>
<td>Requirements 1, 2, and 3 (Box page 32)</td>
<td></td>
</tr>
</tbody>
</table>

One course in art, music or theatre arts (automatically met by fine arts courses below)

**Education**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDP 322 Human Development and Learning</td>
<td>4</td>
</tr>
<tr>
<td>CUR 311 Teaching Secondary Reading</td>
<td>3</td>
</tr>
<tr>
<td>SFD 328 Social Aspects of Teaching</td>
<td>3</td>
</tr>
<tr>
<td>SGN 300 Exceptional Child in the Classroom</td>
<td>1</td>
</tr>
<tr>
<td>MUS 332 Instrumental Music in Public Schools</td>
<td>3</td>
</tr>
<tr>
<td>MUS 353 Orchestral Methods or MUS 334 Band Methods</td>
<td>3</td>
</tr>
<tr>
<td>MUS 336 Computers in Music Education</td>
<td>1</td>
</tr>
<tr>
<td>EDU 492 Student Teaching</td>
<td>8</td>
</tr>
</tbody>
</table>

**Fine arts**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUS 301, 302 History of Music</td>
<td>6</td>
</tr>
<tr>
<td>MUS 413 Orchestration</td>
<td>2</td>
</tr>
<tr>
<td>MUS 414 Band Arranging</td>
<td>2</td>
</tr>
<tr>
<td><strong>2. Instrumental courses</strong></td>
<td>6</td>
</tr>
<tr>
<td>MUS 211 Basic Brass Class (trumpet, trombone)</td>
<td>1</td>
</tr>
<tr>
<td>MUS 241 Percussion</td>
<td>1</td>
</tr>
<tr>
<td>MUS 261 Basic String Class: Violin</td>
<td>1</td>
</tr>
<tr>
<td>MUS 281 Basic Woodwind Class</td>
<td>1</td>
</tr>
<tr>
<td>Choose 2 credits from the following:</td>
<td></td>
</tr>
<tr>
<td>MUS 212 Brass Class, MUS 262 String Class: MUS 263 Brass Class, MUS 263 String Class: Cello and Double Bass, MUS 282 Woodwind Class or MUS 283 Woodwind Class</td>
<td></td>
</tr>
<tr>
<td><strong>3. Performance courses</strong></td>
<td>32</td>
</tr>
<tr>
<td>Applied music</td>
<td>20</td>
</tr>
<tr>
<td>MUS 251, MUS 252, MUS 253, MUS 254</td>
<td></td>
</tr>
<tr>
<td>Functional Piano</td>
<td>4</td>
</tr>
<tr>
<td>AMU 100-300 Applied Music (principal instrument)</td>
<td>16</td>
</tr>
<tr>
<td>Conducting</td>
<td>4</td>
</tr>
<tr>
<td>MUS 326 Conducting</td>
<td>2</td>
</tr>
<tr>
<td>MUS 327 Instrumental Conducting</td>
<td>2</td>
</tr>
<tr>
<td>Ensembles*</td>
<td>8</td>
</tr>
<tr>
<td>4. Electives</td>
<td>4</td>
</tr>
</tbody>
</table>

Physical education and health

2
Curriculum for Teachers of Vocal Music

Students selecting this curriculum, leading to a bachelor of music education degree, must elect either organ, piano or voice as the principal instrument. Candidates for an Elementary Education Provisional Certificate must consult the director of Academic Records and Certification regarding special requirements.

All courses specified below in education and fine arts must be completed. One approved course in cross-cultural or international studies must be completed in the process of meeting the basic studies requirements. (Complete pattern sheet is available from the department.)

Area Sem hours
Symbolics and communication .................................................. 14-18
Requirements 1, 2, 3, 4, and 5 (Box page 29)
Science and technology ............................................................ 9-12
Requirement 1, 2, and 3 (Box page 30)
Social science ........................................................................... 12
Requirements 1, 2, 3, and 4 (Box page 31)
Arts and humanities .................................................................... 9
Requirements 1, 2, and 3 (Box page 32)
One course in art, music or theatre arts (automatically met by fine arts courses below)

Education .................................................................................. 26
EDP 322 Human Development and Learning ................................ 4
SFD 328 Social Aspects of Teaching ........................................... 3
CUR 311 Teaching Secondary Reading ....................................... 3
SGN 300 Exceptional Child in the Classroom ......................... 1
MUS 330 Music Education in the Elementary School .............. 3
MUS 331 Music Education in the Secondary School ............... 3
MUS 336 Computers in Music Education ................................. 1
EDU 492 Student Teaching ....................................................... 8

Fine arts ..................................................................................... 64
1. Required basic courses ......................................................... 26
MUS 101, 102 Music Theory-Literature I and II ....................... 8
MUS 201, 202 Music Theory-Literature III and IV .................... 8
MUS 301, 302 History of Music ............................................... 6
MUS 413 Orchestration ............................................................ 2
2. Instrumental courses ............................................................. 2
MUS 274 Functional Guitar ..................................................... 2
Choose two courses from the following: ................................
MUS 221 Brass Class, MUS 241 Percussion, MUS 261 Basic String Class: Violin,
MUS 281 Basic Woodwind Class
3. Performance courses ............................................................. 34
Applied music ........................................................................... 22
AMU 100-300 Applied Music (principal instrument) ............. 16
AMU 251-4, B11-12 Applied Music
(if keyboard is secondary instrument)
or A01-A12 Applied Music in Voice
(if secondary instrument) ......................................................... 6

Conducting ................................................................................. 4
MUS 326 Conducting ............................................................... 4
MUS 328 Choral Conducting ................................................. 2
Ensembles .................................................................................. 8

Physical education activity courses ........................................... 2
(Any two courses in Military Science may be applied)
Total ...................................................................................... 141-148

*Three semesters of Marching Band required (Two semesters of Marching Band substitute for two hours of physical education).
Select others from large ensembles listed on page 176.

Curriculum for Music Performance

The bachelor of music degree curriculum is available for students using voice, guitar, keyboard, or an orchestral instrument as the principal performing medium. All basic studies requirements must be completed including one approved course in cross-cultural or international studies. (Complete pattern sheet is available in the department.)

Area Sem hours
Symbolics and communication .................................................. 14-18
Requirements 1, 2, 3, 4, and 5 (Box page 29)
Science and technology ............................................................ 9-12
Requirements 1, 2 and 3 (Box page 30)
Social science ........................................................................... 12
Requirements 1, 2, 3, and 4 (Box page 31)
Arts and humanities .................................................................... 9
Requirements 1, 2, 3 (Box page 32)
One course in art, music or theatre arts (automatically met by fine arts courses below)

Fine arts ..................................................................................... 86
Applied music ........................................................................... 32
(Recommended at four semester hours for eight semesters with both a junior and senior recital required)
Music courses chosen according to area of specialization .... 8
Supporting courses ................................................................. 40-42
Theory literature ........................................................................ 26
Secondary instrument ............................................................... 4
Ensembles .................................................................................. 8
Conducting ................................................................................. 2-4
Electives .................................................................................... 4-6
(If a student takes a two-course sequence in conducting, only four hours of electives are available)

Physical education and health .................................................. 2
Physical education activity courses ........................................... 2
(Any two courses in Military Science or two semesters of Marching Band may be applied)
Total ...................................................................................... 136-143
Curriculum for Music Therapy

The bachelor of music therapy degree is awarded on completion of this curriculum either without teacher certification or with teacher certification in music education if additional requirements are fulfilled. The degree program is approved by the National Association for Music Therapy.

All students must take the courses specified in education and fine arts.

Without Teacher Certification

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbolics and communication</td>
<td>14-15</td>
</tr>
<tr>
<td>Requirements 1 and 2 (Box page 29)</td>
<td>5-6</td>
</tr>
<tr>
<td>Choose one course from the following:</td>
<td></td>
</tr>
<tr>
<td>CTA 225 Listening Behavior, CTA 226 Non-Verbal Communication, CTA 374 Intercultural Communication</td>
<td>3</td>
</tr>
<tr>
<td>SOC 250 Elementary Social Statistics</td>
<td>3</td>
</tr>
<tr>
<td>HHS 226 Computers for Health and Human Services</td>
<td>3</td>
</tr>
<tr>
<td>Science and technology</td>
<td>19-20</td>
</tr>
<tr>
<td>A course in physical science</td>
<td>3</td>
</tr>
<tr>
<td>BIO 105 Biology and the Human Species</td>
<td>4</td>
</tr>
<tr>
<td>ZOO 326 Human Physiology</td>
<td>3</td>
</tr>
<tr>
<td>PSY 101 or PSY 102 General Psychology</td>
<td>3-4</td>
</tr>
<tr>
<td>PSY 360 Abnormal Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Choose one psychology elective</td>
<td>3</td>
</tr>
<tr>
<td>Social science</td>
<td>12</td>
</tr>
<tr>
<td>Requirements 1 and 2 (Box page 31)</td>
<td>6</td>
</tr>
<tr>
<td>SOC 105 Introductory Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SOC 202 Social Problems</td>
<td>3</td>
</tr>
<tr>
<td>Arts and humanities</td>
<td>6</td>
</tr>
<tr>
<td>Requirements 1, 2, and 3 (Box page 32)</td>
<td>6</td>
</tr>
<tr>
<td>One course in art, music or theatre arts (automatically met in fine arts courses below)</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>3</td>
</tr>
<tr>
<td>SGN 251 Education of Exceptional Children</td>
<td>3</td>
</tr>
<tr>
<td>Fine arts</td>
<td>80</td>
</tr>
<tr>
<td>Music theory-literature and history courses</td>
<td>24</td>
</tr>
<tr>
<td>MUS 101, 102 Music Theory-Literature I and II</td>
<td>8</td>
</tr>
<tr>
<td>MUS 201, 202 Music Theory-Literature III and IV</td>
<td>8</td>
</tr>
<tr>
<td>MUS 301, 302 History of Music</td>
<td>6</td>
</tr>
<tr>
<td>MUS 413 Orchestration</td>
<td>2</td>
</tr>
<tr>
<td>MUS 326 Conducting</td>
<td>2</td>
</tr>
<tr>
<td>Ensembles</td>
<td>4</td>
</tr>
<tr>
<td>AMU 100-300 Applied Music (principal instrument)</td>
<td>14</td>
</tr>
<tr>
<td>Minimal performance skills as recommended by the National Association for Music Therapy</td>
<td>14</td>
</tr>
<tr>
<td>It is expected that most students would be able to meet some of these upon entrance or they can be achieved through the courses listed below:</td>
<td></td>
</tr>
<tr>
<td>Voice: Voice Class 232 and 101-A01-1</td>
<td>2</td>
</tr>
<tr>
<td>Piano: Functional Piano 251-254 and 305 Keyboard Skills</td>
<td>6</td>
</tr>
<tr>
<td>Guitar: MUS 274 Functional Guitar</td>
<td>2</td>
</tr>
<tr>
<td>Secondary instrument classes</td>
<td>4</td>
</tr>
<tr>
<td>MUS 211 Basic Brass Class, MUS 241 Percussion, MUS 261 Basic String Class: Violin, MUS 281 Basic Woodwind Class</td>
<td></td>
</tr>
</tbody>
</table>

With Certification in Music Education

Students must complete the following specific courses in the groups indicated:

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science and technology</td>
<td>4</td>
</tr>
<tr>
<td>A course in physical science</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>EDP 322 Human Development and Learning</td>
<td>4</td>
</tr>
<tr>
<td>SFD 328 Social Aspects of Teaching</td>
<td>3</td>
</tr>
<tr>
<td>CUR 311 Teaching Secondary Reading</td>
<td>3</td>
</tr>
<tr>
<td>SGN 300 Exceptional Child in the Classroom</td>
<td>1</td>
</tr>
<tr>
<td>MUS 330 Music Education in the Elementary School and MUS 331 Music Education in the Secondary School, or MUS 332 Instrumental Music in the Public Schools and MUS 333 Orchestral Methods or MUS 334 Band Methods</td>
<td></td>
</tr>
<tr>
<td>MUS 336 Computers in Music Education</td>
<td>1</td>
</tr>
<tr>
<td>EDU 492 Student Teaching</td>
<td>4</td>
</tr>
<tr>
<td>Fine arts</td>
<td>14-16</td>
</tr>
<tr>
<td>Applied music courses (principal instrument)</td>
<td>2</td>
</tr>
<tr>
<td>MUS 327 Instrumental Conducting or MUS 328 Choral Conducting</td>
<td>2</td>
</tr>
<tr>
<td>Additional ensembles</td>
<td>3</td>
</tr>
<tr>
<td>Vocal music education</td>
<td></td>
</tr>
<tr>
<td>Applied music (secondary instrument)</td>
<td>2</td>
</tr>
<tr>
<td>Instrumental music education</td>
<td></td>
</tr>
<tr>
<td>MUS 414 Band Arranging</td>
<td>2</td>
</tr>
<tr>
<td>Additional secondary instrument classes</td>
<td>2</td>
</tr>
</tbody>
</table>
Music Major
(Non-teaching)

Students must complete the requirements for the bachelor of arts or bachelor of science degrees by including the academic major below and a different minor subject of 20-24 semester hours in some other department. In completing either of these, the student does not earn a teaching certificate.

Students must complete all basic studies requirements including one approved course in cross-cultural or international studies. (Complete pattern sheet is available in the department.)

Area Sem hours
Symbolics and Communication .................................................. 14-18
  Requirements 1, 2, 3, 4, and 5 (Box page 29)
Science and technology ......................................................... 9-12
  Requirements 1, 2, and 3 (Box page 30)
Social science .............................................................................. 12
  Requirements 1, 2, 3, and 4 (Box page 31)
Arts and humanities ................................................................. 9
  Requirements 1, 2, and 3 (Box page 32)
One course in art, music or theatre arts (automatically met by music courses below)

Sem hours
Academic major in music ............................................................. 45
1. Required courses ................................................................. 42
   MUS 101, 102 Music Theory-Literature I and II ....................... 8
   MUS 201, 202 Music Theory-Literature III and IV ..................... 8
   MUS 301, 302 History of Music .............................................. 6
   MUS 401, 402 Music Theory-Literature V and VI ..................... 4
   AMU 100-300 Applied Music (principal instrument) ............... 12
   MUS 251, 252 Functional Piano Ensembles ............................ 2
2. Electives in music ................................................................. 3

All courses in the minor must be completed before student teaching in the minor field. This minor does not apply on a secondary curriculum.

Minor in elementary music education ...................... 24 sem hours

Music Courses

Theory-Literature and History

MUS 100 Introduction to Music Theory. Three sem hours
  Designed for the non-music major. A preparatory course for MUS 101 Theory Literature I for the music major or minor deficient in music theory. The basic elements of music: notation of pitch and rhythm, scales, intervals, tonality, beginning sightsinging and dictation.

MUS 101 Music Theory-Literature I. Four sem hours
  Integrated theory-literature course dealing with perception, writing, analysis and performance of basic musical materials; stylistic comprehension of music of all periods. For music majors and minors.
  Prereq: Department permission.

MUS 102 Music Theory-Literature II. Four sem hours
  Continuation of MUS 101 Music Theory-Literature I. For music majors and minors.
  Prereq: MUS 101 Music Theory-Literature I or examination.

MUS 106 Introduction to the Performing Arts. Three sem hours
  A survey of the arts of dance, theatre and music, developing an understanding and appreciation of representative works in the three fields; the place of these arts in contemporary society and their contribution to a richer life. Attendance required at specified on-campus performances. Non-music majors only.

MUS 107 Music Appreciation. Two sem hours
  Guides the student in listening to and understanding various types, forms and styles of instrumental and vocal music of the world. Representative works of all periods and cultures, including contemporary developments, will be studied. Attendance at some concerts and recitals required. Non-music majors only.

MUS 127 The Splendid Centuries of Austria. Three sem hours
  (See humanities courses, page 160.)

MUS 201 Music Theory-Literature III. Four sem hours
  Continuation of MUS 102 Music Theory-Literature II with more emphasis on harmonic, melodic and compositional techniques of 19th and 20th centuries; creative writing, ear training, comprehensive analysis of music of all periods.
  Prereq: MUS 102 Music Theory-Literature II and MUS 252 Functional Piano or equivalent.

MUS 202 Music Theory-Literature IV. Four sem hours
  Continuation of MUS 201 Music Theory-Literature III.
  Prereq: MUS 201 Music Theory-Literature III.

Minors Offered in the Department of Music

Students seeking admission to either the general minor in music or the minor in elementary music education must complete an application at the Department of Music office and take placement tests in applied music and basic musicianship. Each must work out a course of study with a designated music adviser.

General Music Minor
(May not be used on any teaching major)

Minor in general music .......................................................... 20 sem hours

Elementary Music Education Minor
(May not be used on secondary certification)

Students must include in their course of study music theory, music literature, music education, applied music, conducting and piano. Three or four semester hours of student teaching also are required. The methods course must be taken in the area of teaching desired.
MUS 203 Jazz Styles, History and Analysis. Two sem hours
Presents stylistic, historical, and analytical perspectives in jazz
from its origin through the present. Includes vocal jazz, extensive
use of recordings.
Prereq: Music major/minor, sophomore standing, MUS 102 Music
Theory Lit II, or department permission.

MUS 301 History of Music. Three sem hours
A chronological study of Western music in its historical and
cultural setting. Recognition of idioms, changing sounds, styles and
forms of music in medieval, Renaissance and Baroque periods,
approximately through 1750. Each student surveys the history of
his instrument.
Prereq: MUS 202 Music Theory-Literature IV.

MUS 302 History of Music. Three sem hours
A continued chronological study of Western music in its historical
and cultural setting, beginning about 1750. Emphasis similar to
MUS 301 History of Music but with a strong concentration in
contemporary music. Covers classical, Romantic and present peri-
ods.
Prereq: MUS 301 History of Music.

MUS 317 Music Composition. Two sem hours
Original writing and analysis of music, beginning with the smaller
forms. May be repeated for credit.
Prereq: MUS 202 Music Theory-Literature IV and department
permission.

MUS 341 Contrapuntal Techniques. Two sem hours
Writing in polyphonic forms with concomitant analysis.
Prereq: MUS 202 Music Theory-Literature IV.

MUS 401 Music Theory-Literature V. Two sem hours
Integration of previous studies in theory-literature and music his-
tory; continued study and analysis of music from all periods;
original, creative composition with special emphasis on contem-
porary style; the study of orchestration with assignments in writing
for instruments individually as well as in combination.
Prereq: MUS 202 Music Theory-Literature IV.

MUS 402 Music Theory-Literature VI. Two sem hours
Continuation of MUS 401 Music Theory-Literature V.
Prereq: MUS 401 Music Theory-Literature V.

MUS 413 Orchestration. Two sem hours
Practical work in setting compositions for full orchestra and various
other instrumental ensembles.
Prereq: MUS 202 Music Theory-Literature IV.

MUS 414 Band Arranging. Two sem hours
Arranging for band; transcription from other media; original com-
position; analysis of representative work.
Prereq: Senior standing and department permission.

Music Education

MUS 104 Elements of Music. Two sem hours
Singing, music reading and theory experience in the elements of
music for the elementary classroom teacher. Concepts of rhythm
tonality. Lecture: two hours per week. Laboratory: one hour; per-
week.

MUS 151 Class Piano. Two sem hours
Group instruction in piano for students with no previous keyboard
experience. Provides the necessary skills for carrying on a music
program in the elementary classroom. Non-music majors only.

MUS 152 Class Piano. Two sem hours
Continuation of MUS 151 Class Piano with emphasis on the
functional aspects of piano playing and elementary piano litera-
ture. For students not specializing in music and with not more than
one year of previous keyboard experience.
Prereq: MUS 151 Class Piano.

MUS 211 Basic Brass Class. One sem hour
The teaching and playing of trumpet and trombone. Majors and
minors only.

MUS 212 Brass Class. One sem hour
The teaching and playing of French horn, euphonium and tuba.
Majors and minors only.

MUS 224 Recreational Music. Two sem hours
For recreation majors. Specific activities, techniques and resources
for directing recreational music programs.

MUS 232 Voice Class. One sem hour
Improving the singing and speaking voice through the study of
breath control, tone production and diction. Not open to students
with voice as a principal instrument.
Prereq: The ability to read music in the clef appropriate to student's
voice classification.

MUS 235 Diction in Singing. Two sem hours
The physiological descriptions and laboratory practice of diction as
used in singing.
Prereq: Department permission.

MUS 241 Percussion. One sem hour
The teaching and playing of snare drum, tympani and keyboard
percussion with an emphasis on group lesson techniques; survey of
accessory instruments; introduction of methods, literature and use
of the percussion ensemble. Majors or minors only.

MUS 261 Basic String Class: Violin. One sem hour
The teaching and playing of the violin from a pedagogical ap-
proach. Designed primarily for music education and music therapy
majors. Small and large group instruction and current methods
including rote and Suzuki approaches. Majors and minors only.

MUS 262 String Class: Viola. One sem hour
Continuation of MUS 261 Basic String Class; teaching and playing
of viola. Majors and minors only.
Prereq: MUS 261 Basic String Class: Violin.
MUS 263 String Class: Cello and Double Bass.
The teaching and playing of cello and double bass. Majors and minors only.

MUS 271 Beginning Classical Guitar.
Two sem hours
Group instruction in classical guitar through the study of standard beginning methods and repertoire.
Prereq: Department permission.

MUS 272 Intermediate Classical Guitar.
Two sem hours
Group instruction in classical guitar through the study of standard intermediate methods and repertoire.
Prereq: MUS 271 Beginning Classical Guitar.

MUS 274 Functional Guitar.
Two sem hours
Functional skills for playing guitar. Students will learn guitar notation, chords and various accompaniment styles. Intended primarily for music education majors, music education minors and music therapy majors.
Prereq: Department permission.

MUS 281 Basic Woodwind Class.
The teaching and playing of clarinet. Majors and minors only.

MUS 282 Woodwind Class.
The teaching and playing of flute and saxophone. Majors and minors only.

MUS 283 Woodwind Class.
The teaching and playing of oboe and bassoon. Majors and minors only.

MUS 300 Elementary Music Education.
Two sem hours
A study of materials and teaching techniques in relation to the interests, characteristics and needs of children in elementary and special education classrooms. Non-majors only.
Prereq: MUS 104 Elements of Music and junior standing.

MUS 310 Music Education in the Secondary School.
Three sem hours
Care and treatment of adolescent voices; classification and training of voices; song interpretation; organization and administration of all types of choral ensembles; theory, history and literature of music classes; evaluation of numerous materials suitable for choral organizations and other classes in the secondary school; psychology and philosophy of music education. Open to music education majors only.
Prereq: Junior standing; satisfactory completion of MUS 330 Music Education in the Elementary School. Proficiency in piano and voice; satisfactory academic record and department permission. Coreq: MUS 328 Choral Conducting.

MUS 331 Instrumental Music in the Public Schools.
Three sem hours
Designed to prepare students to teach instrumental music; covers organization of beginning classes, special problems of strings, selection of suitable materials, techniques of teaching, public relations and other areas of interest in the development of orchestras and bands. Special emphasis placed on music for grades four through nine. Open only to instrumental music education majors and minors. No students on academic probation.
Prereq: Junior standing.

MUS 332 Orchestral Methods.
Three sem hours
Designed to assist students in their preparation as orchestra directors; special problems relevant to the string orchestra, string ensembles and the string curriculum in the secondary schools. Open only to instrumental music majors. No students on academic probation.
Prereq: MUS 332 Instrumental Music in the Public Schools and junior standing.

MUS 333 Band Methods.
Three sem hours
Designed to assist students in their preparation as band directors in secondary schools; charting and drills for marching band; rehearsal procedures and selection of suitable materials for the concert band. Open to instrumental music education majors. No students on academic probation.
Prereq: MUS 332 Instrumental Music in the Public Schools.

EDU 492 Student Teaching.
Eight sem hours
Admission to student teaching requires satisfactory completion of specified curriculums as well as faculty approval through a screening exam. Details are contained in “Statement of Policy Concerning Standards for Admission to Student Teaching in Music” available from the music supervisor of student teaching.

Music Therapy

MUS 103 Introduction to Music Therapy.
Two sem hours
An orientation to music therapy. Introductory survey of the various impaired and disabled populations served, current career opportunities and exploration of activities utilized by music therapists to achieve specific therapeutic goals. Observation of registered music therapists in hospital, clinical and school settings is required.
Prereq: Admission to music therapy program or department permission.
MUS 221 Methods and Materials in Music Therapy. Two sem hours
Study of resources available in music therapy and their systematic application to meet the treatment needs of children and adults with various dysfunctions. Presentation of specifically designed music therapy experiences.
Prereq: MUS 103 Introduction to Music Therapy, MUS 102 Music Theory-Literature II.

MUS 222 Pre-clinical Training Practicum in Music Therapy I. One sem hour
Introductory field work experience in music therapy. Observation and documentation of music therapy sessions in clinical or educational settings.
Prereq: MUS 103 Introduction to Music Therapy, MUS 102 Music Theory-Literature II.

MUS 223 Pre-clinical Training Practicum in Music Therapy II. One sem hour
Continuation of MUS 222. Leadership or co-leadership of music therapy sessions.
Prereq: MUS 222 Pre-clinical Training Practicum in Music Therapy I.

MUS 303 Music Therapy Principles I. Four sem hours
Examination of the research literature dealing specifically with the influence of music on behavior, including neuro-physiological effects. In-depth study of diagnostic categories and systematic application of music therapy treatment to people within these categories. Laboratory experience is required in which music therapy treatment is provided to individuals with various dysfunctions.
Prereq: Admission to music therapy program, PSY 101 or 102 General Psychology, MUS 221 Methods and Materials in Music Therapy, MUS 222 and 223 Pre-clinical Training Practicum I and II.

MUS 304 Music Therapy Principles II. Four sem hours
Continuation of MUS 303. Exploration of professional skills needed by a music therapist in a variety of clinical settings. Includes in-depth examination of music therapy literature, various psychological theories and their relationships to music therapy. Laboratory experience is required.
Prereq: MUS 303 Music Therapy Principles I.

MUS 404 Psychology of Music I. Two sem hours
Study of the functional uses, psychological attributes, aesthetic effects and psycho-acoustical properties of music. Introduction to statistical analysis and evaluation of research in the field; examination of the continued need for investigation and documentation.
Prereq: MUS 304 Music Therapy Techniques II or department permission.

MUS 405 Psychology of Music II. Two sem hours
Continuation of MUS 404. In-depth exploration of empirical research in the field, with opportunities to conduct individual investigation of selected topics.
Prereq: MUS 404 Psychology of Music I.

MUS 424 Pre-clinical Training Practicum in Music Therapy III. One sem hour
Field work experience in clinical or educational setting under supervision of a Registered Music Therapist. Taken concurrently with MUS 404 Psychology of Music I.
Prereq: Senior standing in music therapy program; MUS 304 Music Therapy Principles II.

MUS 425 Pre-clinical Training Practicum in Music Therapy IV. One sem hour
Field work experience continued. Taken concurrently with MUS 405 Psychology of Music II.
Prereq: MUS 424 Pre-clinical Training Practicum in Music Therapy III.

MUS 488 Clinical Training in Music Therapy. Two sem hours
Six months in a hospital, clinical or educational setting affiliated with the National Association for Music Therapy.
Prereq: Senior standing, completion of all other music therapy curriculum requirements, and successful completion of guitar, keyboard and voice competency examinations.

Cooperative Education

MUS 387 Cooperative Education in Music. Three sem hours
A cooperative work experience in the field of music.
Prereq: Department permission.

Music Honors

MUS 490 Honors Course in Music. Two sem hours
Provides superior students with the opportunity for an intensive program of independent study, original composition, performance or research.
Prereq: Senior standing, cumulative average of 3.5 in music, 3.2 in general studies. Regulations governing honors courses must be followed (see page 12).

Honors program available. Consult with department adviser, Mary Teal.

Applied Music Courses

Students who do not qualify by audition for admission to a curriculum in music may, at the discretion of the department, be assigned preparatory work until ready for university applied music study. It should be understood that delayed admission as a departmental major may extend the time normally required to satisfy graduation requirements.

Transfer students may be granted credit for applied music study accomplished at another institution or with a recognized private teacher. Eligibility for credit will be determined by audition. A course of study designed to satisfy Department of Music graduation requirements will be recommended at that time.
At the time of admission to a music curriculum, students with piano as a secondary instrument must demonstrate the required level of proficiency for graduation in their chosen curriculum, or elect piano every semester until the required proficiency is attained.

Study is available on the following instruments:

<table>
<thead>
<tr>
<th>Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voice</td>
</tr>
<tr>
<td>Piano</td>
</tr>
<tr>
<td>Harpsichord</td>
</tr>
<tr>
<td>Comet</td>
</tr>
<tr>
<td>Trombone</td>
</tr>
<tr>
<td>Euphonium</td>
</tr>
<tr>
<td>French horn</td>
</tr>
<tr>
<td>Tuba</td>
</tr>
<tr>
<td>Harp</td>
</tr>
<tr>
<td>Guitar*</td>
</tr>
<tr>
<td>Organ</td>
</tr>
<tr>
<td>Violin</td>
</tr>
<tr>
<td>Viola</td>
</tr>
<tr>
<td>Cello</td>
</tr>
<tr>
<td>String bass</td>
</tr>
<tr>
<td>Saxophone</td>
</tr>
<tr>
<td>Trumpet</td>
</tr>
<tr>
<td>Percussion</td>
</tr>
<tr>
<td>Flute</td>
</tr>
<tr>
<td>Oboe</td>
</tr>
<tr>
<td>Bassoon</td>
</tr>
<tr>
<td>Clarinet</td>
</tr>
</tbody>
</table>

*Guitar does not qualify as a principal instrument in the bachelor of music education curriculum. Acceptable for bachelor of arts, bachelor of science, or bachelor of music degree with major in music.

Principal Instruments

The baccalaureate degrees require varying semester hours of work on the principal applied music instrument as indicated in the course requirements of the specific curriculum and major. Students are admitted to the 100 series level below at different degrees of competency; therefore some students will require more time to achieve the proficiency needed for admission to the 300 series level. Permission to move to 300 series level may be given by the faculty jury with the permission of the teacher.

Instrumental music education majors enrolled in applied music will be formed into appropriate small ensembles at the discretion of the applied teacher. The total number of hours spent each week in lessons and small ensembles will be limited to the number of credit hours.

AMU 100 01-04 One to two hours per semester
For the student who requires additional preparation in his or her principal instrument before entering regular freshman level work. Cannot apply toward graduation requirements in either music major curriculum.

AMU 100 11-22 One to four hours per semester
Lower level work for music majors and minors only. May be repeated for credit.

AMU 100 01-22 One hour per semester
For music minors. May be repeated for credit.

AMU 300 31-62 One to four hours per semester
Upper level work for music majors and minors. May be repeated for credit.

Secondary Instruments

MUS 251 Functional Piano. One sem hour
Required for all music majors and minors with no previous piano experience. Teaches keyboard skills necessary both for accompaniment of simple music and for developing musical understanding basic to all coursework in music. Majors or minors only.

MUS 252 Functional Piano. One sem hour
Continuation of MUS 251 Functional Piano. Majors or minors only.
Prereq: MUS 251 Functional Piano or equivalent.

MUS 253 Functional Piano. One sem hour
Continuation of MUS 252 Functional Piano. Stresses keyboard harmony, accompaniment, sight-reading, piano literature and technique. Majors or minors only.
Prereq: MUS 252 Functional Piano.

MUS 254 Functional Piano. One sem hour
Continuation of MUS 253 Functional Piano. Additional accompaniment experience, keyboard harmony, improvisation, pianoliterature and techniques. Any break in the continuity of Functional Piano courses will require an audition before resumption of study. Majors or minors only.
Prereq: MUS 253 Functional Piano or equivalent.

MUS 305 Keyboard Skills. Two sem hours
Sight reading, harmonization, transposition, improvisation and score reading. Open to keyboard majors and to others by department permission. Majors or minors only.

MUS 326 Conducting. Two sem hours
Fundamentals of baton technique, score reading and interpretation of instrumental and vocal music. Music majors or minors only.
Prereq: Junior standing.

MUS 327 Instrumental Conducting. Two sem hours
A practical course in instrumental conducting; score preparation, baton technique, study of technical and musical problems in conducting traditional and contemporary works.
Prereq: MUS 326 Conducting.

MUS 328 Choral Conducting. Two sem hours
A practical course in choral conducting; baton technique, score analysis, study of technical and musical problems in conducting traditional and contemporary works.
Prereq: MUS 326 Conducting.

Large Ensembles

MUS 131 University Choir. One sem hour
An ensemble of advanced singers. Open to all students in the University.
Prereq: Department permission.

MUS 134 University Women's Chorus. One sem hour
Open to all women students.
Prereq: Department permission.

MUS 135 University Men's Chorus. One sem hour
Open to all men students.
Prereq: Department permission.
MUS 136 Madrigal Ensemble. One sem hour
Chamber music for mixed voices. Open to all students.
Prereq: Department permission.

MUS 248 Orchestra. One sem hour
Open to all students in the University.
Prereq: Department permission.

MUS 249 Band. One sem hour
MUS 249 includes Concert Winds, Symphonic Band, and Marching Band. Open to all students of the University. Enrollment in MUS 249 requires attendance for the entire semester. Students electing MUS 249 may also elect physical education PEG 140 Marching Band for one credit.

MUS 350 Contemporary Chamber Ensemble. One sem hour
Various mixed ensembles of soloists. Devoted to performance of 20th-century music, especially of the last 15 years. Compositions require performers on all instruments, solo voices and, on occasion, electronic music. Open to all qualified musicians.
Prereq: Department permission.

MUS 351 Collegium Musicum. One sem hour
Various ensembles of soloists—instrumental, vocal and mixed. Opportunity to perform old and new music infrequently heard. Open to all qualified students.
Prereq: Department permission.

MUS 445 The Opera. Two sem hours
The history and literature of opera from its inception to the present day as music and theater.
Prereq: Voice major or department permission.

MUS 448, 449 Opera Workshop. One, two sem hours
A laboratory-performance course that deals with performance of opera scenes and, when feasible, complete works. Musical, technical and dramatic aspects of production.
Prereq: Department permission.

PEG 140 Marching Band. One sem hour
(See Department of Health, Physical Education, Recreation and Dance.)

Small Ensembles

MUS 244 Jazz Ensemble. One sem hour
Performance class dealing with the elements of jazz arrangement, improvisation, and ensemble techniques with special emphasis on the function of jazz in music education.
Prereq: Department permission.

MUS 245 Brass Ensemble. One sem hour
Chamber music for brass.
Prereq: Department permission.

MUS 246 String Ensemble. One sem hour
Chamber music for strings.
Prereq: Department permission.

MUS 247 Woodwind Ensemble. One sem hour
Chamber music for woodwinds.
Prereq: Department permission.

MUS 475 Chamber Music Performance. Two sem hours
Study and performance of literature for small chamber groups. May be repeated for credit.
Prereq: Department permission.
Physics and Astronomy 179

PHYSICS AND ASTRONOMY
Office: 303 Strong Hall

Department Head: Dan Trochet

Professors: James C. Porter, Robert Silver, Dan Trochet, Jon K. Wooley

Associate Professors: Edward F. Gabl, Diane A. Jacobs, Richard F. Roth

Assistant Professors: Alexandria Oakes, Natthi Sharma, Marshall Thomsen, Bonnie L. Wylo

Instructor: David D. Reid

The Department of Physics and Astronomy offers a major in physics and physics research. Within the major, the student may wish to develop a concentration in engineering physics or physics-business. Minors are offered in astronomy, general science and physics. In addition, the department administers interdisciplinary offerings in applied science, general science and physical science. Transfer students who wish to major in physics must take a minimum of nine semester hours, and those who wish to minor must take a minimum of six semester hours of advanced coursework in this department.

Degrees: Bachelor of arts and bachelor of science

Programs of Study
Curriculum:
- Applied science

Group major-minors:
- General science
- Physical science

Majors:
- Geophysics
- Physics research
- Physics (Concentrations in engineering physics and physics-business)

Minors:
- Astronomy
- General science
- Physics

Advising is assigned according to the indicated field of study.

Advising coordinators:
- Applied science curriculum: Dan Trochet
- Astronomy minor: Jon Wooley
- Engineering physics concentration: Edward Gabl, Alexandria Oakes
- Physics major: Robert Silver
- General science major/minor: Jon Wooley
- Geophysics: Dan Trochet
- Physics-business concentration: Dan Trochet
- Physics-research major: Richard Roth, Marshall Thomsen
- Physical science major/minor: Jon Wooley

Graduate study leads to the master's degree in physics research, physics education or general science. These programs are described in the Graduate Catalog.

Applied Science Curriculum

This program is designed for students who plan to enter occupations in which a substantial background in mathematics and science is required. It calls for concentration of 16-18 semester hours in each of two departments (chemistry, mathematics or physics) and 36 semester hours in the third. To qualify for a bachelor of arts degree, the student must complete one year of college level credit in one foreign language. In addition to meeting the basic studies requirements, all students on this curriculum must complete all other courses specified.

Area

Symbolics and communication ..................................................8-9
Requirements 1, 2 and 3 (Box page 29) ..................................8-9

Science and technology ..........................................................69-71

1. Required courses .................................................................50

Chemistry courses .....................................................................15
CHM 121, 123 General Chemistry I and II .............................6
CHM 122, 124 General Chemistry I and II Laboratory .............2
CHM 241 Materials Science ......................................................3
CHM 281 Quantitative Analysis ...............................................4

Mathematics and computer science courses ..........................17
MTH 120, 121 Calculus I and II .................................................8
MTH 122 Elementary Linear Algebra .......................................2
MTH 223 Multivariable Calculus ..............................................4
CSC 237 Computer Programming and Numeric Methods .......3

Physics courses .........................................................................18
PHY 223 Mechanics, Sound and Heat ........................................5
PHY 224 Electricity and Light ....................................................5
PHY 370 Introduction to Modern Physics ..................................3
PHY 372 Modern Physics Laboratory .......................................1
PHY 456 Electronics for Scientists .........................................4

2. Restricted electives ...............................................................18-20

Choose 18-20 credits from one of the following groups to complete the major: chemistry, mathematics or physics

Chemistry: CHM 371, 372 Organic Chemistry I and II; CHM 373 Organic Chemistry Laboratory; CHM 461, 462 Physical Chemistry I and II; and electives chosen in consultation with advising coordinator in applied science

Mathematics: MTH 325 Differential Equations, MTH 425 Mathematics for Scientists, and electives chosen in consultation with advising coordinator in applied science

Physics: PHY 330 Intermediate Mechanics I, PHY 452 Electrical Measurements, PHY 471 Nuclear Physics, one of the following laboratory courses (PHY 332 Mechanic Laboratory or PHY 442 Optics Laboratory) and electives at the 300 or 400 level, chosen in consultation with the advising coordinator in applied science

Social science .........................................................................9-12
Requirements 1, 2 and 3 (Box page 31) ..................................9-12

Arts and humanities .................................................................11-12
Requirements 1, 2 and 3 (Box page 32) ..................................11-12

Practical arts ..............................................................................6
IT 122 Technical Drawing .........................................................3
IT 223 Descriptive Geometry ..................................................3

Physical education and health ..................................................2
**Physical education activity courses** ........................................... 2
*(Any two courses in Military Science may be applied)*

**Electives** .................................................................................. 10-17

**Total** ....................................................................................... 124

**Group Major/Minor in General Science**

This 56 semester hour major and minor combination encompasses six areas of study: biology, chemistry, earth science, mathematics, and physics. Students must follow regular department requirements to complete a 20 semester hour cognate minor in one of the areas listed above and a 36 semester hour group major composed of courses from the other four areas. If planning to teach, the student also must take an appropriate methods course. Students who complete the program may be certified to teach general science in grades 7-12 and, in addition, would be certified to teach the minor selected in grades 9-12. If seeking continuing certification, students may elect to work toward a master's degree in either general science or the field of their minor.

<table>
<thead>
<tr>
<th>Group major (36 hrs) with cognate minor (20-21 hrs)</th>
<th>56-57</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cognate minor in one of the following five science areas</td>
<td>20-21</td>
</tr>
<tr>
<td>Biology</td>
<td>20</td>
</tr>
<tr>
<td>Chemistry</td>
<td>20</td>
</tr>
<tr>
<td>Earth science</td>
<td>21</td>
</tr>
<tr>
<td>Mathematics</td>
<td>20</td>
</tr>
<tr>
<td>Physics</td>
<td>20</td>
</tr>
</tbody>
</table>

*Select courses for your minor in consultation with an adviser in the appropriate department.*

2. **Group major** ................................................................. 36

With a biology minor, take the following for the group major:

**AST 205 Principles of Astronomy; CHM 121 General Chemistry I; CHM 122 General Chemistry I Lab; GES 108 Earth Science; GES 324 Weather and Climate; MTH 105 College Algebra; MTH 107 Plane Trigonometry; PHY 221 Mechanics, Sound and Heat; PHY 222 Electricity and Light** ........................................................................................ 28

Approved electives in chemistry, earth science, mathematics and physics ........................................................................... 8

With a chemistry minor, take the following for the group major:

**AST 204 Astronomical Investigation; BIO 105 Biology and the Human Species; BIO 224 Principles of Conservation; CHM 121 General Chemistry I; CHM 122 General Chemistry I Lab; GES 108 Earth Science; GES 324 Weather and Climate; MTH 107 Plane Trigonometry; PHY 221 Mechanics, Sound and Heat; PHY 222 Electricity and Light** ........................................................................................ 32

Approved electives in biology, earth science, mathematics and physics .................................................................................. 4

With an earth science minor, take the following for the group major:

**AST 205 Principles of Astronomy; BIO 105 Biology and the Human Species; BIO 224 Principles of Conservation; CHM 121 General Chemistry I; CHM 122 General Chemistry I Lab; MTH 105 College Algebra; MTH 107 Plane Trigonometry; PHY 221 Mechanics, Sound and Heat; PHY 222 Electricity and Light** ........................................................................................ 29

Approved electives in biology, chemistry, mathematics and physics ........................................................................... 7

With a mathematics minor, take the following for the group major:

**AST 205 Principles of Astronomy; BIO 105 Biology and the Human Species; BIO 224 Principles of Conservation; CHM 121 General Chemistry I; CHM 122 General Chemistry I Lab; GES 108 Earth Science; GES 324 Weather and Climate; PHY 221 Mechanics, Sound and Heat; PHY 222 Electricity and Light** ........................................................................................ 31

Approved electives in biology, chemistry, earth science and mathematics ........................................................................... 5

**Group Major/Minor in Physical Science**

This combined major/minor prepares students to teach physical science at the secondary level. Courses are included in five areas: astronomy, chemistry, earth science, mathematics and physics. Prospective teachers also must take PHY 325 Methods of Teaching the Physical Sciences in addition to major requirements.

Students fulfill the minimum requirement for a 20 semester hour cognate minor in either chemistry, earth science or mathematics and a 36 hour group major composed of courses from the other four areas. A 20 semester hour concentration in physics and astronomy is included in the 36 hour major.
Geophysics Major

The geophysics major involves concentrations in physics, geology and mathematics. This major is designed to bring together the traditional sciences of physics and geology into a program that will prepare persons for employment in the modern day geoscience area. This major will also prepare the student for graduate work in either geophysics, geology or physics.

Required physics and geology courses ...................................... 58-60

PHY 223 Mechanics, Sound and Heat ...................................... 5
PHY 224 Electricity and Light ................................................. 5
PHY 229 Strength and Elasticity of Materials ......................... 4
PHY 330 Intermediate Mechanics ............................................. 3
PHY 450 Electricity and Magnetism .......................................... 4
PHY 481 Mathematical Physics ................................................. 3

GLG 160 Physical Geology ...................................................... 4
GLG 228 Mineralogy ............................................................. 3
GLG 161 Historical Geology .................................................... 4
GLG 255 Field Geology I ......................................................... 2
GLG 309 Plate Tectonics ......................................................... 3
GLG 326 Structural Geology .................................................... 3
GLG 329 Petrology ............................................................... 3
GLG 330 Sedimentation and Stratigraphy .................................. 3
 GLG 356 Field Geology II ........................................................ 3

Select two of the following:
PHY 335 Fluid Dynamics ......................................................... 3
PHY 370 Introduction to Modern Physics .................................... 3
PHY 436 Vibration and Sound .................................................. 3
PHY 452 Electrical Measurements ............................................ 4
PHY 456 Electronics for Scientists ............................................ 4
GLG 430 Petroleum Geology .................................................... 3

Required mathematics courses .............................................. 21

MTH 120 Calculus I .............................................................. 4
MTH 121 Calculus II .............................................................. 4
MTH 122 Elementary Linear Algebra ........................................ 3
CSC 237 Computer Programming and Numeric Methods ............ 3
MTH 223 Multivariable Calculus ............................................. 4
MTH 325 Differential Equations .............................................. 3

Required chemistry courses .................................................... 8

CHM 121 General Chemistry I ................................................. 3
CHM 122 General Chemistry II ................................................. 3
CHM 124 General Chemistry II Lab ........................................... 1
CHM 128 General Chemistry I Lab ............................................ 1

*All electives must be selected in consultation with the advising coordinator for physical science.

Physics Majors

Physics Research

The physics research major provides the necessary background for those planning to become professional physicists. The requirements listed below ensure adequate depth and breadth of subject matter in both theoretical and experimental physics and in mathematics. Students successfully completing this major are prepared to enter technical positions in government or industrial research or to undertake graduate study in physics. Further work on the graduate level is highly recommended.

Sem hours

Academic major in physics research ........................................ 36

1. Required courses .......................................................... 22

*PHY 223 Mechanics, Sound and Heat .................................... 5
*PHY 224 Electricity and Light ................................................. 5
PHY 330 Intermediate Mechanics ............................................. 3
PHY 450 Electricity and Magnetism .......................................... 4
PHY 475 Introduction to Quantum Mechanics ............................ 3
PHY 417 Undergraduate Research or PHY 490

Special Problems (Honors) ..................................................... 2

*A student changing to a physics major after completing
PHY 221 Mechanics, Sound and Heat and PHY 222
Electricity and Light may request substitution for
PHY 223 Mechanics, Sound and Heat and PHY 224
Electricity and Light. The total number of hours
is not reduced by this substitution.

2. Restricted electives ....................................................... 3-12

Choose three of the following laboratory courses:
PHY 332 Mechanics Laboratory, PHY 372 Modern Physics Laboratory, PHY 442 Optics Laboratory, PHY 452 Electrical Measurements, PHY 454 The Microcomputer in the Science Lab, PHY 456 Electronics for Scientists, PHY 471 Nuclear Physics

3. Electives in physics to complete the
36-hour major ................................................................. 2-11
No physics courses numbered less than 300 are to be used as electives on this major. No astronomy courses can be used as electives.

4. Required mathematics courses ................................................................. 15
   MTH 120, 121 Calculus I and II ................................................................. 8
   MTH 122 Elementary Linear Algebra ........................................................... 3
   MTH 223 Multivariable Calculus .................................................................... 4

5. Two of the following three courses ......................................................... 6
   MTH 325 Differential Equations .................................................................... 3
   MTH 425 Mathematics for Scientists ............................................................ 3
   MTH 436 Numerical Analysis .................................................................... 3

Physics

This major is provided for students who plan to teach physics in a secondary school, who desire a general cultural education with an emphasis on physics, who are preparing for work in another field such as pre-medicine or pre-law or who are interested in combining physics with an allied field such as biology, chemistry, astronomy or geology or with the field of business.

A maximum of six semester hours of designated astronomy courses may be included among the electives on this major.

Prospective teachers also must take PHY 325 Methods of Teaching the Physical Sciences in addition to the requirements listed below.

**Sem hours**

Academic major in physics ........................................................................... 30

1. Required physics courses ........................................................................ 16
   - PHY 223 Mechanics, Sound and Heat .................................................... 5
   - PHY 224 Electricity and Light ................................................................ 5
   - PHY 330 Intermediate Mechanics I ...................................................... 3
   - PHY 370 Introduction to Modern Physics .............................................. 3
   - A student changing to a physics major after completing PHY 221 Mechanics, Sound and Heat and PHY 222 Electricity and Light may request substitution for PHY 223 Mechanics, Sound and Heat and PHY 224 Electricity and Light. The total number of hours is not reduced by this substitution.

2. Restricted physics electives ................................................................... 3-12
   Choose three of the following laboratory courses:
   - PHY 332 Mechanics Laboratory, PHY 372 Modern Physics Laboratory, PHY 442 Optics Laboratory
   - PHY 452 Electrical Measurements, PHY 454 The Microcomputer in the Science Laboratory
   - PHY 456 Electronics for Scientists, PHY 471 Nuclear Physics

3. General electives in physics and astronomy .............................. 2-11
   No physics courses numbered less than 300 are to be used as electives on this major.

4. All students earning this major in physics must also take, as a minimum, the following courses in mathematics ........................................ 14-15
   - MTH 120 Calculus I ............................................................................ 4
   - MTH 121 Calculus II .......................................................................... 4
   - MTH 122 Elementary Linear Algebra .................................................. 3
   - And one of the following:
     - MTH 223 Multivariable Calculus .................................................... 4
     - CSC 237 Computer Programming and Numeric Methods ............... 3

Engineering Physics Concentration

The engineering-oriented concentration, leads to a bachelor of science degree. Students following this concentration will earn a major in physics and a minor in mathematics and have a strong background in engineering mechanics. Graduates will be well qualified to fill engineering-oriented positions.

**Sem hours**

Concentration in physics-engineering ........................................ 36

1. Required physics courses .................................................................... 28
   - PHY 223 Mechanics, Sound and Heat .................................................... 5
   - PHY 224 Electricity and Light ............................................................. 5
   - PHY 370 Introduction to Modern Physics .............................................. 3
   - PHY 372 Modern Physics Laboratory .................................................. 1
   - PHY 440 Optics ................................................................................... 3
   - PHY 456 Electronics for Scientists ..................................................... 4
   - PHY 460 Heat and Thermodynamics ................................................... 3
   - PHY 471 Nuclear Physics ................................................................... 4

2. Physics electives chosen from ....................................................... 8
   - PHY 431 Intermediate Mechanics II .................................................... 3
   - PHY 332 Mechanics Laboratory ............................................................. 1
   - PHY 436 Vibration and Sound ............................................................. 3
   - PHY 442 Optics Laboratory ................................................................. 1
   - PHY 452 Electrical Measurements ...................................................... 4
   - PHY 454 The Microcomputer in the Science Laboratory .................. 3
   - PHY 490 Special Problems .................................................................. 2

3. Required engineering mechanics courses .................................... 11
   - PHY 229 Strength and Elasticity of Materials ....................................... 4
   - PHY 230 Engineering Dynamics .......................................................... 4
   - PHY 335 Fluid Dynamics ................................................................... 3

4. Required chemistry courses ............................................................. 8
   - CHM 121 General Chemistry I ............................................................. 3
   - CHM 122 General Chemistry I Lab ...................................................... 1
   - CHM 241 Materials Science ................................................................. 3
   - CHM 242 Materials Science Laboratory ............................................. 1

5. Required mathematics courses ....................................................... 21
   - MTH 120 Calculus I ............................................................................ 4
   - MTH 121 Calculus II .......................................................................... 4
   - MTH 122 Elementary Linear Algebra .................................................. 3
   - MTH 223 Multivariable Calculus .................................................... 4
   - CSC 237 Computer Programming and Numeric Methods ............... 3
   - MTH 325 Differential Equations .......................................................... 3

6. Suggested electives ............................................................................. 18
   - ENG 424 Technical Writing ................................................................. 3
   - SPH 350 Persuasion ............................................................................. 3
   - ECO 201 Principles of Economics I ..................................................... 3
   - GEO 310 Energy Awareness ............................................................... 3
   - ECO 337 Energy Economics and Policies ........................................... 3
   - PHI 130 Introduction to Logic .............................................................. 3

Physics-Business Concentration

This interdisciplinary concentration integrates the scientific and technological expertise of the science student with the business discipline. It provides the student with a physics major and a minor in business. There are sufficient business courses so that the student may earn a major of business administration degree in the fifth year of an academic career.
**Group Minor in Astronomy**

A student who wishes to undertake graduate work in astronomy must complete the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 223 Mechanics, Sound and Heat</td>
<td>5</td>
</tr>
<tr>
<td>PHY 224 Electricity and Light</td>
<td>5</td>
</tr>
<tr>
<td>PHY 229 Strength and Elasticity of Materials</td>
<td>4</td>
</tr>
<tr>
<td>PHY 330 Intermediate Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>PHY 370 Introduction to Modern Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHY 372 Modern Physics Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>PHY 440 Optics</td>
<td>3</td>
</tr>
<tr>
<td>PHY 442 Optics Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 460 Heat and Thermodynamics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Group Minor in Physics**

A group minor in physics must be combined with an academic major in biology, chemistry, earth science, mathematics or physics.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 120, 121 Calculus I and II</td>
<td>8</td>
</tr>
<tr>
<td>MTH 122 Elementary Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MTH 223 Multivariable Calculus</td>
<td>4</td>
</tr>
</tbody>
</table>

**Group Minor in General Science**

A group minor in general science must be combined with an academic major in biology, chemistry, earth science, mathematics or physics.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORI 215 Introduction to Business Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>ORI 265 Business Statistics I</td>
<td>3</td>
</tr>
<tr>
<td>ORI 374 Production/Operations Management</td>
<td>3</td>
</tr>
<tr>
<td>ORI 375 Principles of Conservation</td>
<td>3</td>
</tr>
<tr>
<td>LAW 293 Legal Environment of Business</td>
<td>3</td>
</tr>
<tr>
<td>MGT 202 Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>MGT 386 Organization Theory and Development</td>
<td>3</td>
</tr>
<tr>
<td>MKT 360 Principles of Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

**Minors Offered in the Department of Physics and Astronomy**

**Astronomy Group Minor**

This minor is designed to give the student a basic knowledge of astronomy and related fields. It is recommended that students wishing to undertake graduate work in astronomy complete the research major in physics with a minor in either mathematics or astronomy. Electives used to fulfill the astronomy minor cannot be used to complete any other major or minor.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AST 204 Astronomical Investigations</td>
<td>1</td>
</tr>
<tr>
<td>AST 205 Principles of Astronomy</td>
<td>4</td>
</tr>
<tr>
<td>AST 315 Applied Astronomy</td>
<td>3</td>
</tr>
<tr>
<td>AST 370 Astronomical Concepts</td>
<td>3</td>
</tr>
</tbody>
</table>

**Physics Minor**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 120, 121 Calculus I and II</td>
<td>8</td>
</tr>
<tr>
<td>MTH 122 Elementary Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MTH 223 Multivariable Calculus</td>
<td>4</td>
</tr>
</tbody>
</table>

*PHYS 223 Mechanics, Sound and Heat*
*PHY 224 Electricity and Light ........................................... 5  
PHY 370 Introduction to Modern Physics ............................... 3  
* A student changing to a physics minor after completing  
PHY 221 Mechanics, Sound and Heat and/or  
PHY 222 Electricity and Light may request substitution  
for PHY 223 and/or PHY 224. The total number of  
hours is not reduced by this substitution.

2. Restricted electives ................................................. 1-4  
Choose one of the following laboratory courses:  
PHY 332 Mechanics Laboratory, PHY 372 Modern  
Physics Laboratory, PHY 442 Optics Laboratory,  
PHY 452 Electrical Measurements, PHY 454 The  
Microcomputer in the Science Laboratory, PHY 456  
Electronics for Scientists, PHY 471 Nuclear Physics  
3. Electives in physics to complete the  
20-hour minor ......................................................... 3-6  
No physics courses numbered less than 300 are to be  
used as electives on this minor. No astronomy courses  
can be used on this minor.  
4. All students earning a minor in physics must  
also take, as a minimum, the following  
courses in mathematics.  
MTH 120 Calculus I ..................................................... 4  
MTH 121 Calculus II ..................................................... 4

Physics Courses

PHY 100 Science for Elementary  
Teachers. Three sem hours  
Designed to stimulate interest in science by the use of simple and  
and inexpensive equipment to demonstrate scientific principles. Sound,  
light, heat, electricity and magnetism. Does not count toward a  
physics major or minor. Open to students pursuing any curriculum  
for elementary teachers.

PHY 110 Physical Science. Four sem hours  
Designed for the non-science major with little or no background in  
science or mathematics. Provides a more perceptive view of physical  
reality by introducing central ideas, principles and relationships of  
physical science that relate to one's everyday environment. Students in  
science, medicine or engineering should take physics courses  
PHY 221 Mechanics, Sound and Heat and/or  
PHY 222 Electricity and Light or PHY 223 Mechanics, Sound and Heat,  
PHY 224 Electricity and Light. Does not count toward a physics major or minor.

PHY 115 Physics in the Modern Home. Four sem hours  
A course for non-science majors including the areas of mechanics,  
heat, sound, electricity, light and modern physics with special  
emphasis on application in the environment of the home. Three  
lecture hours and two lab hours per week. Does not count on a  
physics major or minor.

PHY 140 Light, Color and Photography for Artists  
and Others. Four sem hours  
A course for non-scientists who wish to put their experience with  
opics on a scientific foundation. Based on general physical  
principles; emphasizes optical phenomena rather than the mathematical  
treatment of the phenomena. Optical instruments, the eye, color,  
photography, lasers and holography. Three lecture hours and one  
two-hour laboratory per week. Does not count on a physics major  
or minor.

PHY 177, 178, 179 Special Topics  
in Physics. One, two, three sem hours  
This special topics course will be used to teach some aspects of  
physics at an elementary level that would not be regularly offered.  
A new course may be taught on an experimental basis with this  
offering. Additional special topics courses may be offered at the  
200, 300 and 400 levels.

PHY 210 Musical Acoustics. Four sem hours  
For students with a major interest in music. The physical bases of  
sound production, transmission and reception. Application to topics  
such as intervals, temperament, acoustics of rooms and tone pro-  
duction in the various types of musical instruments. Does not count  
on a physics major or minor.

PHY 211 Elementary Physical Science. Three sem hours  
Designed particularly for teachers in elementary science. An elem­  
entary study of common machines, weather, matter, energy,  
heat, sound, light, magnetism and electricity. Simple experimental  
projects, followed by class discussions. Most of the apparatus will  
be made from materials available in the home or at a variety store.  
Does not count on a physics major or minor.

PHY 216 Science of High Fidelity. Three sem hours  
Scientific base of high-fidelity equipment for the home and studio.  
Lecture-demonstrations cover components and fundamental physics.  
Laboratory experiences involve basic physics and testing of modern  
equipment.

PHY 221 Mechanics, Sound and Heat. Four sem hours  
A basic course in college physics for liberal arts students who desire  
an introduction to physics and for preprofessional students who do  
not require a rigorous knowledge of problem solving. All physics  
majors and pre-engineers must elect PHY 223 Mechanics, Sound  
and Heat. The laws of mechanics, sound and heat with more  
emphasis on applications and somewhat less on problems. Labora­  
atory: two consecutive hours, one day per week.  
Prereq: MTH 107 Plane Trigonometry and MTH 105 College  
Algebra, or a "B" average in high school mathematics through  
trigonometry.

PHY 222 Electricity and Light. Four sem hours  
A continuation of PHY 221 Mechanics, Sound and Heat. Static and  
current electricity, magnetism and light. Laboratory: two consecutive  
hours, one day per week.  
Prereq: PHY 221 Mechanics, Sound and Heat.

PHY 223 Mechanics, Sound and Heat. Five sem hours  
A basic course in college physics for students majoring in physical  
science and those on a pre-engineering curriculum. Laws of me­  
chanics, sound and heat together with their application. Laboratory:  
two consecutive hours, one day per week.  
Prereq: MTH 120 and 121 Calculus I and II (MTH 121 may be  
taken concurrently).
PHY 224 Electricity and Light. Five sem hours
A continuation of PHY 223 Mechanics, Sound and Heat. Static and current electricity, magnetism and light. Laboratory: two consecutive hours, one day per week.
Prereq: PHY 223 Mechanics, Sound and Heat.

PHY 229 Strength and Elasticity of Materials. Four sem hours
Fundamental principles of mechanics applied to solids. Equilibrium, stress and strain, generalization of Hooke's Law. Tension, torsion, shear, bending, deflection of beams, theory of columns and strain energy. Four lecture-recitation periods per week.
Prereq: PHY 223 Mechanics, Sound and Heat.

PHY 230 Engineering Dynamics. Four sem hours
Vector representation of physical quantities. Statics of rigid bodies. Kinematics of particles and rigid bodies. Dynamics of particles and rigid bodies. Work and energy. Four lecture-recitation periods per week.
Prereq: PHY 223 Mechanics, Sound and Heat, MTH 121 Calculus II, MTH 122 Elementary Linear Algebra.

PHY 256 Introduction to Electronics. Three sem hours
An introduction to electronic circuits and electronic devices for medical technology students and others desiring familiarization with electronics. Two lecture hours and one three-hour laboratory period per week. Does not apply on physics majors or minors.
Prereq: MTH 105 College Algebra.

PHY 296 Science in Science Fiction. Three sem hours
Current science fiction in paperback edition serves as a springboard for a wide-ranging study of the physical sciences. Does not count on a physics major or minor.

PHY 297, 298, 299 Independent Study in Physics. One, two, three sem hours
An intensive study of a problem or group of problems under the direction of a department faculty member.
Prereq: Approval by the faculty member and department permission.

PHY 325 Methods of Teaching the Physical Sciences. Three sem hours
A study of strategies and procedures used in secondary school teaching. Students will be provided with the opportunity to familiarize themselves with the newer science curricula; visits secondary school classrooms; present classroom demonstrations and conduct laboratory work; learn to use modern teaching aids, especially the computer, in classroom teaching; and develop means of evaluating cognitive and affective learning. Two recitation and two laboratory hours per week. Open to prospective teachers following the junior-senior high school curriculum who are majoring or minoring in general science or a physical science. Not open to students on academic probation. Does not count on physics major or minors.
Prereq: Junior standing. Admittance by approval only. For PHY 397, 398. Offered on graded credit/no credit basis.

PHY 326 Undergraduate Research Laboratory. Two sem hours
Laboratory work of a research nature done under the direction of a staff member working on a research problem. One problem will extend through the semester, with a comprehensive report required. Six hours are to be spent in the laboratory each week. Arrangements must be made with the department before the beginning of the semester. Open to seniors nearing completion of a physics major. Prereq: Department permission.

PHY 332 Mechanics Laboratory. One sem hour
A laboratory course providing experimental studies in intermediate mechanics. Three hours of laboratory per week.
Prereq: PHY 330 Intermediate Mechanics I; may be taken concurrently.

PHY 333 Fluid Dynamics. Three sem hours
An introduction to the statics and dynamics of real and ideal fluids: properties of fluids, mathematical models, dimensional analysis, boundary layer flow, flow in pipes, compressible, incompressible, laminar and turbulent flow.
Prereq: PHY 223 Mechanics, Sound and Heat, PHY 230 Engineering Dynamics or PHY 330 Intermediate Mechanics I.

PHY 370 Introduction to Modern Physics. Three sem hours
An introduction to modern physics and relativity. The qualitative interpretation, according to the modern quantum theory, of experimental results in atomic and nuclear physics.
Prereq: MTH 120 Calculus I and PHY 222 Electricity and Light or PHY 224 Electricity and Light.

PHY 372 Modern Physics Laboratory. One sem hour
A laboratory course providing experimental studies in such areas as late classical, relativistic, quantum and nuclear physics. Three hours of laboratory per week.
Prereq: PHY 370 Introduction to Modern Physics; may be taken concurrently.

PHY 397, 398, 399 Independent Study in Physics. One, two, three sem hours
An intensive study of a problem or group of problems under the direction of a department faculty member. Prereq: Approval by the faculty member and department permission.

PHY 417 Undergraduate Research Laboratory. Two sem hours
Laboratory work of a research nature done under the direction of a staff member working on a research problem. One problem will extend through the semester, with a comprehensive report required. Six hours are to be spent in the laboratory each week. Arrangements must be made with the department before the beginning of the semester. Open to seniors nearing completion of a physics major. Prereq: Department permission.
PHY 431 Intermediate Mechanics II. Three sem hours
A continuation of PHY 330 Intermediate Mechanics I. Mechanics of a rigid body, generalized coordinates, the Lagrangian and Hamiltonian functions, relative motion.

PHY 436 Vibration and Sound. Three sem hours
Detailed studies of vibration and wave motion with specific emphasis on acoustic waves in air and other media. Reflection, refraction and interference of sound; vibrating strings and air columns; electro-acoustic transducers; architectural acoustics.
Prereq: PHY 221 or 223 Mechanics, Sound and Heat; PHY 222 or 224 Electricity and Light; MTH 223 Multivariable Calculus.

PHY 440 Optics. Three sem hours
An intermediate course dealing with fundamentals of geometrical and physical optics. Reflection, refraction, lenses and optical instruments, spectrosopes and spectra, interference, diffraction and polarization.
Prereq: PHY 221 or 223 Mechanics, Sound and Heat; PHY 222 or 224 Electricity and Light; MTH 223 Multivariable Calculus.

PHY 442 Optics Laboratory. One sem hour
A laboratory course providing experimental studies in geometrical, physical and quantum optics. Three hours of laboratory per week.
Prereq: PHY 440 Optics; may be taken concurrently.

PHY 450 Electricity and Magnetism. Four sem hours
An intermediate course in the classical theory of electricity and magnetism. The concept of electric and magnetic fields from the historical force laws of Coulomb and Ampere, formulation of Maxwell’s equations, Gauss’ Law, conductors, dielectrics, magnetic susceptibility, magnetic fields of currents, Faraday’s Law of Induction and electromagnetic forces.
Prereq: PHY 221 or 223 Mechanics, Sound and Heat; PHY 222 or 224 Electricity and Light; MTH 121 Calculus II.

PHY 452 Electrical Measurements. Four sem hours
An intermediate course in electricity. The fundamental principles involved in measuring electric and magnetic quantities, the use of high grade electrical apparatus. Experiments include studies of galvanometers, Wheatstone bridges of various forms, potentiometers and standard cells, vacuum tubes, magnetic measurements and methods of measuring capacitance and inductance. Laboratory: four consecutive hours, one day per week.
Prereq: PHY 221 or 223 Mechanics, Sound and Heat; PHY 222 or 224 Electricity and Light.

PHY 454 The Microcomputer in the Science Laboratory. Three sem hours
An electronics course for students of all sciences. Microcomputers as devices for control of experiments and for acquisition and processing of laboratory data. Laboratory: three consecutive hours, one day per week.
Prereq: PHY 222 or 224 Electricity and Light or department permission.

PHY 456 Electronics for Scientists. Four sem hours
Non-communication theory and applications of vacuum tube semiconductor diodes and amplifying elements and related devices. Tube and transistor characteristics, circuits and instruments employing these elements. Laboratory: three consecutive hours, one day per week.
Prereq: PHY 221 or 223 Mechanics, Sound and Heat; PHY 222 or 224 Electricity and Light.

PHY 460 Heat and Thermodynamics. Three sem hours
An intermediate course in the fundamentals of heat and thermodynamics. Thermal expansion, specific heat, change of state, heat transfer, elementary kinetic theory, thermodynamic laws, entropy and other thermodynamic functions.
Prereq: PHY 221 or 223 Mechanics, Sound and Heat; PHY 222 or 224 Electricity and Light; MTH 223 Multivariable Calculus.

PHY 462 Kinetic Theory and Statistical Mechanics. Three sem hours
An introduction to the kinetic theory of gases and statistical mechanics. For students concentrating in physics and those contemplating advanced study in related fields of science and engineering. Maxwell-Boltzman distribution law, entropy and probability, transport phenomena, quantum statistics, Bose-Einstein and Fermi-Dirac statistics, the connection between statistical mechanics and thermodynamics, the equation of state, the elementary electron theory of metals and statistical methods in nuclear physics.
Prereq: 224 Electricity and Light, MTH 223 Multivariable Calculus.

PHY 471 Nuclear Physics. Four sem hours
Radioactivity, scintillation counters, cloud chambers, particle accelerators, transmutation of the elements, waves and particles, fission, fusion, stellar energies, nuclear reactors, cosmic rays, nuclear forces. Laboratory: two consecutive hours, one day per week.
Prereq: PHY 370 Introduction to Modern Physics and MTH 121 Calculus II.

PHY 475 Introduction to Quantum Mechanics. Three sem hours
The fundamental ideas of the quantum theory; the dual nature of matter, wave equations and wave packets, observable and linear operators, the application of the Schroedinger and Heisenberg equations to elementary systems, Pauli’s theory of electron spin.
Prereq: 224 Electricity and Light, MTH 223 Multivariable Calculus.

PHY 477, 478, 479 Special Topics in Physics. One, two, three sem hours
This special topics course will be used to teach aspects of physics at an advanced level that would not regularly be offered.

PHY 481 Mathematical Physics. Three sem hours
Advanced mathematical topics for the physics student, with applications drawn from the field of physics. Vectors, matrices, tensors, partial differential equations, contour integration, calculus of variations, integral equations and transforms, eigen-value functions, perturbation and group theory, special functions.
PHY 490, 491 Special Problems (Honors Courses). Two sem hours
An original experimental or theoretical problem in some area of physics investigated on an individual basis. Arrangements must be made with a staff member before the beginning of the semester. Prereq: 20 semester hours of physics, a "B" average in physics and department permission.

PHY 495 Readings in Physics (Honors Course). One sem hour
Designed to give individual students a planned intensive reading program in some field of physics, the subject being chosen jointly by the student and the instructor. A part of this course will be the presentation of an hour-long talk in the chosen subject at an open meeting of the Physics Department staff and students. Prereq: 20 semester hours of physics and department permission.

PHY 497, 498, 499 Independent Study in Physics. One, two, three sem hours
An extensive study of a problem or group of problems under the direction of a department faculty member. Prereq: Approval by the faculty member and department permission.

Astronomy Courses

AST 203 Exploration of the Universe. Three sem hours
An introductory astronomy course for students of any curriculum. The solar system, stars, galaxies, cosmology and the history of astronomy. Observations with telescopes scheduled a few evenings each semester. AST 204 Astronomical Investigations may be taken concurrently with this course. Cannot be applied toward a physics major or minor.

AST 204 Astronomical Investigation. One sem hour
A laboratory course for the beginning astronomy student. The techniques and concepts of astronomy. Two hours of laboratory per week. Prereq: AST 203 Exploration of the Universe or AST 205 Principles of Astronomy or may be taken concurrently.

AST 205 Principles of Astronomy. Four sem hours
An astronomy course for students desiring a comprehensive introduction to astronomy. Topics discussed in AST 203 Exploration of the Universe are covered in more detail and additional topics are introduced. Especially recommended for science students. AST 204 Astronomical Investigations may be taken concurrently. Not open to students with credit in AST 203. May count on the 30-hour physics major.

AST 297, 298, 299 Independent Study in Astronomy. One, two, three sem hours
An intensive study of a problem or group of problems under the direction of a department faculty member. Prereq: Approval of the faculty member and department permission.

AST 315 Applied Astronomy. Three sem hours
The practical aspects of astronomy such as the analysis of observational data, astronomical coordinate systems, determination of time and position on the earth. May count on the 30-hour physics major. Prereq: AST 205 Principles of Astronomy, MTH 120 Calculus I (MTH 120 may be taken concurrently).

AST 370 Astronomical Concepts. Three sem hours
Topics introduced in AST 205 Principles of Astronomy are discussed in a more rigorous fashion. Celestial mechanics, binary stars and topics in astronomy and astrophysics are also presented. Prereq: AST 205 Principles of Astronomy; PHY 223 Mechanics, Sound and Heat; PHY 224 Electricity and Light (may be taken concurrently). MTH 120 Calculus I; MTH 121 Calculus II (may be taken concurrently).

AST 497, 498, 499 Independent Study in Astronomy. One, two, three sem hours
An intensive study of a problem or group of problems under the direction of a department faculty member. Prereq: Approval of the faculty member and department permission.
Political Science
Office: 714 Pray-Harrold

Department Head: Joanna V. Scott
Associate Professors: Ronald E. Brown, David W. Hortin, F. Elaine Martin, James W. Pfister, Laura A. Reese, Raymond A. Rosenfield

Political science is the study of political beliefs, political systems and the socio-economic environments in which they function. Among its foci are the executive, administrative, legislative, judicial and political processes, the latter involving political parties, elections, interest groups, public opinion and political socialization. Attention also is given to legal and constitutional structures.

A variety of methodological approaches is utilized—historical, economic, philosophical, sociological, psychological and mathematical, as well as computer-assisted analysis.

Students who major in political science enter a broad range of careers in law, court administration, paralegal service, legislative service, foreign service, other government services, opinion research, journalism, teaching, business and elective public office. Some go on to graduate or professional schools. Political science, as part of the broad liberal arts spectrum, helps students become informed citizens. The Political Science Department coordinates pre-law studies and participates in majors and minors in the area studies program.

Degrees: Bachelor of arts and bachelor of science

Programs of Study

Majors:
- Political science
- Public administration
- Public law and government

Minors:
- Political science
- Public administration
- Public law and government
- Pre-Professional Program:
  - Pre-law

Advising is coordinated by the Political Science Office. Faculty advisers are available during posted office hours or by appointment. Students enrolled in any of the three majors offered by the department are expected to consult an assigned department faculty adviser when they declare the major and prior to each registration for classes.

Advising Coordinators:
- Political science: Robert C. Grady
- Public administration: Benjamin T. Hourani
- Public law and government: David W. Hortin
- Pre-law: David W. Hortin

Graduate study leads to a master of public administration degree or an interdisciplinary master of arts in social science with a concentration in political science. The M.P.A. and M.A. programs are described in the Graduate Catalog.

Political Science Major

Students majoring in political science are expected to complete PLS 112 American Government or PLS 113 American Government Honors prior to beginning the required core courses and to complete the required core courses within their first 18 hours in the major. At least four courses in the major numbered 300 or above must be completed at Eastern Michigan University. A maximum of three semester hours of independent study or internship/cooperative education courses may be applied to the 30 semester hours required for the major.

<table>
<thead>
<tr>
<th>Academic major in political science</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required course</td>
<td>3</td>
</tr>
<tr>
<td>PLS 112 American Government or PLS 113 American Government Honors</td>
<td>1</td>
</tr>
<tr>
<td>2. Required core courses</td>
<td>9</td>
</tr>
<tr>
<td>Choose three courses from the following:</td>
<td></td>
</tr>
<tr>
<td>PLS 210 Introduction to Political Analysis</td>
<td>3</td>
</tr>
<tr>
<td>PLS 211 Introduction to Comparative Government</td>
<td>3</td>
</tr>
<tr>
<td>PLS 212 Introduction to International Relations</td>
<td>3</td>
</tr>
<tr>
<td>PLS 213 Introduction to Political Thought</td>
<td>3</td>
</tr>
<tr>
<td>3. Area of concentration</td>
<td>9</td>
</tr>
<tr>
<td>Choose three courses from one of the three groups listed below. If Group I is chosen, the three concentration courses must be in Subgroup A.</td>
<td></td>
</tr>
</tbody>
</table>

Group I—American politics, public law and administration

Subgroup A: Group I area concentration
- PLS 202 State and Local Government | 3 |
- PLS 216 Municipal Government | 3 |
- PLS 270 Public Administration | 3 |
- PLS 280 The American Presidency | 3 |
- PLS 312 American Constitutional Law I | 3 |
- PLS 327 American Foreign Policy Process | 3 |
- PLS 330 Urban Politics | 3 |
- PLS 358 Parties, Elections and Interest Groups | 3 |
- PLS 359 Public Opinion and Propaganda | 3 |
- PLS 364 Legislative Process | 3 |
- PLS 381 Public Policy Analysis | 3 |
- PLS 385 Judicial Process and Behavior | 3 |
- PLS 470 Seminar in Political Science | 3 |

Subgroup B: Group I other-electives
- PLS 301 American Legal System | 3 |
- PLS 313 American Constitutional Law II | 3 |
- PLS 315 Consumer Law and Politics | 3 |
- PLS 332 Intergovernmental Relations and Federalism | 3 |
- PLS 334 Personnel Administration in Government | 3 |
- PLS 335 Labor in American Politics | 3 |
- PLS 352 Politics of Government Budgeting | 3 |
- PLS 365 Women and Politics | 3 |
- PLS 387 Cooperative Education in Political Science | 3 |
- PLS 431 Theories of Public Organization | 3 |
- PLS 456 Criminal Law I | 3 |
Major in Public Administration

Public administration focuses on applied aspects of government policies including their socio-economic environment, theories of public organization, public personnel administration, public budgeting and accounting, public policy analysis, decision-making in public bureaucracies, bureaucratic communications and public relations, administrative leadership, public service and collective bargaining, judicial administration and legislative administration.

The major is interdisciplinary, involving political science, economics, sociology, business administration, computer science/business computer systems, and English composition. Students who complete the major have access to a broad range of careers in government service or business or enter graduate or professional schools for further study.

A minor is to be selected in consultation with a public administration adviser. Recommended are: computer science, economics, general business, management and writing. Other appropriate minors include communication, conservation and resource use, criminology and criminal justice, gerontology, historic preservation, journalism, labor studies, land use analysis, military science, public law and government, and social work.

Major in Public Law and Government

Public law and government offers students a broad foundation in political science with a concentration in public law. It provides course work in constitutional law, civil liberties and civil rights, substantive and procedural criminal law, the law and the legal process, the courts, the judicial process, and judicial administration. Although the emphasis is on American public law, course work also is offered in international law and comparative legal systems. Careers accessible to students selecting this major include law, court administration, paralegal service, legislative service, other government service, opinion research, journalism, teaching, business and elective public office. Some students enter graduate or professional schools, including law school. Students are expected to complete PLS 112 or PLS 113 American Government prior to beginning this major. At least four courses in the major numbered 300 or above must be completed at Eastern Michigan University. A maximum of six semester hours of independent study or internship/cooperative education may be applied to the 36 semester hours required for the major.

With permission of the public administration adviser, six semester hours of internship credit (PLS 480, PLS 486, PLS 488, or PLS 489) or six semester hours of cooperative education credit (PLS 387 and PLS 487) may be substituted for two of the restricted electives.

Courses to be completed prior to beginning the major are:
- PLS 112 or PLS 113 American Government or PLS 202 State and Local Government
- ECO 201, 202 Principles of Economics I and II
- SOC 105 Introductory Sociology

Sem hours

Academic major in public administration ...........................................36
1. Required courses .......................................................... 18
- PLS 270 Public Administration ...........................................3
- PLS 334 Personnel Administration in Government .....................3
- PLS 352 Politics of Government Budgeting ..............................3
- PLS 381 Public Policy Analysis .........................................3
- PLS 431 Theories of Public Organization ..............................3
- ACC 246 Accounting for Public Administrators ........................3
2. Restricted electives .........................................................18

Choose one course from each of the following six categories:
- a. ECO 350 Government Finance, ECO 455
  Cost-Benefit Analysis
- b. CSC 137 Introduction to Computer Programming,
  ORI 215 Introduction to Business Information Systems
- c. SOC 250 Elementary Social Statistics, ORI 265
  Business Statistics I, ECO 310 Economic Statistics
- d. PLS 310 Methods of Political Research, SOC 304 Methods
  in Sociological Research
- e. ENG 225 Intermediate English Composition,
  ENG 314 Writing for Public Relations, ENG 325
  Expository Writing, ENG 424 Technical Writing,
  MGT 202 Business Communications
- f. PLS 216 Municipal Government, PLS 330 Urban Politics,
  PLS 332 Intergovernmental Relations and Federalism,
  PLS 470 Seminar in Political Science
Minors Offered in the Department of Political Science

Students must complete at least three courses in the political science minor numbered 300 or above at Eastern Michigan University. A maximum of three semester hours of independent study/internship/educational experiences may be applied to the 21 semester hours required for the minor.

Political Science

Minor in political science ............................................. 3
PLS 12 American Government or PLS 13 American Government Honors .................................................. 3

2. Required courses ..................................................... 4
Choose two courses from the following:
PLS 210 Introduction to Political Analysis, PLS 211
Introduction to Comparative Government, PLS 212
Introduction to International Relations, PLS 213
Introduction to Political Thought

Area of concentration .................................................... 6
Choose two courses from one of the three areas of concentration (Groups I, II, and III) listed under the political science major.

4. Other electives ............................................................... 6
Choose one course from one of the two areas of concentration not chosen for the concentration. The other elective may be chosen from any of the courses offered by the Department of Political Science.

Public Administration

Minor in public administration ....................................... 24
PLS 270 Public Administration ........................................ 3

2. Required electives ...................................................... 12
Choose four of the following courses:
PLS 334 Personnel Administration in Government,
PLS 335 Politics of Government Budgeting, PLS 381
Public Policy Analysis, PLS 431 Theories of Public Organization

3. Electives ................................................................. 9
Choose three courses from the remaining required or elective courses in the public administration minor. With permission of a public administration adviser, three semester hours of internship credit (PLS 480, 486, 488 or 489) or three semester hours of cooperative education credit (PLS 387 or 487) may be applied to the public administration minor.
Public Law and Government

Students must complete at least three courses in the public law and government minor numbered 300 or above. A maximum of four semester hours of independent study or internship/cooperative education courses may be applied to the 24 semester hours required for this minor.

Sem hours
Minor in public law and government .............................................. 24
1. Required courses ............................................................. 6
   PLS 301 American Legal System ........................................... 3
   PLS 312 American Constitutional Law I, PLS 313
   American Constitutional Law II, PLS 341
   International Law, PLS 412 Comparative
   Legal Systems ................................................................. 3
2. Restricted electives .......................................................... 6
   Choose one course from two of the three groups (I, II and III)
   under restricted electives in the public law and government
   major
3. Other electives .............................................................. 9
   Choose three courses from those listed as other electives in the
   public law and government major
4. Cognate electives ............................................................ 3
   Choose one course from the following:
   HIS 465 United States Constitutional History
   LAW 403 Labor Law, LAW 408 Administrative Law
   PHI 355 Philosophy of Law
   SOC 412 Law and Society, SOC 460 Criminal Law II

Pre-Professional Program

Pre-Law

Most law schools require a bachelor's degree and evidence of potential for law school as measured by grade point average and the results of the Law School Admission Test (LSAT). In addition, most law school admission officers emphasize the importance of a broad academic background and the development of analytical and communication skills.

The Political Science Department provides counseling for pre-law students, LSAT registration and application materials and catalogs from many law schools throughout the country.

Because law schools typically do not require specific courses for admission or identify any particular major or curriculum as preferable, it is necessary for pre-law students to plan their own academic programs. Given the increasing competitiveness of admission to law school, it is doubly important that great care be exercised in selecting a program of study appropriate to a legal career and in maintaining a high level of academic performance. It is also prudent to choose a program that will provide a suitable alternative career.

The majors most commonly selected by pre-law students are political science, economics, history and sociology. Other frequent choices include English language and literature, communications, psychology, philosophy and business administration. Although less numerous, students with majors in mathematics, the natural sciences, foreign languages, music and art also enter law school to enhance their career potential.

Whatever major/minor combination is chosen, attention also should be given to the selection of appropriate elective courses. Generally, any challenging course that will facilitate mastery of the use of language, develop critical understanding of human values and institutions or contribute to the capacity for independent and creative thinking is likely to be useful. Among specific courses that are often recommended by pre-law advisers are advanced English composition, persuasive speech, logic and accounting. Mathematics and science courses are frequently cited as helpful in developing needed analytical skills.

Pre-law students who desire to gain greater insight into the law and legal procedures and law school approaches to legal studies may choose from a broad range of courses offered by the Political Science, Sociology, Economics, History and Philosophy and Marketing departments. The major and minor in public law and government, offered by the Political Science Department, provide a firm foundation on which to build a career in law.

Political Science Courses

PLS 112 American Government. Three sem hours
A study of the forms and functions of American government on all levels: national, state and local. National government receives special emphasis, but comparisons between levels of government are made throughout the course. Satisfies the political science requirement of all curriculums. Not open to those with credit in PLS 113 American Government Honors.

PLS 113 American Government Honors. Three sem hours
An accelerated course in American government open to freshmen with special preparation or interest. Covers the same subject matters as PLS 112 American Government but utilizes advanced materials and stresses individual research projects. Satisfies the political science requirement of all curriculums. Not open to those with credit in PLS 112.

PLS 202 State and Local Government. Three sem hours
A study of the forms and functions of state and local governments with special emphasis on the government of Michigan. Especially valuable for teachers of social studies in senior and junior high schools. Satisfies the political science requirement of all curriculums.

Prereq: If freshman, PLS 112 American Government or department permission.

PLS 210 Introduction to Political Analysis. Three sem hours
A study of the conceptual and analytical foci of political science. Consideration is given to micro-level analysis of personality, attitudes, socialization, and roles and to macro-level analysis of group theory, decision making, systems and communications.

Prereq: PLS 112 American Government or PLS 113 American Government Honors.
PLS 211 Introduction to Comparative Government. Three sem hours
Using a comparative focus, identifies important similarities and differences in the structure and the behavior of foreign political systems, principally but not exclusively European.
Prereq: PLS 112 American Government or PLS 113 American Government Honors.

PLS 212 Introduction to International Relations. Three sem hours
The fundamentals of great power politics, the impact of efforts at international organization.
Prereq: PLS 112 American Government or PLS 113 American Government Honors.

PLS 213 Introduction to Political Thought. Three sem hours
The nature, structure and purposes of political theory. Selections from major theorists are used to examine different approaches to perennial issues such as justice, liberty, equality, legitimacy and political order.
Prereq: PLS 112 American Government or PLS 113 American Government Honors.

PLS 216 Municipal Government. Three sem hours
A study of the forms and functions of municipal government.
Prereq: PLS 112 American Government or PLS 202 State and Local Government.

PLS 270 Public Administration. Three sem hours
The nature of public administration; problems connected therewith—direction and organization; recruitment, training and promotion of personnel; maintenance of loyalty and efficiency.
Prereq: PLS 112 American Government or PLS 202 State and Local Government.

PLS 277, 278, 279 Special Topics in Political Science. One, two, three sem hours
An examination of a topic in political science not normally covered in the curriculum in which the distinctive concerns of political science are emphasized. Students may elect this course several times as long as different topics are studied, but it may be taken only twice for credit toward a major or minor in political science.

PLS 280 The American Presidency. Three sem hours
A study of executive power, emphasizing the contemporary presidential role and how it has evolved, the politics of candidate choice, the personal qualities and political styles of recent presidents and the array of formal and informal institutions constituting the modern presidency.
Prereq: PLS 112 American Government or PLS 113 American Government Honors or PLS 202 State and Local Government.

PLS 297, 298, 299 Independent Study in Political Science. One, two, three sem hours
Approved studies on an individual basis in areas in which the department does not offer formal courses.
Prereq: PLS 112 American Government or PLS 113 American Government Honors or PLS 202 State and Local Government.

PLS 301 The American Legal System. Three sem hours
A survey of various substantive components of the American system of law and its function in a democratic society. Special emphasis is placed upon problems of law enforcement, legal agencies and the processes involved in the administration of criminal justice.
Prereq: PLS 112 American Government or PLS 113 American Government Honors or PLS 202 State and Local Government.

PLS 308 Political Violence and Revolution. Three sem hours
A cross-national examination of political violence and revolution. Covers distinctions in types of political violence, examines ideological arguments on violence and revolution, examines case studies and the impact of political, biological, psychological and sociological factors that have been associated with violent outbreaks cross-nationally.
Prereq: PLS 112 American Government or PLS 113 American Government Honors or PLS 202 State and Local Government.

PLS 310 Methods of Political Research. Three sem hours
Acquaints students with philosophic and methodological problems and analytic techniques in the study of politics.
Prereq: PLS 112 American Government or PLS 202 State and Local Government.

PLS 312 American Constitutional Law I. Three sem hours
The environment of judicial decision-making will be ascertained through an investigation of the politics, procedures and personalities of the Supreme Court. The impact of the court upon the development and operation of the American system of government will be assessed through an examination of leading court decisions. May be taken as a two semester sequence, or elected independently.
Prereq: PLS 112 American Government or PLS 202 State and Local Government.

PLS 313 American Constitutional Law II. Three sem hours
A study of the politics of the consumer movement; executive, legislative and judicial responses to consumer demands at the federal, state and local levels. Investigation of the body of legislation and court decisions that affect the consumer in the marketplace.
Prereq: PLS 112 American Government or PLS 113 American Government Honors or PLS 202 State and Local Government.

PLS 315 Consumer Law and Politics. Three sem hours
A study of the politics of the consumer movement; executive, legislative and judicial responses to consumer demands at the federal, state and local levels. Investigation of the body of legislation and court decisions that affect the consumer in the marketplace.
Prereq: PLS 112 American Government or PLS 113 American Government Honors or PLS 202 State and Local Government.

PLS 327 American Foreign Policy Process. Three sem hours
An introduction to the formulation and execution of American foreign policy, including consideration of the role of public opinion, the press, interest groups, Congress, the president, deterrence theory and decision-making in crisis situations.
Prereq: PLS 112 American Government.

PLS 330 Urban Politics. Three sem hours
An examination of the urban political environment in the United States; structure, processes, power relationships, ethnic considerations, fiscal constraints and selected specific policy areas are considered.
Prereq: PLS 112 American Government or PLS 202 State and Local Government.
PLS 332 Intergovernmental Relations and Federalism.
A study of intergovernmental relations in the United States focusing on recent trends in the federal system. Examines significant developments and alternatives in shared governmental responsibilities, such as metropolitan reorganization, grant programs and regionalism.
Prereq: PLS 112 American Government or PLS 202 State and Local Government.

PLS 334 Personnel Administration in Government.
An examination of the basic personnel management practices of public bureaucracies. Topics include the development of the merit system and the civil service; public sector requirements for hiring, promotion, pay and benefits; discipline and grievance handling; the development and impact of public sector collective bargaining.
Prereq: PLS 112 American Government or PLS 113 American Government Honors or PLS 202 State and Local Government.

PLS 335 Labor in American Politics.
An examination of the role played by American labor as a political pressure group and as an agent of voter mobilization; American labor voting patterns; the political impact of labor organization on the civil service; American role in international union affairs.

PLS 341 International Law.
An introduction to the principles and practices of public international law. The origin and development, the nature and sources of international law. Special emphasis will be placed upon the legal problems of peace and war and the future perspectives of international law in the relations of nations.
Prereq: PLS 112 American Government or PLS 202 State and Local Government.

PLS 342 International Organization.
The structure and functions of international organizations. Collective security, disarmament and the pacific settlement of disputes will be examined. Organizations emphasized will be the League of Nations, the United Nations, the European Common Market and OPEC.
Prereq: PLS 112 American Government or PLS 202 State and Local Government.

PLS 352 Politics of Government Budgeting.
An analysis of the political significance and the procedures of governmental budgeting in the United States.
Prereq: PLS 112 American Government or PLS 202 State and Local Government.

PLS 354 Government and Politics of Canada.
Analysis of the Canadian political system in terms of historical background, political environment, constitutional structure, legislative, executive and judicial processes, political parties and pressure groups, public opinion and voting behavior, political problems and trends.
Prereq: PLS 112 American Government.

PLS 358 Parties, Elections and Interest Groups.
The organization, operation and function of American political parties and their impact on the American political system. The impact of interest groups and elections is also stressed.
Prereq: PLS 112 American Government.

PLS 359 Public Opinion and Propaganda.
The nature, formation, measurement and role of public opinion; the structure of control and the performance of the mass media; the nature of techniques, strategies and effects of propaganda.
Prereq: PLS 112 American Government.

PLS 361 Government and Politics of the U.S.S.R.
A study of Soviet political institutions including constitutional developments, structure and operation of the government. Emphasis placed on the role of the Communist Party.
Prereq: PLS 112 American Government or PLS 202 State and Local Government.

PLS 364 The Legislative Process.
A study of the agencies, procedures and influences in the formation of public policy by Congress, state legislatures and administrative agencies.
Prereq: PLS 112 American Government.

PLS 365 Women and Politics.
A study of the role of women in American politics as voters, activists and candidates, with consideration of how the political behavior of women relates to their economic, social and religious roles. Comparisons are made with selected European and Asian political systems.
Prereq: PLS 112 American Government or PLS 113 American Government Honors.

PLS 367 Contemporary Political Systems of Latin America.
A study of the governmental structure and the nature of political activity in selected Latin-American nations, with an emphasis on issues such as urbanization, military influence, students and labor, and the development of political parties.
Prereq: PLS 112 American Government or PLS 202 State and Local Government.

PLS 371 Government and Politics of the Middle East.
The Middle East as a case study in the field of comparative politics, European colonial policies, nationalist movements and politics of independent states.
Prereq: PLS 112 American Government or PLS 202 State and Local Government.

PLS 372 Government and Politics of Sub-Sahara Africa.
Africa as a case study in the field of comparative politics, tribal political systems, European colonial policies, nationalist movements, multi-racial conflict and politics of independent states in Sub-Sahara Africa.
Prereq: PLS 112 American Government or PLS 202 State and Local Government.
PLS 374 Asian Political Systems. Three sem hours
A study of the politics and government of China, Japan, the Mainland Southeast Asian states, Indonesia, and India.
Prereq: PLS 112 American Government or PLS 113 American Government Honors or PLS 202 State and Local Government.

PLS 377, 378, 379 Special Topics in Political Science. One, two, three sem hours
An examination of a topic in political science not normally covered in the curriculum in which the distinctive concerns of political science are emphasized. Students may elect this course several times as long as different topics are studied, but it may be taken only twice for credit toward a major or minor in political science.

PLS 381 Public Policy Analysis. Three sem hours
An advanced course in public administration dealing with modern administrative techniques, budget analysis, the politics of resource allocation and regulatory problems.
Prereq: PLS 270 Public Administration.

PLS 382 Politics and the 21st Century. Three sem hours
A study of the political and public policy directions of the future. Consideration will be given to world-wide political developments and alternative political futures as affected by accelerating socio-political and technological change.
Prereq: PLS 112 American Government or PLS 202 State and Local Government.

PLS 385 Judicial Process and Behavior. Three sem hours
A study of the judicial process and behavior in the United States with emphasis on analysis of policy-making by the courts. Federal judicial structures and functions, decision-making procedures and political ideology and judicial review.
Prereq: PLS 112 American Government or PLS 113 American Government Honors or PLS 202 State and Local Government.

PLS 387, 487 Cooperative Education in Political Science. Three sem hours each
Four to six months of full-time employment in the public sector intended to provide practical experience in government, politics, or administration. The program consists of two directed work experiences alternated with full-time attendance at the University. Applications of credit toward political science programs subject to department approval. Graded credit/no credit.
Prereq: Junior standing. Major in political science, public administration or public law and government. Departmental recommendation required.

PLS 410 Political Science in Fiction. Three sem hours
A discussion and analysis of political theories, institutions and practices utilizing a storehouse of insightful and articulate materials not normally tapped in traditional political science courses; the works of essayists, aphorists, dramatists, pamphleteers, poets and novelists.
Prereq: Political science major or minor. At least nine hours of political science coursework completed. Junior or senior standing or department permission.

PLS 412 Comparative Legal Systems. Three sem hours
Analysis of fundamental elements of the common law, the civil law, socialist laws and other legal traditions, and a comparison of the legal systems of selected foreign countries.
Prereq: PLS 112 American Government or PLS 113 American Government Honors or PLS 202 State and Local Government.

PLS 418 20th-Century Political Theory. Three sem hours
A comparative study of recent political theories and ideologies including democracy, socialism, communism, and fascism. The analysis includes modern psychological and sociological theories as they affect political thought.
Prereq: PLS 112 American Government or PLS 113 American Government Honors.

PLS 420 Advanced Political Thought. Three sem hours
A study of the values emphasized in Western political thought and the role of the state in attaining or curtailing them. Examination of values such as justice, equality, rights, self-interest, community and citizenship and their relationship to the state, authority, coercion, class, conflict, distribution of wealth and the public interest.
Prereq: PLS 112 American Government or PLS 113 American Government Honors or PLS 202 State and Local Government.

PLS 422 American Political Theory. Three sem hours
A concise survey of American political thought. The origins, growth and present state of American political ideologies will be examined.
Prereq: PLS 112 American Government or PLS 113 American Government Honors or PLS 202 State and Local Government.

PLS 431 Theories of Public Organization. Three sem hours
An introduction to theories of organization as related to public bureaucracies in a democratic political context.
Prereq: PLS 270 Public Administration or department permission.

PLS 456 Criminal Law I. Three sem hours
A study of criminal law currently in use in the United States with emphasis upon the way its basic concepts function; its principal components and problems central to its impact upon the political system.
Prereq: PLS 112 American Government or PLS 113 American Government Honors.

PLS 462 Foreign Relations of the Soviet Union. Three sem hours
A study of Soviet foreign policy, methods and related problems from 1917 to the present. The Sino-Soviet rift and its implications.
Prereq: PLS 112 American Government or PLS 202 State and Local Government.

PLS 470 Seminar in Political Science. Three sem hours
Examination and utilization of research techniques in the preparation of a major seminar paper in political science, public administration or public law and government.
Prereq: PLS 112 American Government or PLS 113 American Government Honors or PLS 202 State and Local Government.
PSYCHOLOGY
Office: 537 Mark Jefferson

Acting Department Head: Kenneth W. Rusiniak
Professors: Jeffrey Dansky, Dennis J. Delprato, Barry Fish, Monroe Friedman, Norman Gordon, V. Kay Hodges, Peter A. Holmes, Stuart A. Karabenick, John Knapp, Murray Meisels, Jerry O’Dell, James Roff, Silvia Von Kluge

Associate Professors: Barbara E. Brackney, John L. McManus, Kenneth W. Rusiniak
Assistant Professors: Marilyn K. Bonem, Thomas L. Flagg, James Todd, Silvia Von Kluge

Psychology, as a discipline, is concerned with the experience, behavior, needs, desires and potentialities of human beings. It is basic to many career fields and to any life pursuit where other human beings are encountered.

Objectives of the department are to provide a general and in-depth survey of the fields of the science of psychology for students interested in diversified career fields; to prepare undergraduate students to pursue graduate studies in order to enter one of the several professional career areas for which the major is required: clinical psychology, industrial psychology, school psychology, teaching and research in psychology, for example; and to help students who are interested in self-development obtain current and sound approaches to problems of topical interest.

Degree: Bachelor of science

Programs of Study:
Major:
Psychology

Minor:
Psychology

Advising is available to all students and can be obtained from any of the department faculty. It is recommended that students see a faculty member who specializes in the area of the student’s interest if graduate study is anticipated. Information may be obtained in the psychology office.

Advising coordinator: Kenneth W. Rusiniak

Graduate study leads to a master’s degree in psychology with programs in general psychology, clinical psychology and clinical behavioral psychology. Also offered is the specialist’s degree in school psychology. These programs are described in the Graduate Catalog.

Major in Psychology

The major in psychology is designed to provide a general and in-depth survey of the fields in the science of psychology and to prepare students to work with people in several career areas. Further study beyond the baccalaureate degree is required to enter professional career work.
Academic major in psychology ............................................... 30

1. Required courses .......................................................... 13-14
   PSY 101 or PSY 102 General Psychology .......................... 3-4
   PSY 205 Quantitative Methods in Psychology ...................... 3
   PSY 301 Experimental Psychology .................................. 4
   PSY 453 History of Systems of Psychology .......................... 3

2. Restricted electives ....................................................... 12
   Choose one course from each of the following groups:
   Adjustment and personality
   PSY 360 Abnormal Psychology, PSY 451 Dynamics of Personality
   Biological
   PSY 357 Sensation and Perception, PSY 457 Physiological
   Psychology, PSY 458 Comparative Animal Behavior
   Learning and motivation
   PSY 304 Learning, PSY 356 Motivation
   Developmental and social
   PSY 309 Social Psychology, PSY 321 Child Psychology
   Electives ........................................................................ 4-5
   Choose four or five credits in consultation with advising coordinator.

Minor offered in the Department of Psychology

The minor provides students entering many career fields a fuller scientific understanding of human experience, behavior, needs, desires and potentialities. The minor is flexible; within limits it may be designed to meet the needs of each student.

Psychology Minor

Sem hours

Minor in psychology .......................................................... 20

1. Required courses .......................................................... 3-4
   PSY 101 or PSY 102 General Psychology .......................... 3-4

2. Electives ........................................................................ 16-17
   Choose 16-17 credits in consultation with advising coordinator.

Psychology Courses

PSY 101 General Psychology. Three sem hours
   Principles, theories and methods evolving from the scientific analysis
   of behavior. This or PSY 102 General Psychology is a prerequisite
   to all other courses. Not open to those who have earned credit in
   PSY 102.

PSY 102 General Psychology. Four sem hours
   Principles, theories and methods evolving from the scientific analysis
   of behavior. Laboratory demonstrations and experiments illustrating
   selected concepts. Not open to those with credit in PSY 101
   General Psychology.

PSY 203 Self-analysis and Control. Three sem hours
   Behavioral principles and techniques that can be applied to beha-
   vioral self-analysis and self-management. Student-initiated self-
   improvement projects encouraged.
   Prereq: PSY 101 General Psychology or PSY 102 General Psy-
   chology.

PSY 205 Quantitative Methods in
   Psychology. Three sem hours
   Basic concepts and methods used in the analysis of psychological
   data. Methods of describing and drawing inferences from sets of
   data.
   Prereq: PSY 101 General Psychology or PSY 102 General Psy-
   chology and MTH 104 Intermediate Algebra, or equivalent.

PSY 207 Psychology of Adjustment. Three sem hours
   Systematic presentation of issues, concepts, principles and
   theories of human adjustment.
   Prereq: PSY 101 General Psychology or PSY 102 General Psy-
   chology.

PSY 225 Psychology of Religion. Three sem hours
   The application of psychological theory, principles and methods
   to the study of religious behavior. The relationships between religi
   on and personality, health-pathology, social behavior and intense
   emotional experience.
   Prereq: PSY 101 General Psychology or PSY 102 General Psy-
   chology.

PSY 240 Psychology of Sex. Three sem hours
   Survey of the psychological research concerned with human sexual
   ity from a psychological point of view with an emphasis on
   research findings.
   Prereq: PSY 101 General Psychology or PSY 102 General Psy-
   chology.

PSY 242 Psychology of Women. Three sem hours
   Theories and empirical research concerning personality develop-
   ment in females. Examination of the origins of the behavior of
   women.
   Prereq: PSY 101 General Psychology or PSY 102 General Psy-
   chology.

PSY 301 Introductory Experimental
   Psychology. Four sem hours
   Design, control and measurement techniques employed in the
   scientific investigation of behavior; e.g., motivation, emotion,
   perception and learning.
   Prereq: PSY 205 Quantitative Methods in Psychology.

PSY 304 Learning. Three sem hours
   Includes learning theories and empirical research as developed by
   Thorndike, Guthrie, Tolman, Hull, Skinner, Mowrer and others,
   plus selected contemporary topics.
   Prereq: PSY 301 Introductory Experimental Psychology.
PSY 309 Social Psychology. Three sem hours
The order and regularity underlying processes of human interaction. Motives and attitudes, social norms and roles, the socialization process, personality and group membership. The effect of group membership upon individual behavior. Not open to those with credit in SOC 308 Social Psychology.
Prereq: PSY 101 General Psychology or PSY 102 General Psychology.

PSY 321 Child Psychology. Three sem hours
The development of human behavior from conception to adolescence. Analysis of developmental processes involved in cognition, socialization, emotion and personality, relying on research and theory. Developmental trends. Not open to students in early elementary education curriculum.
Prereq: PSY 101 General Psychology or PSY 102 General Psychology.

PSY 322 Psychology of Adolescence. Three sem hours
An opportunity to formulate, examine and understand a comprehensive, balanced picture of the physical, mental, emotional, social and ideological developments and adjustments during adolescence.
Prereq: PSY 101 General Psychology or PSY 102 General Psychology.

PSY 323 Psychology of Human Aging. Three sem hours
Aging individuals in the context of their life span; the special problems of the aged in modern American society. Intellectual functioning, socialization and personality, environmental effects and the problems of isolation and institutionalization.
Prereq: PSY 101 General Psychology or PSY 102 General Psychology.

PSY 330 The Psychology of Contemporary Issues. Three sem hours
The application of psychological principles and methodology to selected contemporary world problems such as arms control, disarmament and cybernetics.
Prereq: PSY 101 General Psychology or PSY 102 General Psychology.

PSY 340 Psychological Perspectives on Prejudice and Discrimination. Three sem hours
The psychological processes underlying the phenomena of prejudice and discrimination. A review of materials on personality and development relevant to the practice of discrimination and to the experience of prejudice on the part of both minority and majority group individuals.
Prereq: PSY 101 General Psychology or PSY 102 General Psychology and sophomore standing.

PSY 350 Environmental Psychology. Three sem hours
The psychological effects of various environmental settings and configurations on human behavior. Selected qualities of architectural spaces, urban environments and natural settings.
Prereq: PSY 101 General Psychology or PSY 102 General Psychology.

PSY 351 Industrial Psychology. Three sem hours
Applications of psychological methods and principles to industrial problems.
Prereq: PSY 101 General Psychology or PSY 102 General Psychology and junior or senior standing.

PSY 352 Psychological Testing and Evaluation. Three sem hours
Principles and theory of psychological testing. Introduction to evaluation, administration and interpretation of group and individual tests used in diagnosis and prognosis.
Prereq: PSY 101 General Psychology or PSY 102 General Psychology and junior or senior standing.

PSY 356 Motivation. Three sem hours
Review and analysis of research and theory on the determinants of the direction, persistence and vigor of behavior.
Prereq: PSY 301 Introductory Experimental Psychology.

PSY 357 Sensation and Perception. Three sem hours
Analysis of the psychological literature relating to sensory and perceptual experience.
Prereq: PSY 301 Introductory Experimental Psychology.

PSY 358 Cognitive Processes. Three sem hours
A review of the theoretical and empirical developments concerned with cognitive processes, such as concept formation, memory and retrieval from memory, language acquisition, thought, problem solving, imagination and creativity.
Prereq: Junior standing, PSY 205 Quantitative Methods in Psychology or equivalent.

PSY 360 Abnormal Psychology. Three sem hours
Modern theories of the origin of mental disorders and personality disturbances, nature and mechanism of the various forms of abnormal behavior, prevention and treatment, social significance of aberrations.
Prereq: PSY 101 General Psychology or PSY 102 General Psychology and junior or senior standing.

PSY 361 Psychotherapy. Three sem hours
Survey of therapeutic systems and research on psychotherapy.
Prereq: PSY 360 Abnormal Psychology.

PSY 362 The Psychology of Stress and Relaxation. Three sem hours
An introduction to the theoretical aspects of stress, stress reactions, stress assessment, stress management and prevention.
Prereq: PSY 101 General Psychology or PSY 102 General Psychology.

PSY 365 Behavior Modification. Three sem hours
For students in psychology, special education, social work, nursing and related fields. Techniques for coping with problem behaviors. Training in practical observation and recording procedures, program evaluation designs and behavior change principles.
Prereq: PSY 101 General Psychology or PSY 102 General Psychology.
PSY 366 Health Psychology/Behavioral Medicine. Three sem hours
The application of behavioral-science theory, principles and techniques to understanding of health and illness and to prevention, diagnosis, treatment, rehabilitation and health-care delivery.
Prereq: PSY 101 General Psychology or PSY 102 General Psychology.

PSY 387, 487 Cooperative Education in Psychology. Three sem hours each
Four months of full-time employment at an individual employer chosen to provide practical experience in the student’s major field. The program consists of two work experiences (PSY 387 and 487) alternated with full-time attendance at the University.
Prereq: Two 300-level psychology courses and department permission.

PSY 388 Psychology in the Field Setting. Two sem hours
A practical work experience in a supervised mental health setting that integrates scholarly and practical aspects of psychology. Approximately three hours of field work each week and completion of a journal of goals and experiences.
Prereq: PSY 101 General Psychology or PSY 102 General Psychology, concurrent enrollment in a three-hour psychology class and/or department permission.

PSY 397, 398, 399 Individual Reading in Psychology. One, two, three sem hours
Supervised reading on psychological problems.
Prereq: PSY 101 General Psychology or PSY 102 General Psychology and prior department approval of a planned reading program.

PSY 401 Honors Seminar: Contemporary Issues and Methods in Psychology. Three sem hours
Prepares the honors student to design and develop an original senior honors thesis in current issues, methods and research opportunities in selected specialty areas of psychology.
Prereq: PSY 301 Introductory Experimental Psychology.

PSY 445 Consumer Psychology. Two sem hours
A survey of psychological principles, theories and methodology relating to consumer behavior.
Prereq: PSY 101 General Psychology or PSY 102 General Psychology.

PSY 448 Seminar in Psychology. Two sem hours
A synthesis of various approaches to the study of psychology. Development, presentation and critical appraisal of individual student projects. Open to seniors majoring or minoring in psychology.

PSY 450 Psychology of Individual Differences. Two sem hours
Analysis of research on variability between individuals and groups regarding intelligence, aptitudes, achievement, motivation, perception and attitudes.
Prereq: PSY 101 General Psychology or PSY 102 General Psychology.

PSY 451 Dynamics of Personality. Three sem hours
Physiological, psychological and cultural determinants of human personality; analysis of selected theories of human personality.
Prereq: Six hours in psychology and junior or senior standing.

PSY 453 History and Systems of Psychology. Three sem hours
Historical development of modern psychological theories, contemporary systems, including functionalism, behaviorism, phenomenology, psychoanalysis and dynamic psychologies.
Prereq: Twelve hours of psychology and senior standing.

PSY 457 Physiological Psychology. Three sem hours
Analysis of the relationships between physiological processes and behavior. Open to junior and senior science majors with department permission.
Prereq: PSY 301 Introductory Experimental Psychology and BIO 105 Biology and the Human Species or ZOO 222 General Zoology.

PSY 458 Comparative Animal Behavior. Three sem hours
Modern solutions to the innate versus learned behavior controversy; species differences with respect to behavior and behavioral capacities.
Prereq: PSY 301 Introductory Experimental Psychology.

PSY 460 Psychology of Film. Three sem hours
The psychology of film and audience. Viewer psychology, presentation of psychology, family, violence and sexuality in film.
Prereq: Junior standing and/or courses in psychology.

PSY 478, 479 Special Topics in Psychology. Two, three sem hours
An examination of topics in psychology not covered in other department offerings. May be elected more than once as long as different topics are studied.
Prereq: PSY 101 General Psychology or PSY 102 General Psychology and department permission.

PSY 497, 498, 499 Individual Research in Psychology. One, two, three sem hours
Supervised investigation of psychological problems.
Prereq: PSY 205 Quantitative Methods in Psychology and department permission.
Sociology, Anthropology, and Criminology

Office: 712 Pray-Harrold

Department Head: Werner J. Einstadter (acting)


Associate Professor: Stuart Henry

Assistant Professors: Anthony Adams, E. L. Cerroni-Long, Mansoor Moaddel, Nancy N. Thalhofer

The Department offers majors and minors in the disciplines of sociology, anthropology, and criminology and criminal justice, and participates in the social work curriculum, the major in area studies, and programs in gerontology, bilingual-bicultural education and women's studies.

Degrees: Bachelor of arts and bachelor of science

Programs of Study

Curriculum:
- Criminology and criminal justice

Majors:
- Anthropology
- Sociology

Minors:
- Anthropology
- Criminology and criminal justice
- Sociology

Interdisciplinary Minors in Anthropology/Sociology:
- Health and illness studies
- Socio-cultural perspectives on the family

Advising is available for particular areas of study. Students majoring in one of the department's programs are encouraged to see the undergraduate advising coordinator to be assigned an adviser as soon as they make their selection. Students not majoring in the department's programs may seek information about the curriculum from any faculty member during their "on call" advising hours.

Advising Coordinators:
- Undergraduate: Stuart Henry
- Graduate criminology and criminal justice: Werner J. Einstadter
- Graduate sociology: Patricia Ryan

Graduate study leads to the master's degree in sociology or criminology and criminal justice. The M.A. and M.S. degrees are described in the Graduate Catalog.

Curriculum in Criminology and Criminal Justice

This interdisciplinary curriculum is designed to provide students with a basis for the analysis of crime and justice within the framework of broader social processes. The professional core of the curriculum includes courses in criminology, criminal justice and law. Courses can be included to tailor the curriculum to the student's special interest by consulting their adviser.

Students completing the curriculum will have satisfied all major and minor requirements for graduation. No additional minor is required. Specific courses marked with an asterisk (*) also satisfy basic studies requirements—the specific requirement is enclosed by brackets.

Sociology, social work, and psychology requirements:
- SOC 105* Introductory Sociology [Area III. 3.] .................. 3
- SOC/ANT 214* Racial and Cultural Minorities [Area III.4c.] ............................................. 3
- SOC 462 Complex Organizations .............................................. 3
- PSY 101* or 102* General Psychology ............................... 3-4
- PSY 207 Psychology of Adjustment or PSY 360 Abnormal Psychology ............................................. 3
- SWK 120 Introduction to Social Work Services and Professional Roles ............................................. 3
- SWK 463 Social Work Practice with Legal Offenders ........... 3
- Choose one of the following courses: .................................. 3
- SOC 202* Social Problems [Area III. 4b.], SOC 204 Marriage and the Family, SOC 303 Sociology of Childhood and Youth, SOC 306 Urban Community, SOC 308 Social Psychology, SOC 450 The Family

Law requirements:
- SOC 412 Law and Society ................................................ 3
- SOC 460 Criminal Law II .................................................. 3
- PLS 112* American Government [Area III. 1.] or PLS 202 State and Local Government ................................................ 3
- PLS 301 The American Legal System .................................. 3
- PLS 456 Criminal Law I ................................................... 3

Research methods requirements:
- SOC 250* Elementary Social Statistics [Area I. 4.] ............ 3
- SOC 304 Methods of Sociological Research ........................ 3

(Note: 341 and 342 Quantitative Methods of Social Research I and II may be substituted for SOC 250 and SOC 304)

Criminology and criminal justice requirements:
- SOC 354 Juvenile Delinquency ........................................ 3
- SOC 371 Criminology .................................................... 3
- SOC 372 Criminal Justice in Contemporary Society ........... 3
- SOC 447 Advanced Criminology ...................................... 3

Suggested free electives ................................................ 33-36
Students may choose any course of interest to meet this requirement.

The following courses are pertinent to various areas of criminology and criminal justice:
- SOC 379, 479 Current Topics in the Sociology of Crime.
- SOC 488, 489 Field Internship in Criminology and Criminal Justice.
- SOC 499 Independent Study.

Total ................................................................. 90-93
Major in Anthropology
(Non-teaching)

The program in anthropology advances the goals of liberal education and provides majors with a foundation for graduate study. Anthropology is the comparative study of human behavior and basic institutions of human societies such as economics, law, politics, religion, medicine and kinship in a cross-cultural perspective. Flexibility within the major and in the choice of a minor allows students to select courses meeting their special interests.

Sem hours
Academic major in anthropology ........................................... 30

1. Required courses .................................................. 9
ANT 135 Introduction to Cultural Anthropology .................. 3
ANT 140 Introduction to Prehistoric Anthropology .......... 3
ANT 439 Anthropological Theory .................................. 3

2. Restricted electives ................................................ 6
Choose one anthropology course at the 200 level ............... 3
Choose one anthropology course at the 300 level or above .... 3

3. Electives ............................................................. 15
Choose 15 credits from anthropology courses. The following courses may be included with permission of the chairperson of the anthropology program:
LIN 401 Introduction to Linguistics
Sociology courses at the 300 level or above

Major in Sociology

This major includes the study of social class, community, family and educational, religious, governmental and economic institutions in complex industrial societies. Flexibility in both the major and minor allows students interested in careers in fields such as business, nursing, technology, communications, psychology, home economics, law or the helping professions to select courses meeting their special needs.

Sem hours
Academic major in sociology ........................................... 30

1. Required courses .................................................. 18
SOC 105 Introductory Sociology .................................... 3
ANT 135 Introduction to Cultural Anthropology ............... 3
SOC 250 Elementary Social Statistics ............................ 3
SOC 304 Methods in Social Research ............................ 3
SOC 308 Social Psychology ......................................... 3
SOC 403 Modern Sociological Theory .......................... 3

2. Restricted electives ................................................ 6
Choose two courses from the following:
SOC 306 The Urban Community, SOC 307 Industrial Sociology, SOC 310 Contemporary American Class Structure, SOC 462 Complex Organizations, and SOC 405 Honors Seminar

3. Electives ............................................................. 6
Choose from courses in sociology, anthropology or social work. Courses taken in social work or anthropology as elective credit for the sociology major must be at the 300 level or above.

Minors Offered in the Sociology Department
(Non-teaching)

Sem hours
Minor in anthropology .................................................. 20
1. Required courses .................................................. 15
ANT 135 Introduction to Cultural Anthropology ............... 3
ANT 140 Introduction to Prehistoric Anthropology ........... 3
One anthropology course at the 200 level ....................... 3
One anthropology course at the 300 level or above .......... 3
ANT 439 Anthropological Theory ................................ 3

2. Electives ............................................................. 5
Choose five credits from anthropology. With permission of the chairperson of the anthropology program, sociology courses at the 300 level or above may be chosen.

Sem hours
Minor in criminology and criminal justice ....................... 20
1. Required courses .................................................. 12
PLS 301 The American Legal System ............................ 3
SOC 371 Crime and Delinquency ................................ 3
SOC 372 Criminal Justice in Contemporary Society .......... 3
SOC 412 Law and Society .......................................... 3

2. Electives ............................................................. 8
Choose eight credits from the following:
ANT 330 Anthropology of Law and Politics
PHI 355 Philosophy of Law
PLS 270 Public Administration, PLS 320 Comparative Legal Systems, PLS 456 Criminal Law I
PSY 207 Psychology of Adjustment, PSY 360 Abnormal Psychology
SOC 402 Group Dynamics, SOC 448 Collective Behavior,
SOC 460 Criminal Law II
Any social work course at the 400 level

Sem hours
Minor in sociology .................................................. 20-21
1. Required courses .................................................. 14-15
SOC 105 Introductory Sociology .................................... 3
ANT 135 Introduction to Cultural Anthropology ............... 3
Sociology courses at 300 level or above ......................... 8-9

2. Electives ............................................................. 6
Any course in anthropology counted toward elective credit for the sociology minor must be at the 300 level or above. Social work courses may not be counted toward the sociology minor.

Interdisciplinary Minors Offered in the Sociology Department

Socio-Cultural Perspectives on the Family

This minor combines the perspectives of anthropology and sociology by examining the socio-cultural determinants and consequences of the family in the United States and other cultures. Students in such diverse fields as business, law, teaching, communication, nursing and technology learn how the family is integrated into the segment of society in which they intend to work. It is designed for students planning to work directly with families as social workers, family life professionals or clinical psychologists.
Health and Illness Studies

This minor examines the ways in which human beings deal with health and illness in different cultural settings including American society and its subcultures. Oriented toward the student interested in social and cultural aspects of health, illness and disease, it provides a theoretical perspective on comparative medical systems.

Sociology Courses

SOC 105 Introductory Sociology. Three sem hours
Basic sociological concepts are used to analyze aspects of American society in intergroup relations, rural and urban communities, social classes and in family, educational, religious, governmental and economic institutions.

SOC 202 Social Problems. Three sem hours
An analysis of problems arising in contemporary American society, such as child rearing, relations between the sexes, crime and delinquency, relations between racial and cultural sub-groups and personality disorders.
Prereq: SOC 105 Introductory Sociology.

SOC 204 Marriage and Family. Three sem hours
The position and significance of the family in our changing society. Courtship, mate selection and problems of marital adjustment from sociological and social-psychological perspectives.
Prereq: SOC 105 Introductory Sociology.

SOC 214 Racial and Cultural Minorities. Three sem hours
Racial and cultural minorities in the modern world with particular references to the black and Hispanic, and European and Oriental immigrants in the United States; racial myths, doctrines and movements; conflict and accommodation of majority and minority peoples; proposed solutions of ethnic problems.
Prereq: SOC 105 Introductory Sociology or ANT 135 Cultural Anthropology.

SOC 250 Elementary Social Statistics. Three sem hours
Introduction to the evaluation of empirical data and the organization of univariate data using descriptive and inferential statistical techniques.
Prereq: SOC 105 Introductory Sociology and high school algebra or equivalent.

SOC 279, 379, 479 Current Topics in Sociology. Three sem hours each
A single topic is covered each semester, selected as the interest and/or problems change. Students may elect a topics course several times as long as different topics are studied, but only twice for credit toward a major or minor in sociology.
Prereq: SOC 105 Introductory Sociology.

SOC 303 Sociology of Childhood and Youth. Three sem hours
Childhood and youth as elements of social organization. The relationship between social structure and the emergent personality of the individual; normality and deviance as social processes.
Prereq: SOC 105 Introductory Sociology.

SOC 304 Methods in Sociological Research. Three sem hours
Methods used in sociological research and their various applications. Participation in conducting a survey.
Prereq: Three courses in sociology and junior standing.

SOC 306 The Urban Community. Three sem hours
Ecological and social organization of urban life. The metropolitan trend in the United States and the social problems created by it.
Prereq: SOC 105 Introductory Sociology.

SOC 307 Industrial Sociology. Three sem hours
The social structure of the workplace, the work experience of the participants and the relation of both to the community and to society. Formal structure of large-scale organizations and the operation of small groups within them.
Prereq: SOC 105 Introductory Sociology.

SOC 308 Social Psychology. Three sem hours
Introductory study of the order and regularity underlying processes of human interaction. Motives and attitudes, social norms and roles, the socialization process, personality and group membership. The effect of group membership upon individual behavior. Credit cannot be earned in both SOC 308 and PSY 309 Social Psychology.
Prereq: SOC 105 Introductory Sociology and PSY 101 General Psychology.
SOC 309 Culture and Personality. Three sem hours
An analysis of the manner in which group and cultural factors influence the growth and change of personality. The impact of personality types on group life. Not open to those with credit in ANT 309 Culture and Personality.
Prereq: SOC 105 Introductory Sociology or ANT 135 Cultural Anthropology and PSY 101 General Psychology.

SOC 310 Contemporary American Class Structure. Three sem hours
The determinants and consequences of social class structure in America. The nature of social classes, status groups and the distribution of power from various theoretical perspectives. The relationships between social class and the family, schools, government, religion and recreation both with reference to the total system and to various racial and regional subsystems.
Prereq: SOC 105 Introductory Sociology.

SOC 311 Social Gerontology. Three sem hours
Demographic and socio-cultural factors in aging, the aging individual as a person, older people as groups and aggregates within the culture and structure of a changing society, the manner in which society attempts to meet the needs of aging people and the aged.
Prereq: SOC 105 Introductory Sociology.

SOC 312 Medical Sociology. Three sem hours
Social behavior and social organization as factors in disease distribution. The sociological analysis of medical care, organization and practitioners.
Prereq: SOC 105 Introductory Sociology and sophomore standing.

SOC 320 Sociology of Religion. Three sem hours
A sociological analysis of religious organizations and the institution of religion including the interaction between religious organizations and other institutions and associations and the role of religion in social movements and social change.
Prereq: SOC 105 Introductory Sociology or ANT 135 Cultural Anthropology.

SOC 334 Population. Three sem hours
Population size and composition and their impact on society; determinants and consequences of natality, mortality and migration; the relationship between human numbers and resources and its politico-economic implications; population theories and policies of population control.
Prereq: SOC 105 Introductory Sociology or department permission.

SOC 335 The Study of Non-Primitive Societies. Three sem hours
An analysis of the studies and problems that anthropology has investigated in non-primitive societies. Problems of analysis in complex societies; national character, folk-urban continuum, peasants and colonialism. Not open to those with credit in ANT 335 The Study of Non-Primitive Societies.
Prereq: ANT 135 Introduction to Cultural Anthropology or equivalent and sophomore standing.

SOC 336 Social and Cultural Change. Three sem hours
Survey of the theories and problems of change in developing and advanced societies. Not open to those with credit in ANT 336 Social and Cultural Change.
Prereq: ANT 135 Introduction to Cultural Anthropology or equivalent and sophomore standing.

SOC 341 Quantitative Methods of Social Research I. Three sem hours
Examination and review of research methods in the behavioral sciences and the nature of empirical data, the organization of univariate and bivariate data. Not open to those with credit in SOC 250 Elementary Social Statistics or SOC 304 Methods in Sociological Research. Must be followed by SOC 342 Quantitative Methods of Social Research II.
Prereq: SOC 105 Introductory Sociology, high school algebra or equivalent.

SOC 342 Quantitative Methods of Social Research II. Three sem hours
Further review and applications of research methods and introduction to statistical inference. Not open to those with credit in SOC 250 Elementary Social Statistics or SOC 304 Methods in Sociological Research.
Prereq: SOC 341 Quantitative Methods of Social Research I.

SOC 345 Field Methods of Community Studies. Three sem hours
For students interested in doing ethnographic research within the vicinity of the University by use of anthropological field techniques. Students will select topics for investigation by participant observation and other anthropological field methods. Discussion and examination of data from a cross-cultural perspective. Not open to those with credit in ANT 345 Field Methods in Community Studies.
Prereq: Nine hours in anthropology or department permission.

SOC 354 Juvenile Delinquency. Three sem hours
The nature, incidence and measurement of juvenile delinquency; theories and causation; juvenile justice philosophies and treatment methods.
Prereq: SOC 105 Introductory Sociology. Not open to freshmen.

SOC 371 Criminology. Three sem hours
Prereq: SOC 105 Introductory Sociology or junior standing.

SOC 375 Political Sociology. Three sem hours
The structure of political systems analyzed from an individual and social system perspective.
Prereq: Nine credit hours in sociology or political science or junior/senior standing.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Sem Hours</th>
<th>Prerequisites/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 377</td>
<td>Corporate and White Collar Crime</td>
<td>3</td>
<td>Prereq: SOC 105 Introductory Sociology.</td>
</tr>
<tr>
<td>SOC 379, 479</td>
<td>Current Topics in the Sociology of Crime.</td>
<td>3</td>
<td>One or two issues in law, crime and justice. Each issue will be covered in depth; topics will vary. Prereq: Department permission or SOC 371 Criminology or SOC 372 Criminal Justice in Contemporary Society and junior standing.</td>
</tr>
<tr>
<td>SOC 387, 487</td>
<td>Cooperative Education I, II</td>
<td>3</td>
<td>SOC 387: Twelve hours of sociology, six of which must be at the 300 level or above. SOC 487: SOC 387.</td>
</tr>
<tr>
<td>SOC 402</td>
<td>Group Dynamics.</td>
<td>3</td>
<td>Prereq: SOC 105 Introductory Sociology or PSY 101 General Psychology.</td>
</tr>
<tr>
<td>SOC 403</td>
<td>Modern Sociological Theory.</td>
<td>3</td>
<td>Prereq: SOC 105, 115; 12 hours of social science courses or department permission.</td>
</tr>
<tr>
<td>SOC 405</td>
<td>Honors Seminar.</td>
<td>3</td>
<td>Prereq: Senior status, a 3.0 grade point average, 12 hours of social science courses or department permission.</td>
</tr>
<tr>
<td>SOC 412</td>
<td>Law and Society.</td>
<td>3</td>
<td>Prereq: SOC 105 Introductory Sociology.</td>
</tr>
<tr>
<td>SOC 444</td>
<td>Sociology of Sex Roles.</td>
<td>3</td>
<td>Analysis of past, present and future sex roles; the changing roles of women and men and the conflicts and consequences of these changes on marriage and family systems in the United States. Prereq: Junior standing and either SOC 105 Introductory Sociology or ANT 135 Introduction to Cultural Anthropology.</td>
</tr>
<tr>
<td>SOC 447</td>
<td>Advanced Criminology.</td>
<td>3</td>
<td>SOC 371 Criminology or SOC 506 Criminology and SOC 372 Criminal Justice in Contemporary Society or SOC 507 Criminal Justice in Contemporary Society; or department permission.</td>
</tr>
<tr>
<td>SOC 448</td>
<td>Collective Behavior.</td>
<td>3</td>
<td>Spontaneous, transitory and volatile collective behavior contrasted with the relatively stable, institutionalized patterns of interaction. Analysis of rumor transmission, crowd behavior, mass behavior and the emergence of organized social movements. Prereq: SOC 105 Introductory Sociology.</td>
</tr>
<tr>
<td>SOC 450</td>
<td>The Family.</td>
<td>3</td>
<td>The family as a basic social institution. Various types of family systems throughout the world with special emphasis on the American family. Prereq: Junior standing and either SOC 105 Introductory Sociology or ANT 135 Introduction to Cultural Anthropology.</td>
</tr>
<tr>
<td>SOC 460</td>
<td>Criminal Law II.</td>
<td>3</td>
<td>The distinguishing characteristics of criminal law and its sources. Problems in determination of criminal liability; crimes against property; crimes against the person; the defenses to criminal charges. Prereq: Junior standing.</td>
</tr>
<tr>
<td>SOC 462</td>
<td>Complex Organizations.</td>
<td>3</td>
<td>An examination of several types of large organizations, with emphasis on the nature of bureaucratic organizations. Theoretical and empirical studies of organizational growth, recruitment, control and relations between organizations. Prereq: SOC 105 Introductory Sociology.</td>
</tr>
<tr>
<td>SOC 488, 489</td>
<td>Field Internship in Criminology and Criminal Justice</td>
<td>3</td>
<td>Students are assigned eight hours per week to a governmental or private agency dealing with the crime problem. The agency, in agreement with the field instructor, provides supervised learning experiences appropriate to the objectives of the undergraduate program. A weekly two-hour seminar relates field experience to theory. May be repeated once for credit. Prereq: Senior standing, SOC 371 Criminology, SOC 372 Criminal Justice in Contemporary Society and department permission. Second semester juniors may be admitted by department permission. Requests for admission by students who do not meet these requirements must be approved by the Faculty Committee on Criminology and Criminal Justice.</td>
</tr>
<tr>
<td>SOC 497, 498, 499</td>
<td>Independent Study</td>
<td>1, 2, 3</td>
<td>Independent study, under the supervision of a department member, in areas in which the department does not offer a course. Prereq: Department permission.</td>
</tr>
</tbody>
</table>
Anthropology Courses

ANT 135 Introduction to Cultural Anthropology. Three sem hours
Man's adaptation to natural and cultural environments focusing upon primitive and non-Western societies. The basic institutions of human society such as kinship, religion, law, politics and economics.

ANT 140 Introduction to Prehistoric Anthropology. Three sem hours
The evolution of human societies using materials from primate studies, early man and archaeological findings.

ANT 150 Introductory Archeology. Three sem hours
A general survey of the field of archeology; the methodologies and analyses employed in the study of prehistoric cultures. Prereq: ANT 135 Introduction to Cultural Anthropology.

ANT 214 Racial and Cultural Minorities. Three sem hours
Racial and cultural minorities in the modern world with particular references to the black and Hispanic, and European and Oriental immigrants in the United States; racial myths, doctrines and movements; conflict and accommodation of majority and minority peoples; proposed solutions of ethnic problems. Prereq: SOC 105 Introductory Sociology or ANT 135 Cultural Anthropology.

ANT 233 Peoples and Cultures of Mexico. Three sem hours
A regional, historical and topical survey of Mexican cultures. Prereq: ANT 135 Introduction to Cultural Anthropology.

ANT 234 Peoples and Cultures of Latin America. Three sem hours
A regional, historical and topical survey of Latin American cultures. Prereq: ANT 135 Introduction to Cultural Anthropology.

ANT 236 Peoples and Cultures of Africa. Three sem hours
A regional, historical and topical survey of African cultures. Prereq: ANT 135 Introduction to Cultural Anthropology.

ANT 237 Indians of North America. Three sem hours
A regional, historical and topical survey of aboriginal North American cultures. Prereq: ANT 135 Introduction to Cultural Anthropology or department permission.

ANT 245 Culture of Japan. Three sem hours
A historical and topical survey of Japanese culture. Prereq: ANT 135 Introduction to Cultural Anthropology or department permission.

ANT 248 Peoples and Cultures of the Pacific. Three sem hours
A regional, historical and topical survey of aboriginal Pacific cultures. Prereq: ANT 135 Introduction to Cultural Anthropology.

ANT 277, 278, 279 Current Topics in Anthropology. One, two, three sem hours
An examination of topics in anthropology not normally covered in the curriculum in which the distinctive perspective and methodology of anthropology are emphasized. Students may elect this course several times as long as different topics are studied. Prereq: ANT 135 Introduction to Cultural Anthropology.

ANT 309 Culture and Personality. Three sem hours
An analysis of the manner in which group and cultural factors influence the growth and change of personality. The impact of personality types on group life. Not open to those with credit in SOC 309 Culture and Personality. Prereq: SOC 105 Introductory Sociology or ANT 135 Introduction to Cultural Anthropology and PSY 101 General Psychology.

ANT 329 Medical Anthropology. Three sem hours
Ways in which various cultures define, explain and treat physical and psychic illness. Different approaches to curing including witchcraft, sorcery, spiritual and psychic healing and the use of hallucinogens compared with contemporary medical practices. Prereq: ANT 135 Introduction to Cultural Anthropology or department permission.

ANT 330 Anthropology of Law and Politics. Three sem hours
Comparative study of political systems in primitive and peasant societies, local-level politics, government and law; examined from an anthropological perspective. Prereq: ANT 135 Introduction to Cultural Anthropology and sophomore standing.

ANT 335 The Study of Non-Primitive Societies. Three sem hours
An analysis of the studies and problems that anthropology has investigated in non-primitive societies. Problems of analysis in complex societies, national character, folk-urban continuum, peasants and colonialism. Not open to those with credit in SOC 335 The Study of Non-Primitive Societies. Prereq: ANT 135 Introduction to Cultural Anthropology or equivalent and sophomore standing.

ANT 336 Social and Cultural Change. Three sem hours
A survey of the theories and problems of change in developing and advanced societies. Not open to those with credit in SOC 336 Social and Cultural Change. Prereq: ANT 135 Introduction to Cultural Anthropology or equivalent and sophomore standing.

ANT 338 Anthropology of Religion. Three sem hours
The anthropological study of religious belief and ritual in primitive and peasant societies. Prereq: ANT 135 Introduction to Cultural Anthropology and sophomore standing.
ANT 339 Economic Anthropology. Three sem hours
Comparative study of the ways in which societies organize themselves for purposes of production, distribution and exchange of goods and services. The relationship between economic activities and other aspects of culture including religion, politics and social organization. The effects of an economic system on the individual's behavior.
Prereq: ANT 135 Introduction to Cultural Anthropology and sophomore standing.

ANT 340 Language and Culture. Three sem hours
A study of the relation of language to social behavior and modes of thought in unilingual and multilingual speech communities.
Prereq: ANT 135 Introduction to Cultural Anthropology or ENG 320 and sophomore standing.

ANT 345 Field Methods in Community Studies. Three sem hours
For students interested in doing ethnographic research within the vicinity of the University by use of anthropological field techniques. Students will select topics for investigation by participant observation and other anthropological field methods. Discussion and examination of data from a cross-cultural perspective. Not open to those with credit in SOC 345 Field Methods in Community Studies.
Prereq: Nine hours in anthropology or department permission.

ANT 355 Anthropology of Women. Three sem hours
The role of women in diverse cultural contexts. Theories dealing with the position of women. Life histories of women constitute the basic reading in the course.
Prereq: ANT 135 Introduction to Cultural Anthropology.

ANT 360 Cultural Ecology. Three sem hours
The comparative study of patterns and processes of societal adaptation to the physical environment and to contacts with other societies at various levels of socio-political organization.
Prereq: ANT 135 Introduction to Cultural Anthropology.

ANT 377, 378, 379 Current Topics in Anthropology. One, two, three sem hours
An examination of topics in anthropology not normally covered in the curriculum in which the distinctive perspective and methodology of anthropology are emphasized. Students may elect this course several times as long as different topics are studied.
Prereq: ANT 135 Introduction to Cultural Anthropology.

ANT 387, 487 Cooperative Education I and II. Three sem hours each
Practical experience in industrial, business or government settings that provides job skills.
Prereq. for ANT 387: Twelve hours of anthropology, six of which must be at the 300 level or above.
Prereq. for ANT 487: ANT 387.

ANT 437 Kinship and Social Structure. Three sem hours
The comparative study of kinship and social structure traced from primitive through complex societies.
Prereq: Three courses in anthropology and junior standing.

ANT 439 Anthropological Theory. Three sem hours
Study of various theoretical approaches within the field of cultural anthropology. Theoretical perspectives of a number of European and American schools discussed from analytical and historical viewpoints.
Prereq: Three courses in anthropology and junior standing or department permission.

ANT 441 Seminar in Anthropology. Three sem hours
An intensive study of a problem of current research interest in anthropology.
Prereq: Four courses in anthropology and department permission.

ANT 477, 478, 479 Current Topics in Anthropology. One, two, three sem hours
An examination of topics in anthropology not normally covered in the curriculum in which the distinctive perspective and methodology of anthropology are emphasized. Students may elect this course several times as long as different topics are studied.
Prereq: ANT 135 Introduction to Cultural Anthropology.

ANT 497, 498, 499 Individual Reading and Research in Anthropology. One, two, three sem hours
Directed reading and research on problems within the field of anthropology.
Prereq: ANT 135 Introduction to Cultural Anthropology and department permission.
WOMEN'S STUDIES
Office: 719 Pray-Harrold

Coordinator: Margaret Crouch
Assistant Coordinator: Nadean Bishop
Professors: Nadean Bishop, Daryl Hafter, Rachel Harley, Sally McCracken, Calvin Michael, Marie Richmond-Abbott, Mary Robek, Ellen Schwartz, Karen Sinclair, Mary Vielhaber
Associate Professors: Barbara Brackney, Gwen Reichbach, Claudia Wasik, Myrna Yeakle
Assistant Professors: Betty Barber, Margaret Crouch, Kate McChuron, Sandy Norton, Francille Wilson
Instructor: Elizabeth Daumer

The Women's Studies program offers an interdisciplinary academic minor to provide intellectual perspective and life-enriching skills for women and men. Professors have designed interdisciplinary courses that document the contributions of women to history, literature, education, family and work in a cultural context. Insights into the psychology of women, the impact of women on social structures and how women influence contemporary society will be valuable to students in their personal and professional lives.

Individual courses in the women's studies program can be taken as electives to enrich any major.

Program of Study
Minor in Women's Studies

Advising is the responsibility of the program coordinator.

Advising coordinator: Margaret Crouch (487-1177)

Minor in Women's Studies
(Non-teaching)

A minor in women's studies may be earned by taking 21 semester hours.

<table>
<thead>
<tr>
<th>Minor in women's studies</th>
<th>...</th>
<th>21</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required courses</td>
<td>...</td>
<td>12</td>
</tr>
<tr>
<td>WMS 200 Introduction to Women's Studies</td>
<td>...</td>
<td>3</td>
</tr>
<tr>
<td>Choose three courses from the following four:</td>
<td>...</td>
<td>9</td>
</tr>
<tr>
<td>PSY 242 Psychology of Women</td>
<td>...</td>
<td>3</td>
</tr>
<tr>
<td>HIS 335 History of Women in Europe</td>
<td>...</td>
<td>3</td>
</tr>
<tr>
<td>LIT 443 Women in Literature</td>
<td>...</td>
<td>3</td>
</tr>
<tr>
<td>SOC 444 Sociology of Sex Roles</td>
<td>...</td>
<td>3</td>
</tr>
<tr>
<td>(The course not taken above may be included as one of the restricted electives)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Restricted electives</td>
<td>...</td>
<td>9</td>
</tr>
<tr>
<td>Choose nine credits from the following:</td>
<td>...</td>
<td>9</td>
</tr>
</tbody>
</table>

Women's Studies Courses

WMS 200 Introduction to Women's Studies.
Three sem hours
An overview of women in society. Historical and literary perspectives of women's contributions; socialization, roles and status in professional fields.

WMS 478, 479 Special Topics.
Two, three sem hours
Different subject matter will be taught each semester offered, including interdisciplinary courses in women's studies. Students may take these courses more than once as long as the subject matter is different, but no more than two such courses may be counted toward the minor in women's studies.

WMS 497, 498, 499 Independent Study in Women's Studies.
One, two, three sem hours
Advanced study on an individual basis in areas in which the program does not offer formal courses. These courses are restricted to juniors and seniors.
COLLEGE OF BUSINESS

Programs of Study and Course Descriptions

Dean: Stewart L. Tubbs

Departments

Accounting
Finance
Management
Marketing
Operations Research and Information Systems
The College of Business develops future business leaders by providing high quality, professionally accredited programs at the undergraduate and graduate levels and offering professional development education to the business community. The college values and promotes scholarly research, applications and an international perspective in its programs.

Professional preparation is provided for students who contemplate administrative careers in business, government agencies and public administration. College of Business programs emphasize the combination of tools, concepts and theory for practical application to business decisions and business problems.

The college also serves as an educational resource for business firms of regional, national and international scope and maintains alliances that are mutually beneficial to students, faculty and the college. Its faculty is professionally recognized for its contributions to the body of knowledge and understanding of management and business enterprise.

The bachelor of business administration degree is offered to students concentrating in any one of 10 undergraduate professional programs:

1. Accounting
2. Accounting Information Systems
3. Business Computer Systems
4. Economics*
5. Finance
6. General Business
7. Management
8. Marketing
9. Production and Operations Management
10. Real Estate

*Economics is offered in cooperation with the Department of Economics, College of Arts and Sciences.

Degree programs are described within the appropriate departments.

The joint bachelor of business administration—bachelor of arts degree in language and world business is offered in cooperation with the EMU World College.

Graduate programs lead to the master of business administration and master of science degrees in accounting, in computer-based information systems and in human resources and organization development. For descriptions of graduate programs and courses in the College of Business, consult the Graduate Catalog.

Accreditation of all undergraduate and graduate programs is by the American Assembly of Collegiate Schools of Business.

Admission to the College of Business is open to students applicants with 40 or more semester hours completed who are enrolled in the last of the 16 required courses to qualify for admission. Students who want to advance register should submit their applications to the College of Business Undergraduate Business Program Office by the deadlines listed below:

- Winter semester: November 1
- Spring and summer sessions: March 1
- Fall semester: March 1

Applications for each semester must be accompanied by a progress report, tabulation of transfer credit, transcripts or grade reports in order for the applicant to be approved or registered in business courses.

Students may obtain an application for admission to EMU's College of Business from the University's Undergraduate Admissions Office or by contacting the College of Business directly:

- Undergraduate Business Program Office
- College of Business
- Eastern Michigan University
- 401 Owen
- Ypsilanti, Michigan 48197
- (313) 487-2344

Students must be admitted by the University to be considered for admission to the College of Business. However, students admitted to the University are not automatically admitted to the College of Business.

To qualify for admission, students must have successfully completed 56 semester hours with a minimum cumulative grade point average of 2.25 in Fall 1986, 2.40 in Fall 1990 and 2.50 in Fall 1991 and beyond. In addition, the following courses (1 through 13) must be recognized as successfully completed by the University, and the business courses (9 through 13) must be completed with a minimum earned grade of "C -" in each:

1. ENG 121 English Composition
2. CTA 121 or 124 Fundamentals of Speech
3. A language or communication elective
4. MTH 118 and 119 Mathematical Analysis for Social Sciences I and II or MTH 120 Calculus I and MTH 122 Elementary Linear Algebra
5. ECO 201 and 202 Principles of Economics I and II
6. PLS 112 or 113 American Government or PLS 202 State and Local Government
7. Philosophy or religion (logic or ethics strongly recommended)
8. PSY 101 or 102 General Psychology
9. ACC 240 and 241 Principles of Accounting
10. LAW 293 Legal Environment of Business
11. ORI 215 Introduction to Business Information Systems
12. MGT 202 Business Communications
13. ORI 265 Business Statistics I
Business courses numbered 300 and above may not be taken by business students who have not completed the admission requirements. Students who fail to satisfy admission requirements will be involuntarily withdrawn from upper division business courses by the College. Refunds in effect at the date of withdrawal shall apply. Non-business majors will be asked to complete a Student Intake Sheet to confirm their program of study and preparation. No student majoring in a program outside of the College of Business will be given more than 30 semester hours of credit for courses offered in EMU’s College of Business. This limitation applies to those minoring in business as well as to those taking business courses for general elective credit. Non-business majors also must satisfy stated course prerequisites listed in this catalog or updated in the current Class Schedule Bulletin. Students must be of junior standing (56 or more credit hours) and of good academic standing (2.00 grade point average or better) to enroll in 300- and 400-level College of Business courses.

Second bachelor’s degree students must apply to the Graduate School and must be advised by the coordinator of advising for second bachelor’s degrees to be eligible to enroll in business courses. Second bachelor’s candidates working toward a business degree must formally apply for admission to the College of Business and must meet all college admission requirements.

Special students and non-matriculated students are not eligible to register in College of Business courses. Such students should contact the Undergraduate Business Program Office for advisement. Guest students may enroll for one semester only with approval in advance from the college. Guest student applicants should provide proof of guest status and completion of 56 semester hours, as well as completion of appropriate prerequisites for intended coursework. An unofficial transcript from the student’s parent institution is recommended and an official transcript may be required.

Advising is offered to all College of Business students in each major area. Faculty are available to discuss career opportunities and to assist students who are undecided about a major. Undergraduate pre-business students are encouraged to contact the Undergraduate Business Program Coordinator (Room 401 Owen) to receive guidance in selecting appropriate courses to meet College of Business admission requirements.

Academic standards require that students maintain a 2.00 grade point average. Students who fail to achieve this average in any term or to maintain a cumulative 2.00 GPA will be considered to be on probation by the College of Business. Two consecutive semesters of less than 2.00 earned or cumulative GPA may result in dismissal from the college.

To qualify for graduation, students must maintain a GPA of 2.00 in the business administration core and 2.00 in their major as well as maintaining a 2.00 overall GPA.

Baccalaureate Degree Curriculum for the Bachelor of Business Administration Degree

Advising Coordinator: Amelia Chan

The bachelor of business administration degree requires that students successfully complete a minimum of 50 semester hours in economics, psychology, mathematics and related areas of arts, sciences and technology within the minimum 124 hours required to qualify for a degree.

In the program of study outlined below, the number of basic studies credit hours in symbols and communication, mathematics, science and technology, social science and arts and humanities is indicated. Students must take the specified courses as shown. In some cases, courses taken to meet basic studies requirements also may satisfy specific program requirements, as in the case of economics and mathematics. Both course and semester hour requirements must be met in the practical arts.

Students must meet requirements for admission to the College of Business before enrolling in upper division (300- or 400-level) business courses.

The curriculum described meets the major and minor requirements for graduation. No outside minor is needed. Please refer to University basic studies requirements for additional information.

Area

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbolics and communication</td>
<td>14-17</td>
</tr>
</tbody>
</table>

One course in written composition

One course in speech communication

One course in one of the following areas:

- a. An upper-level course in written composition.
- b. An upper-level course in speech communication.
- c. A course in foreign language composition

Mathematics

**Option I**
- MTH 118 Mathematical Analysis for Social Science I
- MTH 119 Mathematical Analysis for Social Science II

**Option II**
- MTH 120 Calculus I
- MTH 122 Elementary Linear Algebra

Science and technology

- a. One course in physical science
- b. One course in life science
- c. One course in science or technology

Social science

- a. A course in U.S. government
- b. A course in history
- c. ECO 201 and ECO 202 Principles of Economics I and II

Arts and humanities

- a. An upper-level course in written composition.
- b. An upper-level course in speech communication.
- c. One course in one of the following areas:

Practical arts

<table>
<thead>
<tr>
<th>Practical arts</th>
<th>57-69</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business administration core</td>
<td>33</td>
</tr>
<tr>
<td>(All 200-level core courses must be completed prior to admission to the College of Business)</td>
<td></td>
</tr>
<tr>
<td>ORI 215 Introduction to Business Information Systems (satisfies computer literacy requirement)</td>
<td>3</td>
</tr>
<tr>
<td>ORI 265 Business Statistics I</td>
<td>3</td>
</tr>
<tr>
<td>ACC 240, 241 Principles of Accounting</td>
<td>6</td>
</tr>
<tr>
<td>MGT 202 Business Communication</td>
<td>3</td>
</tr>
</tbody>
</table>
The joint bachelor of business administration—bachelor of arts degree in language and world business is a double degree for undergraduates planning to enter a career in world business or international government and public administration. The major objective of the program is to prepare students for international careers with business and language skills, along with the knowledge needed to function effectively in the increasingly competitive world economy. The LWB joint degree provides students with both practical, on-site work experience as well as a thorough academic background in international affairs and world enterprise.

Students in the language and world business program receive two separate but integrated degrees: a bachelor of business administration with a major in any one of eight professional areas and a bachelor of arts in language and international trade. The language and international trade major trains students in French, German, Japanese or Spanish for business and professional situations. It also includes cultural and area studies. Students additionally may take examinations leading to certification in business French, German or Spanish.

All LWB joint degree students take part in a cooperative education internship. Qualified students are eligible for placement in companies in locations such as Paris, Rouen, Madrid and Stuttgart. Caracas and Tokyo are scheduled for placements also. Companies around the world that have hosted EMU interns include Mercedes-Benz, Volkswagen, Bosch, Siemens, Renault, ELF Petrochemical, Kiwi, Societe Generale de Surveillance, Foreign Trade Bank of Madrid, Unesa Corporation and others, including foreign branches of U.S. Fortune 500 companies. The goal is to place qualifying students abroad where they can use their language and business skills in an actual international professional environment. Students who do not go abroad are placed regionally and work one or two semesters for an employer in a staff support or administrative capacity.

The program is designed so that the student can finish the joint degree in 154 credit hours, including all free electives. This is ordinarily a 10-semester program. The curriculum described meets the major and minor requirements for graduation. No outside minor is needed.

1. Basic Studies

Please refer to University basic studies requirements for additional information.

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbolics and communication</td>
<td>14-16</td>
</tr>
<tr>
<td>One course in written composition</td>
<td></td>
</tr>
<tr>
<td>One course in speech communication</td>
<td></td>
</tr>
<tr>
<td>One elective course in foreign language</td>
<td></td>
</tr>
<tr>
<td>(See note in 2 below).</td>
<td></td>
</tr>
<tr>
<td>MTH 118 Mathematical Analysis for Social Sciences I or</td>
<td></td>
</tr>
<tr>
<td>MTH 122 Elementary Linear Algebra</td>
<td></td>
</tr>
<tr>
<td>MTH 119 Mathematical Analysis for Social Sciences II or MTH 120 Calculus I</td>
<td></td>
</tr>
<tr>
<td>Science and technology</td>
<td>9-10</td>
</tr>
<tr>
<td>a. One course in physical science</td>
<td></td>
</tr>
<tr>
<td>b. One course in life science</td>
<td></td>
</tr>
<tr>
<td>c. One course in science or technology</td>
<td></td>
</tr>
<tr>
<td>Social Science</td>
<td>15</td>
</tr>
<tr>
<td>GEO 110 World Regions</td>
<td></td>
</tr>
<tr>
<td>One course in U.S. Government</td>
<td></td>
</tr>
<tr>
<td>HIS 105 The World in the 20th Century or</td>
<td></td>
</tr>
<tr>
<td>HIS 101 or 102 History of Western Civilization.</td>
<td></td>
</tr>
<tr>
<td>ECO 201 and 202 Principles of Economics I and II</td>
<td></td>
</tr>
<tr>
<td>Arts and humanities</td>
<td>11-12</td>
</tr>
<tr>
<td>Two intermediate foreign language courses</td>
<td></td>
</tr>
<tr>
<td>or two advanced foreign language literature courses.</td>
<td></td>
</tr>
<tr>
<td>See note in 2 below.</td>
<td></td>
</tr>
<tr>
<td>One course in philosophy or religion</td>
<td></td>
</tr>
<tr>
<td>One course in art, dance, music or theatre arts.</td>
<td></td>
</tr>
</tbody>
</table>

Please note that at least one approved course in cross cultural or international studies must be completed in the process of meeting the basic studies requirements. Approved courses are designated with an asterisk (*) in the University basic studies section of the catalog.

| Physical education                        | 2         |
| Physical education activity courses       | 2         |

Note: Students can sometimes test out of certain basic studies courses for up to 30 hours by using the CLEP examinations. See page 10.

2. Specialized studies in language and the social sciences language component

(FRN, GER, JPN or SPN) 18*
FRN, GER, JPN or SPN 343 Composition
FRN, GER, JPN or SPN 361 for International Trade Business FRN, GER, JPN or SPN 446/447
An additional six hours in advanced literature, culture or technical language

*Note: Nine of these 18 hours may count toward basic studies provided they are in foreign language and advanced literature.

Language and international trade area studies ..................... 9
GEO/HIS 316 History and Geography of Modern Europe or ECO/HIS 317 or 326 History and Geography of Spanish America or Japan ................................................................. 6

One of the following .............................................................. 3

PLS 211 Introduction to Comparative Government,
PLS 212 Introduction to International Relations,
PLS 341 International Law, PLS 342 International Organization, PLS 354 Government and Politics of Canada, PLS 357 Contemporary Political Systems of Latin America, PLS 412 Comparative Legal Systems

3. Business core and business major .................................. 57-60

All 200-level core courses must be completed before admission to the College of Business. All core courses will have an international component.

Business core ...................................................................... 33
MGT 202 Business Communication ....................................... 3
ORI 215 Introduction to Business Information Systems ........ 3
(satisfies computer literacy requirement)
OR 265 Business Statistics I .................................................. 3
ACC 240 and 241 Principles of Accounting .......................... 6
LAW 293 Legal Environment of Business ........................... 3
FIN 350 Principles of Finance .............................................. 3
OR 374 Production/operations Management ....................... 3
MKT 320 Principles of Marketing ......................................... 3
MGT 386 Organization Theory and Development ................ 3
MGT 490 Business Policy .................................................... 3

Note: Students must seek admission to the College of Business before enrolling in its upper division (300- or 400-level) business courses.

Business major .................................................................... 24-27***

Choose one of the following:
Accounting
Business Computer Systems
Economics
Finance
General Business
Management
Marketing
Production/Operations Management
Real Estate

See 4.b. below regarding restricted electives.

4. Other international courses ............................................. 15-18

a. Required ......................................................................... 12

FLA 387 Cooperative Education
(Spring/Summer available) .................................................. 3
FLA 450 Seminar Language and World Business ................ 3
MKT 460 International Marketing ....................................... 3
ECO 370 Comparative Economic Systems or
ECO 480 International Economics ................................. 3

b. Choose two restricted electives from world business courses*** .............................................................. 3-6

MKT 375 International Transportation and Logistics .......... 3
MKT 376 Managing World Business Communications ...... 3
MKT 495 International Management .............................. 3
FIN 370 International Finance .............................................. 3

5. Free electives .................................................................. 0-6

Total* ................................................................................. 154

*Some students, including transfer students, may require a slightly higher number of hours depending on level of high school language courses.

All students eligible for admission to the College of Arts and Sciences and to the College of Business are eligible for the LWB joint degree. However, a placement test is required of all students of foreign language unless they successfully completed their last course in foreign language at EMU. This placement test is strongly advised also for students whose last course in a foreign language at EMU was completed more than one year before the semester for which they are currently enrolling.

Since this professional program is especially challenging, it is suggested that students enroll at the beginning of the freshman year. Advising is offered to all joint BBA-BA language and world business students, both in their major language and in their business major area. Faculty are available to discuss career opportunities and to assist students who are undecided about a major. Foreign language advising is available from appropriate advising coordinators who will recommend specific courses required in each language pattern.
ACCOUNTING
Office: 406 Gary M. Owen Building

Department Head: Mohsen Sharifi
Professors: S. Thomas Ciancioio, E.A. Devine, Chandra P. Pathak, Mohsen Sharifi
Associate Professors: George S. Clark, John W. Keros, D. Robert Okopny, Andrew Snyir
Assistant Professors: Linda J. Burkovich, Susan C. Kattelus, Zafar Khan, Geraldine M. Kruse, Sue Ravenscroft, David Senteney
Instructor: Gary B. McCombs

The Department of Accounting prepares students for professional careers related to the fields of accounting and accounting information systems. Within each of these major areas, students can develop their expertise in a variety of areas including financial accounting, budgeting, managerial accounting, accounting information systems, internal auditing, governmental accounting, taxes and auditing. Because of the need for good communication in business, students are encouraged to elect courses in English composition and speech beyond the basic requirements.

Programs of Study

Majors:
Accounting
Accounting information systems

Minors:
Accounting

Advising assistance, both academic and career, is provided by the faculty and is available in the department office Monday through Friday while school is in session, or by appointment.

Advising coordinator: Mohsen Sharifi

Graduate study leads to the master of science degree in accounting (M.S.A.). The M.S.A. degree program and courses are described in the Graduate Catalog.

Major in Accounting

Students majoring in accounting are prepared for professional careers in three major areas:

Public accounting, which leads to service as a Certified Public Accountant, primarily in the audit field. CPAs are independent professionals who provide opinions on the fairness of financial statements prepared for investors. They also render tax service and management advisory service to clients.

Industrial accounting, which leads to careers in financial accounting, budget analysis, cost accountancy and internal auditing. The basic function of an industrial accountant is to accumulate and report financial data that help management plan and control operations.

Institutional or governmental accounting, which leads to positions in non-profit organizations and local, state and federal governmental agencies. These professionals provide financial information about the effectiveness of operations, similar to industrial accountants, review tax returns, analyze cost reportson projects funded by government and assist regulatory commissions in monitoring private industry and individual businesses.

Through an internship program, students with good academic records have an opportunity to work in public accounting or industry. These internships provide education, salary and exposure to professional experience.

Upon graduation, accounting majors who wish to become Certified Public Accountants (public accounting), Certified Management Accountants (industrial or governmental accounting) or Certified Internal Auditors (industrial or governmental accounting) will meet the educational requirements and qualify to sit for national examinations that test for entrance into the above professional organizations.

To be completed are the general requirements for the bachel of business administration degree, the academic major requirements below, and sufficient electives to meet the minimum of 124 semester hours for graduation.

Sem hours
Practical arts ........................................... 5
Requirements (business administration core, page 209).......................... 2
Academic major in accounting ........................................... 24
ACC 340 Intermediate Accounting .................................... 1
ACC 341 Intermediate Accounting .................................... 1
ACC 342 Managerial Cost Accounting .................................. 1
ACC 344 Tax Accounting ............................................... 3
ACC 356 Accounting Information Systems ............................ 3
ACC 445 Auditing ........................................... 3
Restricted electives ........................................... 8
Choose two courses from the following:
ACC 346 Governmental Accounting, ACC 440
Advanced Accounting, ACC 442 Advanced Cost Accounting, ACC 444 Advanced Tax Accounting, ACC 447 Contemporary CPA Problems, ACC 448 EDP Auditing and Controls, ACC 450 Internal Auditing, ACC 475 International Accounting, ACC 479 Special Topics in Accounting, ACC 499 Directed Studies

Note: Students planning on sitting for the CPA examination in Michigan should elect ACC 346 Governmental Accounting or ACC 440 Advanced Accounting.

Major in Accounting Information Systems

Accounting information systems is a four-year program designed to provide a bachelor's degree with a concentration in accounting and computer-based information processing. The program combines the coursework required for a degree in accounting with numerous computer courses.

Eastern Michigan University is one of only a few universities in the country offering this unique degree. Accounting information systems majors who obtain this degree are well-prepared for careers in a dynamic and ever-changing environment, where knowledge of both accounting and computer information processing is fast becoming mandatory. Possible career choices include computer systems design, EDP auditing, computer security analysis, internal auditing, public accounting, government accounting and managerial accounting.
To be completed are the general requirements for the bachelor of business administration degree, the academic major requirements below, and sufficient electives to meet the minimum of 124 semester hours for graduation.

<table>
<thead>
<tr>
<th>Accounting Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 130 Accounting for Non-Business Majors.</td>
</tr>
<tr>
<td>Introduction to use of numerical data, in particular financial information generated in an organization, with special emphasis on the content and interpretation of this information in the decision-making process.</td>
</tr>
<tr>
<td>May not be substituted for ACC 240. Not open to students with credit for ACC 240 or ACC 241.</td>
</tr>
</tbody>
</table>

| ACC 240 Principles of Accounting. | Three sem hours |
| Thorough study of the accounting cycle; how accounting serves to develop useful information about economic organizations. Problems of valuation and statement presentation of selected assets and liabilities. Problems of accounting for ownership equity. |

| ACC 241 Principles of Accounting. | Three sem hours |
| Expense analysis and cost accounting; use of accounting data to achieve managerial goals; influence of taxes on business decisions. Problems that arise in interpreting accounting data. |
| Prereq: ACC 240 Principles of Accounting. |

| ACC 244 Personal Tax Accounting. | Two sem hours |
| Introduction to federal and state income and social security tax problems of individuals. Practice on preparation of individual tax returns. Credit toward a degree will not be permitted for both ACC 244 and ACC 344 Tax Accounting. (Business education majors may substitute this course for ACC 344 with permission of their department head.) |
| Prereq: ACC 240 Principles of Accounting or junior standing. |

| ACC 246 Accounting for Public Administrators. | Three sem hours |
| Surveys the use of accounting to manage a public organization. Basic accounting principles, program budgeting and the construction of internal control systems. |

| ACC 287, 288 Cooperative Education in Accounting. | Three sem hours |
| One term of full-time employment at a business or public organization in an accounting position chosen for imparting a practical experience in accounting. Use on an accounting major or minor is not permitted. Graded credit/no credit. Admittance by application only. |
| Prereq: Department permission. For ACC 288, completion of ACC 287. |

| ACC 340 Intermediate Accounting. | Three sem hours |
| Review of recording and reporting procedures; accounting concepts and theories guiding the valuation and classification of current assets, plant assets, intangible assets and current liabilities. |
| Prereq: ACC 241 Principles of Accounting. |

| ACC 341 Intermediate Accounting. | Three sem hours |
| Capital stock, rights, options and retained earnings; long term liabilities; income tax allocation; long term investments; prior period adjustments; funds flow; price level accounting; consignments; installment sales. |
| Prereq: ACC 340 Intermediate Accounting. |

| Practical arts ............................................. | 69 |
| Requirements (business administration core, see section under College of Business). |
| Academic major in accounting information systems ....... | 36 |
| ACC 340 Intermediate Accounting I ................................ | 3 |
| ACC 341 Intermediate Accounting II ................................ | 3 |
| ACC 342 Managerial Cost Accounting ................................ | 3 |
| ACC 344 Tax Accounting ........................................ | 3 |
| ACC 356 Accounting Information Systems ...................... | 3 |
| ACC 445 Auditing ............................................. | 3 |
| ACC 448 EDP Auditing and Controls ............................ | 3 |
| ACC 456 Accounting Information Systems Implementation and Projects .................................. | 3 |
| ORI 217 Software Design and Programming Techniques .................. | 3 |
| ORI 219 COBOL Programming .................................... | 3 |
| ORI 315 Applied Data Structures ................................ | 3 |
| ORI 419 Data Base Management Systems .......................... | 3 |
| Restricted electives ........................................... | 0 |
| Students may elect courses in other areas of interest. |
| Note: Students planning on sitting for the CPA examination in Michigan should elect ACC 346 Governmental Accounting or ACC 440 Advanced Accounting. |

<table>
<thead>
<tr>
<th>Accounting Minor (Non-teaching)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sem hours</td>
</tr>
<tr>
<td>Minor in accounting (for non-business majors) ........</td>
</tr>
<tr>
<td>1. Required courses ..................................................</td>
</tr>
<tr>
<td>ACC 240, 241 Principles of Accounting ............................</td>
</tr>
<tr>
<td>ACC 340, 341 Intermediate Accounting ............................</td>
</tr>
<tr>
<td>2. Restricted electives ...............................................</td>
</tr>
<tr>
<td>Choose three courses from the following: ACC 342 Managerial Cost Accounting, ACC 344 Tax Accounting, ACC 346 Governmental Accounting, ACC 356 Accounting Information Systems, ACC 440 Advanced Accounting, ACC 442 Advanced Cost Accounting, ACC 444 Advanced Tax Accounting, ACC 450 Internal Auditing, ACC 475 International Accounting</td>
</tr>
</tbody>
</table>

**Prerequisites:**
- ACC 240: Principles of Accounting
- ACC 241: Intermediate Accounting
ACC 342 Managerial Cost Accounting. Three sem hours.
Accounting information for use in planning objectives and controlling operations. A framework for measuring managerial performance is developed through an analytic treatment of cost behavior under dynamic conditions by employing such devices as cost-volume-profit relationships, flexible budgeting and standards. Prereq: ACC 241 Principles of Accounting.

ACC 344 Tax Accounting. Three sem hours.
History of the income tax; the tax legislative process; tax research; income and loss realization and recognition; capital gains and losses; exclusions; deductions; losses; exemptions; rates, personal tax returns. Prereq: ACC 241 Principles of Accounting.

ACC 346 Governmental Accounting. Three sem hours.
Accounting philosophy for non-profit organizations; principles of fund accounting; the budget process including program budgeting; institutional (college, hospital, welfare agency) accounting; internal control; data processing. Prereq: ACC 241 Principles of Accounting.

ACC 356 Accounting Information Systems. Three sem hours.
Concepts of a responsive information system, including principles of design, profitability and responsibility accounting and control. Description of typical accounting systems and procedures within the business enterprise. Prereq: ORJ 215 Introduction to Business Information Systems and ACC 342 Managerial Cost Accounting or department permission.

ACC 440 Advanced Accounting. Three sem hours.
Consolidation accounting; partnership organization, change and liquidation; fiduciary accounting; introduction to governmental accounting. Prereq: ACC 341 Intermediate Accounting.

ACC 442 Advanced Cost Accounting. Three sem hours.
Cost concepts on an advanced level such as standard costs and variance analysis; responsibility accounting, direct costing, overhead allocation, breakeven; product pricing through return on investment methods; divisional income measurement; forecasting with statistical models; capital budgeting; applications of mathematics to cost accounting problems. Prereq: ACC 342 Managerial Cost Accounting.

ACC 444 Advanced Tax Accounting. Three sem hours.
Tax law applicable to partnerships and corporations; operation distributions, reorganization and liquidation. Prereq: ACC 344 Tax Accounting.

ACC 445 Auditing. Three sem hours.
Audit standards, professional responsibility, ethics, internal control evaluation, statistical sampling and audit of EDP systems. Prereq: 18 semester hours of accounting, including ACC 341 Intermediate Accounting and ACC 356 Accounting Information Systems.

ACC 447 Contemporary CPA Problems. Three sem hours.

ACC 448 EDP Auditing and Controls. Three sem hours.
A comprehensive coverage of electronic data processing (EDP) auditing from both a theoretical and pragmatic point of view with special emphasis on control features of a system and its purpose. Prereq: ACC 356 Accounting Information Systems and ACC 444 Auditing or department permission.

ACC 450 Internal Auditing. Three sem hours.
Introduction to the profession of internal auditing. Includes professional standards, techniques, scientific methods, reporting, operational auditing, and internal audit management. Prereq: ACC 341 Intermediate Accounting or permission of instructor.

ACC 456 Accounting Information Systems Implementation and Projects. Three sem hours.
A capstone course for the accounting information systems major designed to develop expertise in the implementation of an accounting information system. Prereq: ACC 356 Accounting Information Systems and ORJ 419 Data Base Management Systems, or department permission.

ACC 475 International Accounting. Three sem hours.
Introduction to accounting in an international environment. Includes the study of environmental factors, performance evaluation, financial reporting and specific accounting and auditing problems. Prereq: ACC 341 Intermediate Accounting II and ACC 342 Managerial Cost Accounting or departmental permission.

ACC 479 Special Topics in Accounting. Three sem hours.

ACC 489 Business Internship. Three sem hours.
Directed full-time work experience in the accounting phase of business organization. This course may be repeated once for additional credit. Graded credit/no credit. Prereq: Department permission. To be used as an elective only; does not apply on a major or minor.

ACC 491 Accounting Honors Thesis. One sem hour.
A directed studies course for accounting honors students only. An in-depth research thesis or project under the direction of an accounting faculty member is required with an oral examination upon completion of the thesis. Prereq: Final semester in undergraduate accounting Honors Program. Not to be used as a required or restricted accounting elective.

ACC 499 Directed Studies. Three sem hours.
Directed study of a problem or group of problems in accounting not otherwise treated in departmental courses. Prereq: Department permission.
FINANCE
Office: 404 Gary M. Owen Building

Department Head: Asrat Tessema (Acting)
Professors: Ramesh C. Garg, Asrat Tessema
Associate Professors: Alahassane Diallo, Ronald E. Hutchins, Susan Moeller, C. Wayne Weeks
Assistant Professors: Robert Kiss, Patrick Shen

The Department of Finance prepares students for professional careers related to the fields of finance and real estate. Within each of these major areas, students can develop their expertise in a variety of areas including corporate financial analysis, budgeting, banking, investments and appraisal. Because of the need for good communication in business, students are encouraged to elect courses in English composition and speech beyond the basic requirements. Also recommended is ORI 465 Advanced Business Statistics.

Programs of Study
Majors:
- Finance
- Real estate

Minors:
- Finance
- Real estate

Advising assistance, both academic and career, is provided by the faculty and is available Monday through Friday while school is in session, or by appointment.

Advising coordinator: Asrat Tessema

Graduate study leads to the master of business administration with concentration in finance.

Major in Finance

The finance major is designed for students interested in planning and managing assets and the acquisition of funds for investment by corporations, non-profit organizations, governmental units and financial institutions.

To be completed are the general requirements for the bachelor of business administration degree, the academic major requirements below, and sufficient electives to meet the minimum of 124 semester hours for graduation.

Sem hours

Practical arts ................................................................. 56-60

Academic major in finance ........................................ 24
1. Required courses ......................................................... 12
   RES 210 Real Estate Principles and Practices ................. 3
   RES 310 Real Estate Finance ......................................... 3
   RES 320 Real Estate Appraisal ..................................... 3
   RES 340 Real Estate Investments ................................. 3

2. Restricted electives .................................................. 6
   Choose two courses from the following:
   RES 420 Real Estate Brokerage, RES 430 Real Estate Property Management, RES 450 Property Development and Management, RES 479 Special Topics, FIN 479 Special Topics

3. Restricted cognate electives ...................................... 6
   Choose two courses from the following:
   ACC 342 Managerial Cost Accounting, ACC 344 Tax Accounting
   GES 315 Land Use Planning
   LAW 455 Real Estate Law
   MGT 481 Small Business Management
   MKT 261 Contemporary Selling
   ORI 219 COBOL Programming
   FIN 358 Financial Statement Analysis
Minors Offered in Finance

Finance Minor

Sem hours
Minor in finance (for non-business majors).......................... 21
1. Required courses .......................................................... 12
ACC 240, 241 Principles of Accounting ............................. 6
FIN 350 Principles of Finance .......................................... 3
FIN 359 Intermediate Financial Theory ............................. 3
2. Restricted electives ..................................................... 9
Choose three courses from the following:
FIN 354 Investments, FIN 358 Analysis of Financial
Statements, FIN 450 Problems in Financial Management,
FIN 451 Portfolio Management, FIN 453 Commercial.....
Banking

Real Estate Minor

Sem hours
Minor in real estate (for non-business majors).................... 21
1. Required courses .......................................................... 12
ACC 240 Principles of Accounting ..................................... 3
RES 210 Real Estate Principles and Practices ..................... 3
RES 310 Real Estate Finance ........................................... 3
RES 340 Real Estate Investments ..................................... 3
2. Restricted electives ..................................................... 9
FIN 350 Principles of Finance
RES 320 Real Estate Appraisal, RES 420 Real Estate
Brokerage, RES 430 Real Estate Property Management,
RES 450 Property Development and Management

Finance Courses

FIN 287, 387 Cooperative Education
in Finance. Three sem hours
Four months of full-time employment at a business or public
organization in a finance position chosen for imparting a practical
experience in finance. Use on a finance major or minor permitted.
Offered on a graded credit/no credit basis. Admittance by application
only.
Prereq: ACC 240 Principles of Accounting and department per-
mission. For FIN 387, completion of FIN 287.

FIN 350 Principles of Finance. Three sem hours
Financing and organizing business enterprises, interpreting finan-
cial statements, sources and uses of funds, financing and sale of
securities, income disbursements and dividend policies.
Prereq: ACC 241 Principles of Accounting and ORI 265 Business
Statistics I.

FIN 352 Financial Management
for Entrepreneurs. Three sem hours
A continuation of FIN 350 Principles of Finance, but with an
emphasis on financial management for growth of the small-
to medium-sized firm. Working capital management, short-term
financing, equipment financing and other topics pertinent to the
growth firm.
Prereq: FIN 350 Principles of Finance.

FIN 354 Investments. Three sem hours
Development and placement of investments in business and the
relationship to economic, legal and social institutions. Bonds,
stocks, security markets, security market operation, new security
issues, investment policies and U.S. government, state and munici-
pal obligation.
Prereq: FIN 350 Principles of Finance.

FIN 357 Financial Markets. Three sem hours
The operation and behavior of capital markets and financial inter-
mediaries as sources of investment capital to the business firm.
Liability management and investment portfolio behavior of financial
market participants. Flow of funds through money and capital
markets, and investment characteristics of securities traded. Tem-
structure of yields, yield differentials and the valuation of debt and
equity securities.
Prereq: FIN 350 Principles of Finance.

FIN 358 Analysis of Financial
Statements. Three sem hours
Analysis and interpretation of the financial statements and reports
of various types of business and industries. Effect of price-level
changes.
Prereq: FIN 350 Principles of Finance.

FIN 359 Intermediate Financial Theory. Three sem hours
Focuses on the theory of financial management and analysis of
financial decisions made by financial managers. The financial
decisions include capital structure, dividend policy, lease or buy
mergers and issuance of new securities.
Prereq: FIN 350 Principles of Finance.

FIN 450 Problems in Financial
Management. Three sem hours
Deals with application of financial management theory. Emphasis
is placed on problem solving in differing economic and situational
environments using various quantitative tools. Case analysis and
class discussions are emphasized.

FIN 451 Portfolio Management. Three sem hours
An advanced course for professional investment managers cover-
ing economic policy and forecasting, security valuation, technical
analysis and portfolio methods and procedures.
Prereq: FIN 354 Investments or equivalent.

FIN 453 Commercial Banking. Three sem hours
Practices, policies and problems of commercial bank manage-
ment and operation, capital adequacy, loan and investment policy, liquidity
and profit maximization.
Prereq: FIN 350 Principles of Finance.
FIN 489 Finance Internship. Three sem hours
Directed full-time work experience in the finance phase of a business or public organization. Use on a finance major or minor not permitted. May be repeated once for additional credit. Graded credit/no credit. Admittance by application only. Prereq: Department permission.

FIN 499 Independent Study. Three sem hours
Directed study of a problem or group of problems in finance. Prereq: Department permission.

Real Estate Courses

RES 210 Real Estate Principles and Practices. Three sem hours
Survey of real estate marketing, valuation, financing, contracts, closings, investing, land descriptions, rights and interests, fair housing, taxes, leases, forms of ownership, land use and planning, and careers in real estate.

RES 310 Real Estate Finance. Three sem hours
Real estate financing techniques, legal nature, alternative mortgage instruments, main sources of real estate credit, loan underwriting procedures, the integration of financing techniques to maximize investment goals, and analytical procedures. Prereq: RES 210 Real Estate Principles and Practices and FIN 350 Principles of Finance or department permission.

RES 340 Real Estate Appraisal. Three sem hours
Issues in real estate investment analysis, market research, forecasting cash flows, income tax considerations, measurement of investment performance, risk analysis and control, and real estate securities. Prereq: FIN 350 Principles of Finance or department permission.

RES 420 Real Estate Brokerage. Three sem hours
Development of marketing skills, communication, motivation, dealing with objections, sales process, presentations, advertising, qualifying, product knowledge, negotiating, sales organization, and technical aspects of selling. Prereq: RES 210 Real Estate Principles and Practices or department permission.

RES 387, 487 Cooperative Education in Real Estate. Three sem hours each
Four months of full-time employment at a business or public organization in a real estate position chosen for imparting a practical experience in real estate. Use on a real estate major or minor not permitted. Offered on a graded credit/no credit basis. Admittance by application only. Prereq: Completion of six hours in real estate. For RES 487, completion of RES 387.

RES 430 Real Estate Property Management. Three sem hours
Managing residential, commercial and industrial rental properties including houses, apartments, offices, stores, shopping centers, farm properties and special purpose properties. Merchandising space, tenant selection, tenant relations, maintenance, owner relations and open housing laws. Prereq: RES 210 Real Estate Principles and Practices or department permission.

RES 450 Property Development and Management. Three sem hours
Market analysis and planning for land developments for various types of uses: residential, campus, civic centers, resorts, mobile home parks, offices, professional office parks, housing for the elderly, urban renewal, shopping centers. Prereq: RES 310 Real Estate Finance or department permission.

RES 499 Directed Studies in Real Estate. Three sem hours
Directed study of a problem or group of problems in real estate. Prereq: Department permission.
MANAGEMENT
Office: 466 Gary M. Owen Building

Department Head: Raymond E. Hill
Professors: P. Nick Blanchard, Richaudr Camp, James H. Conley,
Raymond E. Hill, Charles Hoitash, Gregory Huszczo,
Jean McEnery, Floyd A. Patrick, Stewart L. Tubbs,
John Waltman, Mary E. Vielhaber
Associate Professors: Fraya Andrews, Pradeep Chowdry,
Robert P. Crowner, Jagdish Danak, Denise Hoyer,
Lorraine Hendrickson, David Victor
Assistant Professors: Nicholas Beltsos, Jean Bush-Bacelis,
Jack Nightingale

The Management Department seeks to prepare students for leadership roles in business and non-business organizations.

Its objectives are:
- To increase understanding and application of the behavioral sciences as related to planning and communication, organizational design and development, implementation and performance measurement to maximize human output and self-fulfillment;
- To provide understanding of the roles and responsibilities of managers for assuming social and environmental obligations.

Programs of Study

Majors:
- General business
- Management

General Business Concentrations:
- Supervisory management
- Entrepreneurship

Management Concentrations:
- Human resource management
- Management strategy and control

Minors:
- General Business
- Management

Advising assistance, both academic and career, is provided by the faculty and is available in the department office Monday through Friday while school is in session, or by appointment.

Advising Coordinator: Raymond E. Hill

Graduate study leads to the master of science degree in human resource management/organization development (HRM/OD). The HRM/OD degree program and courses are described in the Graduate Catalog.

Major in General Business

The general requirements for the bachelor of business administration degree include a minimum of 124 semester hours for graduation as stipulated in the catalog.

Options are also available in supervisory management and in entrepreneurship. The supervisory management program provides the student with a functional background appropriate to first-level supervision. The entrepreneurship program develops an integrated set of skills that will provide a foundation upon which a new business venture can be started, managed and developed.

Students who do not wish to specialize in one functional area of business may elect the general business major, programs for which may be tailored for general management and for executive development of the person currently employed.

Sem hours

Practical arts

Requirements (business administration core, see College of Business section).

A. Supervisory management option

1. Required business courses

MGT 360 (formerly MGT 281/MGT 460) Basic Supervision

MGT 384 Human Resource Management

MGT 402 Business Report Writing or MGT 403 Managerial Communication

MGT 480 Management Responsibility in Society

2. Restricted electives

Choose 12 credits from the following:

MGT 390 Introduction to Strategic Management,

MGT 482 Compensation Administration, MGT 483 Staffing Organizations, MGT 484 Management-Union Relations, MGT 485 Human Resource Development,

MGT 486 Organizational Development

(In addition to the restricted electives noted above, up to six semester hours of other business courses as suggested below may be used to meet special occupational needs of the student in the supervisory management option. Department head approval is necessary for course substitutions not listed as part of this program. Only one 200-level course will be accepted as satisfying restricted electives in supervisory management)

Accounting and finance—Government and non-profit sectors:

ACC 246 Accounting for Public Administrators,

ACC 346 Governmental Accounting

LAW 479 Special Topics in Business

Accounting and finance—Banking:

FIN 358 Analysis of Financial Statements, FIN 453 Commercial Banking

RES 210 Real Estate Principles or RES 310 Real Estate Finance or RES 340 Real Estate Investments

Marketing and law:

MKT 261 Contemporary Selling, MKT 363 Retailing

LAW 403 Labor Law

Business education:

BE 395 Office Administration, BE 396 Records Administration

Operations research and information systems:

ORI 219 COBOL Programming, ORI 390 Management Systems

B. Entrepreneurship option

1. Required courses

MGT 388 Introduction to Entrepreneurship

MKT 342 Managerial Cost Accounting

FIN 352 Financial Management for Entrepreneurs

MKT 473 Marketing and Product Innovation

ORI 474 Productivity Management

2. Restricted electives
Students will choose nine hours of electives with assistance from a member of the Faculty Advisory Board of the entrepreneurship program. Up to three hours may be taken outside the College of Business if it clearly pertains to the student's goals. Students are strongly encouraged to take LAW 393 Law of Business Enterprises as one of their restricted electives. Those considering real estate are encouraged to investigate real estate courses.

C. Academic major in general business .................................. 24
1. Required business courses ............................................. 9
   ACC 342 Managerial Cost Accounting .................................. 3
   MKT 368 Marketing Strategy ............................................ 3
   MGT 384 Human Resource Management .................................. 3
2. Restricted electives ...................................................... 15
   Choose five courses, approved by the advising coordinator, from the following areas (a minimum of six hours must be at the 400 level from at least three of the following departments):
   Accounting and Finance
   Management Marketing
   Operations Research and Information Systems

Major in Management

The general requirements for the bachelor of business administration degree include a minimum of 124 semester hours for graduation as stipulated in the catalog. Students majoring in management are provided career concentration choices in management strategy and control and human resource management.

Management strategy and control stresses goal formulation and implementation in the context of strategic planning and control. Human resource management focuses on utilizing human resources in business organizations with consideration of goals compatible with both individuals and organizations. Students are equipped for line supervisory and staff personnel assignments.

Sem hours

Practical arts .................................................................................. 57
Requirements (business administration core, see College of Business section)
A. Management strategy and control option .................................. 24
1. Required business courses ..................................................... 12
   MGT 390 Introduction to Strategic Management ..................... 3
   MGT 384 Human Resource Management .................................. 3
   MGT 480 Social Responsibility .............................................. 3
   MGT 495 Comparative Management Systems .......................... 3
2. Restricted electives ............................................................. 12
   Choose four courses from the following: MGT 402 Business Report Writing or MGT 403 Managerial Communication, MGT 481 Small Business Management, MGT 486 Organizational Development
   ORI 390 Management Systems
   ACC 342 Managerial Cost Accounting
   MKT 368 Marketing Strategy
   FIN 354 Investments
   LAW 403 Labor Law
   RES 210 Real Estate Principles or RES 310 Real Estate Finance or RES 340 Real Estate Investments
B. Human resource management option .................................... 24

1. Required business courses ..................................................... 12
   MGT 384 Human Resource Management .................................. 3
   MGT 480 Management Responsibility in Society ........................ 3
   MGT 486 Organizational Development ..................................... 3
   MGT 496 Human Resource Management .................................. 3
2. Restricted electives ............................................................. 12
   Choose four courses from the following:
   MGT 386 Organizational Behavior and Theory, MGT 402 Business Report Writing, MGT 403 Managerial Communication: Theory and Application, MGT 483 Staffing Organizations
   MKT 360 Principles of Marketing
   ORI 215 Introduction to Business Information Systems
   ORI 219 COBOL Programming or any business course approved by the Management Department

Minors Offered in the Department of Management

General Business Minor
   (Non-teaching)

General business minor (for non-business majors) .................................. 21
1. Required courses .................................................................. 9
   ACC 240, 241 Principles of Accounting ..................................... 6
   LAW 293 Legal Environment of Business ................................... 3
2. Restricted electives ............................................................. 12
   Choose four courses from the following:
   FIN 350 Principles of Finance, FIN 352 Investments
   LAW 393 Law of Business Enterprises
   MGT 202 Business Communications, MGT 386 Organizational Behavior and Theory, MGT 402 Business Report Writing, MGT 403 Managerial Communication: Theory and Application, MGT 483 Staffing Organizations
   MKT 360 Principles of Marketing
   ORI 215 Introduction to Business Information Systems
   ORI 219 COBOL Programming or any business course approved by the Management Department

Management Minor
   (Non-teaching)

Management minor (for non-business majors) .................................. 21
1. Required courses ............................................................. 9
   ACC 240 Principles of Accounting .......................................... 3
   MGT 360 Principles of Marketing ........................................... 3
   MGT 386 Organizational Behavior and Theory .......................... 3
2. Restricted electives ............................................................. 12
   Choose four courses from the following:
   MGT 202 Business Communications, MGT 384 Personnel Administration, MGT 402 Business Report Writing, MGT 403 Managerial Communication: Theory and Application, MGT 481 Small Business Management, MGT 482 Compensation Administration, MGT 483 Staffing Organizations, MGT 484 Management-Union Relations, MGT 485 The Training Function in Organizations, MGT 486 Strategies for Organizational Development, MGT 495 Comparative
Management Courses

MGT 202 Business Communications. Three sem hours
Study of principles, elements and practices underlying administrative communication. The thinking and creative processes involved in problem solving. The psychology, planning and transmittal of business information.
Prereq: CTA 121 or 124 Fundamentals of Speech and ENG 121 English Composition.

MGT 360 Supervisory Theory and Practice. Three sem hours
A study of basic supervision and practical techniques of leadership for those aspiring to management positions or recently appointed to first-line management. Not open to students with credit in MGT 386 Personnel Administration. Does not apply toward management major or minor.

MGT 362 Managing World Business Communication. Three sem hours
This course focuses on such issues as global management in a cultural context, breaking down international business barriers, motivation in a global context, management of culture shock, international conflict management, management and cultural synergy, and business communication practice and traditions in specific national settings.

MGT 384 Human Resource Management. Three sem hours
Industrial relations functions in business organization. Recruitment, selection, placement, training, motivation and appraisal of personnel; the scientific approach to the solution of practical problems of industrial manpower utilization.

MGT 386 Organizational Behavior and Theory. Three sem hours
The study of behavioral problems in administration. Individual, group, intergroup and organizational behavior under dynamic environment conditions.

MGT 387, 487 Cooperative Education in Management. Three sem hours
Four months of full-time employment at a business or public organization in a management position chosen for imparting a practical experience in management. Use on a management major or minor not permitted. Graded credit/no credit. Admittance by application only.
Prereq: Completion of three hours in management. For MGT 487, MGT 387.

MGT 388 Introduction to Entrepreneurship. Three sem hours
This course emphasizes the role of entrepreneurs in making integrated managerial and growth decisions for an enterprise from the initial start-up through various evolutionary stages of growth.

MGT 390 Introduction to Strategic Management. Three sem hours
A study of the environment in which managers operate, using cases and exercises. The development of decision making and other analytical skills.
Prereq: MGT 386 Organization Theory and Development and FIN 350 Principles of Finance (FIN 350 may be taken concurrently)

MGT 402 Business Report Writing. Three sem hours
Study of principles and practices of business report writing required of men and women in business, industry, education and government. Concepts, their illustrations and applications. The creative and functional aspects in understanding the problem, gathering and organizing data and presenting reports for management, employees and the public.
Prereq: MGT 202 Business Communications.

MGT 403 Managerial Communication: Theory and Application. Three sem hours
A theoretical framework of key managerial communication concepts; skills used to diagnose communication problems and to communicate corporate policies.
Prereq: MGT 202 Business Communications, MGT 386 Organization Theory and Development or department permission.

MGT 479 Special Topics. Three sem hours
Selected topics from the field of management.
Prereq: MGT 386 Organization Theory and Development or department permission.

MGT 480 Management Responsibility in Society. Three sem hours
Social, legal and moral pressures of external and community groups on business operations; management's role of responsibility and leadership in interacting with these forces and reducing and resolving conflicts with them.
Prereq: Senior standing or department permission.

MGT 481 Small Business Management. Three sem hours
A study of the major concepts and fundamental principles involved in the management of a small business enterprise. The role of the small firm in the national economy; the managerial considerations and problems confronting the entrepreneur in establishing such a venture.
Prereq: Completion of all business junior-level core courses.

MGT 482 Compensation Administration. Three sem hours
Basic concepts of design and methodology for wage and salary administration in an organization. Fundamental considerations in evaluating jobs and positions. Compensation methods and wage incentive systems.
Prereq: MGT 384 Personnel Administration and MGT 386 Organization Theory and Development or department permission.

MGT 483 Staffing Organizations. Three sem hours
The staffing of organizations; skills needed in human resource planning, recruitment, job analysis, selection techniques and evaluation.
Prereq: MGT 384 Personnel Administration.
MGT 484 Management-Union Relations. Three sem hours
Management strategy and techniques for conducting effective
management-union relationships and negotiations; contract ad-
ministration for both industrial and non-industrial organizations.
Prereq: MGT 384 Personnel Administration and MGT 386 Or-
ganization Theory and Development or department permission.

MGT 485 Organizational Behavior
and Theory. Three sem hours
Determination of training needs; development of training objec-
tives; selection and development of resources for appropriate
training experiences; implementation of training program evalua-
tion.
Prereq: MGT 384 Personnel Administration or department per-
mission.

MGT 486 Organizational Behavior
and Theory. Three sem hours
A practical approach to organizational renewal, or the strategies
used to affect change in organizations operating under dynamic
conditions, including the role of the change agent.
Prereq: MGT 386 Organization Theory and Development or
department permission.

MGT 488 Small Business Management
Field Study. Three sem hours
Detailed study of an actual small business, analyzing the operation
and making recommendations. A comprehensive written report is
required, with one copy going to the owner of the business. Graded
credit/no credit.
Prereq: Department permission.

MGT 489 Management Internship. Three sem hours
Approved on-the-job experience of students in the management
internship program supplemented by seminars as appropriate.
Open only to students formally enrolled in the program and taken
during their terms of supervised work experience. May be repeated
for a maximum of six semester hours, but may be counted for
elective credits only (not as part of the 50-hour business major).
Graded credit/no credit.
Prereq: Department permission.

MGT 490 Business Policy. Three sem hours
Integration and analytical application of fundamental areas of
business to case problems. Policy issues in the identification and
resolution of problem situations.
Prereq: Senior standing in business administration or department
permission (senior standing implies completion of the College of
Business core).

MGT 495 Comparative Management
Systems. Three sem hours
Comparisons of management concepts, processes and practices in
various countries with their different educational, sociological,
legal-political and cultural constraints. The evolution of manage-
ment and the transfer of managerial philosophy and practices to
other countries.
Prereq: MGT 386 Organization Theory and Development and
senior standing or department permission.

MGT 496 Human Resource Management. Three sem hours
A practical application of personnel management techniques to
actual current business issues; specially designed workshop-type
sessions for prospective managers, supervisors and personnel spe-
cialists.
Prereq: MGT 384 Personnel Administration or permission of the
department head.

MGT 497, 498, 499 Independent Study. One, two, three sem hours
Directed study of a problem in management not otherwise treated
in department courses.
Prereq: Senior standing and department permission.
MARKETING
Office: 469 Gary M. Owen Building

Department Head: A. Edward Spitz (Interim)
Associate Professors: Albert W. Belskus, Thomas E. Buzas, Sam D. Fullerton, R. Rodman Ludlow, G. Russell Merz, Matthew H. Sauber, Gary M. Victor
Assistant Professors: Daryl L. Barton, Sandra J. DeFeaugh, Joel S. Welber, Betty R. Widgeon

The marketing curriculum prepares students for careers in sales, advertising, public relations, marketing research, retailing, international business and logistics.

Programs of Study
Major:
  Marketing
Minor:
  Marketing
Concentrations:
  Advertising and sales promotion
  International business
  Marketing research
  Purchasing and materials management
  Retailing
  Sales and sales management

Advising is provided by the faculty and is available in the department office from 9 a.m. to 3 p.m. Monday through Friday while school is in session, or by appointment.

Advising Coordinator: A. Edward Spitz

Graduate study leads to the master of business administration (M.B.A.) degree. The M.B.A. degree program and courses are described in the Graduate Catalog.

Major in Marketing

The marketing major offers career concentrations in advertising and sales promotion, international business, marketing research, purchasing and materials management, retailing and sales, and sales management. Students are encouraged to complete one of the specified concentrations, or they may elect any nine-hour combination of marketing electives.

To be completed are the general requirements for the bachelor of business administration degree, the academic major requirements below and sufficient electives to meet the minimum of 124 semester hours for graduation.

Practical arts ............................................................... ....... 56-60
Requirements (business administration core, see College of Business section).
Academic major in marketing ................................................. 24
  1. Required courses ................................................ 16
     MKT 261 Contemporary Selling .................................... 3
     MKT 365 Buyer Behavior .............................................. 3
     MKT 368 Marketing Strategy ......................................... 3
     MKT 470 Marketing Research ......................................... 3
     MKT 475 Marketing Management ..................................... 3
  2. Restricted electives ................................................ 9
     Choose one of the following suggested concentrations or any nine-hour combination of marketing electives.
     The advertising and sales promotion concentration prepares students for positions leading to careers as account executives, sales promotion managers and advertising managers.
     MKT 369 Advertising ................................................ 3
     MKT 474 Promotional Strategy ....................................... 3
     Any additional marketing elective ................................ 3

     The international business concentration prepares students for a variety of positions in organizations conducting business in foreign environments. Course work describes international trade, foreign exchange, comparative advantage and marketing opportunity assessment. Course work in a foreign language is suggested.
     MKT 375 International Transportation Operations ................ 3
     MKT 460 International Marketing .................................. 3
     Any additional marketing elective ................................ 3

     The marketing research concentration prepares students for a variety of research positions such as research analyst and director of marketing research. Topics such as problem definition, research design, data collection and analysis, and recommendations based on research are stressed.
     ORI 367 Computer Augmented Statistics or ORI 465
     Business Statistics II ................................................. 3
     ECO 445 Economic Fluctuation and Trends ....................... 3
     MKT 499 Independent Study ......................................... 3

     The purchasing and materials management concentration prepares students for careers as purchasing managers, directors of purchasing, distribution managers, traffic managers and directors of materials management. Areas of study include assessing business markets, vendor analysis, economics of purchasing and materials planning systems.
     MKT 364 Logistics and Materials Management ..................... 3
     MKT 374 Business to Business Marketing ......................... 3
     MKT 464 Purchasing Management .................................... 3

     The retailing concentration prepares students for careers as retail buyers, merchandising managers and store managers. Course work covers subjects such as retailing as an institution, site selection, product assortment, merchandising, retail advertising and inventory control.
     MKT 363 Retailing .................................................... 3
     MKT 369 Advertising .................................................. 3
     MGT 384 Personnel Administration ................................... 3
The sales and sales management concentration prepares students for such careers as salesman, district sales manager and national sales manager.

**MKT 374 Business to Business Marketing** ........................................ 3

**MKT 461 Sales Management** ................................................... 3

Any additional marketing elective .................................................. 3

Students who do not choose one of the above concentrations may take any three marketing electives and will be classed as having chosen the marketing management concentration.

### Marketing Minor

(Non-teaching)

Students who are not majors in the College of Business may elect to minor in marketing.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor in marketing (for non-business majors)</td>
<td>21</td>
</tr>
<tr>
<td>1. Required courses</td>
<td>9</td>
</tr>
<tr>
<td>ACC 240 Principles of Accounting</td>
<td>3</td>
</tr>
<tr>
<td>MKT 360 Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>MGT 386 Organization Theory and Development</td>
<td>3</td>
</tr>
<tr>
<td>2. Restricted electives</td>
<td>12</td>
</tr>
<tr>
<td>Choose 12 credits from marketing courses.</td>
<td></td>
</tr>
</tbody>
</table>

### Marketing Courses

**MKT 261 Contemporary Selling.** Three sem hours

The basic principles of personal selling applicable to any product and/or service; professional attitudes and performance.

**MKT 360 Principles of Marketing.** Three sem hours

Marketplace exchanges; the relationship between marketing activities of the organization and the consumer.

**MKT 363 Retailing.** Three sem hours

The practices of retail store management. Store location, layout, organization, buying systems, sales promotion activities, customer services and store operating expenses. 

*Prereq: MKT 360 Principles of Marketing.*

**MKT 364 Logistics Systems.** Three sem hours

Concepts and systems designed to facilitate and control the movement of materials and parts through the procurement, production and distribution processes until they reach the final user. Transportation, inventory control, materials handling, warehousing, customer service, order processing, planning and control.

*Prereq: MKT 360 Principles of Marketing.*

**MKT 365 Buyer Behavior.** Three sem hours

Concepts and research related to consumer and industrial buyer behavior. Sociological and psychological aspects of consumer and industrial buyer behavior, product adoption and diffusion and purchasing decision-making.

*Prereq: MKT 360 Principles of Marketing and PSY 101 General Psychology.*

**MKT 368 Marketing Strategy.** Three sem hours

Advanced policies and practices in marketing. Case analysis of marketing problems pertinent to product, price, promotion and channels of distribution policies.

*Prereq: MKT 360 Principles of Marketing and ACC 240 Principles of Accounting.*

**MKT 369 Advertising.** Three sem hours

Advertising as a communications tool in marketing management. The role of advertising in the marketing mix; advertising and the process of communication; influence of buyer behavior on the character of promotional efforts; planning creative strategy; effective execution of promotional programs; measuring the results of promotional efforts.

*Prereq: MKT 360 Principles of Marketing.*

**MKT 374 Business to Business Marketing.** Three sem hours

Concepts, procedures, and problems encountered when one business markets its products or services to another company. Emphasizes the marketing practices employed by industrial organizations. Topics include market analysis, organizational buying behavior, purchasing procedures, pricing and negotiation, selling and marketing planning.

*Prereq: MKT 360 Principles of Marketing.*

**MKT 375 International Transportation Operations.** Three sem hours

How goods and services are moved internationally. Transportation concepts and systems, the shipping scene, various documents needed to expedite the international movement of goods.

**MKT 287, 387, 487 Cooperative Education in Marketing.** Three sem hours each

Four months of full-time employment at a business or public organization in a marketing position. General elective credit only. Graded credit/no credit.

**MKT 460 International Marketing.** Three sem hours

International marketing and its role in the multinational corporation. Appraising international market opportunities; product, price, promotion, and distribution policies; foreign marketing environments.

*Prereq: MKT 360 Principles of Marketing.*

**MKT 461 Sales Management.** Three sem hours

Planning, organizing, directing and controlling the sales force. Recruiting, selecting, training, evaluating, compensating and supervising.

*Prereq: MKT 261 Contemporary Selling and MKT 360 Principles of Marketing.*

**MKT 464 Purchasing Management.** Three sem hours

Planning, organizing, directing and controlling the purchasing function. Purchasing systems, forms and procedures; selecting sources of supply; inventory control; transportation; legal aspects of purchasing; purchasing research, planning and budgeting.

*Prereq: MKT 360 Principles of Marketing and FIN 350 Principles of Finance.*
MKT 470 Marketing Research. Three sem hours
Skills and attitudes required to specify and utilize market and buyer information in defining marketing problems and making marketing decisions. Applied marketing research problems.
Prereq: MKT 360 Principles of Marketing and ORI 265 Business Statistics I.

MKT 473 Marketing and Product Innovation. Three sem hours
Marketing and product successes and failures, environmental influences, market/product plans and the new product planning process. Development of a project starting with product idea and continuing through offering a new product/service.
Prereq: MKT 360 Principles of Marketing.

MKT 474 Promotional Strategy. Three sem hours
Problems of advertising and promotion including appropriate use of research in advertising decision-making. Development of advertising campaigns, determining advertising effectiveness, client-agency relationships and societal impact of advertising.
Prereq: MKT 369 Advertising.

MKT 475 Marketing Planning and Management. Three sem hours
Integration of concepts from previous marketing courses and planning the marketing program.
Prereq: MKT 368 Marketing Strategy and marketing major with senior standing or department permission.

MKT 479 Special Topics in Marketing. Three sem hours
Selected marketing topics.
Prereq: Department permission.

MKT 489 Internship Program. Three sem hours
Directed full-time work experience in marketing operations of a business organization.
Prereq: Marketing major and department permission.

MKT 499 Independent Study. Three sem hours
Directed study of a problem in marketing not otherwise treated in department courses.
Prereq: Senior standing and department permission.

Law Courses

LAW 293 Legal Environment of Business. Three sem hours
The judicial system and legal procedure, crimes and torts, contractual arrangements, sales of goods and other transactions under the Uniform Commercial Code.

LAW 295 Legal Research. Three sem hours
The performance of research on several actual legal problems.
Prereq: One law course.

LAW 393 Law of Business Enterprises. Three sem hours
The law of forms of business enterprise and negotiable instruments. Agency, partnerships, corporations and negotiable instruments.
Prereq: LAW 293 Legal Environment of Business or department permission.
OPERATIONS RESEARCH AND INFORMATION SYSTEMS

Office: 412 Gary M. Owen Building

Department Head: V.M. Rao Tummala

Professors: Imtiaz S. Ahmad, Assad S. Khallany, Pedro Sanchez, Charles S. Saxon, Fathi Sokkar, V.M. Rao Tummala, Nesa L. Wu

Associate Professors: Sergio Antiochia, Wayne C. Ellis, Badie Farah, Roger Gledhill, Morrey Kramer, Hassan Mirshah, Linda Woodland, Kenneth C. Young

Assistant Professors: Juan C. Esteva, Wafa Khorshid, Stelvan Mrdalj, Terry Truax

ORIS prepares students for careers in business information systems and production and operations management.

Programs of Study

Majors:
- Business computer systems
- Production/operations management

Minors:
- Business computer systems
- Production/operations management

The ORIS and Accounting Departments jointly offer a program in accounting information systems. See Accounting Department section for the bachelor of business administration program and course descriptions in accounting information systems.

Advising is provided by the faculty and is available in the department office from 9 a.m. to 3 p.m. Monday through Friday while school is in session or by appointment.

Advising Coordinator: V.M. Rao Tummala

Graduate study leads to the master of science degree in information systems (M.S.I.S.). The M.S.I.S. degree program and courses are described in the Graduate Catalog.

Major in Business Computer Systems

Business computer systems emphasizes the role and application of the computer in making management decisions. Students are prepared for careers as systems analysts, programmer analysts and information systems and database management administrators.

To be completed are the general requirements for the bachelor of business administration degree, the academic major requirements below and sufficient electives to meet the minimum of 124 semester hours for graduation.

Sem hours
Practical arts .................................................................56-60

Requirements (business administration core, see College of Business section).

Academic major in business computer systems ..........................27
1. Required courses .......................................................9
   ORI 219 File Processing and COBOL Programming .................3
   ORI 247 Software Design and Programming in Business ........ 3
   ORI 219 COBOL Programming .......................................3
   ORI 315 Applied Data Structures ....................................3
   ORI 417 Systems Analysis and Design ................................3
   ORI 418 Operations Research .......................................3
   ORI 419 Data Base Management Systems .........................3
   ORI 420 Business Data Communications and Computer Networks ..................................................3
   ORI 449 Information Systems Development and Implementation Projects .....................................3
2. Restricted electives .....................................................3
   Choose one course from the following:
   ORI 317 System Simulation, ORI 413 Evaluation and Application of Computer Hardware, ORI 416 Computer Operating Systems, ORI 426 Advanced Structured COBOL Programming
   CSC 239 Assembly and the Machine Language Programming
   IT 431 Interactive Industrial Computer Graphics

Major in Production/Operations Management

This major equips graduates to work in various kinds and sizes of production systems as well as to pursue graduate study in several areas. Emphasized are production planning and scheduling, material procurement, inventory control, project scheduling, quality control, layout of facilities, and time and motion studies. The program responds to social, economic and technological developments. Students are prepared for careers as production planners, materials planners, production supervisors and industrial buyers.

To be completed are the general requirements for the bachelor of business administration degree, the academic major requirements below and sufficient electives to meet the minimum of 124 semester hours for graduation.

Sem hours
Practical arts .................................................................56-60

Requirements (business administration core, page 209)

Academic major in production/operations management ..........................24
1. Required courses .......................................................9
   ORI 219 File Processing and COBOL Programming .................3
   ORI 417 Systems Analysis and Design ................................3
   ORI 418 Operations Research .......................................3
2. Required production/operations management courses ...............9
   ACC 342 Managerial Cost Accounting ...............................3
   ORI 474 Productivity Management ..................................3
   ORI 475 Production and Material Management ....................3
3. Restricted electives .....................................................6
Choose two courses from the following:

- ORI 317 System Simulation
- ORI 428 Linear Programming
- ORI 465 Applied Linear Statistical Models
- IT 431 Interactive Industrial Computer Graphics
- IT 432 Introduction to Computer-Aided Design
- IT 433 Advanced Topics in Computer-Aided Design
- MGT 384 Personnel Administration
- MGT 484 Management-Union Relations

**Minors Offered in the Department of Operations Research and Information Systems**

**Business Computer Systems Minor**
(Non-teaching)

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORI 215 End-User Computing</td>
<td>3</td>
</tr>
<tr>
<td>ORI 219 File Processing and COBOL Programming</td>
<td>3</td>
</tr>
<tr>
<td>ORI 247 Software Design and Programming in Business</td>
<td>3</td>
</tr>
<tr>
<td>ORI 417 Systems Analysis and Design</td>
<td>3</td>
</tr>
<tr>
<td>ORI 418 Operations Research</td>
<td>3</td>
</tr>
<tr>
<td>MGT 386 Organizational Behavior and Theory</td>
<td>3</td>
</tr>
<tr>
<td>ORI 315 Applied Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>ACC 446 Financial Information Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORI 225 Business Statistics I</td>
<td>3</td>
</tr>
<tr>
<td>ORI 315 Applied Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>ORI 317 System Simulation</td>
<td>3</td>
</tr>
</tbody>
</table>

**Production/Operations Management Minor**
(Non-teaching)

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 342 Managerial Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ORI 374 Production/Operations Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT 386 Organization Theory and Development</td>
<td>3</td>
</tr>
<tr>
<td>ORI 474 Productivity Management</td>
<td>3</td>
</tr>
<tr>
<td>ORI 475 Production and Material Management</td>
<td>3</td>
</tr>
<tr>
<td>ORI 219 File Processing and COBOL Programming</td>
<td>3</td>
</tr>
<tr>
<td>ORI 417 Systems Analysis and Design</td>
<td>3</td>
</tr>
<tr>
<td>ACC 446 Financial Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>MGT 384 Personnel Administration</td>
<td>3</td>
</tr>
<tr>
<td>PSY 351 Industrial Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

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**ORS Courses**

**ORI 215 End-User Computing.** Three sem hours

Business computer programmers must have a good knowledge of engineering principles. Intended for ORIS Business Computer Systems majors and others.

Prereq: MTH 118 Mathematical Analysis for Social Sciences.

**ORI 219 File Processing and COBOL Programming.** Three sem hours

Business computer programmers must have a good knowledge of basic data structures such as linked lists, trees, and networks to permit them to design appropriate computer solutions to the more difficult problems they are typically being asked to solve. In this class, the students will study these data structures and apply them in the design, writing, debugging, and testing of several programs.


**ORI 247 Software Design and Programming in Business.** Three sem hours

Business computer programmers must be able to use problem-solving techniques, appropriate algorithms, and follow the principles of software engineering to develop good computer solutions to business problems. In this class, the students will study these topics and apply them in the design, writing, debugging, and testing of several programs.


**ORI 265 Business Statistics I.** Three sem hours

Concepts of statistics and applications to business decisions. Elements of probability, random samples, descriptive statistics, sampling distributions, point and interval estimation, hypothesis testing, chi-square analysis, regression and correlation analysis.


**ORI 315 Applied Data Structures.** Three sem hours

Business computer programmers must have a good knowledge of basic data structures such as linked lists, trees, and networks to permit them to design appropriate computer solutions to the more difficult problems they are typically being asked to solve. In this class, the students will study these data structures and apply them in the design, writing, debugging, and testing of several programs in some suitable high-level language.


**ORI 317 System Simulation.** Three sem hours

Computer-based simulation techniques for business analysis and decision-making. Random number and process generators, system simulation models and specialized computer simulation languages. Simulation of discrete time systems and the GPSS-language.

ORI 167 Business Statistics II. Three sem hours
A continuation of the statistical methodology developed in Business Statistics I. Topics include two sample interval estimation and hypothesis tests, inference about the population variance, simple and multiple regressions.
Prereq: ORI 265 Business Statistics I.

ORI 374 Production/Operations Management. Three sem hours
The major design, operation and control problems of production/operations management in manufacturing and service organizations. Product or service design; facilities location, design and layout; productivity including job design, standards and incentive plans; materials management including forecasting, purchasing and inventory control; production control; quality assurance and control.
Prereq: ORI 219 File Processing and COBOL Programming.

ORI 380 Data Base Concepts. Three sem hours
Database concepts for large scale information systems. Logical and physical designs for data element usage; database management systems.
Prereq: ORI 315 Applied Data Structures.

ORI 387, 487 Cooperative Education in Operations Research and Information Systems. Three sem hours each
Four months of full-time employment at a business or public organization to impart a practical experience in computer-based information systems and production/operations management disciplines. Offered on a graded credit/no credit basis for general elective credit only. Admittance by application only.
Prereq: Completion of three hours in information systems area or production/operations management area.
Prereq: For ORI 487, ORI 387.

ORI 390 Management Systems. Three sem hours
Various concepts of systems theory and applications to management. The environment and boundaries of a system, organizational information flows and the firm as a system, cybernetics and communication theory, and the management of large scale systems. Not open to ORIS majors.
Prereq: MGT 386 Organization Theory and Management.

ORI 413 Evaluation and Application of Computer Hardware. Three sem hours
Evaluation of computer hardware found in business computer systems. A non-technical explanation of the operation, needs and limits of CPUs and peripherals; practical demonstrations of the hardware. CPUs, memory printers, disks, terminals, communication and related software.
Prereq: ORI 219 File Processing and COBOL Programming.

ORI 416 Computer Operating Systems. Three sem hours
Decision methods and concepts for determining the types of computer operating systems required for a particular business environment. Various operating system designs with respect to allocation and utilization of resources; the acceptance, execution and presentation portions of the system; large and small operating systems to be considered for the business environment.
Prereq: ORI 315 Applied Data Structures.

ORI 417 Systems Analysis and Design. Three sem hours
Computer-based information systems exist everywhere in business and industry. People armed with the necessary tools are they key to both successful development and performance of these systems. The objective of this course is to introduce students to processes, principles, guidelines, tools, and techniques for systems analysis and design of information systems. The major thrust of the course is to aid the communication process that must take place between the system developers and users. This is facilitated by the use of projects as a vehicle for effectively communicating the content of this course.
Prereq: ORI 219 File Processing and COBOL Programming and ORI 265 Business Statistics I.

ORI 418 Operations Research. Three sem hours
The development of various determinate and stochastic models and their application in business decision-making. Theory and applications of linear and nonlinear programming models; waiting line models; activity network models; inventory control; Monte Carlo simulation.

ORI 420 Business Data Communications and Computer Networks. Three sem hours
In an information-based society, knowledge of data communications and computer networks is very important to everyone who works with computers. This course is intended to teach students everything they need to know to be effective participants in the establishment of data communications links for their employers. This course assumes no prior data communications and computer networks knowledge. It combines technical aspects with practical business applications without resorting to a rigorous mathematical approach.

ORI 426 Advanced Structured COBOL Programming. Three sem hours
Student work in teams developing integrated information systems in structured COBOL. Searches, reporting, subprograms, random files, indexed sequential files, various sorting routines, debugging techniques, programming styles, optimization techniques, structured and modular programming concepts, transferability and portability. Strategies, documentation, including writing program specifications and users’ manuals.
Prereq: ORI 219 File Processing and COBOL Programming.

ORI 428 Linear Programming. Three sem hours
Theory and business applications of linear programming models. Formulation, graphical solution, simplex method, revised simplex method, duality theorem, sensitivity analysis, parametric programming, integer programming, transportation models, transshipment models, assignment models, input/output models and zero-sum game models.
ORI 441 FORTRAN Programming Language. One sem hour
An introduction to the FORTRAN language. Variables and constants, format statements, input/output, arithmetic and logical assignment statements, dimension statements and subscripts, subprograms and advanced IO statements. Credit can be earned only by non-business undergraduate majors or by graduate students meeting a programming language requirement.

ORI 442 COBOL Programming Language. One sem hour
Organization of the COBOL programs. Identification division, environment division, data division, procedure division, table handling, sub-programs; arithmetic, logical, conditional and input/output statements. Credit can be earned only by non-business undergraduate majors or by graduate students meeting a programming language requirement.

ORI 447 Basic Assembly Language. Two sem hours
Introduction to assembly language. Data format, storage allocation, symbolic programming, macro definition, data movement and branching, arithmetic operations, editing, tables, indexing, subroutines, program linkage and interrupts. Credit can be earned only by non-business majors or by graduate students meeting a programming language requirement.

Prereq: ORI 215 End-User Computing or equivalent.

ORI 449 Information Systems Development and Implementation Projects. Three sem hours
This is the capstone course. Students work in teams to develop information systems for real-life organizations. These organizations are local businesses, industries, non-profit, governmental institutions, and universities. Classes start with short lectures. The subject matter is then applied to the various projects by the teams with the help of the instructor. The objective of the discussion is to support the students in producing quality operational information systems. Examples are drawn from students' projects to facilitate discussion.


ORI 465 Applied Linear Statistical Models. Three sem hours
An introduction to linear models with an emphasis on business applications. Topics include multiple linear regression models, analysis of variance and multivariate data analysis. Computer packages will be used.

Prereq: ORI 265 Business Statistics I.

ORI 474 Productivity Management. Three sem hours
An in-depth qualitative, quantitative and computerized analysis of problems related to the design of manufacturing and non-manufacturing systems. Product service design, process planning, facilities location and layout, job design and work measurement, maintenance planning and control, quality control.

Prereq: ORI 418 Operations Research.

ORI 475 Production and Material Management. Three sem hours
Investigation of problems related to production and material management made through the use of quantitative techniques and computer-based analysis. Materials management, independent and dependent demand systems, production planning, scheduling and control, purchasing and logistics.

Prereq: ORI 418 Operations Research.

ORI 479 Special Topics. Three sem hours
Specialized studies in information systems, management science, production/operations management and statistics.

Prereq: Department permission.

ORI 489 Internship Program. Three sem hours
Directed full-time work experience in the business computer systems units of a business organization. This course may be repeated for a maximum total of six hours.

Prereq: Major and department permission.

ORI 497, 498, 499 Independent Study. One, two, three sem hours
Directed study of a problem or group of problems in computer based information systems, production systems or management science.

Prereq: Department permission.
COLLEGE OF EDUCATION

Programs of Study and Course Descriptions

Dean: W. Scott Westerman Jr.
Associate Dean: Mary A. Green

Departments
Health, Physical Education, Recreation and Dance
Leadership and Counseling
Special Education
Teacher Education
The College of Education is comprised of the departments of Health, Physical Education, Recreation and Dance; Leadership and Counseling; Special Education; Teacher Education and the Office of Pre-Student Teaching and Student Teaching.

Its responsibilities are:

1. To supervise, select, advise and retain students who are preparing for teaching certification;
2. To provide instruction in professional coursework for students preparing for teaching certification;
3. To place and supervise pre-student teachers;
4. To place and supervise student teachers;
5. To provide service courses for other colleges and departments of the University;
6. To provide specialized course work for students in curricula other than teacher education.

Students seeking the bachelor's degree and a teacher's certificate may select from several curricula the one which will allow them an opportunity to develop competency in the teaching field of their choice. The curricula are:

**For Elementary Teachers:**
1. Early childhood education
2. Elementary education

**For Secondary Teachers:**
1. Junior-senior high school

**For Teachers of Specialized Subjects:**
1. Art
2. Bilingual education
3. Business education
4. Consumer home economics education
5. Dance
6. Industrial education
7. Music
8. Physical education
9. Recreation
10. Special education

Accreditation has been granted by the National Council for Accreditation of Teacher Education for the preparation of elementary and secondary teachers and school service personnel.

Admission requirements are common for all teaching curricula. Students electing teaching as a professional career should apply at the completion of their sophomore year or as transfer students as soon as they have earned 12 hours of Eastern Michigan University credit. Admission to the College of Education is not automatic.

Application forms are available in the Office of Student Teaching, Boone Hall.

Criteria for continuance in professional education courses:

- A minimum EMU grade point average of at least 2.50 and a least 2.5 in the teaching major (secondary) or three minor (elementary).
- Demonstrated competence in:
  a. Speaking effectiveness as determined by successful completion of one or two courses in speech (basic studies language);
  b. Reading ability as determined by EMU admission policies, successful completion of basic studies requirements; and successful completion of the Pre-professional Skills Test (PPST)
  c. Written expression as determined by successful completion of all basic studies requirements, a review of each student's autobiography submitted as part of the College of Education admission process; and successful completion of the PPST
  d. Mathematical computation as determined by EMU admission policies, completion of basic studies requirements (science and mathematics), and successful completion of the PPST.
- Satisfactory health status, including tuberculosis and hearing screenings.
- Social and emotional adjustment: account is taken of standards of conduct expected on Eastern's campus, the degree to which students meet their academic, financial, moral, social and other obligations, and practice good citizenship among fellow students.
- Freedom from any kind of probation, administrative or academic. While on academic probation, students may not register for, remain in or receive credit for a professional education course. This includes all methods classes listed in cross reference in departments, even though the courses listed are based on the College of Education.

Criteria for continuance in professional education courses:

- Undergraduate students on academic probation may not earn credit for any graduate level on-campus or off-campus courses (500 level and above).

**Pre-Student Teaching**

**Director:** Robbie A. Johnson

The pre-student teaching experience requires students to work with children in a real classroom setting. It is designed to help students evaluate their own abilities as teachers and to affirm the decision about choosing teaching as a career. It also enables students to better understand how the professional education course in human development and learning, social aspects of teaching at curriculum and methods relate to the classroom.

A minimum of 100 hours of pre-student teaching experience are required of all candidates for a teaching certificate. At least 80 percent of the experience must be in a classroom situation with an age group and in the subject matter area the student plans to teach. By the end of the pre-student teaching experience, the student should be able to:
Students should find a pre-student teaching assignment that includes a wide range of experiences with students from different socio-economic levels and cultures. The teaching activity selected must be approved by the instructor of CUR 304 Curriculum and Methods-Elementary, CUR 305 Curriculum and Methods-Secondary, EDP 322 Human Development and Learning, SFD 328 Social Aspects of Teaching, or CUR 314 Teaching Reading in the Elementary School. Majors in special education should consult their advisers or the pre-student teaching director concerning overlapping pre-clinical requirements.

**Student Teaching**

**Director:** Robbie A. Johnson

All candidates for teaching certificates or endorsements are required to fulfill a student teaching requirement in the area of their academic preparation and at the level for which certification is being sought.

Students desiring certification in the elementary and secondary programs are required to complete successfully eight semester hours of student teaching. Students desiring K-12 certification in special academic areas also are required to complete successfully eight semester hours of student teaching.

Students in special education areas (emotionally impaired, mentally impaired, hearing impaired, etc.) are required to fulfill six semester hours of student teaching with non-impaired children and an additional four to ten semester hours of student teaching in their area of specialization.

Students desiring certification in bilingual education are required to fulfill four semester hours of student teaching with English-speaking children and an additional four semester hours of student teaching in bilingual education.

Applications for student teaching may be obtained from the Student Teaching Office in Boone Hall and should be completed and returned to the Student Teaching Office in accordance with the following schedule:

- Fall student teaching ................................................. January 15
- Summer student teaching ............................................ March 1
  (Special permission required)
- Winter student teaching .............................................. June 15
- Spring student teaching ............................................. January 15
  (Special permission required)

Priority during spring session is given to special education students who need four semester hours of credit in regular student teaching. Applications for student teaching will be accepted after the deadline; however, placement priority is given to those students who file in accordance with the deadline dates and late applicants are not guaranteed placement.

To qualify for student teaching placement, students must satisfy the following criteria:

1. Fulfill the requirements of pre-student teaching.
2. Demonstrate minimum levels of skills in reading, written English and mathematics as defined and measured by the Pre-Professional Skills Test.
3. Provide written recommendations from course instructors and field supervisors demonstrating a minimum level of skill in working with students. These become a part of the student teacher's file.
4. Register in the appropriate student teaching course (see course description).
5. Be a first semester senior with the majority of major courses completed.
6. Carry a class load of no more than 15 hours. To be considered by the director of student teaching for more than 15 semester hours, the student must have a 3.0 cumulative GPA.
7. Complete one semester of resident study at EMU prior to student teaching. Exceptions are subject to approval by the dean of the College of Education.
8. Students who do not qualify at the time of application cannot be guaranteed placement during the requested semester.

A preferred student teaching placement will be accommodated by the Student Teaching Office if possible.

In specifying a particular school district, the student is advised to avoid the following: districts in which a parent or a relative is employed by the district board of education; districts in which the student has a record of significant prior involvement; districts that are outside of the list of the student teaching agreements. The director of student teaching must approve all placements outside the list of Eastern Michigan University cooperating districts. Request for guest student teaching must be approved by the Office of Records and Teacher Certification and the director of student teaching and must be at an NCATE (National Council for Accreditation of Teacher Education) accredited institution.

Students enrolled at another institution in Michigan or in another state, who wish to do their student teaching through Eastern Michigan University, are advised to consult the director of student teaching on their campus prior to submitting the request to this University. Students who do not qualify for student teaching are expected to have fulfilled all prerequisites required for student teaching at the home institution.

Spring student teaching may not be available every year. Placement in the summer session student teaching program is restricted to already-certified teachers.

When students are doing student teaching, they should arrange their daily schedule so that teaching will take precedence over other interests and duties.

**Students cannot arrange their own student teaching assignments. Prior arrangements will not be honored by the Student Teaching Office. Placement could be delayed a full semester in these cases.**

Students requesting placements beyond a 40-mile radius from Eastern Michigan may be assessed a mileage fee.
The following prerequisites are to be completed prior to student teaching and cannot be taken concurrently:

1. CUR 304-305 Curriculum and Methods-Elementary/Secondary
2. EDP 322 Human Development and Learning
3. SFD 328 Social Aspects of Teaching
4. Junior-senior high school: A special methods course in the major or minor field.
5. Specialized fields: The appropriate special methods courses in the major field. Students who teach in their minor specialized field must complete the methods course in that field.
7. The Pre-Professional Skills Test (PPST)

No student shall be assigned to student teaching whose grade point average is less than 2.50 in work completed at Eastern Michigan University and 2.50 in the teaching major (including courses completed at other colleges if applicable). No student shall be assigned to student teaching who has received a grade lower than "C" in any Group IV course. Students enrolled in the elementary education program must attain a minimum GPA of 2.50 in the three teaching minors in lieu of the 2.50 in the teaching major.

HEALTH, PHYSICAL EDUCATION, RECREATION AND DANCE
Office: 235 Warner Physical Education Building

Department Head: Patric L. Cavanaugh
Professors: John R. Adams, Patric L. Cavanaugh, Marilyn J. Johnson, Michael J. Paciorek, Erik J. Pedersen, John E. Sheard, Roger L. Williams, Robert J. Willoughby, Charles X. Witten, Myrna A. Yeakle
Associate Professors: Gary C. Banks, Geraldine K. Barnes, Jean S. Cione, Jean E. Folkerth, Michael H. Jones, Steve W. Moyer, Robert C. Parks, Jerry Ricciardo, Ronald J. Saunders, Matilda Y. Sayegh, Claudia B. Wasik, Winifred Witten
Instructors: Linda Hemmelgarn, Sharon Pendleton

All University students take courses in the Department of Health, Physical Education, Recreation and Dance as part of the general degree preparation. Physical education activity courses enhance students' personal development and their use of leisure.

In addition, the department provides career education in fields of dance, health, physical education, recreation, therapeutic recreation and sports medicine.

Three physical education facilities are available to accommodate accelerating student use. Warner Physical Education Building, dedicated in 1964, houses the majority of areas used by the department to instruct students in their career preparation. The facility includes three gymnasiums, a dance studio, a combat room, a gymnastics room, fitness/physiology lab and six classrooms.

Adjacent and attached to Warner are Bowen Field House and the Olds Student Recreation Center, where classes are taught in facilities such as the indoor track, racquetball/paddleball courts, and 50-meter swimming pool. Also available for class use are 17 tennis courts and bowling lanes on campus and water sports facilities nearby.

The department is affiliated with the American and Michigan Associations of Health, Physical Education and Recreation, the National and Michigan Recreation and Park Associations and the National Athletic Trainers Association. It also sponsors the student professional organizations Eta Sigma Gamma, (health) and Delta Psi Kappa, (physical education).

Degree: Bachelor of science

Programs of Study
Curricula:
- Dance
- Physical education
- Recreation and park management
- Sports medicine
- Therapeutic recreation

Minors:
- Athletic coaching
- Dance
- Health
- Physical education for special education
Dance Curriculum

The dance curriculum is uniquely designed, offering students of dance a choice of five career-track options. This curriculum leads to a bachelor of science degree. The five tracks are: (1) pre-dance therapy, (2) dance and related arts, (3) studio management, (4) dance movement specialist, and (5) performance. Students are not required to choose a minor.

Students planning admission to the dance major must officially enroll in the program at the Academic Advising Center and complete the following:

1. An application at 223 Warner Physical Education Building
2. An application into the dance program at 235 Warner
3. A technical assessment and audition into the program
4. A course of study planned with a dance adviser based on track recommendations.

All students must meet the basic studies requirements and the other courses specified below.

<table>
<thead>
<tr>
<th>Physical education and dance</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAN 107 Rhythmic Analysis and Dance</td>
<td>67-72</td>
</tr>
<tr>
<td>Accompaniment</td>
<td>3</td>
</tr>
<tr>
<td>DAN 245 Elements of Dance Composition</td>
<td>3</td>
</tr>
<tr>
<td>DAN 255 Dance Production</td>
<td>3</td>
</tr>
<tr>
<td>DAN 350 History of Dance</td>
<td>3</td>
</tr>
<tr>
<td>DAN 450 Advanced Dance Composition</td>
<td>4</td>
</tr>
<tr>
<td>DAN 455 Seminar in Dance</td>
<td>2</td>
</tr>
<tr>
<td>Electives</td>
<td>9-12</td>
</tr>
<tr>
<td>Track electives</td>
<td>25-30</td>
</tr>
</tbody>
</table>

Choose 32-35 hours in related areas to complete requirements in consultation with advising coordinator for dance.

Required studio courses

- PEP 132 Modern Dance Technique III | 3
- PEP 150 Modern Dance Technique IV | 3
- PEP 208 Classical Ballet Technique III | 3
- PEP 209 Classical Ballet Technique IV | 3

Electives | 8-13 |

Total | 130 |

Curriculum for Teachers of Physical Education

Students electing this curriculum, which leads to the bachelor of science degree and the Elementary or Secondary Provisional Certificate in teaching, must complete as a minimum the major in physical education described below and one minor of 20-24 semester hours or a group minor of 24 semester hours in a subject field the student expects to teach and appropriate to the certification level.

If an Elementary Provisional Certificate is desired, students must consult with the director of Academic Records and Certification or the director of the Academic Advising Center regarding special requirements. It is recommended that those seeking elementary certification elect MTH 108 Functional Mathematics I.

The HPEDR&D Department and the Special Education Department participate in a cooperative effort offer a program in adapted physical education that culminates in state of Michigan approval as a teacher of physical education for the handicapped. Students interested in pursuing this approval must consult with the adapted physical education adviser.
All students must meet the basic studies course requirements and the other courses specified in each area below.

**Physical education academic core** .......................................................... 47
PED 200 Anatomy and Physiology ............................................................. 5
PED 204 Kinesiology .................................................................................. 2
PED 240 History and Philosophy of Physical Education .................... 2
PED 281 Motor Development ................................................................. 3
PED 300 Physiology of Exercise .............................................................. 3
PED 312 Athletic Training and Physiotherapy
OR
HED 210 Red Cross First Aid ................................................................. 2
PED 334 Adapted Physical Education ....................................................... 2

**Physical education major activity courses** ............................................. 15

**Minor requirements** ................................................................. 20-24

**Total** ......................................................................................... 132-139

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**Course of Study for Physical Education Major**

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social science</td>
<td>12</td>
</tr>
<tr>
<td>Requirements 1, 2, 3, and 4</td>
<td></td>
</tr>
<tr>
<td>Arts and humanities</td>
<td>12</td>
</tr>
<tr>
<td>Requirements 1, 2, 3, and 4</td>
<td></td>
</tr>
</tbody>
</table>

**Professional education** .............................................................. 23

EDP 322 Human Development and Learning ........................................... 4
CUR 361 Teaching of Reading ................................................................. 3
SFD 328 Social Aspects of Teaching ....................................................... 3
PED 367 Methods and Materials in Physical Education .................... 3
PED 440 Tests and Measurement in Physical Education ............... 2
EDU 495 Student Teaching (Elementary) ............................................. 4
EDU 496 Student Teaching (Secondary) ................................................ 4

**Academic electives** ...................................................................... 11

Select courses in consultation with academic adviser

**Methods of teaching activities** ...................................................... 17

Students must complete the following courses designed to provide the physical education major with the skills necessary to implement a quality physical education program. Completion of these courses does not fulfill the University activity requirement.

PED 150 Methods of Teaching Individual Sports ................................. 3
PED 151 Methods of Teaching Team Sports I ....................................... 3
PED 152 Methods of Teaching Team Sports II ..................................... 1
PED 153 Methods of Teaching Conditioning Activities ...................... 1
PED 250 Methods of Teaching Aquatics ................................................ 2
PED 251 Methods of Teaching Gymnastics ........................................... 2
PED 350 Methods of Teaching Rhythmic Activities ......................... 1
PED 351 Methods of Teaching Fundamental Movement and Movement Education ......................................................... 1
PED 352 Methods of Teaching Elementary Physical Education .......... 2

**Physical education activity courses** ................................................ 2
(Any two military science courses may be applied)

**Minor requirements** ................................................................. 20-24

**Total** ......................................................................................... 132-139

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**Recruitment and Park Management Curriculum**

The recreation and park management curriculum leads to a bachelor of science degree and is designed to prepare students for a broad range of professional career options, including municipal and regional recreation, state and federal park agencies, college intramural and student unions, commercial and private recreation, outdoor adventure programs, industrial recreation, armed forces recreation, resorts, and tourism. The major is a non-teaching major.

A minor in recreation and park management is offered to majors in other fields.

The curriculum is multi-disciplinary, including course work in management and the social sciences, with a required core of recreation leadership, programming, administration and management courses. Students are advised in selecting electives from recreation/park and related subject areas that will further prepare them for careers in their chosen area of interest.

This curriculum consists of a minimum of 50-52 credit hours of basic studies, a minimum of 56 credit hours of courses in recreation and park management major, 17-19 credit hours of electives, and 250 hours of volunteer and/or paid recreation experience before taking a full-time 15 week practicum. The practicum and fieldwork cannot be completed at the same site.

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social science</td>
<td>12</td>
</tr>
<tr>
<td>Requirements 1, 2, 3, and 4</td>
<td></td>
</tr>
<tr>
<td>Arts and humanities</td>
<td>12</td>
</tr>
<tr>
<td>Requirements 1, 2, 3, and 4</td>
<td></td>
</tr>
</tbody>
</table>

**Professional education** .............................................................. 23

EDP 322 Human Development and Learning ........................................... 4
CUR 361 Teaching of Reading ................................................................. 3
SFD 328 Social Aspects of Teaching ....................................................... 3
PED 367 Methods and Materials in Physical Education .................... 3
PED 440 Tests and Measurement in Physical Education ............... 2
EDU 495 Student Teaching (Elementary) ............................................. 4
EDU 496 Student Teaching (Secondary) ................................................ 4

**Academic electives** ...................................................................... 11

Select courses in consultation with academic adviser

**Methods of teaching activities** ...................................................... 17

Students must complete the following courses designed to provide the physical education major with the skills necessary to implement a quality physical education program. Completion of these courses does not fulfill the University activity requirement.

PED 150 Methods of Teaching Individual Sports ................................. 3
PED 151 Methods of Teaching Team Sports I ....................................... 3
PED 152 Methods of Teaching Team Sports II ..................................... 1
PED 153 Methods of Teaching Conditioning Activities ...................... 1
PED 250 Methods of Teaching Aquatics ................................................ 2
PED 251 Methods of Teaching Gymnastics ........................................... 2
PED 350 Methods of Teaching Rhythmic Activities ......................... 1
PED 351 Methods of Teaching Fundamental Movement and Movement Education ......................................................... 1
PED 352 Methods of Teaching Elementary Physical Education .......... 2

**Physical education activity courses** ................................................ 2
(Any two military science courses may be applied)

**Minor requirements** ................................................................. 20-24

**Total** ......................................................................................... 132-139

---

**Recreation and Park Management major** ........................................ 6

1. Required courses
   - REC 100 Introduction to Recreation/Leisure Service (F W) .............. 3
   - REC 200 Introduction to Therapeutic Recreation (F) (20-hours fieldwork) 
   - REC 250 Fieldwork (F W) (60 hours fieldwork)
   - REC 260 Recreation Leadership (F) ...

---
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>REC 271 Park Maintenance (F, odd years)</td>
<td>3</td>
</tr>
<tr>
<td>(Prereq: REC 100 or permission)</td>
<td></td>
</tr>
<tr>
<td>REC 310 Leisure and the Older Adult (W)</td>
<td>3</td>
</tr>
<tr>
<td>REC 320 Leisure Education</td>
<td>3</td>
</tr>
<tr>
<td>REC 360 Recreation Program Planning (W)</td>
<td>3</td>
</tr>
<tr>
<td>(Prereq: REC 260)</td>
<td></td>
</tr>
<tr>
<td>REC 365 Professional Preparation (F)</td>
<td>1</td>
</tr>
<tr>
<td>REC 390 Outdoor Recreation (F)</td>
<td>3</td>
</tr>
<tr>
<td>REC 450 Park Planning and Design (W) (Lab)</td>
<td>3</td>
</tr>
<tr>
<td>(Prereq: REC 100 or permission)</td>
<td></td>
</tr>
<tr>
<td>REC 460 Park and Recreation Administration (F)</td>
<td>3</td>
</tr>
<tr>
<td>(Prereq: REC 100, REC 360 or permission)</td>
<td></td>
</tr>
<tr>
<td>REC 465 Park and Recreation Management (W)</td>
<td>3</td>
</tr>
<tr>
<td>(Prereq: REC 100, REC 260, REC 360 or permission)</td>
<td></td>
</tr>
<tr>
<td>REC 489 Recreation Practicum (F W SP/SU)</td>
<td>8</td>
</tr>
<tr>
<td>(Full time one semester)</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>43</strong></td>
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### 1. Restricted electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>REC 251, 252, 253 Fieldwork</td>
<td>1</td>
</tr>
<tr>
<td>REC 210 Camping for Special Populations</td>
<td>2</td>
</tr>
<tr>
<td>REC 280 Camping</td>
<td>2</td>
</tr>
<tr>
<td>REC 330 Therapeutic Recreation: Substance Abusers (W, even years)</td>
<td>3</td>
</tr>
<tr>
<td>(Prereq: REC 200)</td>
<td></td>
</tr>
<tr>
<td>REC 477, 478, 479 Special Topics</td>
<td>1-3</td>
</tr>
<tr>
<td>REC/PED 481 Adapted Aquatics</td>
<td>2</td>
</tr>
<tr>
<td>MU 224 Recreation Music</td>
<td>2</td>
</tr>
<tr>
<td>IE 152 Arts and Crafts</td>
<td>3</td>
</tr>
<tr>
<td>PED 421 Legal Aspects of Sports, PE and Recreation</td>
<td>2</td>
</tr>
<tr>
<td>BIO 224 Principles of Conservation</td>
<td>4</td>
</tr>
<tr>
<td>BIO 232 Nature Interpretation</td>
<td>3</td>
</tr>
<tr>
<td>GEO 112 Careers in Travel and Tourism</td>
<td>3</td>
</tr>
<tr>
<td>GEO 114 National Parks and Monuments</td>
<td>3</td>
</tr>
<tr>
<td>GEO 212 Geography of Travel and Tourism</td>
<td>3</td>
</tr>
<tr>
<td>GEO 343 Geography of Sport</td>
<td>3</td>
</tr>
<tr>
<td>GEO 344 Recreation Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEO 345 Geography of Resorts</td>
<td>3</td>
</tr>
<tr>
<td>CTA 352 Communication Negotiations</td>
<td>3</td>
</tr>
<tr>
<td>CTA 355 Assertive Communications</td>
<td>3</td>
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<td><strong>Total</strong></td>
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</table>

### Activity courses

**Required**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swimming (any level)</td>
<td>1</td>
</tr>
<tr>
<td>Select three of the following:</td>
<td></td>
</tr>
<tr>
<td>PEG 101 Weight Control and Fitness</td>
<td>2</td>
</tr>
<tr>
<td>PEG 102 Aerobics</td>
<td>1</td>
</tr>
<tr>
<td>PEG 103 Square/Ballroom Dance</td>
<td>1</td>
</tr>
<tr>
<td>PEG 126 Conditioning</td>
<td>1</td>
</tr>
<tr>
<td>PEG 142 Racquetball</td>
<td>1</td>
</tr>
<tr>
<td>PEG 144 Trap and Skeet Shooting</td>
<td>1</td>
</tr>
<tr>
<td>PEG 145 Cross Country Skiing</td>
<td>1</td>
</tr>
<tr>
<td>PEG 146 Beginning Snow Skiing</td>
<td>1</td>
</tr>
<tr>
<td>PEG 147 Archery</td>
<td>1</td>
</tr>
<tr>
<td>PEG 148 Tennis</td>
<td>1</td>
</tr>
<tr>
<td>PEG 149 Badminton</td>
<td>1</td>
</tr>
<tr>
<td>PEG 150 Golf</td>
<td>1</td>
</tr>
<tr>
<td>PEG 151 Bowling</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4</strong></td>
</tr>
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</table>

### Basic studies

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEG 145 Cross Country Skiing</td>
<td>1</td>
</tr>
<tr>
<td>PEG 146 Beginning Snow Skiing</td>
<td>1</td>
</tr>
<tr>
<td>PEG 147 Archery</td>
<td>1</td>
</tr>
<tr>
<td>PEG 148 Tennis</td>
<td>1</td>
</tr>
<tr>
<td>PEG 149 Badminton</td>
<td>1</td>
</tr>
<tr>
<td>PEG 150 Golf</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4</strong></td>
</tr>
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</table>

### Recreation major

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>REC 271 Park Maintenance (F, odd years)</td>
<td>3</td>
</tr>
<tr>
<td>REC 310 Leisure and the Older Adult (W)</td>
<td>3</td>
</tr>
<tr>
<td>REC 320 Leisure Education</td>
<td>3</td>
</tr>
<tr>
<td>REC 360 Recreation Program Planning (W)</td>
<td>3</td>
</tr>
<tr>
<td>(Prereq: REC 260)</td>
<td></td>
</tr>
<tr>
<td>REC 365 Professional Preparation (F)</td>
<td>1</td>
</tr>
<tr>
<td>REC 390 Outdoor Recreation (F)</td>
<td>3</td>
</tr>
<tr>
<td>REC 450 Park Planning and Design (W) (Lab)</td>
<td>3</td>
</tr>
<tr>
<td>(Prereq: REC 100 or permission)</td>
<td></td>
</tr>
<tr>
<td>REC 460 Park and Recreation Administration (F)</td>
<td>3</td>
</tr>
<tr>
<td>(Prereq: REC 100, REC 360 or permission)</td>
<td></td>
</tr>
<tr>
<td>REC 465 Park and Recreation Management (W)</td>
<td>3</td>
</tr>
<tr>
<td>(Prereq: REC 100, REC 260, REC 360 or permission)</td>
<td></td>
</tr>
<tr>
<td>REC 489 Recreation Practicum (F W SP/SU)</td>
<td>8</td>
</tr>
<tr>
<td>(Full time one semester)</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>43</strong></td>
</tr>
</tbody>
</table>

### General electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science and technology (three courses)</td>
<td>11-12</td>
</tr>
<tr>
<td>CHM 105 Survey of Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>PSY 101 Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSY 102 Psychology (102-Lab)</td>
<td>3-4</td>
</tr>
</tbody>
</table>

### Therapeutic Recreation Curriculum

The therapeutic recreation curriculum leads to a bachelor of science degree in therapeutic recreation. A person graduating from this program may apply for national certification as a Certified Therapeutic Recreation Specialist.

This curriculum consists of a minimum of 50-52 credit hours of basic studies, a minimum of 68 credit hours of courses in the therapeutic recreation major, 4-6 credit hours of electives, and 250 hours of volunteer and/or paid recreation experience before taking a full-time 15 week, 600 hour practicum. The practicum and fieldwork cannot be completed at the same site.

Students who have been accepted by the University through the Admissions Office must apply for provisional admission to the therapeutic recreation curriculum through the therapeutic recreation coordinator.

**Criteria for therapeutic recreation provisional status:**

1. Application for program admission
2. Autobiographical sketch
3. Statement of professional goals

**Criteria for therapeutic recreation candidate status:**

1. Completed application for therapeutic recreation status.
2. A minimum of 30 credit hours at EMU, including REC 100, 200, and 250.
3. A minimum grade point average of 2.50 overall and 2.75 in all major courses.
4. Completion of a minimum of 60 hours of verified volunteer and/or paid therapeutic recreation experience with special populations.
5. Completion of a minimum of 30 hours of verified volunteer and/or paid recreation experience with normal populations.
6. Letters of recommendation from two recreation practitioners in the field under whom the applicant has completed volunteer and/or paid work.
7. A transfer student must have completed at least 30 credit hours, 15 of which must be at EMU and include three courses from the required therapeutic recreation program.

### Area

<table>
<thead>
<tr>
<th>Symbolic and communication (five courses)</th>
<th>14-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 121 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>ENG 226 Report and Research Writing</td>
<td>3</td>
</tr>
<tr>
<td>CTA 121 Fundamentals of Speech</td>
<td>2</td>
</tr>
<tr>
<td>CTA 124 Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>MTH 109 Functional Mathematics II</td>
<td></td>
</tr>
<tr>
<td>(Prereq: MTH 108)</td>
<td></td>
</tr>
<tr>
<td>CSC 136 Computers for the Non-Specialist</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Science and technology (three courses)</th>
<th>11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 105 Survey of Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>PSY 101 Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSY 102 Psychology (102-Lab)</td>
<td>3-4</td>
</tr>
</tbody>
</table>
BIO 105 Biology and the Human Species ........................................ 4
Social science (four courses) .................................................... 12
   PLS 112 American Government ............................................. 3
   A course in history .............................................................. 3
   SOC 105 Introductory Sociology ........................................... 3
   Cross cultural or international studies .................................. 3
Arts and humanities (four courses) .......................................... 12
   A literature course ............................................................. 3
   A second literature course .................................................. 3
   Philosophy or religion course .............................................. 3
   CTA 222 Drama and Play in Human Experience ...................... 3
Total ...................................................................................... 50-52

No outside minor is required, but is strongly recommended.

Therapeutic recreation major .................................................. 58
Required courses
   REC 100 Introduction to Leisure Studies (F W) ....................... 3
   REC 180 Activity Analysis and Adaptation (F) ....................... 2
   REC 200 Introduction to Therapeutic Recreation (F) ............... 3
   REC 250 Fieldwork (F W) (60 hours fieldwork) ...................... 1
   REC 260 Recreation Leadership (F) ....................................... 3
   REC 300 TR for Special Populations (W-even years)
      (Prereq: REC 200, REC 260) (30 hours fieldwork) ............. 3
   REC 310 Leisure and the Older Adult (W) ............................. 3
   REC 320 Leisure Education ................................................. 3
   REC 340 Techniques in TR (W-even years)
      (Prereq: REC 200) (30 hours fieldwork) ................................ 3
   REC 360 Recreation Program Planning (W) ............................ 3
   REC 365 Professional Preparation (F) .................................. 1
   REC 400 TR Processes and Services (F)
      (Prereq: REC 200, REC 300, REC 340) ............................. 3
   REC 449 TR Practicum (F W SP/SU) (1 sem, full time) ............ 8
   REC 460 Park and Recreation Administration (F)
      (Prereq: REC 100, REC 360, or permission) ..................... 3
   REC 465 Park and Recreation Management (W)
      (Prereq: REC 100, REC 200, REC 360 or permission) ...... 3
   PED 200 Anatomy and Physiology (F W Sp) .......................... 5
   EDP 325 Lifespan Human Growth and Development (F W) ........ 4
   PSY 365 Behavior Modification (F W Sp) ............................... 3
   AHP 200 Medical Terminology ............................................. 1
   REC 251, 252, 253 Fieldwork (F W) ..................................... 1
   REC 210 Camping for Special Populations (W) ....................... 2
   REC 390 Outdoor Recreation (F) ......................................... 3
   REC 330 TR for Substance Abuser (W, even years) ................. 3
      (Prereq: REC 200)
   REC/PED 481 Adapted Aquatics ........................................... 2
   REC 477, 478, 479 Special Topics ....................................... 1-3
   IE 152 Arts and Crafts ...................................................... 3
   PED 204 Kinesiology .......................................................... 2
   PED 334 Adapted Physical Education ..................................... 2
   PED 384 PE for the Visually and Hearing Impaired ................. 1
   PED 385 Special Olympics .................................................. 3
   PED 386 PE for the Mentally Impaired .................................. 1
   PED 421 Legal Aspects of Sports, PE and Recreation .............. 3
   SGN 251 Education of Exceptional Children ........................ 2
   CTA 226 Non-Verbal Communication ................................... 3
   CTA 326 Developmental Drama/Theater for Handicapped .......... 2
   MUS 103 Music Therapy ..................................................... 2
   MUS 224 Recreation Music .................................................. 2

Activity courses
Required
   Swimming (any level) .........................................................
Select three of the following:
   PEG 102 Aerobics ............................................................
   PEG 103 Square/ballroom Dance ....................................... 
   PEG 146 Archery .............................................................
   PEG 148 Tennis ............................................................... 
   PEG 149 Badminton ........................................................ 
   PEG 150 Golf ................................................................. 
   PEG 151 Bowling .............................................................
   PEG 158 Folk Dance ........................................................ 

Total ...................................................................................... 4
Basic studies ................................................................. 50-52
Therapeutic recreation major .............................................. 58
Therapeutic recreation electives .......................................... 8
Therapeutic recreation activities ......................................... 4
Electives .............................................................................. 46
Total ...................................................................................... 124

Curriculum for Sports Medicine

Sports medicine is a comparatively new field of study that correlates sports, medicine, the sciences and other health related areas into a professional curriculum. It is identified under different approaches and titles: athletic medicine, cardiovascular rehabilitation, exercise physiology, biomechanics and other similar names. Essentially, sports medicine means an understanding of the health and physical implications of human beings engaged in physical activity.

The curriculum leads to a bachelor of science degree in sports medicine. The course of study consists of a minimum of 50 semester hours in basic studies, a minimum of 54-7 semester hours in sports medicine related courses and 18-20 hours of free electives. Students must participate in a variety of practicum experiences prior to completing a full-time internship in the senior year. No outside minor is needed.

Students electing this curriculum may choose one of two areas of specialization: exercise science or athletic training.

All students entering the sports medicine program are listed "intents" and cannot be considered for candidacy until the following criteria are met:

1. Declare major intent with the Academic Advising Center and the Department.
2. Overall grade point average at Eastern Michigan University of 2.75 (transfer grade point average evaluated separately).
3. Completion of 60 hours of the program.
4. Grades of "C" or above in each of the following: BIO 105 Biology and the Human Species, CHM 120 Fundamentals of Organic and Biochemistry, PHY 221 Mechanics, Sound and Heat, PED 200 Anatomy and Physiology, ZOO 318 Laboratory in Human Anatomy.
5. Three letters of recommendation, two professional and one personal.

When an "intent" has successfully achieved the above, he or she will be notified of the date and time for a personal interview with the Sports Medicine Committee.
### Minors Offered in the Department of Health, Physical Education, Recreation and Dance

#### Coaching Minor

**Designed for students intending to pursue coaching as a full- or part-time activity. The minor is not to be considered a teaching minor for education majors.**

<table>
<thead>
<tr>
<th>Minor in coaching</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Required courses</strong></td>
<td>11</td>
</tr>
<tr>
<td>PED 200 Anatomy and Physiology</td>
<td>5</td>
</tr>
<tr>
<td>PED 204 Kinesiology</td>
<td>2</td>
</tr>
<tr>
<td>PED 312 Athletic Training and Psychotherapy</td>
<td>2</td>
</tr>
<tr>
<td>PED 316 Foundations of Coaching</td>
<td>2</td>
</tr>
<tr>
<td><strong>2. Restricted electives</strong></td>
<td>9</td>
</tr>
<tr>
<td>PED 300 Physiology of Exercise or PED 310 Physiology of Human Performance</td>
<td>2</td>
</tr>
<tr>
<td><strong>Group A</strong></td>
<td>2-3</td>
</tr>
<tr>
<td>ATH 315 Psychology of Coaching or PED 305 Practical Concepts of Conditioning</td>
<td>2</td>
</tr>
<tr>
<td><strong>Group B</strong></td>
<td>2</td>
</tr>
<tr>
<td>ATH 315 Psychology of Coaching or PED 305 Practical Concepts of Conditioning</td>
<td>2</td>
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<tr>
<td><strong>Group C</strong></td>
<td>4-5</td>
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<tr>
<td>Select four or five credits from the following:</td>
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<tr>
<td>ATH 261 Techniques of Officiating I</td>
<td>2</td>
</tr>
<tr>
<td>ATH 262 Techniques of Officiating II</td>
<td>2</td>
</tr>
<tr>
<td>ATH 263 Theory of Football</td>
<td>2</td>
</tr>
<tr>
<td>ATH 265 Theory of Baseball</td>
<td>2</td>
</tr>
<tr>
<td>ATH 267 Theory of Basketball</td>
<td>2</td>
</tr>
<tr>
<td>ATH 269 Theory of Track and Field</td>
<td>2</td>
</tr>
<tr>
<td>ATH 513 Coaching Women's Gymnastics</td>
<td>2</td>
</tr>
<tr>
<td>ATH 514 Judging Women's Gymnastics</td>
<td>2</td>
</tr>
<tr>
<td>PEP 316 Coaching and Judging Women's Gymnastics</td>
<td>2</td>
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<tr>
<td>PEP 415 Judging and Coaching Men's Gymnastics</td>
<td>1</td>
</tr>
<tr>
<td>PEP 233 Service Teaching</td>
<td>1</td>
</tr>
<tr>
<td>PEP 331 Service Teaching</td>
<td>1</td>
</tr>
<tr>
<td>PED 421 Legal Aspects of Sport, PE and Recreation</td>
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</tbody>
</table>

#### Dance Minor

Students planning admission to the dance minor must complete the following:

1. An application at 108 Warner Physical Education Building;
2. A technical assessment in modern dance and ballet;
3. A course of study planned with a dance adviser.

**Sem hours**

<table>
<thead>
<tr>
<th>Minor in dance</th>
<th>28-32</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Required courses</strong></td>
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</tr>
<tr>
<td><strong>Theory courses</strong></td>
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</tr>
<tr>
<td>DAN 106 Introduction to the Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>DAN 107 Rhythmic Analysis and Dance Accompaniment</td>
<td>3</td>
</tr>
<tr>
<td>DAN 245 Elements of Dance Composition</td>
<td>3</td>
</tr>
<tr>
<td>DAN 350 Dance History</td>
<td>3</td>
</tr>
<tr>
<td><strong>2. Restricted electives</strong></td>
<td>5-7</td>
</tr>
<tr>
<td>Choose two courses from the following:</td>
<td></td>
</tr>
<tr>
<td>DAN 255 Dance Production, DAN 450 Advanced Dance Composition (with approval of adviser), DAN 455 Seminar in Dance</td>
<td></td>
</tr>
</tbody>
</table>

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**Area**

<table>
<thead>
<tr>
<th>Sybolic communication</th>
<th>8-9</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Science and technology (three courses)</strong></td>
<td>15</td>
</tr>
<tr>
<td>BIO 105 Biology and the Human Species</td>
<td>4</td>
</tr>
<tr>
<td>CHM 101 Fundamentals of Organic and Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>PHY 221 Mechanics, Heat and Sound</td>
<td>4</td>
</tr>
<tr>
<td>PSY 101 General Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Social science**

| Requirements 1, 2 and 3 (box, page 31) | 9 |

**Arts and humanities**

| Requirements 1, 2, 3 and 4 (box, page 32) | 9 |

**Sports medicine athletic training option**

| ATH 119 Orientation to Sports Medicine | 1 |
| ATH 219 Orientation to Athletic Training | 1 |
| ATH 220 Remedial Exercises and Therapeutic Modalities | 3 |
| ATH 225 Practicum I | 2 |
| ATH 315 Psychology of Sports Competition | 2 |
| ATH 320 Recognition and Assessment of Athletic Injuries | 3 |
| ATH 325 Practicum II | 2 |
| ATH 390 Pre-Internship | 2 |
| ATH 419 Medical Aspects of Athletic Training | 2 |
| ATH 490 Internship | 2 |
| HEC 202 Human Nutrition | 3 |
| HED 310 Advanced First Aid and Emergency Care | 3 |
| HED 390 Drug Use and Abuse | 3 |
| PED 200 Anatomy and Physiology | 5 |
| PED 204 Kinesiology | 2 |
| PED 209 Bio-Fitness | 2 |
| PED 300 Physiology of Exercise | 3 |
| PED 310 Physiology of Human Performance | 2 |
| PED 421 Legal Aspects of Sports | 2 |
| ZOO 318 Anatomy Lab for Sports Medicine Students | 2 |

**Physical education activity courses**

| Physical education activity courses | 2 |

**Sports medicine—Exercise science option**

| ATH 315 Psychology of Sports Competition | 2 |
| HEC 202 Human Nutrition | 3 |
| HED 310 Advanced First Aid and Emergency Care | 3 |
| HED 390 Drug Use and Abuse | 3 |
| HED 420 Health and Aging | 3 |
| NUR 270 Pharmacology | 2 |
| PED 119 Orientation to Sports Medicine | 1 |
| PED 200 Anatomy and Physiology | 5 |
| PED 204 Kinesiology | 2 |
| PED 209 Bio-Fitness | 2 |
| PED 300 Physiology of Exercise | 3 |
| PED 310 Physiology of Human Performance | 2 |
| PED 410 Techniques of Human Performance Analysis | 3 |
| PED 421 Legal Aspects of Sports | 2 |
| PED 425 Practicum | 2 |
| PED 430 Basic EKG | 2 |
| PED 490 Internship | 8 |
| ZOO 318 Anatomy Lab for Sports Medicine Students | 2 |

**Free electives**

| (swimming, jogging, conditioning activities, aerobic dance, cycling, weight training) | 18-20 |
| Total | 124 |
3. Elective(s) ................................................................. 1-3
   To be chosen from dance or related areas, with approval of advisor

1. Restricted electives .................................................. 5-7
   Studio courses
   Choose three courses from the following:
   PEP 116 Modern Dance Technique I, PEP 120 Modern
   Dance Technique II, PEP 132 Modern Dance Technique III,
   PEP 150 Modern Dance Technique IV
   Choose one course from the following:
   PEP 108 Classical Ballet Technique I, PEP 109 Classical
   Ballet Technique II, PEP 208 Classical Ballet
   Technique III or PEP 209 Classical Ballet
   Technique IV

2. Electives ............................................................. 5
   To be chosen from other dance studio courses

Health Minor

While designed to provide preparation for teaching health in
schools, the health minor is not restricted to those preparing to work
in health-related fields. It is a good minor to combine with all majors
in education and is excellent background for graduate programs in
the school health and community health disciplines.

Sem hours

Minor in health ......................................................... 25

1. Required courses .................................................. 22
   HED 210 Red Cross First Aid .................................... 2
   HED 299 AIDS ...................................................... 1
   HED 302 Communicable Diseases ............................... 1
   HED 303 Elements of Nutrition Fitness ........................ 1
   HED 306 Consumer Health ......................................... 1
   HED 320 Health in the Schools .................................. 2
   HED 350 Scientific Foundations of Health ..................... 3
   HED 360 Concepts of Sex Education ............................. 2
   HED 380 Psychosocial Concepts of Health ........................ 2
   HED 390 Drug Use and Abuse .................................... 3
   HED 399 Teaching About AIDS .................................... 1
   HED 400 Health Education Curriculums ........................ 3

2. Restricted electives ............................................... 3
   Choose three credits in consultation with advising coordinator

Physical Education Minor

This program is intended for students interested in a teaching minor for the Secondary Provisional Certificate only.

Sem hours

Minor in physical education ......................................... 24

1. Required courses .................................................. 16-17
   PED 200 Anatomy and Physiology ................................ 5
   PED 204 Kinesiology .............................................. 2
   PED 281 Motor Development or PED 300 Physiology of Exercise or
   PED 310 Physiology of Human Performance .................... 2-3
   HED 210 Red Cross First Aid or

PED 312 Athletic Training and Physiotherapy ................... 2
PED 334 Adapted Physical Education .............................. 2
PED 367 Methods and Materials in Physical Education and Recreation ......................................................... 3

2. Restricted electives ............................................... 7-8
   Select a minimum of 7-8 credits from the following list of Methods of Teaching Physical Education activity courses.
   PED 150 Methods of Teaching Individual Sports .............. 3
   PED 151 Methods of Teaching Team Sports I .................. 3
   PED 152 Methods of Teaching Team Sports II .................. 1
   PED 153 Methods of Teaching Conditioning Activities .......... 1
   PED 250 Methods of Teaching Aquatics .......................... 2
   PED 251 Methods of Teaching Gymnastics ........................ 3

Physical Education Minor for Special Education Majors

Minor in physical education for special education majors ................ 24

The minor in adapted physical education is designed for special education undergraduates who wish to complete requirements for the Michigan Approval for Teachers of Physical Education of Handicapped Individuals.

1. Required courses .................................................. 12-17
   *PED 200 Anatomy and Physiology .............................. 5
   PED 204 Kinesiology .............................................. 2
   PED 281 Motor Development ...................................... 3
   PED 282 Perceptual-Motor Training ............................. 1
   PED 334 Adapted Physical Education ............................ 2
   PED 367 Methods and Materials in Physical Education .......... 2
   Adapted PE academic electives (consult minor adviser) ........ 2
   **PED 490 Fieldwork in Adapted Physical Education ........ 4

2. Restricted electives ............................................... 6
   Select a minimum of 6 credits from the following list of Methods of Teaching Physical Education activity courses.
   PED 150 Methods of Teaching Individual Sports .............. 3
   PED 151 Methods of Teaching Team Sports I .................. 3
   PED 152 Methods of Teaching Team Sports II .................. 1
   PED 153 Methods of Teaching Conditioning Activities .......... 1
   PED 250 Methods of Teaching Aquatics .......................... 2
   PED 251 Methods of Teaching Gymnastics ........................ 3
   PED 350 Methods of Teaching Rhythmic Activities .......... 1
   PED 351 Methods of Teaching Fundamental Movement and Movement Education .......................... 1
   PED 352 Methods of Teaching Elementary Physical Education ................................................................. 2

* Majors in physically or otherwise health impaired (POHi) are exempt from this requirement. You must select 5 additional hours of electives after consultation with the adapted physical education adviser.

** This course is not required for completion of the minor. The course is necessary for those students seeking the State of Michigan Approval as a Physical Education Teacher of the Handicapped.
Recreation and Park Management Minor

Sem hours

Minor in recreation and park management ...................................................... 20

1. Required courses .................................................................................. 15

   REC 100 Introduction to Recreation/Leisure Services ............................. 3
   REC 250 Field Work .............................................................................. 1
   REC 260 Recreation Leadership ............................................................ 3
   REC 360 Recreation Program Planning ............................................... 3
   REC 451 Park Maintenance and Management ..................................... 2
   REC 460 Recreation and Park Administration ...................................... 3

2. Electives .................................................................................................. 5

   REC 280 Camping, REC 251, 252, 253 Field Work, REC 290 Outdoor Recreation, REC 370 Youth Organizations, REC 300 Recreation for Special Populations, REC 310 Leisure and the Older Adult, REC 400 T.R. Process and Services, REC 477, 478, 479 Special Topics, REC 481 Adapted Aquatics

E 152 Arts and Crafts
BIO 224 Principles of Conservation
GES 114 National Parks and Monuments, GES 315 Land Use Management
PLS 431 Theory of Public Administration
ACC 246 Accounting for Public Administration
CTA 352 Communication Negotiations, CTA 355 Assertive Communication

Activity Courses for General Students

The physical education activity requirement is explained on page 34 in this catalog. Additional information may be obtained in the department office in Room 235 Warner Physical Education Building.

Students are required to wear apparel appropriate to safe and efficient participation in the particular course activity. Students are also required to pay a locker and towel fee. This fee is payable at the Cashier's Office, Pierce Hall.

100 Level—Beginning Courses

These courses are designed for students who have limited or no experience in the particular activity. Instruction and participation include basic skills, rules and strategies. Although all courses are open to both men and women, certain courses include content that is prescribed by the course title, for example PEG 119 Women's Gymnastics and PEG 122 Men's Gymnastics.

Sem hours

PEG 101 Weight Control and Fitness .......................................................... 2
PEG 102 Aerobic Dance ........................................................................... 1
PEG 103 Couple, Square, and Ballroom Dancing .................................... 1
PEG 108 Basketball .................................................................................. 1
PEG 109 Jishukan Jujitsu ...................................................................... 1
PEG 111 Volleyball .................................................................................. 1
PEG 117 Synchronized Swimming .......................................................... 1
PEG 119 Women's Gymnastics .............................................................. 1
PEG 120 Modern Rhythmic Gymnastics ............................................... 1
PEG 121 Orienteering .......................................................................... 1
PEG 122 Men's Gymnastics .................................................................... 1
PEG 126 Conditioning Activities .............................................................. 1
PEG 128 Judo ......................................................................................... 1
PEG 130 Assault and Rape Prevention .................................................... 1
PEG 140 Marching Band ....................................................................... 1
PEG 141 Adapted Activities .................................................................... 1
PEG 142 Racquetball and Paddleball ..................................................... 1
PEG 143 Fencing .................................................................................... 1
PEG 144 Trap and Skeet Shooting .......................................................... 1
PEG 145 Cross Country Skiing ............................................................... 1
PEG 146 Beginning Snow Skiing ............................................................. 1
PEG 147 Archery .................................................................................... 1
PEG 148 Tennis ..................................................................................... 1
PEG 149 Badminton ............................................................................... 1
PEG 150 Golf .......................................................................................... 1
PEG 151 Bowling .................................................................................... 1
PEG 152 Sailing ..................................................................................... 1
PEG 153 Swimming ............................................................................... 1
PEG 155 Jazz .......................................................................................... 1
PEG 156 Canoeing ................................................................................ 1
PEG 158 Folk Dancing ........................................................................... 1
PEG 159 Tap Dancing ............................................................................ 1
PEG 160 Ballet ....................................................................................... 1
PEG 161 Modern Dance ......................................................................... 1

200 Level—Intermediate and Advanced Courses

These courses assume basic ability and knowledge in the particular activity. Students who elect courses should have successfully completed the beginning course or have had equivalent instruction and/or experience. All courses are open to both men and women except those advanced courses governed by University eligibility rules and regulations.

Intermediate Sem hours

PEG 209 Intermediate Jishukan Jujitsu ..................................................... 1
PEG 219 Intermediate Apparatus .............................................................. 1
PEG 221 Cycling ..................................................................................... 1
PEG 222 Men's Gymnastics II ................................................................. 1
PEG 224 Jogging ................................................................................... 1
PEG 225 Intermediate Golf .................................................................. 1
PEG 228 Intermediate Badminton ............................................................ 1
PEG 243 Intermediate Fencing ................................................................. 1
PEG 244 Recreational Shooting and Hunting Safety ............................ 1
PEG 248 Intermediate Tennis ................................................................. 1
PEG 253 Intermediate Swimming ........................................................... 1
PEG 254 Diving Techniques and Competitive Swimming ................... 1
PEG 255 Jazz II ..................................................................................... 1
PEG 258 Intermediate Folk Dancing ....................................................... 1
PEG 260 Intermediate Ballet ................................................................. 1
PEG 261 Intermediate Modern Dance .................................................... 1
PEG 316 Intermediate Tumbling and Floor Exercise—Women ........... 1

Advanced

PEG 220 Varsity Rifle Team ................................................................. 1
PEG 229 Varsity Soccer ........................................................................... 1
PEG 230 Varsity Cross Country ............................................................... 1
PEG 231 Varsity Football ....................................................................... 1
PEG 232 Varsity Basketball ................................................................. 1
PEG 233 Varsity Swimming ................................................................. 1
ATH 119 Orientation to Athletic Training. One sem hour
For the first-year student. A survey of athletic training procedures, facilities and equipment through observations and class meetings.

ATH 220 Remedial Exercises and Therapeutic Modalities. Three sem hours
A study of the principles of applications, physiological effects, indications and contraindications of all commonly used therapeutic modalities and therapeutic exercise methods used in athletic training. Prereq: PED 119 Orientation to Athletic Training.

ATH 225 Practicum I. Two sem hours
A supervised educational experience in athletic training under the supervision of a certified athletic Trainer. Prereq: PED 119 Orientation to Athletic Training and department permission.

ATH 250 Techniques of Officiating Volleyball. One sem hour
The proper techniques and mechanics of officiating volleyball taught through class presentations and practical experiences. Rules interpretation and application, positioning, scoring, verbal and hand signals and the responsibilities of an official. Students may become registered volleyball officials with the Michigan High School Athletic Association.

ATH 251 Techniques of Officiating Basketball. One sem hour
The proper techniques and mechanics of officiating basketball taught through class presentations and practical experience. Floor positions, signals, interpretation and application of rules, officials' duties and the psychology of officiating. For students interested in pursuing job opportunities in officiating basketball, as well as coaches and teachers. Lecture and laboratory sessions.

ATH 252 Techniques of Officiating Softball. One sem hour
Proper mechanics and techniques of officiating softball. Rules interpretation and application, positioning, scoring, verbal and hand signals, and the duties of an official. Students may also become registered softball officials with the Michigan High School Athletic Association. Lecture and laboratory sessions.

ATH 261 Techniques of Officiating I. Two sem hours
An elective course offered to men and women students interested in pursuing officiating as an avocation or as an integral part of a coaching background. The course covers football and men's and women's basketball. Registration with the Michigan High School Athletic Association will be available.

ATH 262 Techniques of Officiating II. Two sem hours
An elective course offered to men and women students interested in pursuing officiating as an avocation. The course would also be valuable to those students who are interested in coaching as the coach-official relationship is a valuable tool in one's coaching background. The sports covered are: track and field, baseball, and softball. There will be a practical phase as well as a lecture phase of instruction.

ATH 263 Theory of Football. Two sem hours
Lecture course covering the basic fundamentals and styles of offensive and defensive football.

ATH 265 Theory of Baseball. Two sem hours
The fundamental skills and strategy of baseball for the prospective teacher and coach.

ATH 267 Theory of Basketball. Two sem hours
Lecture course covering the basic fundamentals and styles of offensive and defensive basketball.

ATH 269 Theory of Track and Field. Two sem hours
The fundamental techniques for coaching and administering programs of track and field for the prospective teacher and coach.

ATH 315 Psychology of Coaching. Two sem hours
Practical guidelines to help the prospective coach more effectively apply behavioral science principles to performance aspects of sport.

ATH 317 Theory of Coaching Individual Sports for Women. Two sem hours
Coordinates, correlates and supplements skills and information already conveyed in badminton, golf, tennis and archery activity classes. Place of individual sports in the school intramural and interschool programs, lesson plans, unit plans, techniques and strategies of advanced play, organization of a large class, evaluation of current literature pertinent to each activity.

ATH 318 Theory of Coaching and Teaching Women's Team Sports. Two sem hours
Coordinates, correlates and supplements skills and coaching techniques introduced in activity courses. Field sports, volleyball and basketball. Prereq: PEP 235 Softball, PEP 152 Track and Field for Women.

ATH 320 Recognition and Assessment of Athletic Injuries. Three sem hours
A study of the principles, procedures and techniques that are commonly utilized in the recognition and assessment process of athletic injury. Emphasis is placed on "history taking, the physical examination, and the primary care features of athletic injury." The course is primarily lecture, however, demonstrations, slides, and
practical skill analysis supplement the course. Candidate students in athletic training are required to take this course.

Prereq: PED 200 Anatomy and Physiology and ATH 225 Practicum I.

ATH 390 Pre-Internship. Two sem hours
This course is organized and conducted to include a supervised clinical experience that allow the advanced student to assist in the skills, procedures and management of athletic injury and health care.

Prereq: Candidacy and department permission.

ATH 490 Internship - Athletic Training. Eight sem hours
The course is clinical experience to be conducted at an off-campus agency. The agency provides direct supervision at the site. The course is limited to senior students in their last semester. The student will topically be expected to increase his/her skills and knowledges in the key task areas of athletic training.

Prereq: Candidacy and department permission.

Dance Courses

DAN 106 Introduction to the Performing Arts. Three sem hours
A survey of the arts of dance, theatre and music, developing an understanding and appreciation of representative works in the three fields. The place of these arts in contemporary society and their contribution to a richer life. Attendance required at specific on campus performances.

DAN 107 Rhythmic Analysis and Dance Accompaniment. Three sem hours
The study of rhythm, sound and music literature as related to the teaching and performing of dance. Assigned listening experiences and designated explorations of pertinent elements of music.

DAN 245 Elements of Dance Composition. Three sem hours
An introduction to the fundamentals of choreography, including the use of improvisation and the development of compositions. Exploration and manipulation of the elements of dance.

Prereq: PEP 116 Modern Dance Technique I.

DAN 255 Dance Production. Three sem hours
A study of the fundamentals of dance production including publicity, planning and organization, set design and construction, stage lighting, sound effects, recording, costuming and stage make-up. Laboratory projects coordinated with dance productions.

DAN 350 History of Dance. Three sem hours
A lecture and reference course covering the history, philosophy and theory of dance from primitive man to modern man, including the social and educational implications of dance today.

DAN 354 Methods and Materials in Teaching of Dance. Three sem hours
A study of the methods and the use of materials in the teaching of dance idioms K-12. Modes and models that facilitate learning, lesson planning and vertical progression. Experiences in teaching and field observations.

DAN 450 Advanced Dance Composition. Four sem hours
An extension of the principles explored in DAN 245 Elements of Dance Composition with emphasis on structural development and experiences in the use of thematic materials, selected dance idioms, multi-media resources and group choreography. A choreographic work will be required of students.

Prereq: DAN 107 Rhythmic Analysis and Dance Accompaniment and PEP 150 Modern Dance IV.

DAN 455 Seminar in Dance. Two sem hours
Current literature and dance research, trends in dance education and developments in contemporary concert dance. Lecture-discussion.

Prereq: DAN 350 History of Dance. DAN 450 Advanced Dance Composition or department permission.

DAN 456 Creative Dance for Children. Two sem hours
Goals, concepts, materials and experiences to teach children's creative dance.

DAN 477, 478, 479 Special Topics. One, two, three sem hours
Courses that can be offered on an experimental basis for purposes of meeting special needs, interests and/or innovations.

DAN 497, 498, 499 Directed Study. One, two, three sem hours
An opportunity for directed study in areas not provided in other course offerings, or greater depth of study in areas in which the student has a continuing interest. Students will be assigned to selected faculty members for direction, consultation and evaluation of the completed study or project. Open only to department majors and minors who have attained junior standing, with a grade point average of 3.0 or above and who have completed the appropriate background courses.

Prereq: Department permission.

Health Courses

HED 120 Healthful Living. Three sem hours
Develops in students the responsibility for guiding and evaluating their own health. Acquisition of attitudes, habits, skills and ideas favorable to healthful living. Material and information concerning mental, physical and social well-being. Group discussion, lectures, instructional aids.

HED 210 Standard American Red Cross First Aid. Two sem hours
For all students interested in accident prevention and in the development of the knowledge and skills essential for the immediate care of the suddenly ill or injured. Readings, lectures and practical work. Certificates for Standard First Aid and for Cardiopulmonary Resuscitation are awarded upon successful completion of the requirements for each.
HED 301 Drinking, Drunkenness 
and Alcoholism. 
A sem hour
Alcoholic beverages, effects of alcohol on the human body, drinking 
patterns, alcoholism, alcoholism and the family, and treatment 
and rehabilitation of the alcoholic. A lecture-discussion course 
tended to meet the personal needs of students and/or the professional 
needs of students who may deal with alcohol-related problems.

HED 302 From Host to Host: The Communicable Diseases. 
One sem hour
Various types of communicable diseases—childhood and young adulthood, skin, upper respiratory, gastrointestinal and sexually transmitted—their causes, modes of transmission, signs and symptoms, treatment, complications and means of control. Lectures, discussions, readings and audio-visual materials.

HED 310 Advanced First Aid and Emergency Care. 
Three sem hours
Designed for the sports medicine major. At the completion of this course, the student should have developed the functional first aid capabilities required of police officers, firefighters, emergency squad members, ambulance attendants, and others who, as part of their daily routines, may be required to provide the initial emergency care necessary to sustain life and to maintain life support until the victims of accidents or sudden illness are cared for by qualified medical personnel.
Prereq: HED 210 Red Cross First Aid or current Red Cross certification in First Aid.

HED 320 Health Education in the Elementary Grades. 
Two sem hours
For students preparing to teach primary and intermediate grades. Health observation of school children, survey of environmental conditions and other methods of determining the health needs of the child. The application of educational principles in health instruction. Evaluation of the newer courses in health education.
Prereq: Sophomore standing.

HED 330 Health Work in the Schools. 
Two sem hours
Scientific facts and current issues, practices and trends in school health programs at the secondary level. Methods and materials of health instruction.
Prereq: Sophomore standing.

HED 350 Scientific Foundations in Health. 
Three sem hours
Basic instruction in the physiological and anatomical concepts related to the health of the human organism. Laboratory work included.

HED 360 Concepts in School Sex Education. 
Two sem hours
The concepts of sex education as they apply to the school setting. A study of the biological, sociological and psychological foundations of sex education and the methods and materials for use in presenting sex education in schools.

HED 380 Psychosocial Concepts of Health. 
Two sem hours
Mental and social factors as they affect the health of the human being. An exploration of all health concepts and correlation of the mental and social phenomena with the physiological principles presented in HED 350 Scientific Foundations in Health.

HED 390 Drug Use and Abuse. 
Three sem hours
Alcohol and other drug use and abuse. Historical perspectives of current problems, pharmacology of drugs commonly abused, physiological and psycho-social factors related to abuse, drug problems of special populations, alcohol and other drug abuse prevention, treatment and rehabilitation, drugs and the law.

HED 399 Teaching About AIDS. 
One sem hour
A course for prospective teachers, nurses or others who want to examine the issues pertaining to teaching about AIDS prevention. Includes curriculum, methods, and resources.
Prereq: One course in AIDS or department permission.

HED 402 Selecting Health Products and Services. 
Three sem hours
The development of skills in making wise selections of health products and services. Characteristics of the health consumer, consumer protection agencies and laws, quackery, evaluation of health products and services.
Prereq: Sophomore standing.

HED 410 Drug Overdose Aid. 
Two sem hours
Outlined by the American Red Cross. Lectures, textbook and practical application of first aid skills and overdose aid skills to give immediate, temporary help in cases of accidents involving drugs. Listening, feedback and communication skills; limited field experience or its equivalent. Certification in Multi-Media First Aid, Cardiopulmonary Resuscitation and Overdose Aid is awarded upon successful completion of the course.

HED 420 Health and Aging. 
Three sem hours
A study of some of the major physiological aspects of aging. A review of the basic systemic anatomy and physiology necessary to understand the major aspects of biological aging and the chronic diseases associated with aging. For the general student.
Prereq: Sophomore standing.

HED 430 Community Health Resources. 
Two sem hours
Community health programs and resources as they apply to the school health program.
Prereq: HED 320 Health Education in the Elementary Grades.

Physical Education Courses

PED 150 Methods of Teaching Individual Sports. 
Three sem hours
A required class for physical education majors/minors preparing to teach individual sports in the elementary and secondary schools. Instruction in the teaching, performance, analysis, and evaluation of selected fundamental badminton, golf, and tennis skills.

PED 151 Methods of Teaching Team Sports 1. 
Three sem hours
A required class for physical education majors/minors preparing to teach in elementary and secondary schools. Instruction in the teaching, performance, analysis, and evaluation of fundamental basketball, softball and volleyball skills will be presented.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PED 152</td>
<td>Methods of Teaching Team Sports II.</td>
<td>One sem</td>
<td>A required class for physical education majors/minors who are preparing to teach in elementary and secondary schools. Instruction will focus on performance, analysis, methods of teaching and evaluating of skills utilized in soccer, team handball, and non-traditional activities.</td>
</tr>
<tr>
<td>PED 153</td>
<td>Methods of Teaching Conditioning Activities</td>
<td>One sem</td>
<td>A required class for physical education majors/minors who are preparing to teach in elementary and secondary schools. Instruction will focus on performance, analysis, methods of teaching and evaluating conditioning activities to increase physical fitness.</td>
</tr>
<tr>
<td>PED 200</td>
<td>Anatomy and Physiology</td>
<td>Five sem</td>
<td>A textbook course, supplemented by lectures and demonstrations, on the structure and functions of the bones, joints and muscles and the organs of digestion, respiration and excretion.</td>
</tr>
<tr>
<td>PED 204</td>
<td>Kinesiology (Mechanics of Movement)</td>
<td>Two sem</td>
<td>A textbook course in the mechanism of bodily movements. The separate movements of the upper limbs, lower limbs and trunk; those of the body as a whole as it is used in gymnastics, games and sports and the various occupations of life. Prereq: PED 200 Anatomy and Physiology.</td>
</tr>
<tr>
<td>PED 209</td>
<td>Bio-Fitness</td>
<td>Two sem</td>
<td>Individual biological needs and how those needs are related to daily habits. Students will complete an individual fitness profile that will be the basis for understanding how desirable changes in fitness are achieved.</td>
</tr>
<tr>
<td>PED 210</td>
<td>Lifetime Wellness and Fitness</td>
<td>Three sem</td>
<td>This lecture-laboratory course is designed to assist students in exploring five components of wellness and applying component concepts into their lifestyles through experiential learning.</td>
</tr>
<tr>
<td>PED 240</td>
<td>History and Philosophy of Physical Education</td>
<td>Two sem</td>
<td>A lecture and reference course covering the history and philosophy of physical education and play and how they have influenced the social structure of the various countries and their educational implications.</td>
</tr>
<tr>
<td>PED 250</td>
<td>Methods of Teaching Aquatics</td>
<td>Two sem</td>
<td>A required course for physical education majors/minors. Aquatics covers the teaching of the four competitive swimming strokes; front crawl, back crawl, breast stroke, and butterfly. In addition, lifesaving strokes, side stroke, and elementary backstroke are studied to prepare students to teach swimming in physical education classes.</td>
</tr>
<tr>
<td>PED 251</td>
<td>Methods of Teaching Gymnastics</td>
<td>Three sem</td>
<td>A required class for physical education majors/minors who are preparing to teach in elementary and secondary schools. Instruction in the teaching, performance, analysis, and evaluation of fundamental gymnastics skills will be presented.</td>
</tr>
<tr>
<td>PED 257</td>
<td>Physical Education for the Classroom Teacher</td>
<td>Two sem</td>
<td>A methods and materials course in which the prospective classroom teacher gains knowledge in organizing and implementing a physical education program.</td>
</tr>
<tr>
<td>PED 281</td>
<td>Motor Development</td>
<td>Three sem</td>
<td>A study of the continuous process of motor development. Observation and analysis of locomotor, non-locomotor and manipulative patterns; planning and directing movement experiences appropriate for the preschool and elementary school child. Supervised laboratory experience provided.</td>
</tr>
<tr>
<td>PED 282</td>
<td>Perceptual Motor Training</td>
<td>One sem</td>
<td>Planning and effecting gross motor activity programs for students with neurological dysfunction. Assessment procedures and activity sequences. Supervised field experiences required.</td>
</tr>
<tr>
<td>PED 300</td>
<td>Physiology of Exercise</td>
<td>Three sem</td>
<td>A lecture/laboratory course concerned with human responses and adaptations to muscular activity. The enhancement of health and physical fitness for the general population, optimizing performance in the various types and levels of competitive athletics. Prereq: PED 200 Anatomy and Physiology.</td>
</tr>
<tr>
<td>PED 305</td>
<td>Practical Concepts of Conditioning</td>
<td>Two sem</td>
<td>A practical experience in applying the concepts and theories of conditioning to in-class situations as well as coaching. Programs such as interval training will be designed and experienced by the student for use in a particular situation.</td>
</tr>
<tr>
<td>PED 310</td>
<td>Physiology of Human Performance</td>
<td>Two sem</td>
<td>Environmental physiology (heat stress, altitude and underwater physiology) as it relates to physical education; exercise metabolism as it relates to training techniques for endurance, strength, speed, weight control and physical fitness; physiological and structural sex differences as they relate to physical education; special aids to performance.</td>
</tr>
<tr>
<td>PED 312</td>
<td>Athletic Training and Physiotherapy</td>
<td>Two sem</td>
<td>For prospective coaches and physical educators. Principles and skills of athletic training and physiotherapy. Lectures, demonstration and practice of massaging, bandaging, taping and therapeutic measures as applied in athletic activities and injuries. Prereq: PED 200 Anatomy and Physiology.</td>
</tr>
<tr>
<td>PED 316</td>
<td>Foundations of Coaching</td>
<td>Two sem</td>
<td>Practical and scientific information necessary for the implementation of a successful coaching program.</td>
</tr>
<tr>
<td>PED 334</td>
<td>Adapted Physical Education</td>
<td>Two sem</td>
<td>Lecture and participation covering the philosophy and goals of adapted physical education; the relationship of adapted physical education to the general program in physical education, the needs of the exceptional student, the organization of such a program, the public relations involved, body mechanics, body conditioning, posture, physical examinations and exercises for defects. Supervised field experience required.</td>
</tr>
</tbody>
</table>
PED 350 Methods of Teaching Physical Education. One sem hour
A required class for physical education majors who are preparing to teach in elementary and secondary schools. Instruction will focus on the teaching, performance, analysis, and evaluation of fundamental rhythmic dance skills.

PED 351 Methods of Teaching Fundamental Movement and Movement Education. One sem hour
A required class for physical education majors who are preparing to teach in elementary and secondary schools. Instruction will focus on the teaching, performance, analysis, and evaluation of fundamental movement skills.

Prereq: PED 281 Motor Development or PED 334 Adapted Physical Education.

PED 352 Methods of Teaching Elementary Physical Education. Two sem hours
A required course for physical education majors who are preparing to teach and direct physical education experiences for elementary school children. The course focuses on theory and practical experience in physical education in the elementary school. It presents a variety of activities and teaching styles needed to meet the needs of children in the elementary school years.

Prereq: PED 351 Methods of Teaching Fundamental Movement and Movement Education.

PED 354 Special Olympics. One sem hour
Planning and effecting Special Olympics participation for mentally impaired students. Task analysis, organization, instructional techniques, and program content. Supervised field experiences required.

Prereq: PED 281 Motor Development or PED 334 Adapted Physical Education.

PED 356 Principles of Occupational Therapy Education. One sem hour
A required class for occupational therapy majors who are preparing to teach and direct physical education experiences for elementary school children. Principles of occupational therapy education classes at different levels required.

Prereq: PED 351 Methods of Teaching Fundamental Movement and Movement Education.

PED 357 Methods and Materials in Physical Education. Three sem hours
Methods and use of materials in the teaching of activities in the elementary and secondary grades. Unit and lesson planning, classroom management, audio-visual aids. Observations of physical education classes at different levels required.

PED 358 Physical Education for the Visually and Hearing Impaired. One sem hour
Planning and effecting physical education programs for visually and hearing impaired students. Adaptations, teaching strategies, and activity sequences. Supervised field experiences required.

Prereq: PED 281 Motor Development or PED 334 Adapted Physical Education.

PED 360 Exercise Science. Three sem hours
Experience in measurement and establishing exercise programs for visually and hearing impaired students. Task analysis, organization, instructional techniques, and program content. Supervised field experiences required.

Prereq: PED 209 Bio-Fitness, PED 300 Physiology of Exercise, PED 310 Physiology of Human Performance, PED 410 Laboratory Techniques in Human Performance Analysis, sports medicine candidate.

PED 361 Electrocardiography. Two sem hours
A two-hour undergraduate course on the basics of electrocardiography. The student will learn the basic concepts of conduction, heart rate, rhythm, axis determination, hypertrophy infraction and the effects of drug therapy.

Prereq: PED 200 Anatomy and Physiology and ZOO 318 Laboratory in Human Anatomy.

PED 362 Tests and Measurements in Physical Education. Two sem hours
The discriminating selection, administration, interpretion of standardized tests and measurements in physical education.

PED 363 Organization and Administration of Physical Education. Three sem hours
Principles and objectives in physical education in the light of the needs, interests, and characteristics of public school students. Principles of organization and administration of programs in departments, classes, clubs, intramurals, athletics and leadership. Functional construction of gymnasia, swimming pools, athletic fields and facilities.

Prereq: Junior or senior standing.

PED 405 Women in Sports. Three sem hours
Patterns, problems, and conditions associated with women's sports involvement in selected world cultures; the sports woman in American society.

PED 410 Laboratory Techniques in Human Performance Analysis. Three sem hours
Measurement of human performance, including body composition, somatology, resting oxygen consumption, carbon dioxide production, respiration exchange ratio, caloric expenditure, maximum oxygen consumption, anaerobic metabolism, prediction of maximum aerobic capacity, graded exercise testing.

PED 419 Medical and Administrative Aspects of Athletic Training. Two sem hours
To expose a candidate student to the various medical specialties that an athletic trainer is likely to utilize as medical support staff in the athletic health care setting. The organizational and administrative concepts are also featured that are necessary to the smooth delivery of an athletic health care system. The course is primarily lecture, but practical sessions are included where appropriate.

Prereq: Senior standing.

PED 421 Legal Aspects of Sport, Physical Education and Recreation. Two sem hours
Individual rights, due process, selected legal concepts and principles, liability, safe environments, risk management, contracts, insurance and other selected topics.

Prereq: Senior standing.

PED 422 Exercise Science. Two sem hours
Experience in measurement and establishing exercise programs based upon those measurements for the young, healthy adult students. Students will spend approximately 120 hours for two credit hours.

Prereq: PED 209 Bio-Fitness, PED 300 Physiology of Exercise, PED 310 Physiology of Human Performance, PED 410 Laboratory Techniques in Human Performance Analysis, sports medicine candidate.

PED 423 Special Topics. One, two, three sem hours
Offered on an experimental basis for one semester for purposes of meeting special needs and/or innovations.
### Recreation Courses

**PED 480 Internship - Exercise Science.**  
Eight sem hours  
A directed full semester field experience in a department-approved agency or institution under the direction of certified personnel to work with adult fitness and/or cardiac rehabilitation.  
**Prereq:** Candidacy and department permission.

**PED/REC 481 Adapted Aquatics.**  
Two sem hours  
Aquatic instructional techniques in working with special populations including physically disabled, developmentally disabled and the aging. Lectures, films, swimming skills, adaptations of swimming skills and 20 hours of field work experience. Students with current WSI who meet course requirements will receive Adapted Aquatics Instructor certification. Students with no WSI but who meet course requirements will receive Adapted Aquatics Aide certification.

**PED 490 Field Experience in Adapted Physical Education.**  
Four sem hours  
Required course for "teachers of physical education for handicapped individuals; approval." A directed fifteen-week field experience in teaching physical education to handicapped persons in a school setting.  
**Prereq:** Department permission.

**PED 495 Senior Seminar.**  
Two sem hours  
A synthesis of educational theories presented in the undergraduate physical education program and the student teaching experience.

**PED 496 Youth Sports Program.**  
Two sem hours  
Development of professional leadership skills for the expanding non-school community sports programs.

**PED 497, 498, 499 Directed Study.**  
One, two, three sem hours  
Directed study in areas not covered in other course offerings, or greater depth of study in areas in which the student has a continuing interest. Students will be assigned to selected faculty members for direction, consultation and evaluation of the completed study or project. Open only to department majors and minors who have attained junior standing, with a grade point average of 3.0 or above and who have completed the appropriate background courses.  
**Prereq:** Department permission.

**Recreation and Park Management and Therapeutic Recreation Courses**

**REC 100 Introduction to Recreation Leisure Services.**  
Three sem hours  
A basic overview of the field of recreation and leisure service delivery for the major student. Emphasizes the broad aspects of recreation and leisure as they relate to the delivery of human services. Includes history, philosophy, trends, and job opportunities. Lecture, discussion, film, and speakers from the field.

**REC 165 Leisure Lifestyles.**  
Three sem hours  
An introduction to leisure lifestyles as related to oneself and how leisure behavior relates to an individual's work, education, economy, ethic beliefs and values. The course involves individual leisure awareness, choices, goals, and strategies to assist in creating a quality and fulfilling life. Lecture, discussion, evaluation techniques and self-exploration. Helpful for majors in any discipline.

**REC 180 Activity Analysis and Adaption.**  
Two sem hours  
Develops the skills necessary to analyze activities to find inherent characteristics that contribute to program objectives for special populations. Components of activity analysis (physical, cognitive, affective and social/interactional skills) are studied in detail. Lecture, discussion, and experiential learning.

**REC 200 Introduction to Therapeutic Recreation.**  
Three sem hours  
An overview of therapeutic recreation relative to physically disabled, mentally impaired, emotionally impaired, socially deviant, the aged, and chemically dependent within clinical, outpatient and community settings. Lecture, discussion, film, readings and 20 hours of field work experience.

**REC 250, 251, 252, 253 Field Work in Recreation/Therapeutic Recreation.**  
One sem hour each  
An introductory course in field work. Students select a site for recreation leadership within a community or clinical setting. Students spend 60 hours on-site and participate in five classroom meetings.

**REC 260 Recreation Leadership.**  
Three sem hours  
Methods and techniques of group and individual leadership skills at three levels: direct face-to-face leadership, supervision and management. An overview of conceptual and theoretical components of the leadership process; practical application of various leadership methods and procedures in a cross section of leisure service settings. Lectures, discussion and experiential learning.

**REC 271 Park Maintenance.**  
Three sem hours  
Principles, practices, and techniques of maintenance and management of outdoor recreation areas and facilities. Resource maintenance and management; maintenance and depreciation of equipment; personnel practices in maintenance; safety practices, legal issues; and public relations. Lecture, speakers, park visits, and projects.  
**Prereq:** REC 100 Introduction to Recreation/Leisure Services or department permission.

**REC 280 Camping.**  
Two sem hours  
History of organized camping; camping on federal and state recreation areas; information sources for camping; planning and preparation (equipment, clothing, meals, camp schedules, and camp programs). Skills areas for camping: map and compass, ropes and knot-tying, campfire construction, camp tool use and maintenance, tents. Safety reviewed for meal preparation, use of tools, and toxic plants and animals. Lecture, demonstrations, and students participate in a weekend camping trip.

**REC 300 Therapeutic Recreation for Special Populations.**  
Three sem hours  
Leadership, assessment, adaption, and programming techniques to meet the leisure needs of special populations in today’s society. Task analysis, facilitation techniques, leisure counseling, programming and adaptation of specific activities. Lecture, experiential participation and 30 hours of community field work.  
**Prereq:** REC 200 Introduction to Therapeutic Recreation/REC 260 Recreation Leadership.
REC 310 Leisure and the Older Adult.  Three sem hours
Interdisciplinary approach for working with older persons through physical activities, socialization, drama, music, dance, fitness, and facilitation techniques. Aspects of aging, concepts of leadership and individualized programming are studied and then experienced through activities at senior centers and long term care facilities. Lecture, group assignments, and experiential participation.

REC 320 Leisure Education.  Three sem hours
Concepts and techniques of leisure education for utilization with all populations. Leisure awareness, social interaction skills, leisure activity skills and leisure resources. Educates the student as a provider of leisure services. Lecture, speakers, readings and participation.

REC 330 Therapeutic Recreation: Substance Abuse.  Three sem hours
The use of leisure and recreation in the prevention and/or rehabilitation of chemical dependency. Skill development in areas of leisure education, group dynamics, facilitation techniques, communication, values clarification, decision-making, games and sports, new games, socialization and outdoor/nature techniques, and family leisure education. Lectures, discussions and experiential learning. Prereq: REC 200 Introduction to Therapeutic Recreation.

REC 340 Techniques in Therapeutic Recreation.  Three sem hours
Introduction to specific techniques used in therapeutic recreation, including counseling theory, psychotherapies, medical terminology, and transfers and lifts. Lecture, speakers, assessments, and 30 hours of fieldwork. Prereq: REC 200 Introduction to Therapeutic Recreation.

REC 360 Recreation Program Planning.  Three sem hours
Learning to plan and deliver leisure experiences to an individual or group of individuals. Use of systematic way of identifying, developing, implementing, evaluating and revising programs to meet people's leisure needs and interests. Plan individual programs. Lecture, speakers, projects. Prereq: REC 260 Recreation Leadership.

REC 365 Professional Preparation.  One sem hour
Involves self appraisal as a recreation professional; professional ethics; writing practicum and career goals; developing a chronological and functional resume; writing letter of inquiry and cover letter; information on job placement within recreation services; NRPA registration/certification; applying for graduate school; and the job interview process. Lecture, self appraisal, formal video taped interview with a recreation professional.

REC 390 Outdoor Recreation.  Three sem hours
History of outdoor recreation and outdoor recreation management. A systems view of outdoor recreation resources; federal, state, and local agencies that provide outdoor recreation opportunities; their history and management philosophies and problems. Too utilized by managers of outdoor recreation resources to provide opportunities for recreation. Lecture, speakers, projects.

REC 400 Therapeutic Recreation Processes and Services.  Three sem hours
The philosophical and theoretical premises on which program design is developed; sequential development components of program design, implementation and evaluation; specific management concerns that are crucial to the effective operation and evaluation of systems-designed therapeutic recreation programs. Lectures, study of ongoing programs, and assessment through role-playing. Prereq: REC 200 Introduction to Therapeutic Recreation, REC 300 Therapeutic Recreation for Special Populations, REC 360 Techniques in Therapeutic Recreation or department permission.

REC 449 Therapeutic Recreation Practicum.  Eight sem hours
A full-time, 15-week, 600-hour experience in an approved hospital, outpatient, or community setting under direction of a certified therapeutic recreation specialist and University supervisor. Leadership, supervisory and administrative experience of a practical nature. Prereq: Candidate status for a minimum of one semester prior to application for practicum; completion of 90 percent of all academic courses including REC 100 Introduction to Recreation/Leisure Services, REC 200 Introduction to Therapeutic Recreation, REC 250 Field Work in Recreation/Therapeutic Recreation, REC 260 Recreation Leadership, REC 300 Therapeutic Recreation for Special Populations, REC 340 Techniques in Therapeutic Recreation, REC 360 Recreation Program Planning, REC 400 Therapeutic Recreation Processes and Services, REC 460 Park and Recreation Administration, and REC 465 Park and Recreation Management; completion of 250 hours of fieldwork; grade point average of 2.50 overall and 2.75 in all major classes.

REC 450 Park Planning and Design.  Three sem hours
Overview of history of park planning and design; scope of park planning, types of park plans; planning processes, systems, and site-level planning; work program design; use of consultants; sources for planning; recreation standards; analysis of supply and demand for recreation and open space; site analysis; use area relationships; and site plan development and interpretation. Lab: (required) maps and aerial photos, drawing and perspective, computer drawing, site analysis and design. Lecture, projects, field trips. Prereq: REC 100 Introduction to Recreation/Leisure Services.

REC 460 Park and Recreation Administration.  Three sem hours
Influence of organizational thought as related to park and recreation agencies. Organizational structures of park and recreation agencies, budgeting, management by objectives, public and private financial sources, volunteerism, marketing of park and recreation resources, pricing services and products, and administrative responsibility and ethics. Lectures, speakers, projects. Prereq: REC 100 Introduction to Recreation/Leisure Services, REC 260 Recreation Leadership, REC 360 Recreation Program Planning, or permission.
REC 465 Park and Recreation Management. Three sem hours
Use of system's approach to agency management; nature of a problem and problem-solving model; use of public input in management decision-making; role of research in managing recreation services; personnel management practices; and basic legal issues. Lecture, speakers, projects.
Prereq: REC 100 Introduction to Recreation/Leisure Services, REC 250 Recreation Leadership, REC 360 Recreation Program Planning, or permission.

REC 477, 478, 479 Special Topics. One, two, three sem hours Offered on an experimental basis for one semester for purposes of meeting special needs and/or innovations.

REC/PED 481 Adapted Aquatics. Two sem hours Aquatic instructional techniques in working with special populations including physically disabled, developmentally disabled, emotionally impaired and the aged. Lectures, films, swimming skills, adaptations of swimming skills and 20 hours of fieldwork.

REC 489 Recreation Practicum. Eight sem hours A full time, 15 week, 600-hour experience in a leisure services setting under a qualified recreation/leisure specialist and University supervisor.
Prereq: Completion of 90 percent of all academic courses including REC 100 Introduction to Recreation/Leisure Services, REC 200 Introduction to Therapeutic Recreation, REC 250 Fieldwork in Recreation/Therapeutic Recreation, REC 260 Recreation Leadership, REC 360 Recreation Program Planning, REC 460 Park and Recreation Administration, and REC 465 Park and Recreation Management; completion of 250 hours of fieldwork. Overall grade point average of 2.5 and GPA of 2.75 in recreation and park management required and elective courses.

EDL 402 Organization of American Education. Three sem hours A study of the organization and control of education in America to determine its purposes, structural characteristics and efficiency, and the various educational roles.
Prereq: One professional education class or department permission.

LEADERSHIP AND COUNSELING

Department Head: Martha W. Tack
Associate Professors: Helen R. Ditzhazy, William M. Hetrick, Charles Mitchell, Jr.

Graduate-level Study

Students who wish to enter the educational leadership program or the guidance and counseling program are reminded that these are graduate-level programs. The undergraduate courses in these areas provide an introduction to the organization of American education, help students explore career opportunities or learn about basic guidance concepts and processes. Qualified senior students may enroll in selected 500-level graduate courses for undergraduate or graduate credit. Rules governing graduate study and complete descriptions of all graduate courses and programs are in the Graduate Catalog.

The educational leadership program offers graduate work leading to the master's, specialist and doctoral degrees in school administration, as well as many other leadership positions in education, e.g., adult education, business management, vocational education, community education, personnel, public relations, community college.

The guidance and counseling program is concerned with the professional preparation of elementary and secondary school counselors, student personnel workers, and counselors and personnel workers in non-education settings; e.g., employment counselors, vocational rehabilitation counselors, community agency personnel, business/industry personnel. This program provides course work leading to completion of the master's and specialist degrees.

Advising coordinators:
Educational leadership: Jack D. Minzey
Guidance and counseling: Benjamin W. Van Riper

Educational Leadership Courses

EDL 402 Organization of American Education. Three sem hours A study of the organization and control of education in America to determine its purposes, structural characteristics and efficiency, and the various educational roles.
Prereq: One professional education class or department permission.

EDL 478, 479 Special Topics. Two, three sem hours Courses that can be offered on an experimental basis for one semester for purposes of meeting special needs, interests and/or innovations.
Guidance and Counseling Courses

G&C 100 Career Exploration and Decision-Making. Three sem hours
Self-exploration (values, interests, goals) as it relates to careers and the world of work. Career exploration and personal decision-making strategies and processes presented in an experiential format. Career planning and resources (people and materials).

G&C 450 An Introduction: Counseling Concepts and Skills. Three sem hours
Introduction to basic concepts of counseling relationships; training in basic counseling skills; experiential learning activities which focus on self-development, interpersonal relationships, and related issues; and initial exposure to counseling theory and process. Open to juniors and seniors or by department permission; recommended for those planning a career in the helping professions.

G&C 478, 479 Special Topics. Two and three sem hours
Courses that can be offered on an experimental basis for one semester for purposes of meeting special needs, interests and/or innovations.

SPECIAL EDUCATION
Office: 223 Rackham Building

Department Head: Kathleen S. Quinn
Professors: Henry L. Gottwald, Marylyn E. Lake, Nora Maria Sandra McClennen, Gary B. Navarre, James R. Palasek, Dale L. Rice
Associate Professors: George J. Barach, Michael Beebe, Joe E. Coyer, Dorothy French, Lawrence F. Geffen, Ronald Hoodin, Robert Kreger, Gayle L. Nash, Kathleen S. Quinn, Marvin L. Skore
Assistant Professors: Roberta Anderson, Lawrence M. Bemish, Marjorie K. Chamberlain, Carole Gorenflo, Nancy L. Halmhuber, Angela Massenberg, Ralph R. Rupp, Kenneth Schatz

The Department of Special Education is among the oldest and most prestigious preparation programs for teachers of the handicapped in the nation. It is the largest special education program in Michigan and among the most extensive in the country because of its numerous course offerings, experienced faculty, location and affiliations with schools, clinics, institutions, agencies and hospitals in the metropolitan area that surrounds the University.

The department provides courses that prepare students to educate the handicapped and to meet the basic requirements for the state Provisional Elementary and Secondary Certificate in Teaching.

In addition, the department has three unique facilities on campus:

1. A speech and hearing clinic, which provides a complete range of clinical training opportunities for majors in speech pathology as well as observation opportunities for students in other programs of study. Clinical outpatient services are available both to college students and to children and adults from the surrounding areas.

Clinical speech and language evaluations and therapy and complete audiological services are offered, including diagnostic audiology, hearing aid evaluation and selection, aural rehabilitation, pre-nursery evaluation and training, and parent counseling. As part of their preparation, majors in speech and language impaired and hearing impaired may be directly involved in the delivery of these services under staff supervision.

2. An infant management program for the hearing impaired, which provides guidance for parents of hearing impaired children and enables them to help their child develop auditory/speech/language skills during their formative years.

Parents may observe staff members working with infants and discuss problems concerning their child. Students also have the opportunity to observe and participate in skill development.

3. A select education center, which provides a resource library to facilitate effective program and service delivery to the handicapped. Curriculum, reference and guidance materials are available for use by staff, faculty, students and graduates of the special education programs.
Students not majoring in special education may enroll in a planned program consisting of a sequence of special education courses to meet personal and professional goals. Designed primarily for those majoring in home economics, physical education or recreation, industrial education and music education, the program provides background on handicapped conditions but will not offer sufficient specialized work to obtain state approval to teach impaired children. The sequence of courses should be planned in advance and have the written approval of the head of the Department of Special Education.

Degrees: Bachelor of science and bachelor of arts.

Programs of Study
Curricula:
Emotionally impaired
Hearing impaired
Mentally impaired
Physically and otherwise health impaired
Speech and language impaired*
Visually impaired
*The speech and language impaired program is a five-year course of study to conform with professional and state guidelines and culminates in a master’s degree.

Minors:
Students will complete as a minimum one minor subject of 20 hours or a group minor of 24 hours. The minor must be in a teaching subject appropriate to and approved for the level of teaching certificate for which the student is qualifying.

Advising is according to the program area selected by students as their major. Each student is asked to seek help from the same adviser as consistently as possible. Faculty advisers post schedules of office hours on their office doors and include a schedule of times available for specially arranged conferences. Students must make their own appointments.

Advising coordinators can inform students of special area requirements and procedures. For example, students in the speech and language impaired program area must have their registration forms signed by their advisers prior to registration.

Advising coordinators:
Emotionally impaired: Joe Coyner, Robert Kreger, Dale Rice, Marvin Skore, Margaret Smith
Hearing impaired: Dorothea French, Gayle Nash
Mentally impaired: Marylyn Lake, Nora Martin, Sandra McClennen
Physically and otherwise health impaired: Roberta Anderson
Speech and language impaired: Marjorie Chamberlain, Carole Gorenflo, Ronald Hoodin, Angela Massenberg, James Palasek
Visually impaired: George Barach, Lawrence Geffen
Undeclared majors, transfers and foreign students:
Administrative associate

Admission requirements to the University, the College of Education and the Department of Special Education must be met by students intending to major in this department. Students may indicate their intention to major in special education upon entrance to the University. However, formal application for admission to any of the department’s programs of study will be considered only when supported by a letter of recommendation from a faculty member in the Department of Special Education and will be the decision of the faculty assigned to a specified program area. Steps in the formal application procedures are:

1. Completion of 40 semester hours with a grade point average of 2.50 or better.
2. Completion of SGN 251 Education of Exceptional Children and the introductory course in the major area of study with a grade of “C+” or better (except SLI. See below.) By program area of study these introductory courses are:
   b. Hearing impaired: (see statement under section titled certification).
   c. Mentally impaired: SMI 350 Introduction to Mental Retardation.
   d. Physically and otherwise health impaired: SP 1310 Developmental Aspects of Teaching Physically Impaired Children.
   e. Speech and language impaired: SL 1334 Applied Phonetics, SL 1335 Communication Disorders, SL 316 Speech Science and SL 1337 Language Acquisition with “B” or better.
   f. Visually impaired: Demonstrate proficiency in typing.
3. Submission of a formal application for admission* to the Department of Special Education supported by a letter of recommendation from a faculty member in the Department of Special Education.

*The hearing impaired and speech and language impaired programs of study have additional requirements for formal admission listed under each program’s certification requirements.

Criteria for continuance in a program of study in the Department of Special Education is dependent upon:
1. Maintenance of a 2.50 cumulative grade point average.
2. Maintenance of a 2.50 cumulative grade point average in major courses in program of study (3.0 in speech and language impaired).
3. Completion of all courses in the major with a grade of “C+” or better. Students will be required to retake any major course in which they earn a grade below “C-.” A major course may be repeated only once.
4. Demonstration of performance that indicates reasonable aptitude, maturity, stability, skill and understanding necessary for success in the professional field of special education.

Students who do not meet all of the above four criteria will be identified by the department as special help students. Students so identified will be required to confer with their adviser to jointly develop a written plan for correction of any deficiency. Opportunity for correction of the deficiency usually will not be extended beyond two semesters of full-time enrollment. Students who do not correct their deficiencies to the satisfaction of the program area faculty within the prescribed time limits will be subject to termination from that program of study.
The continuance or termination decision will be made by the faculty in the program area. Students may request a meeting with the faculty of a program area to apprise them of any extenuating circumstances that may aid them in arriving at a fair and equitable decision. The faculty decision will be final. The decision will be transmitted to the student in writing by the department head.

Nothing in this department's procedures will negate University or College of Education action for students on academic, administrative or social probation.

Field work is the pre-student teaching experiences required of all candidates for a teaching certificate. (See Pre-Student Teaching, page 231.) Majors should consult with their advisers regarding specific requirements within their designated areas of special education.

Student teaching in either elementary or secondary education must be completed successfully prior to the special student teaching placement. Special student teaching assignments are arranged and approved by the department and by the recommendation of the faculty within the designated area of special education.

Certification in either elementary or secondary education is required for all programs of study in special education except speech and language impaired (see SLI program description). Successful completion of any program of study leads to an endorsement in special education on either the elementary or secondary education certificate except in the area of speech and language impaired, in which the student must complete a five-year program and a master's degree before an endorsement will be granted. All endorsements are conferred by the State Department of Education upon recommendation of Eastern Michigan University.

Each of the programs of study in the Department of Special Education meets or exceeds minimum course, experience or competency requirements established by the Michigan State Board of Education for that endorsement area. However, meeting Michigan teaching certification and endorsement requirements does not necessarily meet requirements for teacher certification or endorsement in other states.

The hearing impaired and speech and language impaired programs also are certified by national professional associations. The American Speech-Language-Hearing Association issues Certificates of Clinical Competence to individuals who present satisfactory evidence of their ability to provide independent clinical services to persons who have disorders of communication (speech, language and/or hearing). An individual who meets these requirements may be awarded a Certificate of Clinical Competence in Speech Pathology. Specific requirements may be obtained from the advisers in speech and language impaired or hearing impaired.

National certification also is provided by the Council on Education of the Deaf to eligible majors in the hearing impaired program. Specific requirements may be obtained from advisers in this area.

Graduate study leads to the master's degree in special education and the specialist's degree in school psychology and special education. The M.A. and specialist's degrees are described in the Graduate Catalog.

Examples of programs affiliated with the Department of Special Education and providing opportunities for visits, observations and study are the following specialized facilities:

- Ann Arbor Public Schools
- Detroit Public Schools
- Durant/Turri Mott School, Flint
- Hawthorne Center, Northville
- Michigan School for the Blind at Lansing
- Monroe County Program for the Hearing Impaired, Ida
- Mott Children's Hospital School, Ann Arbor
- Northville Residential Treatment Center
- Northwest Skills Center
- Redford Union Day Treatment Program
- Redford Union Program for Hearing Impaired
- Royal Oak Public Schools
- Wayne-Westland Schools
- Ypsilanti Public Schools
- Ypsilanti State Hospital, Yorkwoods Center

Curriculum for Teachers of Special Education

Special education students must complete all major courses. A major consists of those courses listed under the heading of Major Concentration in one of the department's six programs. Grade point averages for a student's major will be computed using these courses and the special education core. The department's six program areas are: emotionally impaired, hearing impaired, mentally impaired, physically and otherwise health impaired, speech and language impaired, and visually impaired.

Students must complete all courses specified in their major concentration in addition to meeting the basic studies requirements.

Students must select elementary or secondary certification and elementary or secondary endorsement.

Basic studies

The following courses, within the basic studies requirements, must be selected by special education majors.

- BIO 105 Biology and the Human Species
- CTA 121 or CTA 124 Fundamentals of Speech (2 or 3 sem hours)
- PLS 112 American Government
- ENG 226 Report and Research Writing
- MTH 108/109 Functional Mathematics I and II
- Emotionally impaired majors must also select SOC 105 Introductory Sociology in addition to the above.

Special Education Core

(must be taken by all special education majors except speech-language impaired)

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem hours</th>
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<tbody>
<tr>
<td>PSY 101 Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SGN 251 Education of Exceptional Child</td>
<td>3</td>
</tr>
<tr>
<td>IE 252 Prevocational and Vocational Special Needs Programs</td>
<td>4</td>
</tr>
<tr>
<td>PED 257 Physical Education for the Special Education/Classroom Teacher</td>
<td>2</td>
</tr>
<tr>
<td>SGN 271 Language Development and Speech Disorders in Special Populations (except Hearing Impaired)</td>
<td>2</td>
</tr>
<tr>
<td>SGN 390 Measurement and Diagnosis in Special Education</td>
<td>3</td>
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</tbody>
</table>
### Elementary

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem hours</th>
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</thead>
<tbody>
<tr>
<td>SMI 427 Educating the Elementary Student with Mild Retardation</td>
<td>2</td>
</tr>
<tr>
<td>EDU 492 Student Teaching - Mentally Impaired Elementary</td>
<td>10</td>
</tr>
<tr>
<td>The above must be completed in addition to the elementary certification core listed elsewhere. Within the core, EDP 325 must be selected in lieu of EDP 322.</td>
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### Secondary

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<thead>
<tr>
<th>Course</th>
<th>Sem hours</th>
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<tbody>
<tr>
<td>SGN 485 Methods and Curriculum, Adolescents and Young Adults with Special Needs</td>
<td>2</td>
</tr>
<tr>
<td>EDP 486 Recitation and Field Experience with Adolescents and Young Adults: Mentally, Physically, Visually or Hearing Impaired</td>
<td>2</td>
</tr>
<tr>
<td>EDU 492 Student Teaching - Mentally Impaired Secondary</td>
<td>10</td>
</tr>
<tr>
<td>The above must be completed in addition to the secondary certification core listed elsewhere. Within the core, EDP 325 must be selected in lieu of EDP 322.</td>
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### Physically or Otherwise Health Impaired

<table>
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<tr>
<th>Course</th>
<th>Sem hours</th>
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<tbody>
<tr>
<td>SPI 240 Preclinical Experience - Pohi</td>
<td>3</td>
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<tr>
<td>SPI 310 Developmental Sciences for Teachers of the Physically Impaired</td>
<td>4</td>
</tr>
<tr>
<td>SMI 350 Introduction to Mental Retardation</td>
<td>3</td>
</tr>
<tr>
<td>SPI 360 Pathology of Physical and Health Impairments</td>
<td>3</td>
</tr>
<tr>
<td>SPI 412 Ancillary Services and Health Procedures for Teachers of the Physically Impaired</td>
<td>2</td>
</tr>
<tr>
<td>SLD 468 The Learning Disabled Child</td>
<td>2</td>
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</tbody>
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### Mentally Impaired

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<tr>
<th>Course</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU 492 Student Teaching - Mentally Impaired</td>
<td>10</td>
</tr>
<tr>
<td>The above must be completed in addition to the secondary certification core listed elsewhere. Within the core, EDP 325 must be selected in lieu of EDP 322.</td>
<td></td>
</tr>
</tbody>
</table>

### Physically or Otherwise Health Impaired

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGN 485 Curriculum and Methods for Adolescents and Young Adults with Special Needs</td>
<td>2</td>
</tr>
<tr>
<td>EDP 486 Recitation and Field Experience with Adolescents and Young Adults: Mentally, Physically, Visually or Hearing Impaired</td>
<td>2</td>
</tr>
<tr>
<td>EDU 492 Student Teaching Secondary Physically or Otherwise Health Impaired</td>
<td>10</td>
</tr>
<tr>
<td>The above must be completed in addition to the secondary certification core listed elsewhere. Within the core, EDP 325 must be selected in lieu of EDP 322.</td>
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</tr>
</tbody>
</table>

### Mentally Impaired

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem hours</th>
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</thead>
<tbody>
<tr>
<td>SMI 240 Preclinical Experience: Mentally Impaired</td>
<td>3</td>
</tr>
<tr>
<td>SMI 350 Introduction to Mental Retardation</td>
<td>3</td>
</tr>
<tr>
<td>SMI 429 Curriculum Design and Educational Programs for Students with Mild Retardation</td>
<td>3</td>
</tr>
<tr>
<td>SLD 468 The Learning Disabled Child</td>
<td>2</td>
</tr>
<tr>
<td>SMI 483 Education of Students with Moderate and Severe Retardation</td>
<td>4</td>
</tr>
<tr>
<td>The above must be completed in addition to the secondary certification core listed elsewhere. Within the core, EDP 325 must be selected in lieu of EDP 322.</td>
<td></td>
</tr>
</tbody>
</table>
Visually Impaired
Courses Required for Initial Endorsement

Sem hours
Visually impaired courses
SVI 365 Braile ................................................................. 3
SVI 366 The Eye and Vision: Anatomy and Physiology .......... 2
SVI 368 Mobility Training for the Visually Impaired ............ 2
SVI 369 Community Considerations for Visually Impaired .......... 3
SVI 464 Methods of Teaching Blind .................................. 3
SVI 465 Braille II, Nemeth Code .................................. 3
SVI 467 Education of Children with Impaired Vision ............ 2
SVI 469 Electronic Communication - Visually Impaired ....... 3

Elementary
EDU 492 Student Teaching - Elementary Visually Impaired
The above must be completed in addition to the elementary certification core listed elsewhere. Within the core, EDP 325 must be selected in lieu of EDP 322.

Secondary
SGN 485 Methods and Curriculum, Adolescents and Young Adults with Special Needs ................... 2
SGN 486 Recitation and Field Experience with Adolescents and Young Adults ........................................ 2
EDU 492 Student Teaching - Elementary Visually Impaired
The above must be completed in addition to the secondary certification core listed elsewhere. EDP 325 must be selected in lieu of EDP 322.

Emotionally Impaired
Courses Required for Initial Endorsement

Sem hours
Emotionally impaired
SEI 240 Introductory Clinical Experiences in Emotional Impairment ........................................ 3
SEI 301 Emotionally Impaired Children ............................ 4
PSY 360 Abnormal Psychology .......................................... 3
SOC 402 Group Dynamics ........................................ 3
SEI 449 Current Topics in Emotionally Impaired ................. 2

Elementary
PED 257 Physical Education for the Special Education Classroom Teacher ............................................ 2
SEI 401 Programming, Methods, and Curriculum for the Emotionally Impaired Child ..................... 4
SLD 468 The Learning Disabled Child .............................. 2
EDU 492 Student Teaching - Elementary Emotionally Impaired ................................................... 10

The above must be completed in addition to the elementary certification core listed elsewhere. Within the core, EDP 325 must be selected in lieu of EDP 322.

Speech-Language Impaired

The program in speech and language impaired is a five and one half year to six year course of study culminating in a master's degree that conforms to the requirements of the American Speech-Language-Hearing Association. Students may elect a teacher training or non-teacher training track.

Upon completion of a minimum of 124 semester hours (reflecting all requirements in basic studies and undergraduate major and minor sequences), the student will be granted the bachelor of science degree without certification. For those students electing the teacher training track, certification is issued on completion of the master's degree.

Core Courses
PSY 101 Introduction to Psychology .................................. 3
SGN 251 Education of the Exceptional Child .................... 3
SGN 390 Measurement and Diagnosis in Special Education .................................................. 3

Speech-language impaired courses
SLI 316 Applied Speech Science ....................................... 3
SLI 334 Applied Phonetics .......................................... 3
SLI 335 Communication Disorders ................................ 3
SLI 337 Language Acquisition ..................................... 3
SLI 340 Management of Phonological Disorders ................ 3
SLI 341 Directed Observation ........................................ 3
SLI 342 Management of Language Disorders .................... 3
SLI 343 Clinical Practice in Speech Pathology I ................. 2
SLI 344 Clinical Practice in Speech Pathology II ............... 2
SLI 452 Voice Disorders ........................................ 3
SLI 454 Stuttering ...................................................... 3
SLI 392 Introduction to Audiology .................................. 3
SLI 394 Auditory Training and Speech Reading ................ 3

Teacher Certification
Students may elect either elementary or secondary certification. The SLI endorsement is K-12 regardless of the certification level selected. See your adviser for the appropriate certification sequence.
The following courses are offered to students for completion of the 36-hour master’s degree program in speech and language impaired. Students who transfer from other universities should consult their academic adviser concerning equivalencies.

Sem hours

1. Required courses in speech - language pathology
   SGN 255 Language Development and Speech Disorders. Two sem hours

2. Elective courses in speech - language pathology
   SGN 251 Education of the Exceptional Child. Three sem hours
   An introductory survey course providing the historical, philosophical, and organizational factors leading to the enactment of federal and state laws, rules and regulations governing special education. Characteristics, educational considerations, and implications of all areas of exceptionality including the gifted, learning disabled, mentally, emotionally, speech and language, hearing, visually, physically and health impaired are addressed.

Courses

General Special Education

SGN 251 Education of the Exceptional Child. Three sem hours

SGN 271 Language Development and Speech Disorders. Two sem hours

SGN 300 Exceptional Children in the Regular Classroom. One sem hour

SGN 390 Measurement and Diagnosis in Special Education. Three sem hours

SGN 395 Special Needs Persons: School, Family, and Community Interaction. Three sem hours

SGN 461 Classroom Management and Intervention Strategies for Handicapped Students. Three sem hours

SGN 481 Adaptive Technology in Special Education. Two sem hours

This course is intended to assist the student in identifying and implementing adaptive technology in the special education curriculum. The course explores the latest technology available in adapting computers and other devices to assist the special child. Major areas of interest include voice input/output, switching devices, alternative keyboards for the computer, (touch pads, membranes), adaptive devices for the visually impaired (braille and voice output), and other alternative devices. Students are encouraged to look at a broad range of uses for each technological instrument rather than isolate a given advancement for the use of a designated or single disability.
SGN 485 Methods and Curriculum: Adolescents and Young Adults with Special Needs. Two sem hours
This course is intended for all students seeking a secondary special education endorsement and interested in working with adolescents or young adults with cognitive, sensory, or physical limitations. Students will develop knowledge and awareness about secondary and postsecondary special education programs, curriculum, and services that address the intellectual, social, emotional, physical, and vocational needs of this population.

SGN 486 Recitation and Field Experience With Adolescents and Young Adults: Mentally Impaired, Physically Impaired or Visually Impaired. Two sem hours
Adaptation and application of curriculum and methods appropriate to the student’s field of study (major). Students will complete a field experience at the secondary level in the area of disability for which he/she is to be endorsed.

SGN 491 Seminar for Teachers of Special Education. Two sem hours
This course provides a transition from the academic environment to the professional setting. Competencies and issues necessary for teacher preparation and pertinent to the student's internship are presented. Topics for discussion include: a review of the history, nature, and structure of the Michigan Public School system and the delivery of total services to all students including the special education child; state and federal law including due process, data privacy requirements, teacher tenure, and professional liability; professional ethics, organizations, unions, and the influences on education; supervision of and interaction with teaching aids, paraprofessionals, volunteers and other school personnel including the regular classroom teacher. Concurrent with special student teaching.

Hearing Impaired

SHI 228 Education of the Hearing Impaired. Three sem hours
Designed to cover the history of the education of the hearing impaired, and to provide an overview of educational programming, psychological adjustment, parent counseling, communication methods, and various philosophical approaches to the education of the hearing impaired.

SHI 375 Fundamentals of Sign Communication. Two sem hours
A study of the rationale for manual communication systems with the hearing impaired involving the combined use of manual alphabet and language of signs. Developing fluency in manual communication skills will be a part of the course.

SHI 376 Total Communication Practicum With Hearing Impaired. One sem hour
Thirty clock hours (one semester hour) of supervised observation and work with hearing impaired students. Experience is designed to permit the student and the University to examine the individual's qualification for working with the hearing impaired in a total communication setting.

SHI 387 Introductory Practicum With the Deaf I. One sem hour
Thirty clock hours of supervised observation and work with hearing impaired students. Experience is designed to permit the student and the University to examine the individual’s qualifications for teaching the hearing impaired.

SHI 391 Language for the Hearing Impaired. Three sem hours
Language development of prelinguistically deaf children. Survey of various methods of teaching language, including natural and structured approaches.

SHI 392 Introduction to Audiology. Two sem hours
Medical and surgical treatment of pathologies of the ear. Hearing screening tests, basic audiometric testing procedures and audiometric interpretation.

SHI 394 Auditory Training and Speechreading. Three sem hours
A study of the avenues of receptive language available to the hearing impaired; the development of auditory learning, auditory training, and the training of speechreading — includes the understanding of group and individual hearing aids.

SHI 436 Speech for the Hearing Impaired. Three sem hours
Speech development and correction in hearing impaired persons. Analysis of speech as a psycho-acoustic-motor skill, analysis of methods of developing speech and of achieving intelligible connected speech.

SHI 437 Adapted Curriculum for the Hearing Impaired. Three sem hours
Principles and methods of teaching academic subjects to the hearing impaired. Classroom procedures and materials especially designed for the hearing impaired, as well as the adaptation of regular curriculum and materials will be presented.

SHI 487 Speech Practicum With the Hearing Impaired. Two sem hours
Sixty (60) clock hours of supervised observation and speech work with hearing-impaired persons.

Mentally Impaired

SMI 240 Pre-Clinical: Mentally Impaired. Three sem hours
The purposes of the preclinical experiences in the area of the mentally impaired are twofold. First, it provides the student with opportunities to observe a variety of programs and work with children or youth displaying a variety of types and/or degrees of learning, emotional, and physical difficulties. (For a more detailed description of this component, please review the Handbook for Majors in the Mentally Impaired.) Secondly, students will meet together to discuss observations, insights, and concerns related to their experiences. Educational programs for students with mental retardation will be discussed and site visits will be made.
The relationship of normal development to disability is explored and academic levels of functioning based on the use and results of this lecture course introduces students to the field of mental child from birth to age 12.

The development of programs, materials and instructional techniques appropriate to the needs of the educable mentally retarded child from birth to age 12.

Emphasis will be given to the assessment of basic learning skills and academic levels of functioning based on the use and results of formal tests, criterion referenced tests and formal data gathering instruments. Additional emphasis will be placed on the development of appropriate educational program goals. The development of appropriate lessons using selected materials, methods and techniques to meet these goals. Selected behavioral management approaches will be included as they relate to overall educational goals and program development.

This course focuses on philosophy, curriculum, assessment, teaching methods, and classroom management techniques for students identified as TMI, SM!, or SXI. A three-hour-per-week field placement in one of the above classrooms is an integral part of the course.

A comprehensive study of orthopedic, neurologic, health and other handicapping conditions common to children and youth comprising the population found in educational settings serviced by the POHI teacher. Medical terminology and procedures are also introduced. Laboratory assignments are included in this course.

Information concerning the individual disciplines which provide ancillary services to physically and health impaired students. Skills involving the use of adaptive equipment, manipulation of orthotics, and implementation of health intervention and maintenance procedures will be learned. A field placement is also required.

This introductory course provides exposure to and experience with the physically or otherwise health impaired. Students will be encouraged to evaluate and examine their motivation for becoming a teacher of the physically and health impaired and be introduced to all aspects of the teaching profession. Students will participate in a field experience, being exposed to all age and grade levels. They will have an opportunity to visit a variety of settings which employ teachers of the physically and health impaired and be exposed to the ancillary services found in most POHI delivery models.

A study of developmental human anatomy and physiology with emphasis upon the impact of the nervous system and its integration, function and control of the other body systems and their functions. The relationship of normal development to disability is explored and infused throughout the course. Laboratory periods are required where students can investigate the principles covered in lecture using anatomical models and specimens.

The lifestyle and needs of persons with visual impairments; appropriate considerations the community must take for all levels of physical, emotional and vocational development. Field trips and classroom experiences, acquaintance with a wide variety of service-oriented facilities for the visually impaired.

Prereq: SGN 251 Education of Exceptional Children.
SVI 464 Methods of Teaching the Blind. Three sem hours
A study of the various methods used in educating and assessing
blind children. The adaptation of these methods to the teaching
of school subjects to blind students. Further emphasis on Nemeth
Code, Cranmer abacus and other teaching materials and devices.
Prereq: SGN 251 Education of Exceptional Children.

SVI 465 Braille II: Nemeth Code. Three sem hours
Transcription skills with Nemeth Code.
Prereq: SVI 365 Braille

SVI 467 Education of Children With Impaired Vision. Two sem hours
Organization and administration of various plans for educating
partially seeing children. Adaptation of the various teaching methods
and materials to partially seeing children. A comparison of various
vision testing methods and devices. Visits to classes for visually
impaired children.
Prereq: SGN 251 Education of Exceptional Children.

SVI 469 Electronic Communication — Visually Impaired. Three sem hours
This course is designed to expose the student to a variety of tools
available for use by visually impaired persons. The tools or devices
covered include those designed to provide assistance in travel,
reading, braille, low vision (such as the optacon, Kurzweil Reading
Machine, Versabrailer, Stereo Toner, and Computer Braille Pro­
grams). Proficiency of five words per minute on the Optacon is
expected.

SEI 240 Introductory Clinical Experiences in Emotional Impairment. Three sem hours
Students will be provided with an opportunity to work with im­
paired students in an effort to help them understand these young­
ers, and evaluate their own qualifications for working with this
type of youngster. Evaluations of the student’s performance will be
obtained from a supervising person. Majors in the area of emotional
impairment will complete 150 clock hours of experience with
youngsters prior to student teaching with emotionally impaired
students. Twenty-five (25) of these hours will be completed during
this course. An overview and hours introduction to the field of
teaching emotionally impaired children and youth including theory,
service delivery systems, and classroom practices will also be
presented.

SEI 301 Emotionally Impaired Children. Four sem hours
This course provides an explanation of conceptual models which
explain disturbed behavior of children and adolescents. Definitive
diagnostic categories will also be explained in context of their use
in a variety of educational settings by teachers of emotionally
impaired children and adolescents.
Prereq: PSY 360 Abnormal Psychology; SEI 240 Preclinical; SGN 251 Education of Exceptional Children is advised. Not open to students on academic probation.

SEI 401 Programming, Methods, and Curriculum for the Elementary Emotionally Impaired Child. Four sem hours
Teaching methods, techniques, and materials for educating el­
ementary age emotionally impaired children will be presented. In
addition, types of programs serving elementary age disturbed
youngsters as well as the Individualized Education Program, fed­
eral and state rules governing the programs will be discussed. For
elementary majors only.
Prereq: SEI 301 Emotionally Impaired Children and Adolescent and SGN 461 Classroom Management and Intervention Strategies for Teachers of Special Education.

SEI 449 Seminar: Current Topics in Emotional Impairment. Two sem hours
An examination and discussion of issues and topics of current
concern and pertinent to working with emotionally impaired chil­
dren and adolescents.

SEI 488 Programming, Methods, and Curriculum for Secondary Emotionally Impaired Youth. Four sem hours
Teaching methods, techniques, and materials for educating sec­ondary age emotionally impaired youth. Types of programs serving
adolescent age disturbed youth as well as the Individualized Edu­cation Program, federal and state rules governing the programs will
be discussed. For secondary majors only.

Speech and Language Impaired

SLI 316 Speech Science. Five sem hours
Anatomy and physiology of normal speech production, consider­
ation of speech as motor behavior and as an acoustical phe­nomenon.
Physiological and acoustical investigations of speech and voice;
physiological and acoustic measurement of speech.
Coreq: SLI 337 Language Acquisition and SLI 341 Directed Observation.

SLI 334 Applied Phonetics. Three sem hours
Introduction to the physiological and acoustic characteristics of
speech. Classification and production of English speech sounds;
Phonemic transcription, including some analysis of deviant speech.
Lab experiences weekly. Intended primarily for speech correction
majors. No students on academic probation.
Coreq: SLI 335 Communication Disorders.

SLI 335 Communication Disorders. Three sem hours
A study of the major communication disorders as deviations from
normal physical and social behavior. Etiology and symptomatology.
Coreq: SLI 334 Applied Phonetics.

SLI 337 Language Acquisition. Three sem hours
The development of speech, language and hearing from birth.
The interrelationship between cognitive development and language
acquisition and usage. Developmental processes and milestones;
phonology, morphology, syntax and semantics as a basis for
understanding the effects of speech, language and hearing prob­lems of the individual.
Coreq: SLI 316 Speech Science and SLI 341 Directed Observations.
SLI 340 Management of Phonological Disorders. Three sem hours
Diagnosis and treatment of functional articulation problems, including the articulation deficits associated with the cleft palate, cerebral palsy and hearing impairments.

SLI 341 Directed Observation in Speech Pathology. One sem hours
Observation and evaluation of the methods and materials used in treating speech and hearing disorders. Opportunity for supervised clinical practice.
SLI majors must take this course concurrently with SLI 337 Language Acquisition and SLI 316 Speech Science.

SLI 342 Management of Language Disorders. Three sem hours
Diagnosis and treatment of language disorders that result from developmental lag, physical anomalies and cultural differences. Focuses on preschool, elementary and secondary school-aged individuals.
Prereq: SLI 334 Applied Phonetics, SLI 337 Language Acquisition, SLI 316 Speech Science and SLI 335 Communication Disorders.

SLI 343 Clinical Practice in Speech Pathology I. Two sem hours
A minimum of 60 clock hours of supervised clinical experience with children and adults in individual and group settings. Functional articulation, voice disorders and rhythm problems.
Prereq: SLI 340 Management of Phonological Disorders, SLI 342 Management of Language Disorders, department permission.

SLI 344 Clinical Practice in Speech Pathology II. Two sem hours
A minimum of 60 clock hours of supervised clinical experience with speech disorders associated with organic impairment. Problems of children and adults with cerebral palsy, cleft palate, hearing losses, mental impairments and language.
Prereq: SLI 343 Clinical Practice in Speech Pathology I and department permission.

SLI 345 Clinical Practice in Speech Pathology III. Two sem hours
A minimum of 60 clock hours of supervised clinical experience with a variety of speech and hearing disorders.
Prereq: SLI 343 and SLI 344 Clinical Practice in Speech Pathology I and II, and department permission.

SLI 440 Seminar in Speech Pathology. Two sem hours

SLI 452 Voice. Three sem hours
A study of the etiology, diagnosis and treatment of functional and organic voice disorders, including defects of loudness, pitch and quality.
Prereq: SLI 343 Clinical Practice in Speech Pathology I.

SLI 454 Stuttering. Three sem hours
Causation, symptomatology and remedial procedures of stuttering; specific therapy procedures in the clinic, the school and the home.
Prereq: SLI 343 Clinical Practice in Speech Pathology I.

Learning Disabled

SLD 468 Education of Children With Learning Disabilities. Two sem hours
A study of educational and psychological problems of children with neurological and perceptual defects. Theories as they relate to the central nervous system, teaching techniques, classroom management, case studies, research and teacher-child and parent relationships.
TEACHER EDUCATION
Office: 234 Boone Hall

Department Head: Jeanne Pietig


Associate Professors: Gordon A. Belt, J. Thomas Bushey, Barbara Diamond, Trevor Gardner, Sarah Huyvgert, Edward Lederman, Michael Martin, Leon Neeb, Valerie Polakow, Robert S. Robinson, Georgia Sparks-Langer, Alane Starko

Assistant Professors: William Brozo, Jan Collins-Eaglin, Alison Harmon, Martha Kinney, Sarah Martin, Rebecca Martusewicz, Maureen McCormack, Karen Paciorek

The Department of Teacher Education provides courses in orientation to the University, psychological and social foundations of education as well as methods, reading, driver education, educational media and library science. These courses, along with courses in other University departments, comprise the programs for elementary teachers, secondary teachers and teachers of specialized subjects.

For special requirements relating to each program of study, see description at the beginning of each section.

Degrees: Bachelor of science or bachelor of arts

Curricula:

- Elementary education
- Elementary education with early childhood endorsement
- Secondary education
- Driver education program
- Educational media (library science courses available but program discontinued in 1982-83)

Majors and minors:

Majors and minors for elementary education may be selected, where appropriate, from the following list:

- General biology; communication and theatre arts;
- children's literature and drama/theatre for the young;
- literature; language, communication and theatre arts;
- drama/theatre for the young; English language;
- English language and literature; English literature;
- children's literature; French, German, Spanish;
- Japanese; bilingual/bicultural education; earth science;
- geography; geology; history; social science; mathematics (elementary);
- music education; political science;
- sociology; physical education for special education; health;
- arts group; elementary science group; industrial education;
- early childhood education.

Majors and minors for secondary education may be selected, where appropriate, from the following list:

- General biology; chemistry; communication and theatre arts;
- drama/theatre for the young; computer science; economics;
- English language; English literature; English language and

literature; French; German; Spanish; Japanese; bilingual/bicultural education; earth science; geography; geology; history; philosophy; social science; mathematics (secondary); physics; general science; astronomy; political science; psychology; sociology; health; physical education; family life; occupational foods.

Students should consult department advisors for more specific information and for suggestions on appropriate major/minor combinations. In general, the teaching opportunities, regionally and nationally, are more favorable as a whole than they are in the state of Michigan. Check with the Career Services Center for up-to-date information on career placement.

The following fields of study are special curricula which, unless otherwise specified in their respective departments, will satisfy both major and minor requirements for graduation.

The fields of study are:

- Bachelor of arts education*
- Bachelor of fine arts with teaching certification*
- Dance*
- Physical education* home economics
- Consumer education* (usually requires an additional minor)
- Business education
- Music education (vocal/instrumental)*
- Music therapy
- Industrial education
- Bilingual vocational teacher education
- Special education

In addition, curricula designated by asterisk (*) may include regular elementary certification, provided the student completes, in addition to other curricular requirements, the following courses or their equivalents, unless otherwise approved by the Registrar's Office. These are in addition to other curricular requirements:

- LIT 207 Introduction to Children's Literature ...........3
- MTH 108 Functional Mathematics I .....................3
- MTH 109 Functional Mathematics II ....................3
- MTH 381 Teaching Mathematics, K-6 ....................3
- PHY 100 Elementary Science (Physics) ................3
- CHM 101 Elementary Science (Chemistry) ..............3
- GES 202 Elementary Science (Earth Science) ..........3
- ESC 303 Elementary Science (Biology) .................3
- CUR 304 Curriculum Methods: Elementary .............3
- CUR 314 Teaching Reading (Elementary) ...............6
- PED 257 Physical Education for the Classroom

Teacher .........................................................

HED 320 Health Education for Elementary Grades ....2
- GEO 110 World Regions ..................................3
- MUS 104 Elements of Music ..............................3
- MUS 320 Elementary Music Education ................4
- FA 300 Arts for Elementary Teachers ..................4
- IE 253 Industrial Technology and the

Elementary Teacher ........................................4

EDU 495 Student Teaching in Regular

Elementary Education .....................................4

Other Group IV education courses are not listed since they would be required within the student's chosen field of study.

Advising is required for all students so that each can pursue both personal and professional goals in a timely and satisfying manner.
Elementary education students, pursuant to their declaration of intention, before the end of the first semester should:

1. Inform the Department of Teacher Education secretary that an adviser is needed;
2. Ask to be assigned to a particular faculty member or accept an assigned faculty member in the appropriate program;
3. Seek an appointment to:
   a. develop a schedule of classes;
   b. examine career objectives;
   c. gain assistance for other; University/professional concerns.

Advising Coordinators:
Elementary Certification with Early Childhood Education Endorsement: Leah Adams
Elementary Certification: Thomas Bushey
Secondary/Specialized Fields of Study: see major adviser:
for education course requirements: see Thomas Bushey
Driver Education: Leon Neeb

Fieldwork is practice teaching as required by individual programs.
Certification is required by the state of Michigan Department of Education, Teacher Education and Certification Division.
Graduate study leads to the master's degree in early childhood education, elementary education, middle school/junior high and secondary school teaching, K-12 education, reading, social foundations, educational psychology (development and personality, research and measurement or educational technology concentrations). Graduate student status in a teacher education master's degree program does not automatically result in certification. For descriptions of graduate courses and programs, consult the Graduate Catalog.

Curriculum for Elementary Education

A bachelor of science degree or a bachelor of arts degree and the State Elementary Provisional Certificate for teaching all subjects kindergarten through grade 5 and for teaching in one's major or minor areas of concentration in grades 6-7-8 is awarded upon successful completion of the elementary program and upon fulfillment of the requirements for majors and minors chosen from the list for elementary education majors and minors.

Curriculum for Elementary Certification

The following list of courses plus an appropriately chosen major and minor or three minors will satisfy the requirements for a baccalaureate degree (including the basic studies requirements that became effective in Fall 1990) and State of Michigan Provisional Elementary Certification.

Area  
Symbolics and communication...........................................17-20

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ENG 121 English Composition</td>
<td>3</td>
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<tr>
<td>CTA 121 or CTA 124 Fundamentals of Speech</td>
<td>2-3</td>
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One course from one of the following options a, b, or c: ........................................3-5

a. ENG 225 Intermediate English Composition;
   ENG 226 Report and Research Writing; ENG 324 Principles of Technical Communication
b. CTA 224 Public Speaking; CTA 225 Listening Behavior; CTA 226 Nonverbal Communication;
   CTA 227 Interpersonal Communication;
   CTA 374 Intercultural Communication
c. CLA 121/122 Beginning Latin; CLA 123/124
   Beginning Ancient Greek; FRN 121/122 Beginning French; FRN 233/234 Intermediate French;
   GER 121/122 Beginning German; GER 233/234 Intermediate German;
   JPN 121/122 Beginning Japanese;
   SPN 121/122 Beginning Spanish; SPN 201/202 Intermediate Spanish

MTH 108 Functional Mathematics I .........................3
MTH 109 Functional Mathematics II .........................3
One of the following courses: ........................................3
BE 201 Microcomputers for Business Applications;
CSC 136 Computers for the Non-Specialist; CSC 137
   Introduction to Programming; CSC 138 Computer Science I; CSC 237 Computer Programming
   and Numeric Methods; HHS 226 Computers for
   Health and Human Services; IT 105 Computer Applications for Industry; IDT 201 Microcomputer
   Applications in Technology; ORI 215 Introduction
   to Business Information Systems

Science and technology .......................................15-16
PSY 101 or PSY 102 General Psychology .....................3-4
PHY 100 Science for Elementary Teachers (Physics) .......3
CHM 101 Science for Elementary Teachers
   (Chemistry) .......................................................3
GES 202 Science for Elementary Teachers
   (Earth Science) ..................................................3
ESC 303 Science for Elementary Teachers (Biology) .......3
Social science ..................................................12
PLS 112 American Government or PLS 113
   American Government Honors ...................................3
One of the following history courses: ........................3
HIS 101 History of Western Civilization to 1648;
   HIS 102 History of Western Civilization; 1648-World
   War I; HIS 103 Twentieth Century Civilization;
   HIS 106 History of Non-Western Civilization;
   HIS 123 History of the U.S. to 1877; HIS 124
   History of the U.S.; 1877-Present
GEO 110 World Regions ........................................3
Complete a course from one of the following options a, b or c: ........................................3

a. A second course in a two-course history sequence by completing one of the following courses:
   HIS 102 History of Western Civilization 1648-World
   War I (follows HIS 101 History of Western Civilization
   to 1648); HIS 103 Twentieth Century Civilization
   (follows HIS 102 History of Western Civilization
   1648-World War I); HIS 124 History of the U.S.,
   1877-Present (follows HIS 123 History of the
   U.S. to 1877); or
b. A second course in a two-course geography sequence
   GEO 111 Regions and Resources (follows GEO 110
   World Regions); or
c. A course in cross-cultural or international studies
by completing one of the following courses:

*AAS 101 Afro-American Studies: An Introduction;
*ANT 205 Minority Women in the United States; 
*ANT 233 Peoples and Cultures of Mexico; 
*ANT 234 Peoples and Cultures of Latin America; 
*ANT 236 Peoples and Cultures of Africa; 
*ANT 237 Indians of North America; 
*ANT 245 People and Culture of Japan; 
*ANT 241 Racial and Cultural Minorities; 
*ANT 255 Anthropology of Women; 
*ECO 321 Minority Workers in the Labor Market; 
*ECO 328 Economics of Women; 
*HIS 305 History of Indians in the United States; 
*HIS 315 History of Black Americans; 
*HIS 336 History of Women in the United States and Great Britain; 1800 to the Present; 
*HIS 341 The Middle East; 1798 to Present; 
*HIS 342 North Africa; 1798 to Present; 
*HIS 348 Sub-Saharan Africa in the Twentieth Century; 
*HIS 356 Latin America: National Period; 
*HIS 375 Modern India; 
*SOC 205 Minority Women in the United States; 
*SOC 214 Racial and Cultural Minorities; 
*SOC 344 Sociology of Sex Roles; 
*WMS 200 Introduction to Women's Studies

**Arts and humanities** ................................................................. 12

One of the following courses: .................................................. 3

LIT 100 The Reading of Literature; LIT 101 The Reading of Fiction; LIT 102 The Reading of Literature: Poetry; LIT 103 The Reading of Literature: Drama; FRN 221/222 Intermediate French; FRN 341/342 Survey of French Literature; GER 221/222 Intermediate German; GER 341/342 Survey of German Literature; SPN 221/222 Intermediate Spanish Reading; SPN 341/342 Survey of Spanish Literature; SPN 351/352 Survey of Spanish American Literature

LIT 207 Introduction to Children's Literature .............................. 3

Complete a course from one of the following options a, b, c, or d. .................................................. 3

a. A second course in literature from: LIT 101 The Reading of Fiction; LIT 102 The Reading of Literature: Poetry; LIT 103 The Reading of Literature: Drama or 

b. A second course in intermediate or advanced foreign language literature from the above list of foreign language literature courses or

c. CTA 210 Interpretative Reading or

d. A course in cross-cultural or international studies from:
   *CEN 215 Culture of the Latino Groups in the United States; 
   *LIT 204 Native American Literature; 
   *LIT 260 Afro-American Literature

A course in philosophy or religion from ......................................... 3

PHI 100 Introduction to Philosophy; PHI 110 Philosophies of Life; PHI 130 Introduction to Logic; PHI 132 Critical Reasoning; PHI 121 Philosophy of Art; PHI 125 Philosophy of Religion; PHI 220 Ethics; PHI 225 Political Philosophy; 

*PHI 226 Philosophy of Women; 

HIS 100 The Comparative Study of Religions or PSY 225 Psychology of Religion 

A course in art, dance, music or theatre arts

Note: This basic studies requirement is automatically satisfied by the following fine and practical arts courses which are required on the elementary certificate program.

**Fine and practical arts area** ................................................... 11

FA 300 Art for the Elementary Teacher ...................................... 4

MUS 104 Elements of Music ....................................................... 2

MUS 320 Elements of Music Education ...................................... 2

IE 253 Industrial Technology and the Elementary Teacher ................ 3

**Physical education and health area** ........................................ 6

PED 257 Physical Education for the Classroom Teacher .................. 2

HED 320 Health Education in Elementary Grades ......................... 2

Physical education activity courses (2 hours) or military science (2 hours) ................................. 2

**Professional education courses** ............................................ 33-36

Students must achieve a "C" or better in all education courses.

EDT 300 Introduction to Computer Application in Education .......... 1

SGN 300 The Exceptional Child in the Normal Classroom ............... 1

EDP 322 Human Development and Learning ................................ 4

CUR 304 Curriculum and Methods-Elementary ............................. 3

CUR 314 Teaching Reading in the Elementary School .................... 6

SFD 328 Social Aspects of Teaching ........................................... 2

EDP 340 Introduction to Measurement and Evaluation ................... 2

EDM 345 Media for the Classroom Teacher ................................... 2

MTH 381 The Teaching of Mathematics K-6 .................................. 3

EDU 492 Student Teaching ......................................................... 8-12

Note: EDT 300, SGN 300 and EDP 322 may be taken prior to admission to the College of Education. Other education area courses may be taken only after the student has been admitted to the College of Education. A change is being considered to allow up to 12 credit hours for student teaching.

To complete degree and certification requirements, the student must, in addition to the above listed courses, complete a major or minor or three minors in areas deemed acceptable for elementary certification.

**Cross-cultural or international studies**

At least one approved course in cross-cultural or international studies must be completed in the process of meeting the requirements of basic studies. Approved courses are designated with an asterisk (*).

The student must complete a minimum of 124-128 appropriate semester hours to satisfy graduation requirements.

**Curriculum for elementary education with early childhood endorsement**

The following list of courses including the required early childhood education minor plus a major or two additional minors (exclusive of the content and methods minor) will satisfy the requirements for a baccalaureate degree (including the basic studies requirements that became effective in fall 1990), state of Michigan provisional elementary certification and ZA endorsement in early childhood education.

**Area**

**Symbols and communication**

Requirements in symbols and communication are the same as they are on the regular elementary curriculum.

**Science and technology** ..................................................... 4

Requirements in science and technology are the same as they are on the regular elementary curriculum.

**Social science** ............................................................... 15

PLS 112 American Government or PLS 113 American Government Honors .................................................. 3

One of the following history courses: ........................................ 3

HIS 101 History of Western Civilization to 1648; HIS 102
Early childhood education minor .................................... 24-26

One of the following courses ........................................ 3
SOC 202 Social Problems, *SOC 205 Minority Women in
the United States,*SOC 214 Racial and Cultural Minorities,
*SOC 344 Sociology of Sex Roles

The following minor is required when a student is seeking
EDU 495 Student Teaching Elementary 1-3 .................... .4 -6

Note: CUR 401 must be taken concurrently with EDU 496
2. Electives:

HEC 314 The Developing Infant .................................... 3
HEC 315 Child Development Lab: Infancy ......................... 1

Note: HEC 315 must be taken concurrently
with HEC 314 EDP 318 Uses of Play in
the Helping Professions ................................................ 3

PED 281 Motor Development ........................................... 3

Note: EDT 300 Introduction to Computer Applications in
Education, SGN 235 Education of Exceptional Children,
EDP 200 Early Childhood Human Development and
Learning, HEC 214 The Developing Child, HEC 215 Child
Development Lab: Preschool Child may be taken prior to
admission to the College of Education. Other education area
courses may be taken only after the student has been
admitted to the College of Education. A change is being considered to
allow up to 12 credit hours for student teaching (6 hours for
regular elementary placement and 6 hours for the preschool
placement).

To complete degree, certification and early childhood endorse­
ment requirements, students must, in addition to the above listed
courses and early childhood education minor, complete a major or
two additional minors (exclusive of the content and methods minor) in
areas deemed acceptable for elementary certification.

Cross-cultural or international studies

At least one approved course in cross-cultural or international
studies must be completed in the process of meeting the basic
studies requirements. Approved courses are designated with an
asterisk (*).

The student must complete a minimum of 124-128 appropriate
semester hours to satisfy graduation requirements.

Note: Students in HECR and special education who wish to
complete the early childhood education minor should follow the list
of requirements for early childhood education as detailed in the
HECR department’s section of the catalog.

Some Group Majors and Minors for Elementary
Education

<table>
<thead>
<tr>
<th>Arts group major ................................................. 36</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required courses ........................................... 19</td>
</tr>
<tr>
<td>FA 101 Introduction to Art .................................... 3</td>
</tr>
<tr>
<td>MUS 104 Elements of Music ................................... 2</td>
</tr>
<tr>
<td>CTA 222 Drama and Play in Human Experience ................ 3</td>
</tr>
</tbody>
</table>
| IE 253 Industrial Technology and the
  Elementary Teacher ............................................. 3 |
| FA 300 Art for the Elementary Teacher ...................... 4 |
| MUS 320 Elementary Music Education ........................ 2 |
| IE 354 Experiences in Technology for Children ............ 2 |
| 2. Electives .................................................... 17 |
| Choose 17 credits from fine arts, industrial education,
  music, drama/theatre for the young or theatre
  arts courses. |
Arts group minor ................................................. 24

1. Required courses .................................................. 16
   FA 101 Introduction to Art ......................................... 3
   MUS 104 Elements of Music ........................................... 2
   IE 253 Industrial Technology and the
      Elementary Teacher ............................................... 3
   FA 300 Art for the Elementary Teacher ......................... 4
   MUS 320 Elementary Music Education ........................... 2
   IE 354 Experiences in Technology for Children ................ 2

2. Restricted electives ................................................... 8

   Choose eight credits from fine arts, industrial education,
   music or theatre arts courses below. These electives for the
   arts group major and minor may be drawn from, but are not
   limited to the following recommended courses:

   Fine Arts: FA 100 Art Appreciation; FA 107 and 108 Art
   History Survey I and II, or FA 421 History of Art; FA 122 Two­
   Dimensional Design; FA 123 and 124 Drawing I and II; *FA
   222 African and Afro-American Art; FA 231 Three-Dimensional
   Design; FA 301 Graphic Design; FA 436 Women in Art.

   Industrial Education: IE 102 Woodwork; IE 105 History of
   Industrial Technology; IE 118 Energy Utilization; IE 152 Arts
   and Crafts; IE 255 Art Metalwork; IT 121 Graphic Communication.

   Music: MUS 106 Introduction to the Performing Arts; MUS
   107 Music Appreciation; MUS 151 and 152 Class Piano; MUS
   232 Voice Class; MUS 131 University Choir; MUS 134 University
   Women’s Chorus; MUS 135 University Men’s Chorus;
   MUS 222 Classroom Instruments; MUS 249 University Band;
   MUS 248 University Orchestra; MUS 274 Functional Guitar;
   MUS 322 Music Literature for Children; MUS 224 Recrea­
   tional Music; and AMU 101-300 Applied Music Lessons.

   Theatre Arts, Drama/Theatre for the Young, Oral Interpreta­
   tion: CTA 106 Introduction to the Performing Arts; CTA 150
   Introduction to Theatre; CTA 151 Black Theatre: An Introduc­
   tion; CTA 153 Introduction to Theatre Crafts; CTA 168, 268,
   368 468 Oral Interpretation; CTA 210 Interpretive Reading;
   CTA 222 Drama and Play in Human Experience; CTA 251
   Black Theatre: Creative Problems; CTA 322 Theatre for the
   Young; CTA 323 Improvisation; CTA 324 Oral Interpretation
   of Children’s Literature; and CTA 497, 498, 499 Independent
   Study.

   Theatre Arts, Drama/Theatre for the Young, Visual Interpreta­
   tion: CTA 200 Theatre Scene Design; CTA 210 Theatrical
   Production; CTA 224 Designing the Stage; CTA 260 Theatrical
   Makeup; CTA 275 Stage Lighting; CTA 312 Directing
   Productions; CTA 320 Stage Management; CTA 323 Theatrically
   Effective Costume Design; and CTA 497, 498, 499 Independent
   Study.

   Bilingual bicultural education (Spanish-English)

   group minor .................................................................... 24

   See Department of Foreign Languages and Bilingual Studies

   Elementary science group major .................................... 36

   1. Required courses .................................................... 15-16
      PHY 100 Science for Elementary Teachers (Physics) ........ 3
      CHM 101 Science for Elementary Teachers
         (Chemistry) .............................................................. 3
      GES 202 Science for Elementary Teachers
         (Earth Science) ....................................................... 3
      ESC 303 Science for the Elementary Teacher
         (Biology ESC) ......................................................... 3
      PSY 101 or 102 General Psychology ............................ 3

   2. Restricted electives ................................................... 20

   Choose 20-21 credits from the biology, chemistry,
   geography and geology, and physics and astronomy
   courses below.

   Elementary science group minor .................................... 24

   1. Required courses .................................................... 15-16
      PHY 100 Science for Elementary Teachers (Physics) ........ 3
      CHM 101 Science for Elementary Teachers
         (Chemistry) .............................................................. 3
      GES 202 Science for Elementary Teachers
         (Earth Science) ....................................................... 3
      ESC 303 Science for the Elementary Teacher
         (Biology ESC) ......................................................... 3
      PSY 101 or 102 General Psychology ............................ 3

   2. Restricted electives ................................................... 8

   Choose eight or nine credits from biology, chemistry, geogra­
   phy and geology, and physics and astronomy courses below.

   Biology: BIO 105 Biology and the Human Species; BIO 205
   Field Biology; BIO 207 Elements of Ecology; BIO 224 Prin­
ciples of Conservation; BIO 232 Nature Interpretation; BIO 404
   Animal and Plant Preservation Techniques; BIO 415 Basic
   Histological Techniques; BOT 209 Ornamental Plants; BOT
   215 Economic Botany; BOT 354 Trees and Shrubs.

   Chemistry: CHM 105 Survey of Chemistry; CHM 115, 116
   Chemistry and Society (includes laboratory); CHM 118 Con­
temporary Materials; or CHM 119 Fundamentals of Chem­
   stry; CHM 120 Fundamentals of Organic and Biochemistry;
   CHM 121 General Chemistry I.

   Geography and geology: GES 114 National Parks and Mon­
   uments; GES 200 The Oceans; GES 227 Topographic Map; GES
   303 Field Geography; GES 309 Plate Tectonics; GES 310
   Weather and Climate; GES 401 Cartography; GLG 161 His­
torical Geology; GLG Rocks of Michigan; GLG 325 Geomorp­
   hology.

   Physics and astronomy: PHY 110 Physical Science; PHY 111
   Physical Science II; PHY 210 Musical Acoustics; PHY 211
   Elementary Physical Science; PHY 221 Mechanics, Sound, and
   Heat; PHY 222 Electricity and Light; AST 203 Exploration of
   the Universe.

   Literature, language, communication and
teatre arts group major ................................................ 3

   Literature*

   1. Required courses .................................................... 4
      LIT 210 Introduction to Shakespeare ......................... 3
      LIT 207 Introduction to Children’s Literature ................ 3

      *The courses under literature, and ENG 121 or 119 English
      Composition, may be applied to the English language and
      literature major by a student in elementary and special
      education. (See the English Department listings.)
2. Electives ................................................................. 6
Choose two courses from the following:
LIT 100 The Reading of Literature, LIT 101 The
Reading of Literature: Fiction, LIT 251 The Bible as
Literature, LIT 260 Afro-American Literature.

Language
1. Required courses .................................................. 6
ENG 121 or 119 English Composition ........................ 3
ENG 225 Intermediate Composition, ENG
325 Expository Writing or ENG 335
Imaginative Writing .................................................. 3
2. Electives ................................................................. 6
Choose two courses from the following:
ENG 402 Modern English Grammar; ENG 408 Introduction
to Linguistic Science; ENG 421 The History of the English Language.

Communication and theatre arts
1. Required courses .................................................. 8-9
CTA 121 or 124 Fundamentals of Speech .................... 2-3
CTA 210 Interpretative Reading .................................. 3
CTA 222 Drama and Play in Human Experience ............ 3
2. Electives ................................................................. 3-4
Choose three or four credits in communication and
theatre arts courses.

See also the minor in drama/theatre for the young and a special
speech minor for students in elementary or special education
offered by the Communication and Theatre Arts
Department.

For the interdisciplinary major of 36 semester hours in litera-
ture and drama/theatre for the young, see the Department of
Communication and Theatre Arts.

Sem hours
Social science group major for
elementary education ............................................ 36
Choose at least 12 credits, but no more than 18 credits, from one
of the following five areas: economics, geography
(social science*), history, political science, sociology.
*Geography and geology applicable in the science and
technology group and philosophy courses does not
count on this major or minor.

Choose three credits in each of the remaining four social
science areas.

Sem hours
Social science group minor for
elementary education ............................................ 24
Elementary and special education students may
elect this minor.
1. Required courses .................................................. 15-18
SOC 105 Introductory Sociology ............................... 3
HIS 123 Trends in United States History or
HIS 124 History of the U.S.: 1877 to Present
or two history courses ........................................... 3-6
GEO 110 World Regions .......................................... 3

ECO 200 American Economy or ECO 201
Principles of Economics I ....................................... 3
PLS 112 American Government ............................... 3
2. Electives ................................................................. 6-9
Choose six to nine credits from social science courses.

Minors

Sem hours
Content and methods minor ..................................... 20
As long as they are not used on another minor, the
courses appropriate to elementary education may
be drawn from, but are not limited to, the following:
CHM 101 Science for Elementary Teachers (Chemistry)
ECO 200 American Economy or ECO 201
Principles of Economics I ....................................... 3
HED 302 Science for Elementary Teachers (Health)
EDP 340 Introduction to Measurement and Evaluation
EDT 300 Introduction to Computer Applications in Education
HED 320 Health Education in the Elementary Grades
ESC 302 Elementary School Science, ESC 303
Science for the Elementary Teacher (Biology ESC)
FA 101 Introduction to Art, FA 300 Creative Arts
GES 202 Science for Elementary Teachers (Earth Science)
MTH 108 Functional Mathematics I
SPN 343, 344 Spanish Composition and Spanish
Teacher, IE 354 Experiences in Technology for Children
LIT 207 Introduction to Children's Literature
MTH 108 Functional Mathematics I
MTH 108 Functional Mathematics I

Elementary minor in industrial education ..................... 20
(See industrial education minor in Business
and Industrial Education section of this catalog.)

Sem hours
Foreign language minor ............................................. 20
French
1. Required courses .................................................. 6
FRN 343, 344 French Composition and French
Conversation ......................................................... 6
2. Electives ................................................................. 14
Choose 14 credits from any level French courses.
German
1. Required courses .................................................. 6
GER 343, 344 German Composition and German
Conversation ......................................................... 6
2. Electives ................................................................. 14
Choose 14 credits from any level German courses.
Spanish
1. Required courses .................................................. 6
SPN 343, 344 Spanish Composition and Spanish
Conversation ......................................................... 6
2. Electives ................................................................. 14
Choose 14 credits from any level Spanish courses.
Curriculum for Secondary Teachers
Junior-Senior High School

The bachelor of science or bachelor of arts* degree and the State Secondary Provisional Certificate may be awarded for successful completion of the secondary education program.

All students are required to complete a major teaching subject of at least 30 semester hours or a group major of 36 semester hours and, in addition, a minor of 20 semester hours or a group minor of 24 semester hours in subjects appropriate for teaching in secondary schools.

Students intending to teach specialized subjects in junior-senior high—art, business education, music, physical education, dance and recreation—should follow the requirements listed under those teaching subjects, not the ones listed on this page.

Students must complete all courses listed in addition to meeting basic studies requirements.

*The bachelor of arts degree requires completion of 75 hours in basic studies areas I, II and III and one year of college credit in foreign language.

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbolics and communication</td>
<td>14-17</td>
</tr>
<tr>
<td>ENG 121 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>CTA 121 or CTA 124 Fundamentals of Speech</td>
<td>2-3</td>
</tr>
<tr>
<td>One course from the following options a, b or c</td>
<td>3-5</td>
</tr>
<tr>
<td>a. ENG 225 Intermediate English Composition, ENG 226 Report and Research Writing, ENG 324 Principles of Technical Communication, or</td>
<td></td>
</tr>
<tr>
<td>b. CTA 224 Public Speaking, CTA 225 Listening Behavior, CTA 226 Nonverbal Communication, CTA 227 Interpersonal Communication, *CTA 374 Intercultural Communication or</td>
<td></td>
</tr>
<tr>
<td>c. CLA 121/122 Beginning Latin, CLA 123/124 Beginning Ancient Greek; FRN 121/122 Beginning French, FRN 233/234 Intermediate French; GER 121/122 Beginning German, GER 233/234 Intermediate German; JPN 121/122 Beginning Japanese, JPN 211/212 Intermediate Japanese; SPN 121/122 Beginning Spanish, SPN 201/202 Intermediate Spanish</td>
<td></td>
</tr>
<tr>
<td>A course in mathematical reasoning from</td>
<td>3-4</td>
</tr>
<tr>
<td>MTH 109 Functional Mathematics I, MTH 118/119 Mathematical Analysis for Social Sciences I and II, MTH 120/121 Calculus I and II, MTH 122 Elementary Linear Algebra, MTH 150 Mathematical Reasoning, MTH 270 Elementary Statistics, MTH 341 College Geometry, or SOC 250 Elementary Social Statistics</td>
<td></td>
</tr>
<tr>
<td>A course in computer literacy from</td>
<td>3</td>
</tr>
<tr>
<td>BE 201 Microcomputers for Business Applications; CSC 136 Computers for the Non-Specialist, CSC 137 Introduction to Fortran Programming, CSC 138 Computer Science I, CSC 237 Computer Programming and Numeric Methods; HIS 226 Computers for Health and Human Services; IT 105 Computer Applications for Industry; IDT 201 Microcomputer Applications in Technology; ORI 215 Introduction to Business Information Systems</td>
<td></td>
</tr>
</tbody>
</table>

**Science and technology** | 9-12 |

At least one of the three courses in science and technology must have a laboratory component.

A course in physical science from options a or b | 34 |

a. open to students who meet course requirements PHY 100 Science for Elementary Teachers, PHY 110 Physical Science, PHY 221 Mechanics, Sound and Heat, PHY 223 Mechanics, Sound and Heat; CHM 105 Survey of Chemistry; CHM 115 Chemistry and Society (no laboratory); CHM 115-116 Chemistry and Society; CHM 119 Fundamentals of Chemistry; CHM 120 Fundamentals of Organic and Biochemistry; CHM 121-122 General Chemistry or |

b. additional option open to students who have submitted appropriate evidence of having completed a one unit high school chemistry or physics course with a grade of "C" or above.

Students must complete one of the following courses:

AST 203 Exploration of the Universe (no laboratory); AST 203-204 Exploration of the Universe; AST 205 Principles of Astronomy (no laboratory); AST 204-205 Principles of Astronomy; GES 108 Earth Science; GLG 120 The Fossil Record (no laboratory); GLG 160 Physical Geology

A course in life science from | 34 |

BIO 105 Biology and the Human Species; BOT 221 General Botany; ESC 303 Science for Elementary Teachers; 200-222 General Zoology; PSY 101 General Psychology (no laboratory); PSY 102 General Psychology

A course in science or technology from options a or b | 34 |

a. A course listed under physical or life science so long as you have chosen your three courses in this area from different departments or |

b. A course from: CHM 101 Science for Elementary Teachers; IDT 150 Understanding Technology (no laboratory); IT 240 Science, Technology and People (no laboratory)

| Social science | |
|----------------||
| PL S 112 American Government or PL S 113 American Government Honors | |

A course in history from | |

HIS 101 History of Western Civilization to 1648; HIS 102 History of Western Civilization, 1648-1914; HIS 103 Twentieth Century Civilization; HIS 106 History of Western Political Systems; HIS 123 History of the U.S., 1877-1977; HIS 124 History of the U.S., 1877-Present

A course in anthropology, economics, geography or sociology from | |

ANT 135 Introduction to Cultural Anthropology; ECO 201 Principles of Economics I; GEO 107 Introduction to Geography; GEO 110 World Regions; SOC 105 Introduction to Sociology

A course from one of the following options a, b or c | |

a. A second course in a two-course history sequence from HIS 102 History of Western Civilization, 1648-World War I (follows HIS 101 History of Western Civilization to 1648); HIS 103 Twentieth Century Civilization (follows HIS 102 History of Western Civilization, 1648-World War I); HIS 124 History of the U.S., 1877-Present (follows HIS 123, History of the U.S. to 1877) or
b. A second course in a two-course sequence in anthropology, economics, geography or sociology from:
   - ANT 140 Introduction to Prehistoric Anthropology (follows ANT 135 Introduction to Cultural Anthropology);
   - GEO 111 Regions and Resources (follows GEO 110 World Regions);
   - SOC 202 Social Problems (follows SOC 105 Introductory Sociology) or

c. A course in cross-cultural or international studies from:
   - *AAS 101 Afro-American Studies: An Introduction;
   - *ANT 205 Minority Women in the United States;
   - *ANT 233 Peoples and Cultures of Mexico;
   - *ANT 234 Peoples and Cultures of Latin America;
   - *ANT 236 Peoples and Cultures of Africa;
   - *ANT 237 Indians of North America;
   - *ANT 245 Peoples and Cultures of Japan;
   - *ANT 241 Racial and Cultural Minorities;
   - *ANT 355 Anthropology of Women;
   - *ECO 321 Minority Workers in the Labor Market;
   - *ECO 328 Economics of Women;
   - *HIS 305 History of Indians in the United States;
   - *HIS 315 History of Black Americans;
   - *HIS 336 History of Women in the United States and Great Britain, 1800 to the Present;
   - *HIS 341 The Middle East, 1798 to Present;
   - *HIS 342 North Africa, 1798 to Present;
   - *HIS 348 Sub-Saharan Africa in the Twentieth Century;
   - *HIS 356 Latin America: National Period;
   - *HIS 375 Modern India;
   - *SOC 205 Minority Women in the United States;
   - *SOC 214 Racial and Cultural Minorities;
   - *SOC 344 Sociology of Sex Roles;
   - *WMS 200 Introduction to Women's Studies

A course from one of the following options a or b: .......... 3

a. A course in literature from:
   - LIT 100 The Reading of Literature; LIT 101 The Reading of Fiction; LIT 102 The Reading of Literature: Poetry;
   - LIT 103 The Reading of Literature: Drama or

b. A course in intermediate or advanced foreign language literature from:
   - FRN 221/222 Intermediate French;
   - FRN 341/342 Survey of French Literature;
   - GER 221/222 Intermediate German;
   - GER 341/342 Survey of German Literature;
   - SPN 221/222 Intermediate Spanish Reading;
   - SPN 341/342 Survey of Spanish Literature;
   - SPN 351/352 Survey of Spanish American Literature

A course from one of the following options a, b, c or d: ........ 3

a. A second course in literature from:
   - LIT 101 The Reading of Fiction; LIT 102 The Reading of Literature: Poetry, LIT 103 The Reading of Literature: Drama or

b. A second course in intermediate or advanced foreign language literature from the list above or

c. CTA 210 Interpretative Reading or

d. A course in cross-cultural or international studies from:
   - *CEN 215 The Culture of the Latino Groups in the United States;
   - *LIT 204 Native American Literature;
   - *LIT 260 Afro-American Literature

A course in philosophy or religion from: ....................... 3

PHI 100 Introduction to Philosophy; PHI 110 Philosophies of Life; PHI 130 Introduction to Logic; PHI 132 Critical Reasoning; PHI 212 Philosophy of Art;

PHI 215 Philosophy of Religion; PHI 220 Ethics;

PHI 221 Business Ethics; PHI 225 Political Philosophy;

PHI 226 Philosophy of Women or HIS 100 Comparative Study of Religions or PSY 225 Psychology of Religion

A course in art, dance, music or theatre arts from the following options a, b, c or d: ........................................... 3

a. A course in art from: FA 100 Art Appreciation;
   - FA 101 Introduction to Art; FA 107/108 Art History Survey I and II;
   - FA 122 2-D Design; FA 123 Drawing I;
   - FA 165 Graphic Design for Non-majors; FA 166 Ceramics for Non-majors; FA 167 Jewelry for Non-majors;
   - *FA 222 African and Afro-American Art or

b. A course in dance: DAN 106 Introduction to the Performing Arts

c. A course in music from: MUS 100 Introduction to Music Theory;
   - MUS 106 Introduction to the Performing Arts; MUS 107 Music Appreciation or

d. A course in theatre arts from:
   - CTA 106 Introduction to the Performing Arts;
   - CTA 150 Introduction to the Theatre; *CTA 151 Introduction to Black Theatre; CTA 158 Fundamentals of Acting; CTA 222 Drama and Play in Human Experience

Physical education ........................................................................ 2

Physical Education activity courses (2 hours) or
   - military science (2 courses) ............................................. 2

Professional education courses ................................................. 28-32

Students must achieve a "C" or better in all education courses.

EDT 300 Introduction to Computer Application in Education ................................................................. 1

SGN 300 The Exceptional Child in the
   - Regular Classroom ................................................................ 1

EDP 322 Human Development and Learning ............................... 1

CUR 305 Curriculum and Methods—Secondary ..................... 3

CUR 311 Teaching Reading in the Secondary School ............. 3

SFD 328 Social Aspects of Teaching ....................................... 3

EDP 340 Introduction to Measurement and Evaluation .......... 2

EDM 345 Media for the Classroom Teacher .............. ............ 1

EDT 300 Introduction to Prehistoric Anthropology (follows AN1 135 Introduction to Cultural Anthropology);

EDP 322 Human Development and Learning (2 courses) ...

SFD 328 Social Aspects of Teaching (2 courses)

EDP 340 Introduction to Measurement and Evaluation

To complete degree and certification requirements the
   - student must, in addition to the above listed courses,
   - complete a major and a minor in areas deemed
   - acceptable for secondary certification. A change
   - is being considered to allow up to 12 credit hours for
   - student teaching.

Cross-cultural or international studies

At least one approved course in cross-cultural or international studies must be completed in the process of meeting the basic studies requirements of basic studies. Approved courses are designated with an asterisk (*).

The student must complete a minimum of 124-128 appropriate semester hours to satisfy graduation requirements.
Driver Education

Driver education is a three-course, eight semester hour sequence that takes at least two enrollment periods to complete. It is not a major or a minor.

In addition to satisfactory completion of course requirements, the student also must meet the standards determined by the state of Michigan Department of Education prior to approval for teaching driver education in Michigan. The two lecture-laboratory instruction courses are CUR 419 Instructor’s Course in Driver Education and CUR 420 Advanced Instructor’s Course in Driver Education, which include dual-control car and driving simulator experiences. Time beyond that listed in the courses is expected for laboratory experiences.

Educational Media
(Library Science)

Library science is no longer offered by the Department of Teacher Education as a major or minor. The following courses fulfill the requirements for symbolic and communication (area I—see page 28):

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDM 101 Use of Books and Libraries</td>
<td>2</td>
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<td>EDM 514 Literature for Young Adults</td>
<td>3</td>
</tr>
<tr>
<td>EMU 500 Storytelling</td>
<td>2</td>
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</tbody>
</table>

Courses

Courses in this department are arranged in ascending numerical order regardless of prefix. Prefixes for the Department of Teacher Education are: CUR for courses in curriculum and instruction, EDP for courses in educational psychology, EDM for courses in educational media, ETD for courses in educational technology, SFD for courses in social foundations and EDU for student teaching.

Secondary methods courses carry specific discipline prefixes and are starred and referenced to the appropriate department.

Courses in the 300 and 400 series, unless otherwise designated, are classified as professional education courses and are open only to students of junior standing or above who have a grade point average of 2.50 or better, and who have made application and have been admitted to the College of Education.

Courses marked with an asterisk (*) are given by other departments.

EDM 101 Use of Books and Libraries. Two sem hours
Practical instruction in the use of the library’s tools and materials. Given on demand.

EDP 106 Introduction to University Studies. Three sem hours
Orientation to the role and function of the university; career orientation; improvement of study skills; university services and diagnostic testing and counseling. Credit awarded and normal tuition charges apply.
Prereq: Special permission of the Academic Advising Center.

EDP 200 Early Childhood Development and Learning. Five sem hours
Individual human development, birth through maturity, with emphasis on the early years. Observational skills in recording children’s behavior, learning theories as they relate to differing curriculum models and experiences with children on a one-to-one basis or with small groups in a pre-planned activity. For early childhood education majors.
Prereq: PSY 101 or 102 General Psychology.

EDP 206 Mental Hygiene. Two sem hours
A study of the facts, conditions, techniques and policies that further mental health and prevent mental illness. Skills and knowledge pertaining to effective interpersonal relationships and current concepts and approaches to mental health. Not open to freshmen.
Prereq: PSY 101 or 102 General Psychology.

* LIT 207 Introduction to Children’s Literature. Three sem hours
(For description, see Department of English Language and Literature.)

EDT 300 Introduction to Computer Applications in Education. One sem hour
An introductory course in educational technology with an emphasis on the emergence of technology in schools. Technology and its applications in schools past, present and future. How to operate a microcomputer and run commercially prepared educational software. Instructional applications of microcomputers, programming languages, communications and educational information. Basic concepts concerned with information processing, systems design, and artificial intelligence.
Prereq: None. Although the emphasis is educational applications of computers, the course has appeal for any student interested in an introduction to the operation and uses of the microcomputer. Required for all students pursuing a teacher education curriculum.

CUR 302 Methods of Integrating Curriculum and Resources in Early Childhood. Three sem hours
To help students design and implement developmentally appropriate curricula and programs for children pre-kindergarten through third grade. An inquiry approach will be used to assist the student in broadening the scope of curriculum to provide for individual interests and needs.
Prereq: EDP 200 Early Childhood Development and Learning, MTH 108 Functional Mathematics I, HEC 214-215 The Developing Child, and Child Development Lab I. Taken concurrently with HEC 373 Child Development Lab III. Admission to the College of Education.

CUR 304 Curriculum and Methods Elementary. Three sem hours
The concept of curriculum and its relationship to differing philosophies of education and styles of teaching. The instructional process and multiple teaching strategies examined and applied through lesson planning and demonstration. Social studies content used in lesson planning by students seeking elementary certification. Classroom management principles and techniques considered in the light of a curriculum and instruction perspective. Includes a
**CUR 305 Curriculum and Methods**

*Secondary*

Three sem hours

The concept of curriculum and its relationship to differing philosophies of education and styles of teaching. The instructional process and multiple teaching strategies examined and applied through lesson planning and demonstration. Classroom management principles and techniques considered in the light of a curriculum and instructional perspective. Includes a planned practicum experience in public schools in addition to the regularly scheduled hours.

*Prereq: Admission to the College of Education prior to registration.*

**MTH 306 Teaching of High School Mathematics.**

Three sem hours

*(For description, see Department of Mathematics.)*

*Prereq: Admission to College of Education.*

**CTA 307 The Teaching of Speech.**

Three sem hours

*(For description, see Department of Communication and Theatre Arts.)*

*Prereq: Admission to College of Education.*

**ENG 308 High School English.**

Three sem hours

*(For description, see Department of English Language and Literature.)*

*Prereq: Admission to College of Education.*

**CUR 311 Teaching Reading in the Secondary School.**

Three sem hours

The developmental sequence for reading skills at the junior and senior high school levels and methods for teaching the sequence, including teaching programs for both the normal and retarded reader. Providing reading instruction within the context of the various areas. Required for all students who seek certification to teach in secondary schools.

*Prereq: Admission to the College of Education.*

**CUR 314 Teaching Reading in the Elementary School.**

Six sem hours

The developmental aspects of reading and language arts programs from pre-school through elementary school. Theoretical and research knowledge pertinent to child growth and development and fundamental skills appropriate for the teaching of reading and language arts. Field-based experiences. Required for all students who seek certification to teach in elementary schools.

*Prereq: Admission to the College of Education.*

**EDP 318 Uses of Play in the Helping Professions.**

Three sem hours

An overview of approaches to play and its uses. Applications will be made to the fields of early childhood and elementary education, special education, physical education and recreation, occupational therapy, nursing, and child care. Students will conduct observations and interviews on play and experiment with a variety of play materials and media with children.

**EDP 322 Human Development and Learning.**

Four sem hours

The psychological study of childhood from birth through adolescence with a focus on intellectual and psycho-social behavior and the role of parents and teachers in fostering learning and development.

*Prereq: PSY 101 or 102 General Psychology.*

**EDP 325 Life Span Human Growth and Development.**

Four sem hours

An exploration of the biological, cognitive, social and affective domains of human growth and development from the prenatal period until death; the relationship of growth and development to behavior through the life span.

*Prereq: PSY 101 or 102 General Psychology.*

**PHY 325 Methods of Teaching the Physical Sciences.**

Three sem hours

*(For description see Physics and Astronomy Department.)*

**SFD 328 Social Aspects of Teaching.**

Three sem hours

Systematic study of the school as a major institution in American society and of the bearing of educational social science and philosophy on social interaction in the classroom.

*Prereq: Admission to the College of Education.*

**MUS 330 Music Education in the Elementary School.**

Three sem hours

*(For description see Department of Music.)*

**MUS 331 Music Education in the Secondary School.**

Three sem hours

*(For description see Department of Music.)*

**MUS 332 Instrumental Music in the Public Schools.**

Four sem hours

*(For description see Department of Music.)*

**MUS 333 Orchestral Methods.**

Two sem hours

*(For description see Department of Music.)*

**MUS 334 Band Methods.**

Two sem hours

*(For description see Department of Music.)*

**EDP 340 Introduction to Measurement and Evaluation.**

Two sem hours

General introduction to basic principles and problems in measurement and evaluation. Students learn how to construct teacher-made tests. Other topics include measurement of cognitive abilities, interests, attitudes and personal and social adjustment.

*Prereq: Admission to College of Education.*

**EDP 341 Measurement and Assessment of Young Children.**

Two sem hours

Introduction to measurement and evaluation concepts and to measuring tools and techniques used to assess the intellectual, social, emotional and physical behavior of young children.

*Prereq: PSY 101 General Psychology, EDP 200 Early Childhood Human Growth and Development, and admission to College of Education.*
EDM 345 Media for the Classroom Teacher. One sem hour
A methods course in which students will produce instructional materials in their teaching area and demonstrate the use of these materials in the classroom environment. The selection, utilization and evaluation of teaching materials. Various types of media production and utilization equipment.
Prereq: Admission to College of Education.

*GEO 347 Teaching Earth Science. Three sem hours
(For description, see Department of Geography and Geology.)

*DAN 354 Methods and Materials in the Teaching of Dance. Three sem hours
(For description, see the Department of Health, Physical Education, Recreation and Dance.)

*BE 364 Methods of Teaching General Business Subjects. Two sem hours
(For description, see Department of Business and Industrial Education.)

*BE 365 Methods of Teaching Office Education. Two sem hours
(For description, see Department of Business and Industrial Education.)

*BE 366 Methods and Materials in Teaching Distributive Education. Two sem hours
(For description, see Department of Business and Industrial Education.)

*PED 367 Methods and Materials in Physical Education. Three sem hours
(For description, see Department of Health, Physical Education, Recreation and Dance.)

*HEC 370 Methods and Materials in Consumer Home Economics. Two sem hours
(For description, see Department of Human, Environmental and Consumer Resources.)
All above methods courses require admission to College of Education.

*HEC 371 Resources in Teaching Consumer Home Economics Education. Two sem hours
(For description, see Department of Human, Environmental and Consumer Resources.)

HEC 373 Child Development Lab III: Methods and Resources. One sem hour
(Must be taken concurrently with CUR 302 Methods of Integrating Curriculum and Resources in Early Childhood.)

*HEC 375 Resources in Teaching Family Life Education. Two sem hours
(For description, see Department of Human, Environmental and Consumer Resources.)

*MTH 381 The Teaching of Mathematics K-6. Three sem hours
(For description, see Department of Mathematics.)

CUR 401 Issues and Practice in Early Childhood Education. Two sem hours
This culminating course in the early childhood minor deals with the current issues of concern to the beginning teacher. A supplement to student teaching at the pre-kindergarten level, the course further the development of knowledge of pre-primary education and the operation of child care programs. (Taken concurrently with EDU 496 Early Childhood Student Teaching.)

EDP 402 Learning in the Later Years. Three sem hours
Introduction to the nature of age-related changes and differences among age groups found in the teaching-learning process. Learning in later years, including processes, strategies and variables associated with the older learner.
Prereq: PSY 101 General Psychology or equivalent.

SFD 403 Endangered Children. Three sem hours
Multi-disciplinary analysis of the condition of children and youth: a consideration of the rights of children and examination of such phenomena as the myths about adolescents, dropouts and runaways, infanticide, homicide and suicide among the young; the abuse and exploitation of children; the political meaning of the economic deprivation of youth.

EDM 402 General Reference. Three sem hours
The selection, critical examination, evaluation and use of general reference materials, and the techniques of reference service.

SFD 402 Sexism and Education. Three sem hours
How sexist attitudes and behaviors affect and are affected by school policies and practices; educational aims, staff relations, teaching styles, decision-making, treatment of pupils, instructional materials, anti-sexist programs.

*MTH 403 Current Research in Elementary School Mathematics. Three sem hours
(For description, see Department of Mathematics.)

*BIO 403 Methods and Materials for Teaching Biology. Two sem hours
(For description, see Department of Biology.)

EDM 506 Storytelling. Two sem hours
Survey of folk and contemporary literature appropriate for oral interpretation; techniques and practice in the art of storytelling.

*FLA 411 Methods of Teaching Modern Languages. Two sem hours
(For description, see Department of Foreign Languages and Bilingual Studies.)

*FLA 412 Methods of Teaching Modern Languages in the Elementary Grades. Two sem hours
(For description, see Department of Foreign Languages and Bilingual Studies.)
OM 514 Literature for Young Adults. Three sem hours
Intensive study of the literature for young adults, grades 7-12; the
techniques of reading guidance and an understanding of adoles­
cents' interests and abilities in accordance with their developmental
growth.
Prereq: LIT 207 Introduction to Children's Literature.

• FA 416 Art Methods and Materials. Two sem hours
(For description, see Department of Art.)

• FA 317 Teaching of Art. Two sem hours
(For description, see Department of Art.)

CUR 419 Instructor's Course in
Driver Education. Three sem hours
Introduction to driver education; the task of the driver education
teacher. Course content, methods and media for secondary schools.
Laboratory experiences in the dual-control car, car handling tech­
niques and the driving simulator.

CUR 420 Advanced Instructor's Course
in Driver Education. Three sem hours
Methods and materials used in driver education. Organization,
scheduling, administration, records. Student teaching with a begin­
n ing driver. Eight hours of courses in driver education and traffic
safety required to be approved initially to teach driver education.
Prereq: CUR 419 Instructor's Course in Driver Education.

CUR 421 Seminar in Driver Education. Two sem hours
Advanced study in methods and techniques of teaching driver
education with emphasis on the psychological aspects of driving.
Prereq: CUR 419 Instructor's Course in Driver Education.

• PED 440 Tests and Measurements
in Physical Education. Two sem hours
(For description, see Department of Health, Physical Education,
Recreation and Dance.)

• IE 461 The Teaching of Industrial
Education. Two sem hours
(For description, see Department of Business and Industrial Educa­
tion.)

• HIS 481 The Teaching of Social Studies. Three sem hours
(For description, see Department of History and Philosophy.)

CUR, EDM, EDP, EDT, SFD 478, 479
Special Topics. Two, three sem hours
Courses that can be offered on an experimental basis for one
semester for purposes of meeting special needs and/or innovations.

CUR 486, 488, 489 Internship in
Teacher Education. One, two, three sem hours

CUR 387, 487 Cooperative Education
in Teacher Education. Three sem hours

CUR 490, 491 Special Work
(Honors Courses). One, two sem hours
Additional experiences for exceptionally promising students who
are seeking certification. Work based on problem or research interest with written and/or oral report.
Prereq: Senior standing, 3.5 average, permission of department
head.

EDU 492 Student Teaching. Eight-twelve sem hours
Practical experience under guidance of supervising teachers in
planning for teaching, managing the classroom, directing the learning
activities of pupils. Student teachers are given increasing respon­sibility for directing the activities of the classroom group to the
point of assuming full responsibility.
Prereq: Elementary—Completion of EDP 322 Human Development and Learning, CUR 314 Teaching Reading in the Elementary
School, CUR 304 Curriculum and Methods Elementary, SFD 328
Social Aspects of Teaching and MTH 381 Teaching of Mathematics
K-6.

Secondary—Completion of EDP 322 Human Development and Learning, CUR 305 Curriculum and Methods Secondary, SFD 328
Social Aspects of Teaching and completion of the special methods
course in the major or minor.

EDU 493 Student Teaching. Two sem hours
For experienced teachers attending the summer session.
Prereq: Permission of director of student teaching.

EDU 494 Student Teaching. Three sem hours
For experienced teachers attending summer session. Also for
special education majors in hearing impaired.
Prereq: Permission of director of student teaching.

EDU 495 Student Teaching. Four sem hours
Prereq: Permission of director of student teaching.

EDU 496 Student Teaching. Four sem hours
Prereq: EDU 495 Student Teaching and permission of director of
student teaching.

EDU 497 Student Teaching. Four sem hours
Prereq: Credit toward certification in either EDU 495 or 496
Student Teaching.

EDU 498 Student Teaching. Five sem hours
Prereq: Approval of Coordinating Council on Professional Educa­tion.

EDU 499 Student Teaching. Six sem hours
Prereq: Approval of Coordinating Council on Professional Educa­tion.

CUR, EDM, EDP, EDT, SFD 497, 498,
499 Independent Study. One, two, three sem hours
Advanced study on an individual basis in areas in which the
department does not offer a formal course.
Prereq: Department permission.
COLLEGE OF HEALTH AND HUMAN SERVICES

Programs of Study and Course Descriptions

Dean: Elizabeth C. King

Departments

Associated Health Professions
Human, Environmental and Consumer Resources
Nursing Education
Social Work
COLLEGE OF HEALTH AND HUMAN SERVICES

The College of Health and Human Services is composed of applied fields and strives for an organizational environment in which linkages with other programs and colleges is desired and encouraged. It also takes a leadership role in providing a close working relationship between the University and the community.

Professional education is based in the academic disciplines and generates a graduate with flexibility and breadth who can adapt to a rapidly changing world. The several curricula and programs of the college require a mastery of knowledge and problem-solving processes that are basic to human growth, development and healthy functioning. The college aims to prepare professionals who are equipped to provide health and human services to individuals and/or families in a variety of settings including businesses, homes, schools, hospitals, community and social agencies. Characterized by a concern for the quality of human life at all stages of development, health and human services are directed toward realizing the potential of the total person throughout the life cycle.

Established in January 1975, the College of Health and Human Services is comprised of the departments of Associated Health Professions; Human, Environmental and Consumer Resources; Nursing Education; and Social Work. It also offers minors in gerontology, child development, clothing and textiles, early childhood education, family development, nutrition, and occupational foods.

The increased emphasis on health-related and other service professions during the past decade has placed added responsibility for expansion, additions or revisions of programs to provide career opportunities and to meet student interest in these professions. The college brings together both recent and long-established programs that utilize traditionally strong, quality studies in the basic sciences, both natural and behavioral, and then applies and extends these studies through professional theory and laboratory courses and through field experiences and clinical affiliations.

The College of Health and Human Services and its programs are involved with a wide variety of accrediting agencies that govern the academic standards of most of the curricula and determine the requirements for entry into those professions, as indicated in the descriptions of the programs.

Clinical Affiliations

Following is a representative list of agencies with which the College of Health and Human Services is affiliated:

Allen Park Veterans Administration Hospital, Allen Park
Alzheimer’s Association, Southfield
Ann Arbor Veterans Administration Medical Center, Ann Arbor
Annapolis Hospital, Wayne
Battle Creek Public Schools, Battle Creek
Beaumont Hospital, Royal Oak
Beyer Memorial Hospital, Ypsilanti
Bixby Hospital, Adrian
Borgess Hospital, Kalamazoo
Robert B. Brigham Hospital, Boston, MA
Brighton Hospital, Brighton
Business/Education Alliance, Detroit
Catherine McAuley Health Center Interior

Design Office, Ann Arbor
Chelsea Community Hospital, Chelsea
Children’s Hospital, Detroit
Cincinnati General Hospital, Cincinnati, OH
Citizen’s for Better Care, Traverse City
Complete Home Health Care Services, Southfield
Cooperative Extension Service, Ann Arbor
Cottage Hospital, Grosse Pointe Farms
Karen deKoning Design, Ann Arbor
Detroit Area Agency on Aging
Detroit Memorial Hospital, Detroit
Detroit Orthopedic Clinic, Detroit
Detroit Psychiatric Institute, Detroit
Easter Seal Society of Wayne County, Inkster
W.A. Foote Hospital, Jackson
Henry Ford Hospital, Detroit
Henry Ford Hospital, Fairlane
Flint Osteopathic Hospital, Flint
Garden City Hospital, Garden City
Glacier Hill’s Nursing Center, Ann Arbor
Gorman’s, Southfield
Heritage Hospital, Taylor
University of Indiana Medical Center, Indianapolis, IN
Institute of Living, Hartford, CT
Institute of Rehabilitation Medicine, New York, NY
Jacobson’s, Jackson
J.C. Penney Company, Southfield
Jewish Home for the Aged, Detroit
Klenzcer Linda Korbesoja, ASID, Ypsilanti
Lafayette Clinic, Detroit
Life Skills Center, Howell
The Linen Center, St. Louis, MO
Livingston County Health Department, Howell
Livonia Public Schools, Livonia
Macomb County Health Department
McLaren Hospital, Flint
Metropolitan West Health Maintenance Organization, Westland
Michigan Retailers Association, Lansing
Monroe County Health Department
Muskegon Public Schools, Muskegon
Normal Street House, Ypsilanti
North Carolina Memorial Hospital, Chapel Hill, NC
Oakwood Hospital, Dearborn
The Ohio State University Hospitals, Columbus, OH
Oakdale Developmental Center, Lapcer
Oakland County Health Department, Pontiac
Pontiac General Hospital, Pontiac
Port Huron Hospital, Port Huron
Providence Hospital, Southfield
Rehabilitation Institute, Inc., Detroit
Rehabilitation Institute of Chicago, Chicago, IL
Roth Young Personnel Service, Southfield
Rush-Presbyterian-St. Luke’s Medical Center, Chicago, IL
Safehouse Shelter for Battered Women, Ann Arbor
Saginaw Public Schools, Saginaw
Saline Community Hospital, Saline
SOS Community Crisis Center, Ypsilanti
St. John’s Hospital, Detroit
St. Joseph Hospital, Flint
St. Joseph Mercy Hospital, Ann Arbor
St. Mary’s Hospital, Livonia
ASSOCIATED HEALTH PROFESSIONS
Office: 328 King Hall

Department Head: Stephen A. Sonstein

The Department of Associated Health Professions offers programs that lead to the baccalaureate degree in clinical laboratory sciences, health administration and occupational therapy. In addition, the department offers several interdisciplinary courses relating to the health services and the health care specialties.

Interdisciplinary Courses

AHP 200 Medical Terminology. One sem hour
A detailed study of medical terminology, through which students will achieve a working medical vocabulary. Anatomical terms, terminology relating to diseases and disease processes will be presented. This course is designed for students entering a health related educational program.

AHP 208 Ethical Dimensions in Health Care Delivery. Two sem hours
This course presents information which students interested in the health professions may use to identify ethical situations and to resolve dilemmas they may face in their professional lives.

AHP 305 Data Analysis for the Health Sciences. Three sem hours
Introduction to the application of statistical methods to a range of practice and research problems in the allied health sciences. Prereq: College algebra.

CLINICAL LABORATORY SCIENCES PROGRAM
Office: 328 King Hall

Program Coordinator: Jeanne M. Clerc
Associate Professors: Jeanne M. Clerc, Clifford Renk
Assistant Professor: Gary Hammerberg

Degree: Bachelor of science

Programs of Study
Curriculum:
Clinical laboratory sciences
(Clinical certification track, professional track, Cytotechnology/histotechnology track, phlebotomy certification)

The clinical laboratory sciences program offers three tracks, the clinical certification track, the professional track, and cytotechnology/histotechnology track, each leading to the bachelor of science degree. A fourth track, a phlebotomy (blood drawing) training program is also available. The tracks are designed to prepare graduates for employment in hospitals, physician’s offices, private laboratories, public health agencies, pharmaceutical companies and academic or industrial research. The professional track is the preferred course of study for students considering graduate school or advanced studies in the clinical sciences. The professional track also can be used as preparation for careers in medicine, dentistry and veterinary science.

Advising is available by faculty through the clinical laboratory sciences program. To assess progress, students should meet with their adviser each semester in which they are enrolled in classes.

Advising Coordinators:
Students are assigned to a faculty adviser upon declaring clinical laboratory sciences as a major.

Clinical Laboratory Sciences
(Clinical Certification Track and Professional Track)

This curriculum is a four-year program at Eastern Michigan University with two options or tracks:

1. Clinical certification track: This option consists of seven semesters of coursework in basic studies, basic sciences, and clinical sciences and includes 22 weeks of rotation through an accredited clinical laboratory. These clinical laboratories include the University of Michigan, Ann Arbor; Veteran’s Administration Hospital, Ann Arbor; and Heritage Hospital, Taylor Mich. This program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences through the Council of Allied Health Education of the American Medical Association.
2. Professional track: This option consists of eight semesters of coursework in the basic studies, basic and advanced sciences, and clinical sciences. Included will be a strongly recommended cooperative education experience in industry or academia. Graduates will be prepared for careers in pharmaceutical, clinical diagnostics or other health care industries. Additionally, graduates will be eligible for entry into a master’s or doctoral level program in the basic or clinical sciences. Students also would be eligible for one-year hospital rotations and subsequent certification as a registered medical technologist.

The major in clinical laboratory sciences follows an interdisciplinary format comprised of courses in clinical laboratory sciences, biology, chemistry, physics and mathematics. A 20 semester hour minor in chemistry is inherent in this program. Thus, the major and minor requirements of the University are fulfilled.

All students must complete the courses in each of the areas of basic studies. At least 30 semester hours of the academic program must be completed at Eastern Michigan University. Students should be aware of the 60 and 75 hour rule regarding transfer of community college credit.

Continuation in the clinical laboratory sciences program is based upon the following:

a. A minimum EMU cumulative grade point average of 2.0 must be maintained. However, a cumulative GPA of less than 2.5 mandates warning the student of their ineligibility for acceptance into the clinical track.

b. No grade below “C-” in any mathematics or science course.

c. A grade of “D” (including “D-” and “E”) in two courses in the clinical laboratory sciences major may, upon recommendation by the Program Review Committee, result in dismissal from the CLS program.

d. Freedom from any kind of probation, administrative, academic or social, must be maintained. While on academic probation, no student may register for, remain in or receive credit for science courses or practicum courses within the clinical laboratory sciences program.

Successful completion of the clinical track and the bachelor of science degree qualifies students to take the national registry examination in medical technology. The two certifying agencies recommended are the American Society of Clinical Pathologists and the National Certifying Agency for Clinical Laboratory Personnel.

Clinical Track Requirements

Students must first be accepted to Eastern Michigan University before they can be considered by the Clinical Laboratory Science Program Screening Committee. However, admission to EMU does not guarantee admission into the clinical track program.

Students entering the program will be classified initially as clinical laboratory sciences “intent.” Application for full admission to the clinical track program should be made during the fall semester of the senior year.

The application packet can be obtained from the Department of Associated Health Professions office. Completed applications must be in the office by Oct. 10 in order to be considered for acceptance for the winter semester.

Selection criteria include overall EMU GPA, letters of recommendation, overall science GPA, interview evaluations and completed application form.

Admission to the clinical laboratory sciences curriculum—clinical track is competitive and is based on the following:

1. A minimum grade point average of 2.5 on a 4.0 scale with no grade below “C-” in any science, mathematics or preprofessional course. The prerequisite courses may be taken at this university, any four-year college/university, or at a community college.

2. A minimum science GPA of 2.5.

3. Completion of at least 60 semester hours of university credit, including 45 semester hours of prerequisite mathematics and science courses, as indicated on the application form.

4. Three letters of recommendation. It is suggested that references should include a science instructor and an employer.

5. Students must document that they will have completed all prerequisite clinical laboratory sciences courses prior to beginning clinical rotations in the spring of their senior year.

The first three years of clinical laboratory sciences are the same for both the professional and clinical tracks. It is likely for acceptance into the clinical track will be highly competitive. Clinical laboratory sciences majors who are not accepted into the clinical track program, yet desire to sit for the registry examination in medical technology, have the following options:

1. Completion of the B.S. degree in clinical laboratory sciences (professional track) at Eastern Michigan University and filing a reapplication to the clinical track program.

2. Completion of all required coursework for the B.S. degree in clinical laboratory sciences and application to an approved hospital-based school of medical technology. The faculty advisers will assist students in the application process. Students are selected for internship placement through a statewide computer matching process. The selection process is completed in February each year, with internships usually beginning during the month of July. A bachelor of science in clinical laboratory sciences will qualify the student to apply to hospitals within Michigan and throughout the United States.

Hospital-based schools of medical technology (internship programs) affiliated with the University are:

Damon Clinical Laboratories, Detroit
Garden City Osteopathic, Garden City
Pontiac General Hospital, Pontiac
Providence Hospital, Southfield
St. John Hospital, Detroit
St. Joseph Hospital, Flint
W.A. Foote Hospital, Jackson
Professional Track Requirements

The professional track is designed for students with an interest in the clinical sciences, whose career goals do not include working as a registered medical technologist in a hospital laboratory setting. Students electing the professional track of the clinical laboratory sciences program complete eight semesters of academic coursework.

The curriculum includes an optional but recommended cooperative education experience. Work opportunities are diverse and include employment in pharmaceutical companies, analytical laboratories and research laboratories.

Formal application into the professional track is not required. Students must maintain an overall GPA of 2.0 in the major and satisfy University requirements for graduation. Registration for cooperative courses requires a 2.5 overall GPA and 2.5 in the sciences.

These curricula lead to a bachelor of science in the clinical laboratory sciences program.

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
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<tbody>
<tr>
<td>Symbolics and communication (Five courses)</td>
<td>10-15</td>
</tr>
<tr>
<td>Science and technology</td>
<td>7-10</td>
</tr>
<tr>
<td>Biology courses</td>
<td>21-25</td>
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<tr>
<td>BIO 105 Biology and the Human Species</td>
<td>4</td>
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<tr>
<td>ZOO 201 Human Anatomy and Physiology</td>
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<tr>
<td>MIC 329 General Microbiology</td>
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<tr>
<td>BIO 301 Genetics</td>
<td>3</td>
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<tr>
<td>ZOO 462 Parasitology</td>
<td>3</td>
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<tr>
<td>BOT 446 Medical Mycology (professional track only)</td>
<td>4</td>
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<tr>
<td>Chemistry courses</td>
<td>21-25</td>
</tr>
<tr>
<td>CHM 119 Fundamentals of Chemistry</td>
<td>4</td>
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<tr>
<td>CHM 121, 122 and CHM 123, 124 General Chemistry</td>
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<tr>
<td>CHM 270 Organic Chemistry</td>
<td>4</td>
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<tr>
<td>CHM 271 Organic Chemistry Lab</td>
<td>1</td>
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<tr>
<td>CHM 281 Quantitative Analysis</td>
<td>4</td>
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<td>CHM 351 Introductory Biochemistry</td>
<td>3</td>
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<tr>
<td>Mathematics and computer science courses</td>
<td>9</td>
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<tr>
<td>MTH 105 College Algebra (or waiver)</td>
<td>3</td>
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<tr>
<td>MTH 270 Elementary Statistics</td>
<td>3</td>
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<tr>
<td>CSC 136 Computers for the Non-Specialist or</td>
<td>3</td>
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<tr>
<td>CSC 137 Introduction to Computer Programming</td>
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<tr>
<td>Clinical laboratory sciences courses</td>
<td>36-54</td>
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<tr>
<td>CLS 101 Introduction to Clinical Laboratory Sciences</td>
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<td>CLS 200 Clinical Laboratory Techniques</td>
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<td>CLS 307 Introduction to Hematology</td>
<td>3</td>
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<td>CLS 310 Urinalysis/Body Fluids</td>
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<tr>
<td>NUR 320 Pathology</td>
<td>3</td>
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<td>CLS 335 Clinical Immunology</td>
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<tr>
<td>CLS 401 Laboratory Management/Education/</td>
<td>4</td>
</tr>
<tr>
<td>Quality Assurance</td>
<td>4</td>
</tr>
<tr>
<td>CLS 402 Application of Clinical Chemistry to Pathophysiology</td>
<td>3</td>
</tr>
<tr>
<td>CLS 407 Advanced Hematology</td>
<td>3</td>
</tr>
<tr>
<td>CLS 432 Clinical Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>CLS 434 Advanced Immunohematology</td>
<td>3</td>
</tr>
<tr>
<td>BOT 446 Medical Mycology (professional track only)</td>
<td>4</td>
</tr>
<tr>
<td>*CLS 450 Hematology/Coagulation Practicum</td>
<td>5</td>
</tr>
<tr>
<td>*CLS 452 Clinical Immunology/Immunohematology Practicum</td>
<td>5</td>
</tr>
</tbody>
</table>

Total: minimum hours required for graduation = 124

Cytotechnology/Histotechnology Track

Specialization in cytotechnology
Program Directors: Susan Dingler, Ross Lavoie

A cytotechnologist is a trained laboratory professional who detects cell disease by light microscopic examination of cell samples from all areas of the human blood.

Students may be accepted into the cytotechnology program after completing the required science, mathematics, and clinical laboratory science courses. University general education requirements must also be met. The senior year consists of a 12 month internship at Henry Ford or Harper-Grace School of Cytotechnology. The program includes an integrated presentation of didactic material, microscopic study, specimen preparation, clinical observation, cytogenetics, laboratory management, and a research project.

Specialization in histotechnology
Program Director: Peggy Wenk

Histotechnologists perform a variety of diagnostic and research procedures in the anatomic sciences. Basic histologic techniques involve the processing and staining of tissue specimens that have been removed from humans or animals by biopsy or autopsy. Advanced techniques involve the use of the electron microscope, immunofluorescence microscopy, autoradiography, cytogenetics and medical photography.

Students may be accepted into the histotechnology specialization after completing the required science, mathematics, and clinical laboratory science courses. University general education requirements must also be met. The senior year consists of a 12 month internship at William Beaumont Hospital School of Histotechnology.

Cytotechnology/Histotechnology Curricula

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbolics and communication (same as clinical/professional track)</td>
<td>10-15</td>
</tr>
<tr>
<td>Science and technology</td>
<td>7-10</td>
</tr>
<tr>
<td>Biology courses</td>
<td>18-22</td>
</tr>
<tr>
<td>BIO 105 Biology and Human Species (or waiver)</td>
<td>4</td>
</tr>
<tr>
<td>ZOO 201 Human Anatomy and Physiology</td>
<td>6</td>
</tr>
<tr>
<td>MIC 329 General Microbiology</td>
<td>5</td>
</tr>
</tbody>
</table>
Program. Students are also eligible to take a certification examina-
tion given by the American Society of Phlebotomy Technicians.

An overview of the profession highlighting the various areas of
technology, phlebotomy, use of the microscope, specimen collection
and preparation, pipetting and lab safety.

Clinical Laboratory Science Phlebotomy Program

The clinical laboratory science program, in conjunction with Ann Arbor area hospitals, has established a phlebotomy training
program. This program consists of two courses, both two credits
each. The program can be completed in two semesters. This allows
the students the opportunity to become employed as health care
professionals at good paying jobs while they continue their education.

Upon successful completion of both CLS 201 and CLS 202,
students will be given certificates of completion from the CLS
Program. Students are also eligible to take a certification examina-
tion given by the American Society of Phlebotomy Technicians.

Courses

CLS 101 Introduction to Clinical Laboratory Sciences. One sem hour
An overview of the profession highlighting the various areas of
clinical laboratory sciences: medical technology, phlebotomy,
cytology, histology, cytogenetics, and tissue typing. The course
provides information on employment opportunities including wage
and salary benefits, legal issues and certification in the profession.
The course also highlights the benefits of a clinical laboratory
science degree for individuals contemplating advanced degrees in
medicine or graduate school.

CLS 200 Clinical Laboratory Techniques. Two sem hours
Basic skills necessary to function in a clinical laboratory; i.e.,
phlebotomy, use of the microscope, specimen collection and
preparation, pipetting and lab safety.

CLS 201 Phlebotomy Techniques. Two sem hours
Phlebotomy Techniques is presented in a lecture-laboratory for-
mat. The course is designed to present the theory of blood collection
and the practical techniques for venipuncture and skin puncture.
Topics included in the course will cover the phlebotomist's role,
professionalism and ethics, laboratory and hospital organization,
specimen collection techniques, various blood drawing equipment,
patient interaction, and some medical and laboratory terminology.

CLS 202 Clinical Phlebotomy Practicum. Two sem hours
The Clinical Phlebotomy Practicum is the second course in a two-
course sequence designed to prepare students for entry level posi-
tions as phlebotomists. The practicum will generally consist of forty
hours of training at an affiliated institution.
Prereq: permission of instructor.

CLS 307 Introduction to Hematology. Three sem hours
The study of the formed elements of the blood, their precursors and
some of their products. Lecture and laboratory. Covers the theory
and principles of routine medical laboratory hematology tech-
niques. Not open to those with credit in BIO 307 Introduction to
Hematology.
Prereq: CLS 200 Clinical Laboratory Techniques or permission of
instructor.

CLS 310 Urinalysis and Body Fluids. Two sem hours
Lecture and laboratory covering urine and body fluid analysis.
Specimen collection and handling, physical examination, chemical
testing and microscopic evaluation.
Prereq: CHM 270 Organic Chemistry, CHM 271 Organic Chem-
istry Laboratory, CHM 281 Quantitative Analysis, ZOO 201 and
202 Human Anatomy and Physiology I and II or permission of
instructor.

CLS 335 Clinical Immunology. Four sem hours
Lecture and laboratory presenting theory, basic principles and
practical experience in clinical immunology. The correlation of
basic principles to human disease state.
Prereq: CLS 200 Clinical Laboratory Techniques, MIC 329 Gen-
eral Microbiology or permission of instructor.

CLS 387 Cooperative Education in Clinical Laboratory Services. Three sem hours
Three or four months of full time employment at a clinical, research
or industrial laboratory or related area chosen for providing a
practical educational experience in clinical laboratory science.
The program consists of two work experiences alternated with full-
time attendance at the University. Offered on graded or credit/no
credit basis.
Prereq: MIC 329 General Microbiology, CHM 270 Organic Chem-
istry, CHM 271 Organic Chemistry Laboratory, permission of
program director.

CLS 401 Laboratory Management/Education/Quality Assurance. Four sem hours
Basic management skills for laboratory personnel and laboratory
Personnel practices, equipment and reagent purchase, and labor-
CLS 402 Applications of Clinical Chemistry to Pathophysiology. Three sem hours
This lecture course covers the relationship of clinical chemistry to diagnosis, prognosis and treatment of disease. Focus will be on testing procedures, instrumentation, and controlling the functions in order to provide correct information to the medical staff.
Prereq: ZOO 201 and 202 Human Anatomy and Physiology I and II or ZOO 326 Human Physiology, NUR 320 Pathology, CHM 331 Introductory Biochemistry or permission of instructor.

CLS 405 Cytotechnology Clinical Internship. Fourteen sem hours
Microscopic study of cellular alterations indicative of cancer and precancerous conditions, bacterial, viral and parasitic infections, and hormonal abnormalities; cyogenetics; and a research project.

CLS 406 Cytotechnology Clinical Internship.
Continuation of CLS 405.
Prereq: program approval.

CLS 407 Advanced Hematology. Three sem hours
This lecture and laboratory course covers the theory and application of hematological test procedures, interpretation of results, problem solving and correlation of laboratory findings with disease states. Not open to those with credit in BIO 407 Advanced Hematology.
Prereq: CLS 307 Introduction to Hematology.

CLS 416 Basic Electron Microscopy. Eight sem hours
Didactic and practicum experience in basic biological electron microscopy. Electron microscopic histochemistry and special techniques are also covered. Emphasis is on the electron microscope as a medical diagnostic tool.
Prereq: program approval.

CLS 418 Immunohisto-Cytochemistry. Four sem hours
A course designed to teach basic and advanced procedures of fluorescent and enzyme labeled antibody techniques. The course includes the preparation of tissues, staining with labeled antibodies and the use of fluorescence microscope in clinical medicine and research.
Prereq: program approval.

CLS 419 Cytogenetics. Four sem hours
An intensive course in human cyogenetics. Human chromosome methodology, chromosome identification and chromosomal abnormalities and their application in clinical medicine.
Prereq: program approval.
CLS 477, 478, 479 Special Topics in Clinical Laboratory Sciences. One, two, three sem hours
Advanced level courses covering specific topics in clinical laboratory sciences not discussed in other clinical laboratory sciences courses.
Prereq: Permission of instructor.

CLS 487 Cooperative Education in Clinical Laboratory Sciences. Three sem hours
Three to four months of full-time employment at a clinical, research or industrial laboratory or related area chosen for providing a practical educational experience in clinical laboratory sciences. The program consists of two work experiences alternated with full-time attendance at the University. Offered on graded or credit/no credit basis.
Prereq: MIC 329 General Microbiology, CHM 270 Organic Chemistry, CHM 271 Organic Chemistry Laboratory, CLS 387 Cooperative Education in Clinical Laboratory Services, permission of program director.

CLS 497, 498, 499 Independent Study. One, two, three sem hours
Independent original endeavors involving library and/or laboratory work under the guidance of a clinical laboratory program faculty member or clinical associate faculty member.
Prereq: Permission of the instructor.

CLS 577, 578, 579 Special Topics in Clinical Laboratory Sciences. One, two, three sem hours
Advanced level courses covering specific topics in clinical laboratory sciences.
Prereq: Permission of instructor.

CLS 497, 498, 499 Independent Study. One, two, three sem hours
Independent original endeavors involving library and/or laboratory work under the guidance of a clinical laboratory program faculty member or clinical associate faculty member.
Prereq: Permission of the instructor.

CLS 577, 578, 579 Special Topics in Clinical Laboratory Sciences. One, two, three sem hours
Advanced level courses covering specific topics in clinical laboratory sciences.
Prereq: Permission of instructor.

CLS 597, 598, 599 Independent Study. One, two, three sem hours
Independent original endeavors involving library and/or laboratory work under the guidance of a clinical laboratory sciences program faculty member.
Prereq: MIC 329 General Microbiology, CHM 270 Organic Chemistry, CHM 271 Organic Chemistry Laboratory, CLS 387 permission of program director.

HEALTH ADMINISTRATION PROGRAM
Office: 328 King Hall

Program Director: Richard L. Douglass
Assistant Professor: Janice Dreachslin

Degree: Bachelor of science

Program of Study
Curriculum:
Health administration

Advising is available through the faculty in the health administration program office.

Advising Coordinator: Richard L. Douglass

Clinical Affiliations

Following is a representative list of agencies with which the health administration program is affiliated:
Center for Health Promotion, Michigan Department of Public Health, Lansing
City of Detroit, Bureau of Substance Abuse Services, Detroit
Detroit Osteopathic Hospital Corporation, Detroit
Huron Oaks Center, Catherine McAuley Health Center, Ann Arbor
Traverse City Osteopathic Hospital, Traverse City
Visiting Nurse Association of Huron Valley, Ann Arbor
Mid-Staffordshire Health Authority, Staffordshire
General Infirmary, Stafford, England
Garden City Osteopathic Hospital, Garden City
Wayne County Medical Examiner’s Office, Detroit
Alzheimer’s Disease and Related Disorders Association, Southfield
Seaway Hospital, Trenton
ElderCare, Inc., Ypsilanti
M-Care, Ann Arbor
Packard Community Clinic, Ann Arbor
New Horizons Care Corporation, Sun Valley, California
Michigan Insurance Bureau, Lansing
Saline Community Hospital, Saline
University of Michigan Hospitals, Ann Arbor
St. Joseph Mercy Hospital, Ann Arbor

Health Administration Curriculum

The program in health administration is one of only 23 undergraduate programs in the United States with full membership in the Association of University Programs in Health Administration (AUPHA). In addition, the program is closely affiliated with the American Academy of Medical Administrators (AAMA).

The curriculum concentrates on the principles and processes utilized in the field of health administration and management. The program is designed to thoroughly prepare those seeking a career...
the administrative sector of the health care delivery system in any of its forms. It is also appropriate for those already working in the health care field in some other capacity but wishing to redirect their career toward the area of health administration. Practicing health administrators without previous formal education in the field may also find this program beneficial for career advancement.

All students must take a one-semester internship during their senior year unless waived by the program director due to significant administrative experience. Courses denoted with an asterisk (*) complete the requirements for a degree. No outside minor is needed.

A degree completion track has been established for persons with clinical associate degrees from accredited community colleges who have had five or more years of experience subsequent to that degree completion. Associate degree trained nurses, respiratory therapists and others interested in the degree completion option in health services management should contact the program director. Successful completion of the degree completion track leads to the same degree as the regular program major.

A minor in health administration is available to undergraduate students at Eastern Michigan University. The curriculum for the minor in health administration includes 20-22 semester hours. Students interested in the minor should contact the program in writing and meet with the program's minor curriculum adviser.

Area

**Sem hours**

Symbolics and communication .......................................................... 10-15

Five courses as required by the basic studies program:
Must include MTH 118 Mathematical Analysis for Social Sciences I

Science and technology ...................................................................... 7-10

Three courses as required by the basic studies program:
Must include BIO 105 Biology and the Human Species

Social science ...................................................................................... 8-12

Four courses as required by the basic studies program:
Must include ECO 201 and ECO 202 Principles of Economics I and II

Arts and humanities ........................................................................... 8-12

Four courses as required by the basic studies program:
No restrictions.

Cross-cultural or international studies ............................................. 3

One course approved as described by the basic studies program:
No restrictions.

Physical education and health ............................................................. 2

As required for all undergraduate degree candidates.

Required courses in Health Administration (HAD)*

HAD 305 The U.S. Health Care System ........................................... 3

HAD 310 Administration of Health Care Organizations .................. 3

HAD 311 Management of Health Services ........................................ 3

HAD 415 Planning and Regulation of the Health Care Industry ........ 3

HAD 420 Financial Management of Health Institutions ................. 3

HAD 425 Decision Making for Health Administrators .................... 3

HAD 480 Internship Seminar in Health Administration ................. 3

HAD 487, 488 or 489 Internship in Health Care Administration ........ 3-9

Required courses in Associated Health Professions (AHP)*

AHP 200 Medical Terminology ......................................................... 1

AHP 208 Ethical Dimensions in Health Care Delivery .................. 2

AHP 305 Data Analysis and Research Methods in the Health Sciences

Health Administration Minor Curriculum

Students must complete these course requirements for the health administration minor:

<table>
<thead>
<tr>
<th>Minor in health administration</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Courses</td>
<td>Group I</td>
</tr>
<tr>
<td>HAD 305 The U.S. Health Care System</td>
<td>3</td>
</tr>
<tr>
<td>HAD 310 Administration of Health Care Organizations</td>
<td>3</td>
</tr>
<tr>
<td>HAD 311 Management of Health Services</td>
<td>3</td>
</tr>
<tr>
<td>HAD 415 Planning and Regulation of the Health Care Industry</td>
<td>3</td>
</tr>
<tr>
<td>HAD 420 Financial Management of Health Institutions</td>
<td>3</td>
</tr>
<tr>
<td>AHP 200 Medical Terminology</td>
<td>1</td>
</tr>
</tbody>
</table>

Electives ............................................................................................... 6-15

The following courses are suggested as possible electives:

HAD 479H (Honors only) Health Care for the Homeless

ACC 342 Managerial Cost Accounting

ECO 322 American Labor Unions

LAW 403 Labor Law

NUR 380 Health and Illness — Problems Throughout the Life Span

ORI 374 Production/Operations Management

PHI 220 Ethics

PLS 332 Intergovernmental Relations and Federalism

PSY 351 Industrial Psychology

PSY 360 Abnormal Psychology

SOC 307 Industrial Sociology

SOC 311 Social Gerontology

SOC 362 Complex Organizations

For permissible College of Business courses (maximum 30 credit hours), see a program adviser.

Total .................................................................................................. 124
2. Restricted electives

Group 2

Students must elect two of the following:

AHP 401 Legal Issues in Health Care .................................. 3
HAD 478 Special Topics in Health Care .................................. 3
AHP 208 Ethical Dimensions of Health Care ......................... 2
AHP 305 Data Analysis and Research Design in Health Care .... 3
NUR 380 Health and Illness Problems throughout the Life Span 3
SWK 431 Substance Abuse ................................................. 3
SWK 438 Interdisciplinary Health Care Team ......................... 3
GRT 404 Gerontology Interdisciplinary Seminar ................. 3
HEC 419 Consumer Resource Management: Health Care ........ 3
AAS 351 The Social Context of African American Health ........ 3

Total .................................................................................... 20-22

Health Administration Courses

HAD 287, 387 Cooperative Education in Health Administration. Three sem hours
Employment for pay in a work setting chosen to provide practical experience related to health administration. The cooperative education sequence consists of two work experiences (HAD 287 and 387) alternated with full-time attendance at the University.
Prereq: For HAD 287, sophomore standing and health administration major; for HAD 387, HAD 287.

HAD 305 The U.S. Health Care System. Three sem hours
A survey of important issues facing the health field. The U.S. health care system and the relationship between components; the changing nature of the health field and implications for the future.
(encouraged in sophomore year or early junior year)

HAD 310 Administration of Health Care Organizations. Three sem hours
Analysis of modern health care organizations with emphasis on management structure, board of trustees, administration, physicians and others. Delivery of institutional patient care, role of professionals and other personnel and departmental interrelatedness.
Prereq: HAD 305 The U.S. Health Care System.

HAD 311 Management of Health Services. Three sem hours
A continuation of HAD 310 Administration of Health Care Organizations, emphasizing quantitative methods in program implementation, control and evaluation. The administrative role in financial control, the legal aspects of control and the control of human resources.
Prereq: HAD 310 Administration of Health Care Organizations.

HAD 415 Planning and Regulation of the Health Industry. Three sem hours
Review of regulations affecting the health industry, particularly health planning. Ramifications for community, consumer and provider groups. Legislation and implications.
Prereq: HAD 310 Administration of Health Care Organizations, ECO 201 Principles of Economics I.

HAD 420 Financial Management of Health Institutions. Three sem hours
The application of generic concepts and tools to the health field.
Prereq: ACC 241 Principles of Accounting, one course in statistics.
HAD 310 Administration of Health Care Organizations.

HAD 425 Decision Making for Health Administrators. Three sem hours
The integration of many knowledge areas into health administration. A capstone course utilizing case studies, role playing, simulation and games.
Prereq: HAD 310 Administration of Health Care Organizations, HAD 420 Financial Management of Health Institutions, program permission.

HAD 477, 478, 479 Special Topics in Health Administration. One, two, three sem hours
For seniors. Topics included will depend upon the interests of the students and the faculty member's field of specialization.

HAD 480 Internship Seminar in Health Administration. Three sem hours
Seminar for those students taking an internship to provide a forum for the exchange of ideas and experiences.
Prereq: Program permission, and enrolled in internship program.

HAD 487, 488, 489 Internship in Health Administration. Three, six, nine sem hours
Internship to provide formally structured and directed work experience to assist in integrating classroom learning with professional perspectives and working requirements.
Prereq: Program permission, concurrent enrollment in HAD 480 Internship Seminar in Health Administration.

HAD 497, 498, 499 Independent Study. One, two, three sem hours
Under the supervision of a health administration faculty member, study in subjects not covered in other course offerings, or advanced study in areas of special interest to the student.
Prereq: Program permission.
OCCUPATIONAL THERAPY PROGRAM
Office: 328 King Hall

Program Director: Yvonne Teske
Associate Professors: Ruth A. Hansen, Yvonne Teske, Sherry Sayles-Folks
Assistant Professors: Normajean Bennett, Marie Immekus, Ben Atchison
Instructors: Virginia Dickie, Mary Yamamoto

Degree: Bachelor of science

Program of Study
Curriculum: Occupational therapy

Advising for occupational therapy-intent students is performed by the Academic Advising Center. After acceptance into the occupational therapy program, students are assigned a faculty adviser.

All students in professional programs must meet with their advisers before registering each semester.

Special Requirements
Admission
1. Students must first be accepted to the University by the Admissions Office before they can be considered by the Occupational Therapy Screening Committee. However, admission to EMU does not guarantee admission to occupational therapy. After acceptance by the University, a separate application must then be made to the occupational therapy program. Applications are available from occupational therapy in King Hall or from the Admissions Office.

2. Admission to the occupational therapy curriculum is competitive and is based on the following:
   a. A minimum grade point average of 2.5 on a 4.0 scale; at least a "B" in three prerequisites and at least a "C" in the other one and in any major courses taken before beginning the program.
   b. Completion of at least 40 semester hours of college credit (in addition to physical education activity courses) including the following prerequisites:
      PSY 101 General Psychology
      BIO 105 Biology and the Human Species
      Combined anatomy/physiology with lab OR human physiology course
      CHM 105 or 119 Fundamentals of Chemistry or equivalents.
   c. Acceptance is provisional. Before the student actually begins the professional curriculum, evidence of successful completion of at least 55 semester hours and the following additional prerequisite courses must be presented with at least a "B" in two of these courses and at least a "C" in the other one:
      PSY 360 Abnormal Psychology, FA 101 Introduction to Art, human growth and development, or psychology of development, or child psychology.
      The prerequisite courses may be taken at this University, at another four-year college/university or at a junior/community college.
   d. Completed information on the application form with emphasis on work/volunteer experiences with ill, handicapped individuals.
   e. Volunteer/work experiences with non-ill/non-handicapped individuals.
   f. Three references required: at least one from a supervisor of the work experience with ill/handicapped individuals; at least one from a supervisor of the work experience with non-ill/non-handicapped individuals; and one from an other source. No personal references will be accepted (friend, neighbor, etc.)
   g. Application deadlines are February 10 for the following fall semester and July 15 for the following winter semester.

The availability of fieldwork placements and other considerations restrict the number of students admitted to the classes that begin each fall and winter semester.

Criteria for continuance in the occupational therapy curriculum is based upon the following:
1. Scholarship:
   a. A minimum EMU cumulative grade point average of 2.0 on a 4.0 scale must be maintained.
   b. All students must achieve a minimum letter grade of "C" in all courses in the OT program (OT 300, 301, 302, 303, 304, 308, 400, 403, 413, 418, 420, 421, 488, 489, gerontology; ZOO 317, 326, 417; HAD 300; and IE 358).
   If the student receives a "D" (D+, D, D-) in an Occupational Therapy course, the student must retake the course and obtain at least a "C" grade before the student is allowed to take the next course in the sequence, and will be automatically placed on "Academic Warning" status. A second "D" in any course in the OT program will result in automatic dismissal.
   c. A letter grade of "E" in any required course will result in automatic dismissal from the OT program

2. Demonstrated competence in:
   a. Speaking effectiveness
   b. Written expression

3. Demonstrated responsibility for:
   a. Punctuality and attendance
   b. Communication with instructors, supervisors, students
   c. Organization of time
   d. Professional appearance

4. Freedom from any kind of probation, administrative, academic or social. While on academic probation, no student may register for, remain in or receive credit for the science and mathematics courses or the practical arts (Group VI) courses within the occupational therapy curriculum.

Supervised fieldwork of a minimum of six months is required for the baccalaureate degree and to become eligible for the national certification examination. Assignment to field placements is arranged and approved by the program and is by recommendation of the occupational therapy faculty. OT 488 and 489 Field work are full-time placements of a minimum of three months each.
Certification requires successful completion of all academic requirements, fieldwork experiences and the recommendation of the faculty. A registered occupational therapist (OTR) is one who has passed the certification examination administered by the American Occupational Therapy Certification Board.

Accreditation of the occupational therapy curriculum is authorized by the Committee on Allied Health Education and Accreditation of the American Medical Association and the Accreditation Committee of the American Occupational Therapy Association.

The professional segment of the program requires four semesters of work and, in addition, a minimum of six months full-time fieldwork experience. Courses in the occupational therapy major are usually offered in the fall and winter semesters only.

Occupational Therapy Curriculum

The occupational therapy curriculum leads to a bachelor of science degree in occupational therapy or a second baccalaureate degree for candidates who have earned a prior degree. Completion of courses identified by an asterisk (*) satisfies all major and minor requirements for a degree. No outside minor is needed.

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbols and communication</td>
<td>10-15</td>
</tr>
<tr>
<td>Science and technology</td>
<td>34-35</td>
</tr>
<tr>
<td>PSY 101 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>BIO 105 Biology and the Human Species</td>
<td>4</td>
</tr>
<tr>
<td>CHM 105 Survey of Chemistry or CHM 119</td>
<td></td>
</tr>
<tr>
<td>*ZOO 317 Human Growth and Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>*ZOO 326 Human Physiology</td>
<td>3</td>
</tr>
<tr>
<td>*ZOO 417 Neuroanatomy</td>
<td>3</td>
</tr>
<tr>
<td>PSY 360 Abnormal Psychology</td>
<td>3</td>
</tr>
<tr>
<td>*OT 303 Conditions of Early Childhood</td>
<td>3</td>
</tr>
<tr>
<td>*OT 403 Conditions of Childhood and Adolescence</td>
<td>3</td>
</tr>
<tr>
<td>*OT 413 Conditions of Adulthood and Aging</td>
<td>3</td>
</tr>
<tr>
<td>Social science</td>
<td>12</td>
</tr>
<tr>
<td>Any two course sequence offered in sociology/cultural anthropology</td>
<td>6</td>
</tr>
<tr>
<td>Arts and humanities</td>
<td>12</td>
</tr>
<tr>
<td>Requirements 1 and 2</td>
<td>6</td>
</tr>
<tr>
<td>FA 101 Introduction to Art or equivalent</td>
<td>3</td>
</tr>
<tr>
<td>Cross-cultural or international studies</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>4</td>
</tr>
<tr>
<td>EDP 325 Life Span Human Growth and Development</td>
<td>4</td>
</tr>
<tr>
<td>Practical arts</td>
<td>44</td>
</tr>
<tr>
<td>PED 200 Anatomy and Physiology</td>
<td>5</td>
</tr>
<tr>
<td>*HAD 300 Health Care Issues</td>
<td>2</td>
</tr>
<tr>
<td>*IE 358 Tools and Materials</td>
<td>3</td>
</tr>
<tr>
<td>*OT 300 Introduction to Occupational Therapy</td>
<td>2</td>
</tr>
<tr>
<td>*OT 301 Practicum in Occupational Therapy</td>
<td>1</td>
</tr>
<tr>
<td>*OT 302 Developmental Activities I</td>
<td>2</td>
</tr>
<tr>
<td>*OT 304 Developmental Activities II</td>
<td>2</td>
</tr>
</tbody>
</table>

OT 178 A View of Occupational Therapy. Two sem hours
An overview of occupational therapy designed for students who are in the process of making career decisions. Compare personal values, beliefs, and skills with those needed for occupational therapy and other health professions. Discuss current occupational therapy practice, and career opportunities.

OT 287, 387 Cooperative Education in Occupational Therapy. Three sem hours each
A two-course sequence that provides a work position designed to offer experience related to occupational therapy while the student receives academic credit and financial support. Available to students pursuing the profession of occupational therapy at the freshman, sophomore or junior levels. Consists of either full-time work experience alternated with full-time attendance at the University or a combination of part-time work and academic courses. Cooperative education does NOT substitute for occupational therapy Fieldwork I or II.

Prereq: Approval of the Cooperative Education Office and program permission. For OT 287, OT 387.

OT 300 Introduction to Occupational Therapy. Two sem hours
The roles and functions of occupational therapy in providing direct and indirect health care service. A foundation for the advanced professional courses. To be taken concurrently with OT 303 Practicum, and with or after ZOO 317 Human Growth and Anatomy and ZOO 326 Human Physiology.

Prereq: Admission to the program.

OT 301 Practicum in Occupational Therapy. One sem hour
An opportunity for students to develop skills in observing and interacting with individuals requiring occupational therapy intervention. To be taken concurrently with OT 300 Introduction to Occupational Therapy.

Prereq: Admission to the program.

OT 302 Developmental Activities I. Two sem hours
The theory, analysis and application of developmental activities used in occupational therapy intervention with children and adolescents. May be taken concurrently with OT 303 Conditions of Early Childhood and OT 308 Programming for Early Childhood.

Prereq: IE 358 Tools and Materials. Prereq or coreq: OT 300 Introduction to Occupational Therapy.
OT 303 Conditions of Early Childhood. Three sem hours
Conditions that interrupt early childhood development and performance and necessitate intervention; the health-illness continuum. To be taken concurrently with or after ZOO 417 Neuroanatomy. Prereq: For OT majors, OT 300 Introduction to Occupational Therapy, ZOO 317 Human Growth and Anatomy and ZOO 326 Human Physiology. For non-OT majors, an introductory biology or chemistry course and an introductory psychology or sociology course.

OT 304 Developmental Activities II. Two sem hours
Theory, analysis and application of developmental activities used in occupational therapy intervention with adults and aged persons. May be taken concurrently with OT 403 Conditions of Childhood and Adolescence, OT 418 Programming for Childhood and Adolescence. Prereq: OT 302 Developmental Activities I, OT 303 Conditions of Early Childhood, OT 308 Programming for Early Childhood.

OT 308 Programming for Early Childhood. Six sem hours
The rationale and methods of evaluating the developmental status of the young child in relation to the performance of life tasks. Includes methods of translating the evaluation data into program plans appropriate for the young child. To be taken concurrently with or after OT 302 Developmental Activities I, OT 303 Conditions of Early Childhood, ZOO 417 Neuroanatomy. Prereq: OT 300 Introduction to Occupational Therapy.

OT 400 Seminar in Health Care Issues. One sem hour
The issues covered in HAD 300 Health Care Issues as they pertain to occupational therapy. To be taken concurrently with OT 419 Programming for Adulthood and Aging.

OT 403 Conditions of Childhood and Adolescence. Three sem hours
Conditions that interrupt development and performance in later childhood and adolescence and necessitate intervention. Prereq: For OT majors, OT 303 Conditions of Early Childhood, OT 308 Programming for Early Childhood. For non-OT majors, an introductory biology or chemistry course and an introductory psychology or sociology course.

OT 413 Conditions of Adulthood and Aging. Three sem hours
The impact of specific conditions on adult development and performance necessitating intervention. Concepts of prevention. Prereq: For OT majors, OT 403 Conditions of Childhood and Adolescence. For non-OT majors, introductory biology or chemistry and an introductory psychology or sociology course.

OT 418 Programming for Childhood and Adolescence. Five sem hours
Methods of evaluating the developmental status and performance of the older child and adolescent. Results of evaluation methods are used to determine program plans using specific approaches. May be taken concurrently with OT 303 Conditions of Childhood and Adolescence. Prereq: OT 303 Conditions of Early Childhood, OT 308 Programming for Early Childhood.

OT 419 Programming for Adulthood and Aging. Five sem hours
Methods of evaluating the developmental status and performance of the adult. Students plan intervention programs based on the results of the evaluation, using specific occupational therapy approaches. May be taken concurrently with OT 413 Conditions of Adulthood and Aging. Prereq: OT 418 Programming for Childhood and Adolescence.

OT 420 Fieldwork (part-time). Two sem hours
An experience with children and/or adolescents in evaluating, planning and implementing supervised occupational therapy intervention programs. May be taken concurrently with OT 403 Conditions of Childhood and Adolescence, OT 418 Programming for Childhood and Adolescence. Prereq: OT 303 Conditions of Early Childhood, OT 308 Programming for Early Childhood.

OT 421 Fieldwork (part-time). Two sem hours
Experience with young, middle and/or older adults in evaluating, planning and implementing supervised occupational therapy intervention programs. Prereq: OT 418 Programming for Childhood and Adolescence. To be taken concurrently with or after OT 413 Conditions of Adulthood and Aging, OT 419 Programming for Adulthood and Aging.

OT 477, 478, 479 Special Topics in Occupational Therapy. One, two, three sem hours
Experimental courses or special topics in occupational therapy may be offered (to be announced). Prereq: Department permission.

OT 488, 489 Fieldwork (full-time). Three sem hours each
A full-time three month experience in a selected health services agency, where the student will gain in-depth experience in evaluation and programming for occupational therapy intervention. Prereq: Department permission; completion of all on-campus courses.

OT 490 Fieldwork (full-time elective). Three sem hours
A fieldwork experience with special populations or in special settings other than those completed in the required placements. Prereq: OT 488 and 489 Fieldwork; department permission.

OT 497, 498, 499 Independent Study. One, two, three sem hours
Prereq: Department permission.
HUMAN, ENVIRONMENTAL AND CONSUMER RESOURCES  
Office: 108 Roosevelt Building

Department Head: E. A. Rhodes
Professors: Betty L. Bomemeier, Bonitto M. Henry, Mary M. Krieger, Duane M. Laws, Ruby L. Meis
Associate Professors: Richard B. Leinbach, Marilyn P. Nagy, Gwendolyn M. Reichbach, Judith C. Williston
Assistant Professors: Betty L. Barber, Polly W. Buchanan, Deborah L. deLaski-Smith, Louise Jones, Sarah E. Moore, Virginia A. North, N. Annette Peel, Deborah A. Silverman, Phyllis A. Young

The Department of Human Environmental and Consumer Resources provides students with concepts and competencies in preparation for professional roles. Emphasis is placed on improving the quality of life and promoting wellness for individuals at each stage of the life cycle. Career opportunities are available in private and public institutions, in educational systems, in businesses and industry, and with federal, state and local governmental agencies.

The dietetics curriculum is accredited by the American Dietetic Association.

The Interior Design Program is accredited by the Foundation for Interior Design Research (FIDER).

Degree: Bachelor of science

Programs of Study

Curricula:
- Consumer home economics education
- Dietetics
- Family and consumer sciences
- Fashion merchandising
- Hospitality management
- Interior design

Minors:
- Child development
- Clothing and textiles
- Early childhood education
- Family life
- Nutrition
- Occupational foods

Advising is arranged by calling the department for an appointment. Specialized advising may be obtained according to the following list. Faculty members may be contacted directly.

Advising Coordinators:
- Consumer home economics education
- Dietetics: Polly Buchanan, Annette Peel, Deborah Silverman
- Family and consumer sciences: Betty Barber
- Fashion merchandising: Betty Bomemeier, Sarah Moore
- Hospitality management: Polly Buchanan
- Interior design: Virginia North
- Child development: Judy Williston, Phyllis Young
- Clothing and textiles: Mary Krieger

Field experience is an integral part of all majors offered in the department. A specialized course with supervised field experiences is offered in the student’s area of specialization.

Certification and registration is provided for the particular major/minor involved.

Graduate study leads to the master’s degree with concentrations in clothing and textiles, consumer affairs, family and child development, foods and nutrition, and in general home economics. For a description of the graduate program and courses, consult the Graduate Catalog.

Consumer Home Economics Education Curriculum

The bachelor’s degree in consumer home economics education leads to the Secondary Provisional Certificate in teaching with vocational endorsement; this qualifies the graduate to teach at the junior and senior high level and in adult education. Occupational endorsements are available in child care and guidance services and occupational foods. Selection of the early childhood education minor or occupational foods minor gives the student the background to develop the occupational area in his or her teaching situation.

In addition to meeting basic studies requirements, all students on this curriculum must complete all other courses specified. Students must also complete 200 hours of recent and relevant volunteer/work experience in three of four specified areas. Students on this curriculum must choose a minor of 20-24 semester hours. Recommended are minors in clothing and textiles, early childhood education, family life, nutrition or occupational foods.

Area | Symbolics and communication | Sem hours
--- | --- | ---

| ENG 121 English Composition or equivalent | 3 |
| CTA 121 Fundamentals of Speech | 2 |
| An upper level course in written composition or speech communication (page 29) | 3 |
| MTH 109 Functional Mathematics II or MTH 118 Mathematical Analysis for Social Sciences I | 3 |
| HHS 226 Computers for Health and Human Services or CSC 136 Computers for the Non-Specialist | 3 |

Science and technology

| CHM 105 Survey of Chemistry | 5 |
| BIO 105 Biology and the Human Species | 4 |
| PYS 101 Introductory Psychology | 3 |

Social science

| PLS 112 American Government | 3 |
| A course in history (page 31) | 3 |
| ECO 201 Principles of Economics I | 3 |
| Social science elective | 3 |
| ECO 202 Principles of Economics II or ECO 321 Minority Workers in the Labor Market or ECO 328 Economics of Women | 3 |
Curriculum for Dietetics

This specialized educational program integrates academic study with practice experience in a coordinated undergraduate program in general dietetics. Upon completion of the bachelor of science degree in dietetics, students qualify for membership in the American Dietetic Association and/or are eligible to take the registration examination for Registered Dietitian status. Career opportunities for the dietitian are available in hospitals and other health care facilities, in community agencies, in industrial, university and school food service programs, in businesses, in teaching or in research.

Admission to the dietetics program is not guaranteed by admission to the University. Students must submit application by January 15 of their sophomore year for entrance into the professional phase of the program the following fall semester. The applicant must meet the following requirements to be considered for the professional phase of the program:

1. Junior standing achieved by completing 55 or more semester hours or equivalent.
2. Minimum grade point average of 2.5.
3. Satisfactory completion ("C" grade or above) of the following courses at time of entrance into the program:
   - HEC 116 Foods for Consumers
   - HEC 202 Human Nutrition
   - HEC 211 Food Science
   - HEC 301 Orientation to Dietetics, B10 105 Biology and the Human Species
   - CHM 121-122 General Chemistry I
   - CHM 123-124 General Chemistry II
   - CHM 360 Organic Chemistry Laboratory
   - ECO 201 Principles of Economics I
4. Evidence of meeting food handler's requirements.

Application forms that describe the requirements in more detail may be obtained from the coordinator of the dietetics program. The availability of clinical facilities limits the number of students admitted to each class. Therefore, a screening procedure is used to select the most qualified students for the available positions in the program. Academic status is a primary consideration in this screening procedure.

Students accepted into the program who desire to substitute courses taken at other colleges and/or universities for the 300- and 400-level dietetics courses offered by the Department of Human, Environmental and Consumer Resources must successfully complete (70 percent or above) a theoretical and/or practical examination during the semester prior to the term in which the required course is scheduled.

Criteria for continuance in the program are as follows:

1. If students receive a "D" grade in any required course in science and mathematics and in major courses after being admitted to the program, they will be informed of a need for a counseling conference. Receiving a second "D" grade in either the same or a different course in these same groups will result in dismissal from the program.
2. Receiving an "E" in any of the required courses in these same groups after being admitted to the professional phase of the program will result in dismissal from the program.
3. Students must demonstrate those personal and professional qualities identified by faculty and communicated to the students early in the program as essential for successful professional practice.

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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTA 374</td>
<td>Intercultural Communication; or ECO 321</td>
</tr>
<tr>
<td>PHI 130</td>
<td>Introduction to Logic or PHI 220 Ethics</td>
</tr>
<tr>
<td>FA 101</td>
<td>Introduction to Art</td>
</tr>
<tr>
<td>Required for CHEE majors</td>
<td></td>
</tr>
<tr>
<td>*Meet cross-cultural studies</td>
<td></td>
</tr>
<tr>
<td>**If cross-cultural course is selected in Symbolics and communication or arts and humanities, student will take social science elective.</td>
<td></td>
</tr>
</tbody>
</table>

**Cross-cultural elective

CTA 374 Intercultural Communication; or ECO 321
Minority Workers in the Labor Market or ECO 328
Economics of Women or HIS 305 History of Indians in the United States or HIS 315 History of Black Americans or HIS 336 History of Women in the United States and Great Britain, 1800 to the Present or LIT 204 Native American Literature or LIT 260 Afro-American Literature or PHI 226 Philosophy of Women

Arts and humanities

A course in literature (page 32) ............................................... 6
*LIT 204 Native American Literature or *LIT 260 Afro-American Literature

PHI 130 Introduction to Logic or PHI 220 Ethics ...................... 3
FA 101 Introduction to Art ................................................... 3

Required for CHEE majors

*Meet cross-cultural studies

**If cross-cultural course is selected in Symbolics and communication or arts and humanities, student will take social science elective.

Education

EDT 300 Introduction to Computer Applications in Education .................................................. 29

SOM 300 Exceptional Children in the Regular Classroom ............................................................... 1
CUR 311 Teaching Reading in the Secondary School ............................. 3
EDP 322 Human Development and Learning ........................................... 4
SFB 328 Social Aspects of Teaching .................................................. 3
EDP 340 Introduction to Measurement and Evaluation ..................... 2
EDM 345 Media for the Classroom Teacher ........................................ 1
HEC 370 Methods and Materials in Teaching Consumer Home Economics Education .......................................... 3
HEC 371 Resources in Teaching Consumer Home Economics Education ............................................. 3
EDU 492 Student Teaching ......................................................... 8

Practical arts.................................................................................. 39

Foundation course ........................................................................ 3
HEC 300 Professional Perspectives ................................................. 3

Specialization courses ................................................................. 36

Clothing and textiles

HEC 235 Textiles for Consumers ................................................... 3

Consumer affairs

HEC 112 Introduction to Consumer Affairs ................................... 3
HEC 285 Resource Management: Individual and Family ............ 3
Family and child development

HEC 109 Interpersonal Relations in the Family ............................. 3
HEC 209 Marriage and Interpersonal Competence ..................... 3
HEC 214 The Developing Child ................................................... 3
HEC 215 Child Development Lab: Preschool Child ..................... 1
HEC 306 Parenting .........................................................................
HEC 361 Issues in Family and Child Development ..................... 3

Foods and nutrition

HEC 113 Family Health Care ....................................................... 2
HEC 116 Foods for Consumers ................................................... 3
HEC 201 Nutrition for Consumers ................................................

Interior design

HEC 269 Housing for Consumers ................................................ 3

Physical education and health .....................................................

Physical education activity courses ............................................. 2

(Any two courses in Military Science may be applied)

Total ......................................................................................... 131-139
In addition to meeting basic studies requirements, all students on this curriculum must complete all other courses specified. These particular curricular, major or minor requirements specify both courses and the number of hours to be completed. Students completing this curriculum have met the major and minor requirements for a degree. No outside minor is needed.

### Area Sem hours

**Symbolics and communication** .................................. 14-15

- ENG 121 English Composition ..................................... 3
- CTA 121 or 124 Fundamentals of Speech ......................... 2-3
- A second course in ENG (page 29) or CTA (225 Listening Behavior, 226 Nonverbal Communication, or CTA 227 Interpersonal Communication) ........................................ 3
- SOC 250 Elementary Social Statistics ............................ 3
- HHS 226 Computers for Health and Human Services ............ 3

**Science and technology** ........................................ 31

- PSY 101 General Psychology ..................................... 3
- BIO 105 Biology and the Human Species ........................ 4
- CHM 121-122 General Chemistry I ............................... 4
- CHM 123-124 General Chemistry II .............................. 4
- CHM 270 Organic Chemistry ...................................... 4
- CHM 271 Organic Chemistry Laboratory ........................ 1
- CHM 351 Introductory Biochemistry .............................. 3
- CHM 453 Biochemistry Laboratory ................................. 2
- MIC 328 Introductory Microbiology ............................... 3
- ZOO 326 Human Physiology ....................................... 3

**Social science** .................................................. 15

- PLS 112 American Government .................................. 3
- History course 101, 102, 103, 106, 123 or 124 ............... 3
- ECO 201 Principles of Economics I ............................... 3
- SOC 105 Introductory Sociology .................................. 3
- SOC 205 Minority Women or SOC 214 Racial and Cultural Minorities ......................................................... 3

**Arts and humanities** ........................................... 12

- LIT 100 The Reading of Literature ............................... 3
- A course in literature or oral interpretation (page 32) ........ 3
- A philosophy course PHI 100 Introduction to Philosophy, PHI 110 Philosophies of Life, PHI 130 Introduction to Logic, PHI 132 Critical Reasoning, PHI 220 Ethics ......................... 3
- A course in art, music or theatre arts as FA 100 Art Appreciation, FA 101 Introduction to Art, FA 107 Art History Survey I, FA 108 Art History Survey II, MUS 107 Music Appreciation, CTA 106 Introduction to the Performing Arts, CTA 150 Introduction to the Theatre .................. 2-3

**Practical arts** .................................................. 62

- **Foundation course** ............................................. 3
- **Specialization courses** ........................................ 59
- HEC 390 Professional Perspectives ............................... 3
- HEC 116 Foods for Consumers ..................................... 3
- HEC 202 Human Nutrition ........................................ 3
- HEC 211 Food Science ............................................ 3
- HEC 301 Orientation to Dietetics ................................ 3
- HEC 311 Community Nutrition Experience ..................... 3
- HEC 312 Community Nutrition .................................... 3
- HEC 321 Dietetic Skills .......................................... 2
- HEC 383 Clinical Nutrition I Experience ....................... 2
- HEC 384 Clinical Nutrition I ..................................... 2
- HEC 393 Food Systems Management I Experience ............. 2

**Physical education and health** ................................ 2

- Physical education activity courses ............................ 2
- (Any two courses in Military Science may be applied)

**Electives** ...................................................... 135-137

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### Family and Consumer Science

Family and consumer science prepares students to assist families and consumers in their decision-making processes.

**Area Sem hours**

**Symbolics and communication** .................................. 10-15

- See basic studies requirements (page 29).
- A course in physical science
  - A course in chemistry or physics must be completed unless appropriate evidence has been submitted to the Academic Advising Office that one unit course in high school has been completed with a grade of "C" or above.
  - PSY 101 or 102 Introduction to Psychology
  - A course in science or technology, chosen from a department other than the ones in which physical and life science requirements have been completed

**Science and technology** ........................................ 7-10

- A course in physical science
  - See basic studies requirements (page 31).

**Social science** .................................................. 8-12

- A course in U.S. government
- A course in history
- SOC 105 Introductory Sociology, or ECO 201 Principles of Economics I
- A second course in a two-course sequence in economics (consumer affairs focus) or a second course in sociology (family/child focus)

**Arts and humanities** ........................................... 8-12

- See basic studies requirements (page 31).

**Cross-cultural or international studies**

At least one approved course in cross-cultural or international studies must be completed in the process of meeting the requirements of the foregoing basic studies areas. For approved courses, see page 31.

**Practical arts** (Family and consumer science) ............... 44-45

**Core (required)** .................................................. 30

- HEC 109 Interpersonal Relations in the Family ................ 3
- HEC 112 Introduction to Consumer Affairs ..................... 3
- HEC 269 Housing for Consumers .................................. 3
- HEC 285 Resource Management: Individual and Family ....... 3
- HEC 300 Professional Perspectives ............................... 3
HEC 322 Family Financial Management ........................................3
HEC 361 Issues in Family and Child Development .....................3
HEC 450 Adult Role Transitions ................................................3
HEC 487 Field Experience .........................................................3
*Select one HEC course outside major ........................................3
Selected career focus below

Consumer Affairs Focus ..........................................................14
HEC 419 Consumer Resource Management:
  Health Care ...........................................................................3
  or
  HEC 430 Family Financial Advising ........................................3
  HEC 472 Consumer Economic Issues ........................................3
  HEC 473 Consumer Economic Problems ....................................3
  HEC 474 Seminar in Consumer Affairs .....................................2
  JRN 215 Journalism ................................................................3
  Family/Child Focus ................................................................15
  HEC 209 Marriage and Interpersonal Relations .........................3
  HEC 214 The Developing Child ...............................................3
  HEC 215 Child Development Lab: Preschool Child .................1
  HEC 306 Parenting ................................................................3
  HEC 375 (Revised) Professional Seminar: Family
    Life Education ................................................................2
  HEC 461 Family Interaction .....................................................3

Minors: Students will select one of the minors below in consultation
  with their department academic adviser, considering professional goals. (Recommended: child development, health, management, marketing, CTA.)

Physical Education ....................................................................2
Electives ....................................................................................3-7
Total .......................................................................................124

Curriculum for Fashion Merchandising

The fashion merchandising curriculum offers practical career-oriented knowledge and skills as well as theoretical foundations of marketing fashion apparel and accessories. A marketing or management minor is required.

In addition to meeting the basic studies requirements (page 28), all students on this curriculum must complete all other courses specified. These particular curricular, major or minor requirements specify both courses and the number of hours to be completed for a degree.

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social science</td>
<td>8-12</td>
</tr>
<tr>
<td>A course in U.S. government</td>
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</tr>
<tr>
<td>A course in history</td>
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<tr>
<td>A course in economics</td>
<td></td>
</tr>
<tr>
<td>A second course in a two-course sequence in economics</td>
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</tr>
<tr>
<td>Cross-cultural or international studies</td>
<td></td>
</tr>
<tr>
<td>At least one approved course in cross-cultural or international studies must be completed in the process of meeting the basic studies requirements (page 32).</td>
<td></td>
</tr>
<tr>
<td>Major in fashion merchandising</td>
<td>45</td>
</tr>
<tr>
<td>Foundation courses</td>
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</tr>
<tr>
<td>HEC 300 Professional Perspectives</td>
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</tr>
<tr>
<td>Specialization courses</td>
<td>42</td>
</tr>
<tr>
<td>HEC 105 Integrated Arts</td>
<td>3</td>
</tr>
<tr>
<td>HEC 135 Cultural Study of Fashion</td>
<td>3</td>
</tr>
<tr>
<td>HEC 145 Introduction to Merchandising</td>
<td>3</td>
</tr>
<tr>
<td>HEC 208 Basic Interior Design</td>
<td>3</td>
</tr>
<tr>
<td>HEC 235 Textiles for Consumers</td>
<td>3</td>
</tr>
<tr>
<td>HEC 255 Apparel Analysis</td>
<td>3</td>
</tr>
<tr>
<td>HEC 345 Theories and Practice of Fashion</td>
<td></td>
</tr>
<tr>
<td>Merchandise I</td>
<td></td>
</tr>
<tr>
<td>HEC 355 Theories and Practice of Fashion</td>
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<tr>
<td>Merchandise II</td>
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<tr>
<td>HEC 356 Theories and Practice of Fashion</td>
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</tr>
<tr>
<td>Merchandise III</td>
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<tr>
<td>HEC 380 Fashion of Haute Couture</td>
<td>1</td>
</tr>
<tr>
<td>HEC 390 Visual Merchandising</td>
<td>3</td>
</tr>
<tr>
<td>HEC 404 Textile Testing</td>
<td>3</td>
</tr>
<tr>
<td>HEC 437 Professional Seminar</td>
<td>3</td>
</tr>
<tr>
<td>HEC 443 Merchandising of Interior Furnishings</td>
<td>3</td>
</tr>
<tr>
<td>HEC 487 Field Experience</td>
<td>3</td>
</tr>
<tr>
<td>Physical education and health</td>
<td>2</td>
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<tr>
<td>Physical education activity courses</td>
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<tr>
<td>Minor in fashion merchandising</td>
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</tr>
<tr>
<td>Marketing or management</td>
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<tr>
<td>Required</td>
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<tr>
<td>ACC 240 Principles of Accounting</td>
<td>3</td>
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<tr>
<td>MKT 360 Principles of Marketing</td>
<td>3</td>
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<tr>
<td>MGT 386 Organization, Theory and Development</td>
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<tr>
<td>Choose 12 credits from marketing courses or management courses.</td>
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<tr>
<td>Electives</td>
<td>12-13</td>
</tr>
<tr>
<td>Total</td>
<td>124</td>
</tr>
</tbody>
</table>

Curriculum for Hospitality Management

Food systems management provides an interdisciplinary program which integrates principles of food science and food management with the physical sciences, social sciences and business. Students must complete the required courses in each of the four areas of the basic studies and the practical arts.

In addition to meeting the basic studies requirements, all students on this curriculum must complete all other courses specified. These particular curricular, major or minor requirements specify both courses and the number of hours to be completed for a degree. A minor in general business, marketing, management or nutrition is recommended.

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
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<tbody>
<tr>
<td>Social science</td>
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</tr>
<tr>
<td>A course in U.S. government</td>
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</tr>
<tr>
<td>A course in history</td>
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<tr>
<td>A course in economics</td>
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<tr>
<td>A second course in a two-course sequence in economics</td>
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</tr>
<tr>
<td>Cross-cultural or international studies</td>
<td></td>
</tr>
<tr>
<td>At least one approved course in cross-cultural or international studies must be completed in the process of meeting the basic studies requirements (page 32).</td>
<td></td>
</tr>
<tr>
<td>Major in fashion merchandising</td>
<td>45</td>
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<tr>
<td>Foundation courses</td>
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<tr>
<td>HEC 300 Professional Perspectives</td>
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<tr>
<td>Specialization courses</td>
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<tr>
<td>HEC 105 Integrated Arts</td>
<td>3</td>
</tr>
<tr>
<td>HEC 135 Cultural Study of Fashion</td>
<td>3</td>
</tr>
<tr>
<td>HEC 145 Introduction to Merchandising</td>
<td>3</td>
</tr>
<tr>
<td>HEC 208 Basic Interior Design</td>
<td>3</td>
</tr>
<tr>
<td>HEC 235 Textiles for Consumers</td>
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<td>HEC 355 Theories and Practice of Fashion</td>
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<td>Merchandise II</td>
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<tr>
<td>HEC 356 Theories and Practice of Fashion</td>
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<tr>
<td>Merchandise III</td>
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<tr>
<td>HEC 380 Fashion of Haute Couture</td>
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<tr>
<td>HEC 390 Visual Merchandising</td>
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<tr>
<td>HEC 404 Textile Testing</td>
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<td>HEC 437 Professional Seminar</td>
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<tr>
<td>Physical education and health</td>
<td>2</td>
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<td>Physical education activity courses</td>
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<td>Elective</td>
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<tr>
<td>Recommended:</td>
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<tr>
<td>ENG 224 Practical Writing</td>
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<tr>
<td>ENG 225 Intermediate English Composition</td>
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<td>ENG 226 Report and Research Writing</td>
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<tr>
<td>CTA 224 Public Speaking</td>
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<tr>
<td>CTA 225 Listening Behavior</td>
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</table>
Curriculum for Interior Design

The interior design curriculum is interdisciplinary in nature. The integrated major includes courses in fine arts, management, marketing, textiles and facility management in addition to the courses in interior design. Creative problem solving in the area of human-environment relationships is emphasized. The focus of the problem is on the theory, processes, and skills necessary for graduates of the program to reach the highest levels of professional achievement. The curriculum aims to prepare students to become professional interior designers. The interior design program has a two-year provisional accreditation from Foundation for Interior Design Education Research (FIDER).

In addition to meeting basic studies requirements, all students on this curriculum must complete all other courses specified. Students completing this curriculum have met the major and minor requirements for a degree. No outside minor is needed.

Area

Social science .................................................. 8-12
A course in U.S. government
A course in history
A course in anthropology, economics, geography or sociology.
One of the following:
A second course in a two-course history sequence.
A second course in a two-course anthropology, economics, geography or sociology sequence.
An approved course in cross-cultural or international studies.

Arts and humanities ........................................ 8-12
Requirements 1, 2 and 3 (page 32)
FA 122 Two-dimensional Design

Cross-cultural or international studies
Requirement: One course selected from basic studies areas I-IV. See page 32 for a list of approved cross-cultural courses.

Practical arts .................................................. 88
Foundation course ........................................... 3
HEC 300 Professional Perspectives ....................... 3
Specialization courses ....................................... 63
HEC 103 Introduction to the Hospitality Industry ........ 2
HEC 109 Interpersonal Relations in the Family ............ 2
HEC 116 Foods for Consumers ............................... 3
HEC 201 Nutrition for Consumers ........................... 3
HEC 211 Food Science ......................................... 3
HEC 251 Meal Service Management ........................ 3
HEC 287 Cooperative Experience ........................... 3
HEC 308 Environmental Systems ............................ 3
HEC 364 Facility Management ............................... 3
HEC 368 Hospitality Information Systems .................. 3
HEC 369 Human Factors and Environmental Design .... 3
HEC 376 Legal Aspects of the Hospitality Industry ....... 3
HEC 393 Food Systems Management I Experience ...... 2
HEC 394 Food Systems Management II .................... 2
HEC 435 Foods and Nutrition Seminar .................... 2
HEC 440 Financial Management in Hospitality Management ........... 3
HEC 441 Purchasing in the Hospitality Industry .......... 3
HEC 470 Hospitality Industry Marketing .................. 3
HEC 492 Food Systems Management II Experience ...... 4
HEC 494 Food Systems Management II .................... 1
HEC 495 Food Systems Management III .................... 5

Recommended minor ......................................... 21
Management, College of Business

Physical education ............................................. 2
Electives ......................................................... 0-3
Total ......................................................... 141-144
Minors Offered in the Department of Human, Environmental and Consumer Resources

Child Development Minor

This minor is appropriate for students majoring in psychology, sociology, social work or any child-related, non-teaching major. Graduates of this program are prepared to direct child development centers as well as teach in half- and full-day child care centers.

Sem hours

<table>
<thead>
<tr>
<th>Minor in child development</th>
<th>24-25</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required courses</td>
<td>22</td>
</tr>
<tr>
<td>HEC 214 The Developing Child</td>
<td>3</td>
</tr>
<tr>
<td>HEC 215 Child Development Lab: Preschool Child</td>
<td>1</td>
</tr>
<tr>
<td>HEC 314 The Developing Infant</td>
<td>3</td>
</tr>
<tr>
<td>HEC 315 Child Development Lab: Infancy</td>
<td>1</td>
</tr>
<tr>
<td>CUR 302 Integrating Curriculum and Resources in Early Childhood</td>
<td>3</td>
</tr>
<tr>
<td>HEC 373 Child Development Lab: Curriculum/Resources</td>
<td>1</td>
</tr>
<tr>
<td>HEC 407 Administration and Supervision in Child Development Centers</td>
<td>3</td>
</tr>
<tr>
<td>HEC 413 Experiences with Children</td>
<td>5</td>
</tr>
<tr>
<td>HEC 422 Seminar in Child Development</td>
<td>2</td>
</tr>
</tbody>
</table>

2. Restricted Electives 2-3

EDP 318 Play and the Helping Professions
SLI 337 Language Acquisition
HEC 307 Directed Child Study
EDP 341 Evaluation and Assessment of Young Children

Clothing and Textiles Minor

This is a non-teaching minor except as a part of the curriculum for teachers of consumer home economics education.

Sem hours

<table>
<thead>
<tr>
<th>Minor in clothing and textiles</th>
<th>24</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required courses</td>
<td>12</td>
</tr>
<tr>
<td>HEC 118 Apparel Studio</td>
<td>3</td>
</tr>
<tr>
<td>HEC 145 Introduction to Merchandising</td>
<td>3</td>
</tr>
<tr>
<td>HEC 235 Textiles for Consumers</td>
<td>3</td>
</tr>
<tr>
<td>HEC 255 Apparel Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>

2. Restricted Electives 12

Choose one course from each of the following areas:

- **Construction skills**
  - HEC 302 Fashion Manufacturing Techniques
  - HEC 392 Pattern Design
  - HEC 460 Tailoring

- **Methodology**
  - HEC 390 Visual Merchandising
  - HEC 499 Directed Study

- **Social-psychological-historical**
  - HEC 135 Cultural Study of Fashion
  - HEC 380 Fashion of the Haute Couture

- **Textiles application**
  - HEC 119 Early American Textiles
  - HEC 404 Textile Testing
  - HEC 443 Merchandising of Home Furnishings

Early Childhood Education Minor

This minor is interdisciplinary in nature and provides students majoring in special education and consumer home economics education with teaching endorsements in preprimary early childhood or occupational child care. Students in regular elementary education should choose the early childhood education pattern listed in Teacher Education for requirements (page 262).

Sem hours

<table>
<thead>
<tr>
<th>Minor in child development</th>
<th>24-25</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Required courses</td>
<td>22</td>
</tr>
<tr>
<td>HEC 214 The Developing Child</td>
<td>3</td>
</tr>
<tr>
<td>HEC 215 Child Development Lab: Preschool Child</td>
<td>1</td>
</tr>
<tr>
<td>HEC 314 The Developing Infant</td>
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</tr>
<tr>
<td>HEC 315 Child Development Lab: Infancy</td>
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<tr>
<td>CUR 302 Integrating Curriculum and Resources in Early Childhood</td>
<td>3</td>
</tr>
<tr>
<td>HEC 373 Child Development Lab: Curriculum/Resources</td>
<td>1</td>
</tr>
<tr>
<td>HEC 407 Administration and Supervision in Child Development Centers</td>
<td>3</td>
</tr>
<tr>
<td>HEC 413 Experiences with Children</td>
<td>5</td>
</tr>
</tbody>
</table>

2. Restricted Electives 2-3

Choose two to three credits from the following:

- EDP 318 Play and the Helping Professions
- SLI 337 Language Acquisition
- HEC 422 Seminar in Child Development, HEC 307 Child Development Laboratory
Family Life Minor

Students on a curriculum for teaching who desire family life as a second teaching area will take HEC 370 Methods and Materials in Consumer Home Economics Education and HEC 375 Resources in Teaching Family Life Education for a total of five semester hours.

Sem hours
Minor in family life ............................................................... 23-28
1. Required courses ............................................................ 20
  HEC 109 Interpersonal Relations in the Family .................. 3
  HEC 209 Marriage and Interpersonal Competence .............. 3
  HEC 214 The Developing Child ....................................... 3
  HEC 215 Child Development Lab: Preschool Child .......... 1
  HEC 314 The Developing Infant .................................... 3
  HEC 315 Child Development Lab: Infancy ....................... 1
  HEC 361 Issues in Family and Child Development .......... 3
  HEC 461 Family Interaction ......................................... 3
2. Restricted elective ....................................................... 3

Choose one course from the following:
  HEC 305 Family Development: Middle Childhood,
  HEC 306 Parenting

Nutrition Minor

This is a non-teaching minor except as part of the curriculum for teachers of consumer home economics education.

Sem hours
Minor in nutrition ............................................................... 20
1. Required courses ............................................................ 14
  HEC 107 Food for Man .................................................. 2
  HEC 116 Foods for Consumers ......................................... 3
  HEC 201 Nutrition for Consumers or HEC 202
    Human Nutrition ........................................................... 3
  HEC 412 Nutrition of the Life Cycle ............................ 3
  HEC 416 Contemporary Issues in Nutrition ..................... 3
2. Restricted electives ....................................................... 7
  HEC 113 Family Health Care, HEC 312 Community Nutrition, 
    HEC 402 Nutrient Metabolism, HEC 419 Consumer
    Resource Management: Health Care, HEC 498
    Directed Study, HEC 487 Field Experience

Occupational Foods Minor

Students who will qualify for the Vocational Secondary Provisional Teaching Certificate may choose to take the courses listed below in order to earn an endorsement in occupational foods. The course work will convert to 2000 hours of supervised experience in quantity foodservice operations. An additional 2000 hours of relevant and relevant supervised experience in quantity foodservice are required.

Minor in occupational foods .............................................. 8
1. Required courses ............................................................ 24
  HEC 211 Food Science ............................................... 6
  HEC 251 Meal Service Management ................................ 3
  HEC 374 Methods in Teaching Occupational Foods .......... 2
  HEC 393 Food Systems Management I Experience .......... 2
  HEC 394 Food Systems Management II Experience ....... 2
  HEC 440 Hospitality Cost Controls ................................ 3
  HEC 441 Purchasing in the Hospitality Industry .......... 3
  HEC 487 Field Experience ............................................ 4
  HEC 492 Food Systems Management II Experience ....... 4
  HEC 494 Food Systems Management II Experience ....... 4

Human, Environmental and Consumer Resources Courses

HEC 103 Introduction to the Hospitality Industry. 
Orientation to the lodging and foodservice industry by tracing the industry's growth and development, reviewing the organization of lodging, foodservice and tourism operations, and by focusing on industry opportunities and future trends.

HEC 105 Integrated Arts. 
The application of design elements and principles to human and contemporary environmental needs. Laboratory required.

HEC 107 Food for Man. 
An interdisciplinary study of the relationships between food habits and social, psychological, religious and cultural factors.

HEC 109 Interpersonal Relations in the Family. 
The skills and attitudes essential for improving interpersonal relationships in groups: work or social networks. Insight into the behavior of self and others will be emphasized to help the student achieve competence in various types of interpersonal relationships.

HEC 112 Introduction to Consumer Affairs. 
A study of the roles of consumers as they interact with the economic system, government and other consumers. Redress mechanisms, legislation affecting consumers, credit practices and regulations, and financial planning.

HEC 113 Family Health Care. 
Survey of current health problems and community resources available to families.

HEC 116 Foods for Consumers. 
Basic study of foods for consumers, including principles of food selection, preparation and preservation. Laboratory required.

HEC 118 Apparel Studio. 
HEC 119 Early American Textiles. Three sem hours
Survey of textiles used in early history of North America; laboratory experiences allow students to develop skills in spinning wool and flax, traditional weaving and natural dyeing.

HEC 135 Cultural Study of Fashion. Three sem hours
A study of the social, psychological and physical aspects of fashion as related to culture, society and the individual.
Prereq: PSY 101 or 102 General Psychology or equivalent.

HEC 145 Introduction to Merchandising. Three sem hours
Analysis of the fashion industry from designing to distribution through major domestic and foreign markets. Emphasis is placed on fashion trends and cycles, history of merchandising and careers. Field trip required.

HEC 175 Interior Design Visualization Techniques I. Four sem hours
Study of two-dimensional and three-dimensional graphic techniques, presentation tools and materials used to illustrate interior design solutions. Problems will consist of shadow and tone studies, line work and perspectives. Laboratory included.

HEC 176 Interior Design I. Three sem hours
Introduction to the principles and elements of design as they apply to interior design. Emphasis on color theory, concept development, design excellence, and current trends in the field.
Prereq: Interior design majors only.

HEC 201 Nutrition for Consumers. Three sem hours
Study of nutrient needs for the development and maintenance of normal growth and health. Not open to students who take HEC 202 Human Nutrition.

HEC 202 Human Nutrition. Three sem hours
Study of sources and functions of nutrients and the processes of digestion, absorption and metabolism in health and disease. For dietetics, medical sports and nursing majors. Not open to students who take HEC 201 Nutrition for Consumers.
Prereq: CHM 121-122 General Chemistry I.

HEC 204 Sanitation in the Hospitality Industry. One sem hour
Management of basic sanitation in foodservice and lodging facilities. Meets specifications required for National Institute for the Food Service Industry certification.

HEC 207 Interior Design Computer Lab. One sem hour
An introduction to the use of microcomputers in interior design. Experiences with concept writing, specification writing and computer-aided design and drafting for interiors.
Prereq: Sophomore standing.

HEC 208 Introduction to Basic Design. Three sem hours
Application of the basic principles and concepts of design as they pertain to the relationship between contemporary human needs and environmental needs. Color theory; functional and creative interior design. Non-majors only.

HEC 209 Marriage and Interpersonal Competence. Three sem hours
Skills needed for interpersonal competence in marriage, such as communication and decision-making. The marital dyad and the various stages of development in marriage until parenthood.

HEC 210 Display Techniques. Two sem hours
The techniques, resources and evaluation of effective displays for use in educational, commercial and informational exhibits. Participation experiences in all phases of display work.
Prereq: HEC 105 Integrated Arts.

HEC 211 Food Science. Three sem hours
Nature and reactions of food explained in terms of chemical composition, microbial flora and manipulative practices.
Prereq: HEC 116 Foods for Consumers and either CHM 120 Fundamentals of Organic and Biochemistry or CHM 270 Organic Chemistry.

HEC 214 The Developing Child. Three sem hours
Developmental patterns of children in various settings. Physical, mental, social and emotional components of growth through the first five stages of the family life cycle, with emphasis on the child from two to five years. Impact of the family resources, attitudes and values on young children. Concurrent registration in HEC 215 Child Development Lab required.
Prereq: Sophomore standing.

HEC 215 Child Development Lab.: Preschool Child. One sem hour
Observation of child growth and development; participation with children 2 1/2 to 5 years of age. Concurrent registration in HEC 214 The Developing Child required.

HEC 220 Seminar in Lighting. One sem hour
Development of interior design lighting knowledge through hands-on demonstrations of and laboratory experiences with lighting sources, controlling devices and lighting solutions. Student financed off-campus experience required.
Prereq: Sophomore standing.

HEC 221 Seminar in Contract Design Products. Two sem hours
Examination of contract interior design products through product seminars and hands-on examination of products at the annual contract design conference, NEOCON, held at the Merchandise Mart in Chicago, Ill. Student financed off-campus experience required.
Prereq: Sophomore standing.

HEC 225 Textiles for Consumers. Three sem hours
The analytical study of fibers, yarns, fabrics and finishes with emphasis on the performance of apparel and interiors fabrics. Laboratory required.

HEC 251 Meal Service Management. Three sem hours
Theories, principles and skills for food and beverage service in institutional, commercial and resort properties. Supervisory techniques and training styles effective for food service.
Prereq: HEC 116 Foods for Consumers and HEC 201 Nutrition for Consumers or HEC 202 Human Nutrition.
HEC 255 Apparel Analysis. Three sem hours
A study of the components of apparel at the various price and quality levels. Emphasis placed on standard terminology necessary to describe/evaluate apparel. Laboratory required.
Prereq: HEC 135 Cultural Study of Fashion and HEC 235 Textiles for Consumers.

HEC 269 Housing for Consumers. Three sem hours
Consumer housing as it relates to social, psychological, legislative and economic conditions for individuals and families in society.
Prereq: Sophomore standing.

HEC 271 Household Equipment and Technology. Three sem hours
Selection factors, basic principles, new technology and trends in household equipment.

HEC 275 Interior Design Visualization Techniques II. Three sem hours
Development of advanced drawing skills and an introduction to interior construction materials and principles.
Prereq: HEC 175 Interior Design Visualization Techniques I.

HEC 276 Interior Design II. Three sem hours
Intermediate level problem solving in Interior Design with an emphasis on interior programming, schematic design development, three dimensional interior design, color rendering applications and perspective drawing techniques. Furniture design, environmental systems, human factors and interior design business practices introduced.
Prereq: HEC 175 Interior Design Visualization Techniques I, HEC 176 Interior Design I, FA 122 Two-Dimensional Design, FA 123 Drawing I, Open only to Interior Design Majors.

HEC 285 Resource Management: Individual and Family. Three sem hours
Effective management of resources: decision-making, communication process, time and energy management and special managerial situations affecting the individual and family.

HEC 287, 387 Cooperative Education. Two sem hours each
Four to six months of full-time employment in an appropriate setting, chosen to provide practical experience. Program consists of two work experiences alternated with full-time University attendance. Available as an elective to all departmental majors and minors. Cooperative education courses do not substitute for HEC 487 Field Experience in Home Economics. Offered on credit/no credit basis only.
Prereq: Approval of the Cooperative Education Office and department permission.

HEC 290 Lighting for Interiors. Three sem hours
Introduction to lighting design for interiors in commercial and residential buildings. Lighting fundamentals explored and used to solve interior lighting design problems. Physiological and psychological effects of light on humans in the interior environment.
Prereq: Sophomore standing or department permission.

HEC 300 Professional Perspectives. Three sem hours
Study of professional perspectives including reactions to global futuristic trends; problem solving capabilities; issues of wellness, ethics and professional commitment; and adaptation to new technology. Required for all department majors.
Prereq: Junior standing.

HEC 301 Orientation to Dietetics. Two sem hours
Orientation to dietetics profession by exploring its roles in health care system, by examining the different facets and specialization of the professions and investigating future trends. Open only to dietetics students.
Co-Prereq: HEC 202 Human Nutrition.

HEC 302 Fashion Manufacturing Techniques. Three sem hours
Experiences and analysis of fashion production. Includes selection of commercial equipment and textiles.
Prereq: HEC 118 Apparel Studio.

HEC 305 Family Development: Middle Childhood. Three sem hours
Attitudes, knowledge and skills related to working with children ages 5-12 in the family environment. Topics such as the effects of culture, peer influences, growth and development and guidance.
Prereq: HEC 214 The Developing Child, HEC 215 Child Development Lab.

HEC 306 Parenting. Three sem hours
Theories, principles and skills essential for multi-dimensional aspects of the parental role as it interfaces with other roles undertaken by an individual during the life cycle.
Prereq: Junior or senior standing or department permission.

HEC 307 Child Development Laboratory. One sem hour
Practicum experience with preschool children. Emphasis on the student's acquiring competence in observing and guiding young children.
Prereq: Junior standing, department permission.

HEC 308 Environmental Systems for Interiors. Three sem hours
Introduction to acoustics, noise control, climate control, plumbing systems and electrical systems in commercial and residential interiors. Synthesis of the environmental systems guidelines used in solution of interior design problems.
Prereq: Junior standing or department permission.

HEC 309 Residential Design. Three sem hours
An analysis of residential design problems. The design process involved in interior design systems, working with spatial relationships and user needs, sources and current literature in the interior design field. Pricing structure, color, finishes, materials, lighting and furniture construction. Laboratory included.

HEC 310 Contract Design. Three sem hours
An introduction to the contract interior design process, techniques and materials. The techniques to gather, process and analyze information for the formulation of design solutions. Laboratory time will be used to solve problems in the contract design field.
Prereq: HEC 290 Lighting for Interiors, HEC 309 Residential Design and FA 231 Three-Dimensional Design.
HEC 311 Community Nutrition Experience. Two sem hours
Supervised practice experience in various community nutrition
settings, with emphasis on nutrition education techniques and
community organization process.
Coreq: HEC 312 Community Nutrition.

HEC 312 Community Nutrition. Three sem hours
Emphasis on nutrition education theories and techniques. Exploration
of nutrition programs of federal, state and local agencies.
Assessment, planning, and evaluation of nutrition programs in various community settings. Open only to dietetics students.
Prereq: HEC 202 Human Nutrition and HEC 211 Food Science.

HEC 314 The Developing Infant. Three sem hours
The home as a center for the nurture and development of infants and
toddlers (conception to 2 1/2 years) with emphasis on the
dynamics of the parent-child relationship. Concurrent registration in
HEC 315 Child Development Lab required.
Prereq: HEC 214 The Developing Child or department permission.

HEC 315 Child Development Lab: Infancy. One sem hour
Observation of infant growth and development; participation with
children under 2 1/2 years. Taken concurrently with HEC 314 The
Developing Infant.

HEC 321 Dietetic Skills. Two sem hours
Application of basic skills of interviewing and counseling tech­
niques. Emphasis on the principles of nutritional assessment, use of
medical terminology. Introduction to the interpretation of scientific
literature appropriate to dietetic practice.
Prereq: HEC 301 Orientation to Dietetics.

HEC 322 Family Financial Management. Three sem hours
Management of family resources to solve economic problems and
fulfill goals and needs through consideration of investments, family
decision-making, taxes, estate planning, credit and insurance.

HEC 345 Theories and Practices in Fashion
Merchandising I. Three sem hours
Applications of merchandising mathematical concepts to buying
functions and activities. Major focus on problem solving. Field
trips required.
Prereq: HEC 145 Introduction to Merchandising.

HEC 349 Space Planning and
Specifications for Commercial Interiors. 3 sem hours
An introduction to space planning techniques in commercial inte­
riors with an emphasis on the use and specification of office
furniture systems. Corporate furnishing and finish standards will be
evaluated.
Prereq: HEC 290 Lighting for Interiors, HEC 275 Interior Design
Visualization Techniques II or IT 228 Construction Drawing.

HEC 350 History of Interiors:
Ancient-1800. Two sem hours
The evolution of the dominant influences and characteristics of
historical interiors, furniture, ornamental design and architecture
from prehistoric time to the mid-19th century.
Prereq: Junior standing or department permission.

HEC 351 History of Interiors Laboratory:
Ancient-1800. One sem hour
Designing interior spaces through the integration of historic ele­
ments with selected interior design problems.
Prereq: HEC 276 Interior Design II.

HEC 352 History of Interiors: 1800-Present. Two sem hours
Study of the evolution of the dominant influences and characteris­
tics of 19th- and 20th-century interiors, furniture and architecture.
Prereq: Junior standing or department permission.

HEC 353 History of Interiors Laboratory:
1800-Present. One sem hour
Designing interior spaces through the integration of 19th- and 20th­
century elements with selected interior design problems.
Prereq: HEC 276 Interior Design II.

HEC 355 Theories and Practices in Fashion Merchandising II. Two sem hours
Adaptation of fashion merchandising concepts (HEC 345) to com­
puter systems. Development of processing tasks using specific
merchandising information.
Prereq: HEC 345; Theories and Practices in Fashion Merchandising I and CSC 136 Computers for the Non-specialist or equivalent.
Coreq: HEC 356 Theories and Practices in Fashion Merchandising II Lab.

HEC 356 Theories and Practices in Fashion Merchandising II Lab. One sem hour
Implementation and analysis of fashion merchandising functions utilizing computer. Simulation problem solving.
Coreq: HEC 355 Theories and Practices in Fashion Merchandising II.

HEC 361 Issues in Family and Child Development. Three sem hours
Assessment and critical analysis of readings and research related to
current issues influencing families. Emphasis will be on relevant
topics affecting the wellness of families.
Prereq: HEC 209 Marriage and Interpersonal Competence and
junior standing.

HEC 364 Facility Management. Three sem hours
An examination of principles for coordinating the physical work­
place with the people and work of the organization. Integrates the
principles of business administration, architecture and the behav­
ioral and engineering sciences.
Prereq: Two courses in major.

HEC 368 Hospitality Information Systems. Three sem hours
A systematic approach to front office procedures, including record
keeping, the reservation processes, collection procedures and cus­
tomer relations.
Prereq: CSC 136 Computers for the Non-specialist or HHS 226
Computers for Health and Human Services.
HEC 369 Human Factors and Environmental Design. Three sem hours
An interdisciplinary approach to interior design and housing; interior design and architectural research results. The methodology for incorporating these research results into the design of interior spaces.
Prereq: Junior or senior standing.

HEC 370 Methods and Materials in Consumer Home Economics Education. Three sem hours
Planning of curriculum, units of work, interrelations of home economics education programs and total school and community. Not open to graduate students for graduate credit.
Prereq: EDP 322 Human Development and Learning and junior standing.

HEC 371 Resources in Teaching Consumer Home Economics Education. Three sem hours
Responsibilities of consumer home economics teachers, selection of appropriate resources and learning strategies for secondary programs, relationship of evaluation techniques to total program.
Prereq: HEC 370 Methods and Materials in Consumer Home Economics Education.

HEC 372 Methods and Resources in Child Development Centers. Four sem hours
Curriculum and program planning for guiding groups of young children; planning for the secondary pupil or the paraprofessional to work with preschool children. Concurrent registration in HEC 373 Child Development Lab required.
Prereq: HEC 214 The Developing Child and HEC 314 The Developing Infant.

HEC 373 Child Development Lab: Methods and Resources. One sem hour
Planning and carrying out learning activities with young children. To be taken concurrently with HEC 372 Methods and Resources in Child Development Centers.

HEC 374 Methods of Teaching Occupational Foods. Two sem hours
Responsibilities of occupational home economics teachers, selection of appropriate resources and learning strategies for secondary level occupational programs, relationship of evaluation techniques to total program.
Prereq: HEC 370 Method and Materials in Consumer Home Economics Education.

HEC 375 Professional Seminar: Family Life Education. Two sem hours
Developing, implementing, and assessing community Family Life Education Programs, resources, and the development of professional skills.

HEC 376 Legal Aspects of the Hospitality Industry. Two sem hours
Introduction to the rights and responsibilities that the law grants to or imposes upon hospitality managers. Illustration of possible consequences of failure to comply with legal obligations.
Prereq: Three courses in major.

HEC 380 Fashion of the Haute Couture. Three sem hours
A detailed study of 20th-century American and European fashion and its relationship to identifiable costumes of the past with emphasis on haute couture. Field trip required.
Prereq: HEC 135 Cultural Study of Fashion and HEC 145 Introduction to Merchandising.

HEC 383 Clinical Nutrition I Experience. Two sem hours
Supervised practice experience in the clinical nutrition profession and environment, with emphasis on nutrition assessment utilizing a review of systems approach. Open only to dietetics majors.
Coreq: HEC 384 Clinical Nutrition I.

HEC 384 Clinical Nutrition I. Two sem hours
Introduction to clinical nutrition with emphasis on the delivery of nutrition support in conditions of hyper-metabolism, gastrointestinal, and endocrine systems disorders. Open only to dietetics students.
Prereq: HEC 301 Orientation to Dietetics and HEC 321 Dietetic Skills.

HEC 390 Visual Merchandising. Three sem hours
Analysis of visual media and techniques used in presentation of merchandise in a variety of settings. Laboratory participation integrates theory and practice.

HEC 392 Pattern Design. Three sem hours
Principles of pattern making and special problems in clothing construction and design.
Prereq: HEC 118 Clothing Principles.

HEC 393 Food Systems Management I Experience. Two sem hours
Application of basic components of an operating quantity foodservice facility. Supervised practice experience.
Coreq: HEC 394 Food Systems Management I.

HEC 394 Food Systems Management I. Two sem hours
Introduction to food systems management with emphasis on sanitation, safety, equipment selection and operation, food purchasing, receiving and storage, and personnel management.
Prereq or coreq: HEC 211 Food Science, MGT 386 Organizational Theory and Development.

HEC 402 Nutrient Metabolism. Three sem hours
Biochemical and metabolic functions of nutrients with emphasis on cellular reactions and their relationship to health and disease.
Prereq: HEC 201 Nutrition for Consumers or HEC 202 Human Nutrition and CHM 351 Introductory Biochemistry.

HEC 404 Textile Testing. Three sem hours
Chemical and physical testing of textile products with emphasis on laboratory techniques, standards and interpretation of data for consumer use.
Prereq: HEC 235 Textiles for Consumers and one laboratory science course.
HEC 407 Administration and Supervision in Child Development Centers.  Three sem hours
The administrator’s role in child development/childcare programs. Applications of philosophy and management skills to preschool programs, supervision, safety, licensing and other regulations. Prereq: HEC 214 The Developing Child and department permission.

HEC 412 Nutrition of the Life Cycle.  Three sem hours
Emphasis on nutrient needs and influencing factors for each of the physiological stages of the life cycle. Prereq: HEC 201 Nutrition for Consumers or HEC 202 Human Nutrition or department permission.

HEC 413 Experiences with Children.  Five sem hours
Supervised participation with young children in home and group settings. Selection, presentation and evaluation of learning experiences for young children. Emphasis on interpreting these experiences to secondary pupils. Prereq: CUR 302 Integrating Curriculum and Resources in Early Childhood and HEC 373 Child Development Lab: Methods and Resources.

HEC 416 Contemporary Issues in Nutrition.  Three sem hours
Exploration of nutrition controversies, issues and problems of local, national and world significance. Prereq: HEC 201 Nutrition for Consumers or HEC 202 Human Nutrition.

HEC 419 Consumer Resource Management: Health Care.  Three sem hours
Economics and personal financial analysis of decisions and actions involved in obtaining health and medical care. How to be an effective assertive consumer of health care.

HEC 422 Seminar in Child Development.  Two sem hours
Critical analysis of selected readings and research in child development, with interpretations from implementation in child development centers. Prereq: HEC 214 The Developing Child.

HEC 430 Hospitality Management Seminar.  Two sem hours
Current topics in food service and hospitality management. Participation in professional and community projects. Prereq: Senior hospitality management major.

HEC 435 Foods and Nutrition Seminar.  Two sem hours
Analysis of current topics in foods and nutrition. Application of research techniques utilized in dietetics. Prereq: Senior dietetics student.

HEC 437 Professional Seminar.  Three sem hours

HEC 439 Fashion Markets.  Two sem hours
Comprehensive overview of the world fashion markets with emphasis on their development, operation and contribution; includes a trip to one fashion-related market. Prereq: Completion of 85 hours and department permission.

HEC 440 Financial Management in Hospitality Management.  Three sem hours
Techniques used by hospitality managers to control food, equipment, labor and operating costs. Purchasing, labor and pilferage controls and fiscal management. Prereq: HEC 494 Food Systems Management II.

HEC 441 Commercial Purchasing.  Three sem hours
Study of principles and techniques applicable to purchasing with emphasis on selection and specification requirements for food, supplies, equipment, and contract services. Coreq: HEC 494 Food Systems Management II or department permission.

HEC 443 Merchandising of Interior Furnishings.  Three sem hours
Study of fashion marketing practices, buying techniques and promotional activities as they relate to home furnishings industries. Field trips required.

HEC 445 Advanced Residential Design.  Three sem hours
Simulation of the professional interior designer’s task of defining and satisfying a client’s needs. Further analysis of user needs, spatial relationships, color, finishes, materials, and lighting and pricing structure. Laboratory included. Prereq: HEC 290 Lighting for Interiors, HEC 308 Environmental Systems for Interiors, HEC 310 Contract Design.

HEC 447 Advanced Contract Design.  Three sem hours
An opportunity to work on actual contract design projects. Programming, group effort, client relationships and the contract design process. The ability to utilize advanced graphic techniques required for presentations. Laboratory included. Prereq: HEC 310 Contract Design and HEC 445 Advanced Residential Design.

HEC 448 Professional Practice in Interior Design.  Three sem hours
Study of business principles and practices as applied to the interior design field. Emphasis on marketing interior design services, managing interior design projects and financial management of interior design firms. Prereq: HEC 310 Contract Design and MKT 360 Principles of Marketing.

HEC 449 Facility Programming and Post Occupancy Evaluation.  Three sem hours
An examination of the techniques and concepts used in facility programming and post occupancy evaluation and the interrelatedness of these two processes. An emphasis of the use of programming and evaluation in facility management. Prereq: HEC 290 Lighting for Interiors, HEC 308 Environmental Systems for Interiors, or IDT 312, HEC 310 Contract Design or IDT 314, HEC 369 Human Factors and Environmental Design.
HEC 450 Adult Role Transitions. Three sem hours  
Investigation of changes during early, middle and later adulthood.  
Normative and non-normative role transitions related to work and family for women and men.

HEC 460 Tailoring. Three sem hours  
Fundamental construction processes and special techniques applied to the construction of tailored garments; alterations and adaptations.  
Prereq: HEC 118 Apparel Studio.

HEC 461 Family Interaction. Three sem hours  
Study of the intricate and complex nature of family dynamics, examination of the family as a system, development of a conceptual framework for intervention through education or counseling.  
Prereq: Nine credits in family and child development.

HEC 469 Strategic Planning and Research for Facility Management. Three sem hours  
An introduction to strategic planning and research techniques in facility management with an emphasis on site and interior environment needs and evaluation.  
Prereq: HEC 364 Facility Management.

HEC 470 Hospitality Industry Marketing. Three sem hours  
Basic knowledge for developing, implementing and evaluating strategic marketing plans for hospitality properties. Includes forecasting procedures, needs assessments and presentation formats.  
Prereq: HEC 494 Food Systems Management II and MKT 360 Principles of Marketing.

HEC 472 Consumer Economic Issues. Three sem hours  
A macro approach to contemporary issues facing consumers. Impact of public policies on solutions to economic problems for individuals and families. Interrelationship of consumer and the marketplace.  
Prereq: HEC 112 Introduction to Consumer Affairs and ECO 201 Principles of Economics I, or department permission.

HEC 473 Consumer Economic Problems. Three sem hours  
A micro approach to the prevention and resolution of consumer problems including the legal, voluntary and educational alternatives available to consumers.  
Prereq: HEC 112 Introduction to Consumer Affairs and ECO 201 Principles of Economics I, or department permission.

HEC 474 Seminar in Consumer Affairs. Two sem hours  
Capstone course providing theory and practice related to structure and function of consumer affairs operations in various organizational types.  
Prereq: HEC 112 Introduction to Consumer Affairs and 322 Family Financial Management; 472 Consumer Economic Issues and 473 Consumer Economic Problems recommended.

HEC 477, 478, 479 Special Topics. One, two, three sem hours  
An experimental course designed to investigate specific topics of concern in specialization areas.  
Prereq: Department permission.

HEC 481 Ambulatory Nutrition Care Experience. Two sem hours  
Supervised practice experience in various ambulatory care settings, with emphasis on the delivery of nutrition programs. Open only to dietetics majors.  
Coreq: HEC 482 Ambulatory Nutrition Care.

HEC 482 Ambulatory Nutrition Care. One sem hour  
Aspects of nutrition care applied to ambulatory care settings including the workplace and long term care facilities. Emphasis on marketing strategies, consultative practice areas, health care regulations, and payment mechanisms in nutrition care.  
Prereq: HEC 384 Clinical Nutrition I.  
Coreq: HEC 484 Clinical Nutrition II.

HEC 483 Clinical Nutrition II Experience. Four sem hours  
Supervised practice experience in the clinical nutrition professional environment, with emphasis on behavioral aspects of nutrition care utilizing a review of systems approach. Open only to dietetics majors.  
Prereq: HEC 384 Clinical Nutrition I Experience.  
Coreq: HEC 484 Clinical Nutrition II.

HEC 484 Clinical Nutrition II. One sem hour  
Development, implementation and evaluation of nutrition care plans for individuals with chronic problems. Open only to dietetics students.  
Prereq: HEC 384 Clinical Nutrition I.

HEC 485 Clinical Nutrition III. Five sem hours  
Formulation, implementation and evaluation of nutrition care plans for individuals requiring aggressive nutrition support and counseling. Emphasis on nutrition care delivery mechanisms of quality assurance and productivity. Supervised practice experiences open only to dietetics students.  
Prereq: HEC 484 Clinical Nutrition II.

HEC 487 Field Experience. Three sem hours  
Supervised field experiences working with family social agencies and/or businesses in the area of specialization emphasizing professional competencies and self-evaluation. Sections of course offered for specialization areas as needed. Foreign students need work permit before registration.  
Prereq: Department permission—senior standing.

HEC 490, 491 Special Work (Honors). One, two sem hours  
Additional experiences for promising seniors making a more detailed study of some phase of home economics. Work will be based on a problem of research interest with written and/or oral report. Regulations regarding honors courses will be observed.  
Prereq: Senior standing.

HEC 492 Food Systems Management II Experience. Four sem hours  
Principles of food production procedures emphasizing financial and quality controls in institutional foodservice systems. Supervised practice experience.  
Coreq: HEC 494 Food Systems Management II.
EC 494 Food Systems Management II. One sem hour
Application of supervisory processes to food service systems with
emphasis on cost and quality control in food production and labor
management. Supervised clinical experience.
Prereq: EC 394 Food Systems Management I, MGT 384 Personnel Administration, and MIC 328 Introductory Microbiology or
EC 304 Sanitation in the Hospitality Industry.

EC 495 Food Systems Management III. Five sem hours
Managerial functions of food service or hospitality facilities, includ­
ing assessing, planning, decision making, evaluating and
training. Analysis of current professional topics.
Prereq: EC 494 Food Systems Management II.

EC 497, 498, 499 Directed Study. One, two, three sem hours
Opportunity for qualified senior students to carry on an intensive
study or project in their area of specialization.
Prereq: Department permission.

NURSING EDUCATION
Office: 228 King Hall

Department Head: Regina Williams
Professors: Leola Hogan, Virginia Skurski, Regina Williams
Associate Professors: Betty Beard, Marie Gates, Janice Humphreys,
Mary Sue Marz, Lorraine Wilson
Assistant Professors: Kathleen Hillegas, Suzanne Ivey,
Sharon Jackonen, Lou Lester, Charleen McPherson,
Sandra Nelson, Bonnie Neuman, Susan Pfoutz,
Nancy Prince, M. Gaie Rubenfeld, Barbara Scheffer

Degree: Bachelor of Science in Nursing

Program of Study
Curriculum:
• Nursing

Advisers are assigned to each student. Adviser lists are posted
on the bulletin board.

Admission to the University, even if students indicate an
intention of entering the nursing curriculum, does not guarantee
admission to the nursing program.
Prospective students should request an application from the
Admissions Office, 401 Pierce Hall, early in their freshman year.
The application will specify exact requirements, deadline dates and
expected notification times.

Students are eligible for consideration for selection into the
nursing program upon completion of a minimum of 15 semester
hours of University credit including PSY 101 General Psychology,
either SOC 105 Introductory Sociology or ANT 135 Cultural
Anthropology, either CHM 119 Fundamentals of Chemistry or
CHM 120 Fundamentals of Organic and Biochemistry, and ENG
120 English Composition Laboratory or ENG 121 English Com­
position or equivalent. Thirty credit hours, including CHM 120 and
ENG 121, must be completed prior to beginning the nursing
program. Physical education activity courses may not be counted.

Nurses who are licensed to practice nursing in the state of
Michigan and wish to complete a bachelor of science in nursing
degree are eligible for consideration for admission. Registered
nurse students follow the same admission procedures as stated
above. In addition, registered nurse students must have 1) a current
Michigan Nurse License; 2) achieve at least 45 on the ACT-PEP
examination. Eighteen credit hours from the student's junior or
community college are earned as equivalent to sophomore bacca­
laureate nursing credits.

Criteria for continuance follows a structured sequence of
courses in the professional phase of the curriculum. Any elective or
other course selected must fit in around the core of professional
courses.

Students should plan carefully for the demanding nature of this
professional part of the nursing program and the extensive clinical
hours required. This professional segment requires six sequential
semesters of work.
Because of the rapidly changing nature of the health care field, it is necessary that graduates have current professional nursing skills and knowledge in order to practice successfully. Therefore, the following policies have been established:

Once admitted to the EMU nursing program, students must complete all nursing sequence courses, including NUR 270 Pharmacology and NUR 320 Pathology, within a period of six calendar years to be considered eligible for graduation.

The University may give credit for nursing courses taken at a four-year college/university; however, the department reserves the right to make the final decision on course substitution based on examination of course materials.

**Progression Policies:** Generic students enrolled in the nursing major must achieve a minimum letter grade of "C-" in all nursing courses (NUR 204 Framework for Nursing, NUR 250 Nursing Science I, NUR 251 Nursing Science I Clinical Laboratory, NUR 270 Pharmacology, NUR 304 Nursing Science II, NUR 305 Nursing Science II Clinical Laboratory, NUR 320 Pathology, NUR 350 Nursing Science III, NUR 351 Nursing Science III Clinical Laboratory, NUR 370 Health Assessment, NUR 404 Nursing Science IV, NUR 405 Nursing Science IV Clinical Laboratory, NUR 450 Nursing Science V, NUR 451 Nursing Science V Clinical Laboratory). RN/BSN completion students must achieve a minimum letter grade of "C-" in nursing courses (NUR 270 Pharmacology, NUR 310 Concepts of Professional Practice, NUR 320 Pathology, NUR 340 Concepts of Professional Practice II, NUR 341 Concepts of Professional Practice II Clinical Laboratory, NUR 370 Health Assessment, NUR 390 Seminar: Theories of Nursing, NUR 410 Concepts of Nursing Practice III, NUR 411 Concepts of Nursing Practice III Clinical Laboratory, 450 Nursing Science V, NUR 451 Nursing Science V Clinical Laboratory). Registered nurse students may take NUR 270 and 320 as credit by examination in order to continue progression through the nursing program and to fulfill requirements for graduation.

If a student receives a letter grade of "D" ("D+", "D", "D-") in one nursing course (NUR prefix), the student must retake that course and obtain at least a "C-" grade before he or she is allowed to take the next course in the program sequence. Students may repeat any nursing course (NUR prefix) only once. A maximum of two nursing courses may be repeated.

A letter grade of "D" ("D+", "D", "D-") in one required course ZOO 201 Human Anatomy and Physiology I, ZOO 202 Human Anatomy and Physiology II, PSY 101 General Psychology, CHM 120 Fundamentals of Organic and Biochemistry, MIC 328 Introductory Microbiology, EDP 325 Life Span Human Growth and Development automatically warns the student of difficulty and the need for academic counseling.

Automatic dismissal from the nursing program occurs when the student receives letter grades of:

- **"D's"** ("D+", "D", "D-") in two (2) nursing courses (NUR prefix) in one semester or
- **"D's"** ("D+", "D", "D-") in two (2) required courses (ZOO 201 Human Anatomy and Physiology I, ZOO 202 Human Anatomy and Physiology II, PSY 101 General Psychology, CHM 120 Fundamentals of Organic and Biochemistry, MIC 328 Introductory Microbiology, EDP 325 Life Span Human Growth and Development, and HEC 202 Human Nutrition) or
- **"D's"** ("D+", "D", "D-") in one (1) nursing course (NUR prefix) and one (1) required course or

Opportunity to continue in the nursing program is contingent upon:

- retaking at least one of the required courses in which a letter grade of "D" was earned and receiving a final grade of at least "C-;
- *repeating the nursing courses (NUR prefix) in which a letter grade of "D" was earned and receiving a final grade of at least "C-;"
- *repeating all courses in which a letter grade of "D" was earned and receiving a final grade of at least "C-;"

and

*readmission to the nursing program*

After meeting both basic studies and curriculum requirements, students must complete enough electives to total a minimum of 124 semester hours required for graduation.

**Academic and Professional Integrity**

In preparing to assume professional nursing careers, students are expected to assume responsibility for their learning, to support the ethics and goals of their profession, and to value honesty in fulfillment of scholarly and professional endeavors. Students must abide by the University code of conduct as outlined in the University Catalog. Students who violate the University code of conduct will be subject to appropriate disciplinary action.

The Nursing Department recognizes its responsibilities to the public and the nursing profession. Students and faculty must promote academic and professional integrity and take action when a violation of such integrity occurs. The department reserves the right to retain only those students who, in the judgment of the faculty, satisfy requirements of scholarship, clinical competence, and personal integrity suitable for nursing.

Fieldwork in nursing is provided in clinical laboratory learning experiences under the supervision of faculty in a variety of health agencies such as ambulatory care settings, acute care medical centers, community hospitals, public schools, nursing homes and county health agencies. Students are expected to provide their own transportation.

Certification follows receipt of a bachelor of science in nursing degree (BSN). Students are eligible to qualify as registered nurses through the Michigan Board of Nursing by passing the national nursing licensure examination.

**Accreditation** is by the National League for Nursing.

This community-centered nursing program will enable graduates to function in a variety of settings: clinics, physicians' offices, hospitals, health maintenance organizations, public health agencies and home care coordinating agencies.

**Nursing Curriculum**

This curriculum leads to the bachelor of science in nursing (BSN) degree and requires the following courses to complete the 124 semester hours needed for graduation.
<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbolics and communication</td>
<td>14-15</td>
</tr>
<tr>
<td>ENG 121 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>CTA 121 or CTA 124 Fundamentals of Speech</td>
<td>2-3</td>
</tr>
<tr>
<td>Upper level writing composition or speech communication or foreign language</td>
<td></td>
</tr>
<tr>
<td>Recommend MTH 270 Elementary Statistics or SOC 250 Elementary Social Statistics</td>
<td>3</td>
</tr>
<tr>
<td>Recommend HHS 226 Computers for Health and Human Services</td>
<td>3</td>
</tr>
<tr>
<td>Science and technology</td>
<td>16</td>
</tr>
<tr>
<td>CHM 120 Fundamentals of Organic and Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>PSY 101 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>ZOO 201 Human Anatomy and Physiology I, ZOO 202 Human Anatomy and Physiology II, and MIC 328 Introductory Microbiology</td>
<td>9</td>
</tr>
<tr>
<td>Social science</td>
<td>12</td>
</tr>
<tr>
<td>See basic studies requirements (page 31).</td>
<td></td>
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<tr>
<td>Arts and humanities</td>
<td>11-12</td>
</tr>
<tr>
<td>See basic studies requirements (page 32).</td>
<td></td>
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<tr>
<td>Required supportive courses</td>
<td>7</td>
</tr>
<tr>
<td>HEC 202 Human Nutrition</td>
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<tr>
<td>EDP 325 Life Span Human Growth and Development</td>
<td>4</td>
</tr>
<tr>
<td>Required nursing courses for generic students</td>
<td>48</td>
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<tr>
<td>NUR 204 Framework for Nursing</td>
<td>6</td>
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<tr>
<td>NUR 250 Nursing Science I</td>
<td>3</td>
</tr>
<tr>
<td>NUR 251 Nursing Science I Clinical Laboratory</td>
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<tr>
<td>NUR 270 Pharmacology</td>
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<tr>
<td>NUR 304 Nursing Science II</td>
<td>3</td>
</tr>
<tr>
<td>NUR 305 Nursing Science II Clinical Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>NUR 320 Pathology</td>
<td>3</td>
</tr>
<tr>
<td>NUR 350 Nursing Science III</td>
<td>3</td>
</tr>
<tr>
<td>NUR 351 Nursing Science III Clinical Laboratory</td>
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</tr>
<tr>
<td>NUR 370 Health Assessment</td>
<td>3</td>
</tr>
<tr>
<td>NUR 404 Nursing Science IV</td>
<td>3</td>
</tr>
<tr>
<td>NUR 405 Nursing Science IV Clinical Laboratory</td>
<td>5</td>
</tr>
<tr>
<td>NUR 450 Nursing Science V</td>
<td>3</td>
</tr>
<tr>
<td>NUR 451 Nursing Science V Clinical Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>Required nursing courses for registered nurse students</td>
<td>48</td>
</tr>
<tr>
<td>NUR 270 Pharmacology</td>
<td>2</td>
</tr>
<tr>
<td>NUR 310 Concepts of Professional Practice I</td>
<td>2</td>
</tr>
<tr>
<td>NUR 320 Pathology</td>
<td>3</td>
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<tr>
<td>NUR 340 Concepts of Professional Practice II</td>
<td>3</td>
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<tr>
<td>NUR 341 Concepts of Professional Practice II Clinical Lab</td>
<td>3</td>
</tr>
<tr>
<td>NUR 370 Health Assessment</td>
<td>3</td>
</tr>
<tr>
<td>NUR 390 Seminar: Theories of Nursing</td>
<td>2</td>
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<tr>
<td>NUR 410 Concepts of Nursing Practice III</td>
<td>2</td>
</tr>
<tr>
<td>NUR 411 Concepts of Nursing Practice III Clinical Lab</td>
<td>3</td>
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<tr>
<td>NUR 450 Nursing Science V</td>
<td>3</td>
</tr>
<tr>
<td>NUR 451 Nursing Science V Clinical Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>ACT-PEP Nursing Credit</td>
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</tr>
<tr>
<td>Physical education and health courses</td>
<td>2</td>
</tr>
<tr>
<td>(Any two courses in Military Science may be applied)</td>
<td>10-12</td>
</tr>
<tr>
<td>Electives</td>
<td>10-12</td>
</tr>
<tr>
<td>Total</td>
<td>126</td>
</tr>
</tbody>
</table>

### Nursing Education Courses

- **NUR 204 Framework for Nursing.** Six sem hours
  - Study of the concepts and skills upon which professional nursing is based. The nature of nursing, the interrelatedness of man and his environment, the health-illness continuum and the health care delivery system.
  - **Prereq:** Admission to the nursing program.

- **NUR 210 Use of the Nursing Process.** Two sem hours
  - Study of the four components of the nursing process and their implementation in nursing practice. Lecture: two hours per week.
  - **Prereq:** Department permission.

- **NUR 250 Nursing Science I.** Three sem hours
  - Health promotion for individuals and families integrating family and teaching/learning theories.
  - **Prereq:** NUR 204 Framework for Nursing, ZOO 201 Human Anatomy and Physiology I, EDP 325 Life Span Human Growth and Development. Coreq: ZOO 202 Human Anatomy and Physiology II, HEC 202 Human Nutrition, NUR 320 Pathology.

- **NUR 251 Nursing Science I Clinical Laboratory.** Three sem hours
  - Clinical nursing practice in ambulatory care clinics, public schools, and industry with emphasis on the nursing process to promote health.

- **NUR 270 Pharmacology.** Two sem hours
  - The fundamental principles of pharmacology including the action of drug groups on the human body and how drugs are administered, absorbed, metabolized and excrated.
  - **Prereq:** NUR 320 Pathology and department permission.

- **NUR 304 Nursing Science II.** Three sem hours
  - The needs of families facing the crisis of hospitalization. The nursing care needs of selected obstetrical and general medicine patients.
  - **Prereq:** NUR 250 Nursing Science I, NUR 251 Nursing Science I Clinical Laboratory. Coreq: NUR 270 Pharmacology, MIC 328 Microbiology.

- **NUR 305 Nursing Science II Clinical Laboratory.** Three sem hours
  - Clinical learning experiences in community hospitals. Laboratory: six hours per week.
  - **Prereq:** NUR 250 Nursing Science I, NUR 251 Nursing Science I Clinical Laboratory. Coreq: NUR 270 Pharmacology, MIC 328 Microbiology. Coreq: NUR 304 Nursing Science II.

- **NUR 310 Concepts of Professional Practice.** Two sem hours
  - The concepts upon which professional nursing is based. Adaptation theory introduced and applied to the concepts of the individual, family, groups and community. Lecture: Two hours per week.
  - **Prereq:** Admission to RN/BSN nursing completion program.
NUR 320 Pathology. Three sem hours
The dysfunctions created by major physical illnesses, theories of causation and signs and symptoms of the more usual syndromes. Prereq: Department permission.

NUR 340 Concepts of Professional Practice II. Three sem hours
Content includes the processes used by the professional nurse in practice, and concepts of community health nursing. Primary and tertiary prevention are emphasized. Lecture: three hours per week. Prereq: NUR 310 Concepts of Professional Practice I, NUR 320 Pathology and NUR 370 Health Assessment, EDP 325 Human Growth and Development.

NUR 341 Concepts of Professional Practice II Clinical Lab. Three sem hours
Clinical nursing practice occurs in schools and community mental health settings. Students work with clients as individuals and in groups. Emphasis is on the use of the nursing process in the promotion of family and community health. Laboratory: Six hours per week. Prereq: NUR 310 Concepts of Professional Practice I, NUR 320 Pathology, NUR 370 Health Assessment, EDP 325 Human Growth and Development.

NUR 350 Nursing Science III. Three sem hours
Concepts for nursing care of aged and/or chronically ill clients. Lecture three hours per week. Prereq: NUR 304 Nursing Science II, NUR 305 Nursing Science II Clinical Laboratory. Prereq: NUR 370 Health Assessment.

NUR 351 Nursing Science III Clinical Laboratory. Four sem hours
Clinical practice in extended care facilities, mental health agencies, and the nursing skills laboratory. Laboratory: eight hours per week. Coreq: NUR 350 Nursing Science III.

NUR 360 Gerontological Nursing. Two sem hours
Provides an overview of normal bio-psychosocial changes in aging and nursing interventions to promote optimal wellness. Prereq: Junior standing in the generic program. Department permission.

NUR 370 Health Assessment. Three sem hours
Familiarizes students with health history-taking and physical examination techniques. Laboratory sessions provide opportunities for doing assessments under the guidance of the nursing faculty. Lecture: two hours per week. Laboratory: two hours per week. Prereq: ZOO 201 and 202 Human Anatomy and Physiology I and II; NUR 320 Pathology. Department permission.

NUR 380 Health and Illness Problems Throughout the Life Span. Two sem hours
An overview of common health problems and an orientation to terminology and concepts related to health care delivery. Etiologies, prevention and treatments for selected illnesses and the biopsychological impact of these illnesses for the individual, family and community. For non-nursing students. Prereq: Department permission.

NUR 390 Seminar: Theories of Nursing. Two sem hours
Theory and its relationship to the advancement of the discipline. A realistic explanation of the language, a basic view of the value of theories, an explanation of the development and evaluation of theories and an overview of current nursing theory. Lecture: two hours per week. Prereq: Junior or senior standing in the generic program and department permission. Admission to RN/BSN completion program and department permission.

NUR 404 Nursing Science IV. Three sem hours
The nurse's role in assisting hospitalized patients with selected health problems. Usual treatment modalities and concomitant nursing care responsibilities. Lecture: three hours per week. Prereq: NUR 350 Nursing Science III, NUR 351 Nursing Science III Clinical Laboratory.

NUR 405 Nursing Science IV Clinical Laboratory. Five sem hours
Assignment to acute care facilities to provide nursing experiences with more seriously ill persons and to orient the students to large institutions whose major responsibility is treatment of illness. Laboratory: ten hours per week. Prereq: NUR 350 Nursing Science III, NUR 351 Nursing Science III Clinical Laboratory. Coreq: NUR 404 Nursing Science IV.

NUR 410 Concepts of Nursing Practice III. Two sem hours
The nurse's role in secondary health care with emphasis on planning beyond the hospital setting. Communication skills necessary for group interaction, concepts of stress and crisis management and intervention. Lecture: two hours per week. Prereq: NUR 320 Pathology, NUR 370 Health Assessment, NUR 340 Concepts of Professional Practice II, NUR 341 Concepts of Professional Practice II Clinical Laboratory, NUR 390 Theories of Nursing.

NUR 411 Concepts of Nursing Practice III Clinical Laboratory. Three sem hours
Contracted learning experiences in maternal-child, medical-surgical nursing based on the outcome of portfolio assessment. Laboratory: one hour per week or equivalent. Prereq: NUR 320 Pathology, NUR 340 Concepts of Professional Practice II, NUR 341 Concepts of Professional Practice II Clinical Laboratory, NUR 370 Health Assessment, NUR 390 Theories of Nursing or department permission.

NUR 450 Nursing Science V. Three sem hours
Introduction to concepts of nursing research, nursing management theories and professional issues. Lecture: three hours per week. Prereq: NUR 404 Nursing Science IV and NUR 405 Nursing Science IV Clinical Laboratory, department permission or NUR 410 and NUR 411 (RN-BSN completion program).
NUR 451 Nursing Science V Clinical Laboratory. 
Clinical practice in the care of clients in a public health or home health care agency, and a hospital unit management area. Laboratory: eight hours per week. 
Prereq: NUR 404 Nursing Science IV and NUR 405 Nursing Science IV Clinical Laboratory, or NUR 410 and NUR 411 (RN-BSN completion program).

NUR 477, 478, 479 Special Topics in Nursing. 
Experimental courses or special topics in nursing may be offered (to be announced). 
Prereq: Department permission.

NUR 497, 498, 499 Independent Study. 
Prereq: Department permission.

Social Work
Office: 411 King Hall

Department Head: Donald M. Loppnow
Professors: Linda F. Kurtz, Donald M. Loppnow
Associate Professors: Kaaren Brown, Don Ifill, Elvia Krajewski-Jaime, Emily Jean McFadden, George Mink, Lynn Nybell, Marguerite Smith, Leroy Watts, Marjorie Ziefert
Assistant Professors: Sylvia Sims Gray, Elizabeth Kaufman, Raul Madrid, Enos Massie, Elizabeth Schuster

The Social Work program offers students a generalist foundation of knowledge, values and skills integral to entry level professional social work careers. It includes a fully accredited major and minor in social work and is distinct among baccalaureate social work programs in offering an extensive series of supplemental courses that form the Family and Children's Services program and the Health Care Services program.

The department supports two student organizations, the Student Social Work Organization and a student chapter of the National Association of Black Social Workers. Members of the student organizations sponsor social activities and community service projects, serve on faculty committees and sponsor an annual student conference. All social work students are encouraged to be involved in one or both organizations.

Degree: Bachelor of science or bachelor of arts

Programs of Study
Curriculum:
Social work (professional degree)
Minor:
Social work
Supplemental/elective programs:
Family and children's services
Health care services

Honors Program in Social Work

Students with excellent academic records who are majoring in social work may apply to pursue the honors program in social work. Before pursuing the Social Work Honors Program students must be admitted to and in good standing in the University Honors Program. The Social Work Honors Program consists of taking 12 credits of honors course work in social work. For more information, contact either the Social Work Honors Program adviser or the University Honors Program.

Advising responsibilities will be assigned to social work faculty members. Students should contact the Department of Social Work to set up an advising appointment. In addition:

1. All social work students should obtain a copy of the department's advising handbook titled The Doorway to Undergraduate Social Work Education at EMU. This handbook will be given to the student at the initial session with a social work adviser.
2. Before students enroll in the required 300- and 400-level social work courses, they must meet with a social work
faculty adviser to review a variety of issues such as academic performance, class scheduling and overall progress and development in the program. Since the class cards for the required 300- and 400-level courses are available only in the Department of Social Work, students must see an adviser and pick up class cards before registering.

3. Faculty advisers are available by appointment for evening advising sessions.

Field experience required is two semesters in field placement in a social agency designated by the social work faculty as a training agency for EMU students. This placement component is executed during the students' senior year, either fall and winter terms or winter and spring-summer terms. Students will be in the field 16 hours per week, Tuesdays and Thursdays, for the semesters in the field placement cycle. Open only to social work majors.

Eligibility for field placement:

1. A 2.0 overall grade point average at the time of entering and during field placement (no probation).
2. A 2.3 overall grade point average in social work at the time of entering and during field placement.
3. Students must have completed all required social work courses through the 300 level before beginning field placement. In addition, students must have completed EDP 325 Life Span Human Growth and Development, and PSY 360 Abnormal Psychology prior to field placement.
4. Students must receive a grade of "C" or better in their first semester field placement and practice classes (SWK 408 Social Work Practice I, and SWK 488 Field Experience I) to be eligible to continue in the second semester (SWK 409 Social Work Practice II and SWK 489 Field Experience II). Students who receive a grade of "E" in either semester of field placement (SWK 488-489 Field Experience I and II) must obtain special departmental permission to repeat the course.
5. A field placement application must be obtained from the social work office, completed by the student and returned to the field placement coordinator by the date set by the field coordinator or by March at the latest if placement is desired fall/winter and by October for the following winter/spring/summer terms. Each student is required to attend an informational meeting at the announced time in the semester their field application is due. The field placement coordinator will arrange all field placements.
6. Students enrolling for the first semester of field placement (SWK 488 Field Experience I) 408 Social Work Practice II concurrently. Students enrolling for the second term of field placement (SWK 489 Field Experience II) must take SWK 409 Social Work Practice III concurrently. In addition, students must take SWK 405 Analysis and Change of Social Welfare Policies concurrently during one of the two semesters of field placement.
7. Transportation: Agencies are located within a 60-mile radius of EMU. Students will need their own transportation. In a few cases, car pools can be arranged.
8. All students should obtain and read a copy of the department field placement policies.

Accreditation is by the Council on Social Work Education, the accrediting body for baccalaureate and master's degree social work curricula. Accreditation reflects a standard of high quality that the program meets. Students who graduate from an accredited undergraduate program may obtain advanced standing in some graduate schools of social work.

Social Work Curriculum

This curriculum leads to the bachelor of science or the bachelor of arts degree. Students completing the curriculum will have met the major and minor requirements for graduation; no outside minor is required. Specific courses required to complete the designated 124 hours leading to a degree in social work are indicated by an asterisk (*).

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbolics and communication</td>
<td>14:15</td>
</tr>
<tr>
<td>Requirements 1, 2, 3, and 5 (Box page 29)</td>
<td></td>
</tr>
<tr>
<td>Requirement 4-A course in mathematical reasoning</td>
<td></td>
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<tr>
<td>*SOC 250 Elementary Social Statistics</td>
<td></td>
</tr>
<tr>
<td>Science and technology</td>
<td>1</td>
</tr>
<tr>
<td>Requirement 1-A course in physical science (Box page 30)</td>
<td></td>
</tr>
<tr>
<td>Requirement 2-A course in life science</td>
<td></td>
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<tr>
<td>*BIO 105 Biology and the Human Species</td>
<td>4</td>
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<tr>
<td>*PSY 101 General Psychology</td>
<td>3</td>
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<tr>
<td>*PSY 360 Abnormal Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Social science</td>
<td>6</td>
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<tr>
<td>Requirements 1 and 2 (Box page 31)</td>
<td></td>
</tr>
<tr>
<td>1. Required courses</td>
<td></td>
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<tr>
<td>*ANT 135 Introduction to Cultural Anthropology</td>
<td></td>
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<tr>
<td>*SOC 105 Introductory Sociology</td>
<td>3</td>
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<tr>
<td>*SOC 462 Complex Organizations</td>
<td>3</td>
</tr>
<tr>
<td>*Two courses on statistics and research completed by taking either Option 1 or Option 2</td>
<td>6</td>
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<tr>
<td>Option 1</td>
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</tr>
<tr>
<td>SOC 341 Quantitative Methods in Social Research</td>
<td>3</td>
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<tr>
<td>SOC 342 Quantitative Methods in Social Research II</td>
<td>3</td>
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<tr>
<td>Option 2</td>
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<tr>
<td>SOC 250 Elementary Social Statistics</td>
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<td>(fulfills Area 1-mathematical reasoning)</td>
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<tr>
<td>SOC 304 Methods in Sociological Research</td>
<td>3</td>
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<tr>
<td>*SWK 120 Introduction to Social Work Services and Professional Roles</td>
<td>3</td>
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<tr>
<td>*SWK 222 Social Welfare Policies and Services</td>
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<tr>
<td>*SWK 315 Theoretical Bases for Social Work Practice I</td>
<td>3</td>
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<td>*SWK 317 Social Work Practice I</td>
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<td>*SWK 360 Practice with People of Color</td>
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<td>*SWK 388 Pre-professional Practicum</td>
<td>3</td>
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<td>*SWK 403 Practice Issues with Women</td>
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<td>*SWK 405 Analysis and Change of Social Welfare Policies</td>
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<td>*SWK 408 Social Work Practice II</td>
<td>3</td>
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<td>*SWK 409 Social Work Practice III</td>
<td>3</td>
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<tr>
<td>*SWK 488 Field Experience I</td>
<td>6</td>
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<tr>
<td>*SWK 489 Field Experience II</td>
<td>6</td>
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Supplemental Elective Programs

Family and Children’s Services Program

The family and children’s services program (FCSP) is a series of elective courses focusing on providing social work services to families and children. It is intended as supplemental content for students working toward a bachelor’s degree in social work and related professions, or as an educational resource available on a continuing education basis for agency staff who wish to enhance their knowledge and skills in social work with families and children. This program is not a major or minor.

In order to complete the FCSP, the student-practitioner must complete SWK 418 Policies and Issues in Services to Families and select any three additional courses from the following courses, which are a part of the program:

- SWK 419 Family-Centered Practice
- SWK 420 Working with Aging People
- SWK 422 Specialized Services for Families with Children in Placement
- SWK 424 Social Work with Physically and Mentally Handicapped
- SWK 431 Substance Abuse
- SWK 435 Group Work with Children and Families
- SWK 438 The Interdisciplinary Health Care Team
- SWK 439 The Law and Social Work with the Family
- SWK 460 The Law and Social Work with the Family
- SWK 465 Social Work, Sex and the Family
- SWK 470 Supervising Staff and Volunteers

The process of selecting courses should be accomplished in consultation with a faculty adviser. Upon completion of the four courses with at least a 2.5 grade point average in the courses, the student is awarded a certificate recognizing completion of the FCSP. This certificate is not a professional credential but does document completion of focused coursework.

Health Care Services Program

The health care services program (HCSP) includes a series of elective courses that focus on the roles of social workers and other health care professionals in providing health care services. It is intended as supplemental content for students working toward bachelor’s degrees in social work and related professions and as an educational resource available on a continuing education basis for agency staff who wish to enhance their knowledge and skills in social work and health care. This program is not a major or minor.

The health care services program is built on a group of four courses that are intended to provide students with an understanding of social work practice in a broad spectrum of health care settings. These courses provide both an interdisciplinary focus and an emphasis on health care and the family. In addition, students must complete any one of three options intended to prepare students for social work in medical settings, substance abuse programs or mental health settings. The student practitioner must complete a total of 12 credits distributed as follows:

1. Required courses .......................................................... 9
   - SWK 419 Family-Centered Practice .........................
   - SWK 438 The Interdisciplinary Health Care Team ......
SWK 439 Social Work Practice in Health Care Settings ............................................. 3
HAD 300 Health Care Issues ...................................................................................... 2
2. One of the following options .............................................................................. 3
   Medical Option
   NUR 380 Health and Illness Problems Throughout the Lifespan ......................... 2
   SWK 457 Separation, Loss and Grief ................................................................. 1
   Substance Abuse Option
   SWK 431 Substance Abuse ............................................................................... 3
   Mental Health Option
   SWK 440 Issues in Mental Health Practice .......................................................... 3
Total ......................................................................................................................... 12

The process of selecting courses that complement and supplement the student’s interests should be done in consultation with a faculty adviser. Upon completion of the 12 credits for the HCSP with at least a 2.5 grade point average in the courses, the student is awarded a certificate recognizing completion of the HCSP. This certificate is not a professional credential but does document completion of focused coursework.

Social Work Courses

SWK 120 Introduction to Social Work Services and Professional Roles. Three sem hours
An overview of the social work profession including its philosophy, values, professional roles, current trends and models in varied practice arenas as criminal justice, mental health, child and family services, public welfare services and medical and industrial settings.

SWK 222 Social Welfare Policies and Services. Three sem hours
A survey of welfare institutions and policies in their historical and modern contexts. American social welfare services are related to the economic, political and socio-cultural conditions and prevailing ideologies.
Prereq: SWK 120 Introduction to Social Work Services and Professional Roles.

SWK 287, 387 Cooperative Education in Social Work. Three sem hours each
Employment for pay in a work setting chosen to provide practical experience related to social work. The cooperative education sequence is alternated with full-time attendance at the University. Students who wish to substitute a cooperative education course for the practicum component of SWK 388 Pre-Professional Practicum must enroll in SWK 388 concurrently with one of the cooperative courses. Cooperative education does not substitute for the field placement courses required of all social work majors.
Prereq: SWK 120 Introduction to Social Work Services and Professional Roles, sophomore standing, approval of the cooperative education office and department permission.

SWK 315 Theoretical Bases for Social Work Practice. Three sem hours
Integrating, supplementing and translating into social work practice students’ knowledge of human beings and their social environments. The purposes for which the social work professional intends to use the knowledge and the values that form the base of professional practice.
Prereq: SWK 120 Introduction to Social Work Services and Professional Roles, SWK 222 Social Welfare Policies and Services, PSY 101 General Psychology, SOC 105 Introductory Sociology and EDP 325 Life Span Human Growth and Development, or department permission. ANT 135 Introduction to Cultural Anthropology and PSY 360 Abnormal Psychology recommended.

SWK 317 Social Work Practice I. Three sem hours
The first course in a sequence of social work practice, designed to prepare the student for field experience. Relationship building, information gathering and preliminary assessment and contracting. Must be taken concurrently with SWK 388 Pre-Professional Practicum.

SWK 360 Practice Issues with People of Color. Three sem hours
Examines social work methodology and techniques in the development and delivery of social work services to people of color. Focuses on expanding the range of perception, thought and practice skills relative to race and culture. Personal values toward racial and cultural variation are examined in the context of social work values and practice.

SWK 388 Pre-Professional Practicum. Three sem hours
The student is assigned to a human services agency or organization for the semester for four hours weekly. The agency, in agreement with the faculty instructor, provides social work learning experiences and social work supervision. A two-hour weekly seminar relates practicum experience to theoretical knowledge. For students majoring in social work, students minoring in social work and students pursuing related disciplines, such as gerontology and criminal justice, who are interested in an introduction to practical aspects of social work majors must take concurrently with SWK 317 Social Work Practice I.
Prereq: Non-social work majors must have junior standing, SWK 120 Introduction to Social Work Services and Professional Roles, and department permission.

SWK 403 Practice Issues with Women. Three sem hours
Builds upon and integrates various theoretical frameworks to provide a basis for social work practice with women. An important theme in the course is the exploration of personal attitudes and beliefs as they effect social work practice with women.
Prereq: SOC 444 Sociology of Sex Roles or PSY 242 Psychology of Women, or department permission.
The family as a social/psychological system that meets the needs of both children and adults. Practice knowledge and skill in delivering preventive and supportive services.

SWK 408 Social Work Practice II. Three sem hours
The generalist conceptual framework for social work practice. Practice values, models of assessment and phases of planned sequential change. Must be taken concurrently with SWK 405 Analysis and Change of Social Welfare Policies and SWK 488 Field Experience I.
Prereq: SWK 317 Social Work Practice I, SWK 360 Practice Issues Concerning Minorities and Women and SWK 388 Pre-Professional Practice.

SWK 409 Social Work Practice III. Three sem hours
A continuation of SWK 408; examines in more depth a variety of social work practice models, intervention strategies, methods, roles, and skills. Must be taken concurrently with SWK 489 Field Experience II.

SWK 413 Women and Aging. Three sem hours
Designed to provide social work, women's studies and gerontology students with the skills and sensitivity to understand the issues, needs and positive attributes of women as they grow older. Students will examine the lives of women in special groups, such as older minority women, caregivers, widows and institutionalized elderly women. Students will learn skills to provide effective services to older women in a variety of human service settings.
Prereq: Junior/senior or graduate standing.

SWK 418 Policies and Issues in Services to Families. Three sem hours
A foundation course for the family and children's services program and an elective for students interested in the field. The field of family and children's services through the process of identifying and analyzing issues crucial to the field, analyzing policies and legislation, and critically examining programs integral to the service delivery structure.
Prereq: SWK 120 Introduction to Social Work Services and Professional Roles, SWK 222 Social Welfare Policies and Services or department permission.

SWK 419 Family-Centered Practice. Three sem hours
A foundation course for the family and children's services program and an elective for students interested in social work with families. The family as a social/psychological system that meets the needs of both children and adults. Practice knowledge and skill in delivering services and developing resources for families at risk.
Prereq: SWK 120 Introduction to Social Work Services and Professional Roles, SWK 222 Social Welfare Policies and Services, or department permission.

SWK 420 Working with Aging People. Three sem hours
The role of social worker with aged people. The delivery of social services to the aged with a focus on practice approaches and techniques unique to various social service settings.
Prereq: SWK 120 Introduction to Social Work Services and Professional Roles, SWK 222 Social Welfare Policies and Services, or department permission.

SWK 422 Specialized Services for Families with Children in Placement. Three sem hours
Practice knowledge and skills for working with families where out-of-home placement of children has become necessary. Issues of identity, ethnicity and continuity in child welfare. The social worker's role in planning for permanence and working in a team approach with foster parents and other substitute care providers.
Prereq: SWK 120 Introduction to Social Work Services and Professional Roles, SWK 222 Social Welfare Policies and Services, or department permission.

SWK 424 Social Work with Physically and Mentally Handicapped. Three sem hours
The impact of intellectual, emotional and/or physical handicapping conditions upon the individual, the family and the community, including public attitudes, policies and programs. Social work practice knowledge, values and skills in the planning and delivery of preventive and supportive services.
Prereq: SWK 120 Introduction to Social Work Services and Professional Roles, SWK 222 Social Welfare Policies and Services, or department permission.

SWK 431 Substance Abuse. Three sem hours
Current approaches to the prevention and treatment of drug and alcohol abuse. Consideration of the physiological, psychological and social impact of substance abuse on the individual, the family and the community. The role of the social worker in prevention and treatment.
Prereq: SWK 120 Introduction to Social Work Services and Professional Roles, SWK 222 Social Welfare Policies and Services, or department permission.

SWK 435 Group Work with Children and Families. Three sem hours
Social group work theory and practice as a relevant way to work with children and families. Group process as it occurs in natural groups and the effect of this process on individual behavior. Techniques that can be built into the group to effect client change.
Prereq: SWK 120 Introduction to Social Work Services and Professional Roles, SWK 222 Social Welfare Policies and Services, or department permission.

SWK 438 The Interdisciplinary Health Care Team. One sem hour
The purpose and function of interdisciplinary teams in health care settings and the roles and collaboration of health care professionals such as doctors, dietitians, health administrators, nurses, psychologists, physical therapists, occupational therapists and social workers. Instruction by an interdisciplinary team.
Prereq: SWK 120 Introduction to Social Work Services and Professional Roles and SWK 222 Social Welfare Policies and Services or department permission. No prerequisites for non-social work students who are majoring in health disciplines and who have at least junior standing.
SWK 439 Social Work Practice in Health Care Settings. Three sem hours
Social work roles and practice in health care settings with primary
emphasis on their application in medical settings. The social work
roles and practice intervention strategies in mental health settings
and substance abuse services settings.
Prereq: SWK 120 Introduction to Social Work Services and Profes­
sional Roles and SWK 222 Social Welfare Policies and Services or
department permission.

SWK 440 Issues in Mental Health Practice. Three sem hours
Issues in mental health practice with emphasis on deinstitutionalization,
community mental health and the role of the entry-level social worker.
Prereq: SWK 120 Introduction to Social Work Services and Profes­
sional Roles, SWK 222 Social Welfare Policies and Services, or
department permission.

SWK 447 Separation, Loss and Grief. One sem hour
Separation, loss and grief as integral aspects of the human experience.
Practice issues and applications addressing the impact of loss,
separation and grief on client and societal systems.
Prereq: SWK 120 Introduction to Social Work Services and Profes­
sional Roles and SWK 222 Social Welfare Policies and Services or
department permission.

SWK 457 Social Work Practice with the Family. Three sem hours
Social workers and lawyers frequently find themselves working
together dealing with issues and problems involving individuals
and families, such as in cases of divorce, child abuse and neglect,
child custody, delinquency and mental health. Legal and social
work perspectives in terms of client rights, needs and professional
goals. Social work practice in the family court arena.
Prereq: SWK 120 Introduction to Social Work Services and Profes­
sional Roles, SWK 222 Social Welfare Policies and Services, or
department permission.

SWK 460 The Law and Social Work with Legal Offenders. Three sem hours
Professional roles and appropriate practice skills utilized by social
workers and allied professionals in working with legal offenders.
Prereq: SWK 120 Introduction to Social Work Services and Profes­
sional Roles, SWK 222 Social Welfare Policies and Services, or
department permission.

SWK 463 Social Work Practice with Legal Offenders. Three sem hours
Professional roles and appropriate practice skills utilized by social
workers and allied professionals in working with legal offenders.
Prereq: SWK 120 Introduction to Social Work Services and Profes­
sional Roles, SWK 222 Social Welfare Policies and Services, or
department permission.

SWK 465 Social Work, Sex and the Family. Three sem hours
Impact of sexual behavior and issues of sexuality on family relation­
ships and the development of children. A broad view of human
sexuality focusing on assessment and social work intervention in
situations in which sexual issues are significant, including incest,
adolescent sexual relationships, sexual preferences, birth control,
venereal disease and sexual functioning.
Prereq: SWK 120 Introduction to Social Work Services and Profes­
sional Roles, SWK 222 Social Welfare Policies and Services, or
department permission.

SWK 467 Crisis Intervention. Two sem hours
Systems in crisis including different types of crises, indication of
a system in crisis and crisis intervention strategies.
Prereq: SWK 120 Introduction to Social Work Services and Profes­sional Roles and SWK 222 Social Welfare Policies and Services or
department permission.

SWK 470 Supervising Staff and Volunteers. Three sem hours
Models of supervision and the roles of the social services super­
visor. The basic knowledge, skills and values required for effective
supervision of bachelor's degree level staff, paraprofessional staff
and volunteers within family and children's services agencies.
Prereq: SWK 120 Introduction to Social Work Services and Profes­sional Roles, SWK 222 Social Welfare Policies and Services, or
department permission.

SWK 477, 478, 479 Special Topics in Social Work Practice. One, two, three sem hours
Specialized topics integral to contemporary social work practice.
Social work faculty members will select contemporary topics that
are unique and different from existing social work courses. Since
topics change, a student may take the course more than once.
Prereq: SWK 120 Introduction to Social Work Services and Profes­sional Roles, SWK 222 Social Welfare Policies and Services, or
department permission.

SWK 480 Field Experience I. Six sem hours
Field experience designed to meet the learning needs of students
and the standards of professional social work education. Professional
standards are fixed; however, learning needs of students may vary.
The field placement agency, in consultation with the Departmental
Social Work, provides learning experiences and supervision at the
senior level. Open only to social work majors with senior standing
and an overall GPA of 2.3 or better in social work courses. Student
may not be on academic probation. Must be taken concurrently with
SWK 408 Analysis and Change of Social Welfare Policies and
SWK 408 Social Work Practice II.
Prereq: SWK 315 Theoretical Bases for Social Work Practice,
SWK 377 Social Work Practice I, SWK 380 Practice Issues Con­
cerning Minorities and Women, SWK 388 Pre-Professional
Practicum and department permission.

SWK 481 Field Experience II. Six sem hours
A continuation of SWK 480 Field Experience I. A student must
receive a "C" or better in SWK 480, have an overall GPA of 2.3 or
better in social work courses and not be on academic probation.
Open to majors only. Must be taken concurrently with SWK 400
Social Work Practice III.

SWK 490 Senior Thesis Seminar. Three sem hours
This is the capstone course for students completing the honors
program in Social Work. A senior thesis or project is completed
in consultation with the faculty member.
Prereq: Senior standing, social work major, course work on
statistics and research methodology.

SWK 497, 498, 499 Independent Study. One, two, three sem hours
Directed study in areas not provided in other course offerings or
advanced study in areas of special interest to the student.
Prereq: Department permission.
Gerontology Minor
Office: 416 King Hall

Coordinator: Elizabeth Schuster
Lecturer: Anne Robinson

The gerontology minor is administered by the Department of Social Work in the College of Health and Human Services through an Interdisciplinary Coordinating Committee composed of faculty who are actively involved in the gerontology field. The 20-semester-hour interdisciplinary minor is available to students who are majors in any department or college of the University. It may serve as a core of study for graduate or undergraduate students who wish to supplement their studies with a detailed knowledge of gerontology or who contemplate entering graduate master's or doctoral programs in gerontology. The minor should be of particular interest to students preparing for work in the physical and mental health service careers, to those working in institutions or nursing facilities for the elderly, for community organization and social service workers, and educators.

Advising is arranged through the program coordinator.

Sem hours

Minor in gerontology ................................................. 20

Students are required to complete elective requirements by choosing courses from each of the following four content areas:

**Psychosocial and environmental aspects of aging**

1. Required courses .................................................. 6
   SOC 311 Social Gerontology ...................................... 3
   PSY 323 Psychology of Human Aging .......................... 3

2. Electives .................................................................. 10
   EDP 325 Life Span Human Growth and Development ........ 4
   EDP 402 Learning in the Later Years ............................ 3
   PSY 551 Psychology of Death and Dying ....................... 3
   **Biological and health aspects of aging**
   HEC 269 Housing for Consumers ................................. 3
   HEC 369 Human Factors and Environmental Design .......... 3
   REC 310 Leisure and the Older Adult ........................... 3
   NUR 360 Gerontological Nursing ................................ 2

1. Required course .................................................. 2
   BIO 239 Biology of Aging ......................................... 2

2. Electives
   HEC 201 Nutrition for the Family or HEC 202
   Human Nutrition .................................................... 3
   HEC 412 Nutrition of the Life Cycle ............................ 3
   OT 413 Conditions of Adulthood and Aging .................. 3
   PED 420 Health and Aging ......................................... 3

**Policies and services for the aging**

1. Required course .................................................. 2
   SWK 420 Working with Aging People ............................ 3

2. Electives
   HAD 300 Health Care Issues ..................................... 2
   HAD 310 Administration of Health Care Organizations .... 3
   ECO 327 Insurance and Economic Security .................. 3
   SWK 413 Women and Aging ........................................ 3
   SWK 418 Policies and Issues in Services to Families .... 3
   SWK 424 Social Work with Physically and Mentally Handicapped ........................................ 3
   SWK 457 Separation, Loss and Grief ............................ 1

GRT 411 Issues in Caring for People with Alzheimer's and Related Dementias ......................... 3
GRT 417 Work and Retirement ........................................ 2
**Gerontology practicum or research** .......................... 2-3
GRT 488-489 Gerontology Practicum .............................. 2-3

Note: Students who are required to complete a practicum in a setting serving older people as a part of their major may request that this experience fulfill the practicum component of GRT 488-489.

**Gerontology electives** ............................................. 6-7

(Select from courses listed above and courses with a GRT prefix)

Gerontology Courses

GRT 411 Issues in Caring for People with Alzheimer's and Related Dementias ........................ 3

This course is designed for undergraduate/graduate students and health care professionals who work with older people with Alzheimer's disease and their families. The first part of the course includes discussions of the disease, caregiving issues and community resources for families. The second half of the course will focus on specific techniques for caring for people with dementia.

**Prereq:** Junior/senior or graduate student.

GRT 417 Work and Retirement ........................................ 2

This course is designed for undergraduate/graduate students and health care professionals who work with older people past the age of 65. The content will be on the historical aspects of retirement, the realities of retirement, the necessity of preparing individuals for this significant part of their lifespan and work past the age of 65.

**Prereq:** Junior/senior or graduate student.

GRT 477, 478, 479 Special Topics. One, two or three sem hours

Content will change from semester to semester. An experimental course for subjects who have not yet provided in other courses offerings. Students may elect this course more than once as long as different topics are covered.

GRT 488, 489 Gerontology Practicum. Two or three sem hours

Integration of knowledge and skills gained from other gerontology courses and life experiences. Insights on aging available from the humanities disciplines.

**Prereq:** Senior standing, completion of two courses in the gerontology minor or advising coordinator’s permission.

GRT 497, 498, 499 Gerontology

Independent Study. One, two, or three sem hours

Directed study in areas not provided in other course offerings or advanced study in areas of special interest to the student.

**Prereq:** Department permission.
COLLEGE OF TECHNOLOGY

Programs of Study and Course Descriptions

Dean: Alvin E. Rudisill

Departments

Business and Industrial Education
   Industrial Technology
   Interdisciplinary Technology
   Military Science
COLLEGE OF TECHNOLOGY

The College of Technology seeks to meet the existing and emerging personnel needs of business, industry and education. Critical to its formation in 1980 was information gathered from 575 industries in Michigan that indicated a significant need for trained technologists in a wide variety of industrial positions.

To meet these needs, four-year baccalaureate programs and graduate programs have been designed to provide a solid foundation in mathematics, science, technology, management and human relations. Program content is practical and applied with many opportunities for laboratory and cooperative work experiences. Graduates are trained for middle-level technological management positions in production, research and marketing for business and industry.

Business and industry teaching and industrial training personnel programs, which have existed at EMU for a considerable length of time, were combined to form this college. Also included within the college is the University's long-standing military science program, which provides training for and entry into the active Army, Army Reserve or National Guard as a commissioned officer.

The college currently is comprised of the departments of Business and Industrial Education, Industrial Technology, Interdisciplinary Technology and Military Science. Inherent in the interdisciplinary program is the use of existing courses and personnel throughout the University.

Shared with the College of Arts and Sciences are two preparatory programs: pre-architecture and pre-engineering. The Department of Industrial Technology provides advising coordination for these programs.

Degrees offered by the college are the bachelor of science degree and the bachelor of business education degree, described under the Department of Business and Industrial Education.

BUSINESS AND INDUSTRIAL EDUCATION
Office: 14 Sill Hall

Department Head: H. James Rokusek
Professors: Gerald L. Jennings, Harold E. PaDelford, Ann M. Remp, Robert A. Ristau, Mary F. Robek, H. James Rokusek, Rosetta C. Wingo
Associate Professors: Alice W. Callum, Lewis D. Kieft, Earl C. Meyer, Herbert H. Wilson
Assistant Professors: James L. Barnes, Thomas L. McDole
Instructor: Kim A. Novak

Business and industrial education offers two degrees as indicated in the following curricula:

Programs of study
Degree:
Business education curriculum
 Majors:
  Marketing education
  Office education
Degree:
Office technology curriculum
 Majors:
  Executive assistant
  Legal assistant
  Administrative management
  Office automation
Industrial education curriculum
 Majors:
  Industrial arts
  Industrial-vocational education
 Minors:
  Office technology
  Industrial education

Advising Coordinators:
  Marketing education: Earl Meyer
  Office education: Rosetta Wingo
  Executive assistant: Kim Novak
  Legal assistant: Alice Callum
  Administrative management: Mary Robek
  Office automation: Ann Remp
  Industrial arts/industrial-vocational education: Gerald Jennings
  Industrial education minor: Lewis Kieft
  Office technology minor: Mary Robek

Graduate study leads to the master of business education degree and the master of arts degree in industrial education. Areas of concentration in the latter degree program are industrial arts and industrial-vocational education. For a description of the graduate program and courses, consult the Graduate Catalog.
Business Education Curriculum

The bachelor of business education degree is designed for individuals preparing for careers as junior high school business teachers, high school teachers of marketing or office education, coordinators of cooperative education, or community or junior college business teachers. Students who complete the professional program also will find many non-teaching careers in business open to them.

Marketing and office education majors provide opportunities to qualify for the Michigan Secondary Provisional Certificate for teaching or vocational endorsement as specified in the current Michigan State Plan for Vocational Education.

Area

Symbolics and communication .................................. 14-15
Requirements 1, 2 and 3 (page 29) ......................... 8-9
MTH 118 Mathematical Analysis for Social Sciences ................ 3
BE 201 Microcomputers for Business Applications ................ 3

Science and technology ........................................ 10-11
Requirements 1 (omitting PHY 100 Science for Elementary Teachers) and 3 ...................................... 7-8
PSY 101 General Psychology .................................. 3

Social science .................................................. 12
 Requirement 1 (page 31) ....................................... 3
 Requirement 2 or a history course from approved cross-cultural or international studies list ........... 3
 ECO 201, 202 Principles of Economics ...................... 6

Arts and humanities .......................................... 12
Requirements 1, 2d, 3 and 4 (page 32) ..................... 12

Education .................................................. 28
BE 200 Principles of Marketing and Office Education ........... 3
EDP 322 Human Development and Learning ................ 4
SFD 328 Social Aspects of Teaching .......................... 3
EDP 340 Introduction to Measurement and Evaluation ... 2
CUR 311 Teaching Reading in Secondary Schools .......... 3
SGN 300 Exceptional Children in the Regular Classroom ................ 1
EDU 492 Student Teaching ................................ 8

Business methods courses
BE 364 Methods of Teaching General Business Subjects and methods course appropriate to major: BE 365 Methods of Teaching Office Education or BE 366 Methods of Teaching Marketing Education.

Choose one of the following majors:
Marketing education or office education

Major in Marketing Education

The marketing education major leads to a Michigan Secondary Provisional Teaching Certificate and vocational endorsement qualifying the prospective teacher in such areas as sales, retailing, marketing and advertising.

Completion of 4,000 hours of recent work experience in the field of marketing is required. Previous work experience may be supplemented by enrollment in BE 387, 487 Cooperative Education in Business Education. (Maximum credit which can be earned through BE 387, BE 487 is 2,000 hours).

This major can be completed only in conjunction with the bachelor of business education curriculum.

Major in Office Education

The office education major leads to a Michigan Secondary Provisional Teaching Certificate and, upon meeting the requirements according to the current Michigan State Plan, a vocational endorsement. The program prepares prospective teachers in the areas of information processing and management, accounting and computing, and basic business such as economics, consumer economics, business law, business management, computer literacy and introduction to business.

This major can be completed only in conjunction with the bachelor of business education curriculum.
Individuals who complete this professional curriculum should find information processing and management within the basic studies. Please follow general guidelines in the new basic studies must include a course in cross cultural skills, concepts and principles needed to assume responsibility for executive office administration. Administrative managers are vital members of executive teams and assume supervisory, organizational, and communicative roles in the coordination of office functions.

**Office Technology Curriculum**

The bachelor of science degree is designed for individuals preparing for administrative management, executive assistant, legal assistant (paralegal profession), and office automation careers. Individuals who complete this professional curriculum should find many other career opportunities open to them.

Students should follow the basic studies guidelines in the catalog under which they entered the University. Students following the new basic studies must include a course in cross-cultural or international studies within the basic studies. Please follow general guidelines except for specific requirements as noted below.

**Business Education Restricted Electives**

BE 201 Microcomputers for Business Applications ........................................... 3
BE 205 Women in Business................................................................. 3
BE 210 Concepts of Word Processing ................................................. 3
BE 211 Introduction to Legal Assistance ........................................ 3
ORI 219 COBOL Programming ......................................................... 3
BE 220 Word Processing Operations ................................................. 3
BE 222 Transcription Applications and Technology .................................. 3
BE 225 Gregg Shorthand ............................................................... 3
BE 310 Word Processing Administration ........................................ 3
BE 325 Shorthand Transcription .................................................... 3
MKT 374 Industrial Marketing and Purchasing .................................. 3
BE 387 Cooperative Education in Business ..................................... 3
LAW 393 Law of Business Enterprises ........................................ 3
BE 411 Law Office Documents and Procedures .................................. 3
BE 412 Court Documents and Procedures ........................................ 3
BE 422 Office Systems ................................................................. 3
IE 452 Principles of Vocational-Technical Education ............................... 3
BE 495 Office Automation .......................................................... 3
BE 496 Records Administration Using Database .................................. 3
BE 487 Cooperative Education in Business Education ......................... 3
BE 497, 498, 499 Independent Study ............................................. 1, 2, 3

The administrative management major focuses on the technical skills, concepts and principles needed to assume responsibility for executive office administration. Administrative managers are vital members of executive teams and assume supervisory, organizational, and communicative roles in the coordination of office functions.

**Area**

**Sem hours**

**Symbols and communication** .................................................. 18-19
Requirements 1 and 2 (page 29) ................................................................ 6
ENG 324 Principles of Technical Communication ................................ 3
MKT 360 Principles of Marketing ..................................................... .. 3
MTH 118 and MTH 119 Mathematical Analysis for Social Sciences I and II ............................................................... 6
BE 201 Microcomputers for Business Applications ........................... 
Science and technology ........................................................................ 7-10
Requirement 1 (page 30) ................................................................. 3-4
PSY 101 General Psychology ............................................................ 3
Social science ....................................................................................... 14-18
Requirements 1 and 2 (page 31) ......................................................... 8-9
ECO 201 Principles of Economics I .................................................... 3
ECO 202 Principles of Economics II ................................................... 3
Arts and humanities ............................................................................. 8-11
See University guidelines (page 32) .................................................. 
Physical education and health ........................................................... 1
Physical education activity courses ..................................................... 1

**Major in administrative management** ............................................. 50

**Administrative and information management concepts** ..................... 21
BE 395 Office Administration .......................................................... 3
BE 396 Records Administration ......................................................... 3
BE 495 Office Automation ............................................................... 3
BE 496 Records Administration Using Database ................................ 3
MGT 384 Personnel Administration .................................................. 3
MGT 485 Training Function in Organizations ........................................ 3

**Restricted electives**

Choose one course:
MKT 374 Industrial Marketing ....................................................... 3
See additional restricted elective list.

**Business foundations** ................................................................. 11
BE 100 Contemporary Business ........................................................ 3
ACC 240, 241 Principles of Accounting I and II ............................... 6
FIN 350 Principles of Finance ........................................................... 3
LAW 293 Legal Environment of Business .................................... 3
MKT 360 Principles of Marketing ..................................................... 3
ORI 265 Business Statistics I .............................................................. 3

**Information processing** ............................................................... 11
BE 123 Word Processing/Keyboarding Applications ........................... 3
BE 210 Concepts of Information Processing ......................................... 3
BE 224 Computer-based Business Mathematics ................................... 3
Major in Office Technology/Executive Assistant

The executive assistant major is designed to develop support personnel who can assume a share of the administrative, organizational, and communicative functions in executive offices. Students will gain proficiency in technical skills and the background knowledge needed to assume responsibility without direct supervision and learn to make decisions within the scope of assigned authority.

Area

<table>
<thead>
<tr>
<th>Symbolics and communication</th>
<th>17-18 Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirements 1 and 2 (page 29)</td>
<td>8-9</td>
</tr>
<tr>
<td>ENG 324 Principles of Technical Communication</td>
<td>3</td>
</tr>
<tr>
<td>MTH 118 Mathematical Analysis for Social Sciences I</td>
<td>3</td>
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<tr>
<td>BE 201 Microcomputers for Business Applications</td>
<td>3</td>
</tr>
<tr>
<td>Science and technology</td>
<td>7-10</td>
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<tr>
<td>Requirements 1 and 3 (page 30)</td>
<td>3</td>
</tr>
<tr>
<td>PSY 101 General Psychology</td>
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<td>8-12</td>
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<tr>
<td>Requirements 1 and 2 (page 31)</td>
<td>3</td>
</tr>
<tr>
<td>ECO 201 Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>ECO 202 Principles of Economics II</td>
<td>3</td>
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<tr>
<td>Physical education and health</td>
<td>2</td>
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<tr>
<td>Physical education activity courses</td>
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</tbody>
</table>

Major in Executive Assistant

| 53 |
| Management and automation | 15 |
| BE 395 Office Administration | 3 |
| BE 396 Records Administration | 3 |
| MGT 386 Organization Theory and Development | 3 |
| BE 422 Office Systems | 3 |
| Restricted electives | 3 |

(See Office Technology Restricted Elective Section)

Business Foundations

| 18 |
| BE 100 Contemporary Business | 3 |
| ACC 240, 241 Principles of Accounting I and II | 6 |
| LAW 293 Legal Environment of Business | 3 |
| BE 250 Personal Finance | 3 |
| MKT 360 Principles of Marketing | 3 |

Information processing

| 17 |
| BE 123* Word Processing/Keyboarding Applications | 2 |
| BE 210 Concepts of Information Processing | 3 |
| BE 220 Word/Information Processing Applications | 3 |
| BE 222 Transcription Applications and Technology | 3 |
| BE 224 Computer-based Business Mathematics | 3 |
| BE 325* Shorthand Transcription | 3 |

*Students without appropriate background must take
BE 122 Keyboarding for Office Technology and/or
BE 225 Gregg Shorthand

Area

<table>
<thead>
<tr>
<th>Symbolics and communication</th>
<th>10-15 Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirements 1, 2, 3, and 4 (page 29)</td>
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<tr>
<td>BE 201 Microcomputers for Business Applications</td>
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<td>Science and technology</td>
<td>7-10</td>
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<td>See University guidelines (page 30)</td>
<td>3</td>
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<tr>
<td>Social science</td>
<td>8-12</td>
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<tr>
<td>Requirements 1 and 2 (page 31)</td>
<td>3</td>
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<tr>
<td>ECO 201 Principles of Economics I</td>
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<td>ECO 202 Principles of Economics II</td>
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<td>Physical education activity courses</td>
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</table>

Major in Legal Assistant (Paralegal)

1. Required courses

| 33 |
| BE 211 Introduction to Paralegalism and Legal Terminology | 3 |
| BE 220 Word/Information Processing Operations | 3 |
| BE 304 Legal Writing Research and Analysis I | 3 |
| BE 305 Advanced Legal Writing, Research and Analysis II | 3 |
| BE 308 Personal Injury Law and Litigation | 3 |
| BE 311 Probate, Estates and Wills | 3 |
| BE 313 Family Law | 3 |
| CTA 357 Interviewing as Communication | 3 |
| BE 411 Civil Litigation, Investigation and Procedure | 3 |
| BE 412 Court Documents and Court Rules | 3 |
| BE 416 Legal Assistant (Paralegal) Internship | 3 |

2. Restricted electives

| 9 |
| BE 414 Advanced Probate, Estates and Trusts | 3 |
| BE 415 Bankruptcy Law | 3 |
| BE 497, 498, and 499 Independent Study | 12 |
| PLS 301 The American Legal System | 3 |
| PLS 341 International Law | 3 |
| PLS 456 Criminal Law | 3 |
| RES 210 Real Estate Principles and Practices | 3 |
| LAW 293 Legal Environment of Business | 3 |
| LAW 393 Law of Business Enterprises | 3 |
| LAW 403 Labor Law | 3 |
| LAW 455 Real Estate Law | 3 |

Business and information processing core: all required

| 17 |
| BE 100 Contemporary Business | 3 |
| BE 123 Word Processing/Keyboarding Applications | 2 |
| BE 224 Computer-based Business Mathematics | 3 |
The major in office automation was created to meet the changing demands of the automated office. The program is designed to prepare individuals for positions in local area network administration, microcomputer and office systems administration, client liaison and training, customer support, and information center positions. The program supersedes the word processing administration major.

**Office Technology Restricted Electives**

Students should select restricted electives in consultation with their office technology program advisers.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BE 122 Keyboarding for Office Technology</td>
<td>3</td>
</tr>
<tr>
<td>BE 205 Women in Business</td>
<td>3</td>
</tr>
<tr>
<td>BE 210 Concepts of Word/Information Processing</td>
<td>3</td>
</tr>
<tr>
<td>BE 211 Introduction to Paralegalism and Legal Terminology</td>
<td>3</td>
</tr>
<tr>
<td>BE 220 Word/Information Processing Operations</td>
<td>3</td>
</tr>
<tr>
<td>BE 222 Transcription Applications and Technology</td>
<td>3</td>
</tr>
<tr>
<td>BE 225 Gregg Shorthand</td>
<td>3</td>
</tr>
<tr>
<td>BE 310 Word/Information Processing Administration</td>
<td>3</td>
</tr>
<tr>
<td>BE 325 Shorthand Transcription</td>
<td>3</td>
</tr>
<tr>
<td>BE 387 Cooperative Education in Business Education</td>
<td>3</td>
</tr>
<tr>
<td>BE 412 Court Documents and Court Rules</td>
<td>3</td>
</tr>
<tr>
<td>BE 422 Office Systems</td>
<td>3</td>
</tr>
<tr>
<td>BE 495 Office Automation</td>
<td>3</td>
</tr>
<tr>
<td>BE 496 Records Administration Using Database</td>
<td>3</td>
</tr>
<tr>
<td>BE 487 Cooperative Education</td>
<td>3</td>
</tr>
<tr>
<td>BE 497, 498, 499 Independent Study</td>
<td>1, 2, 3</td>
</tr>
</tbody>
</table>

**Industrial Education Curriculum**

The industrial education curriculum prepares teachers of industrial arts and industrial-vocational subjects for the middle school, senior high school and community college. It offers a broad-based description of modern industry and technology, with the opportunity to develop specialized competencies in a variety of technical areas.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tr>
<td>BE 122 Keyboarding for Office Technology</td>
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**Area**

**Sem hours**

<table>
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<tr>
<th>Symbolics and communication</th>
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<tr>
<td>Social sciences</td>
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<tr>
<td>Social sciences</td>
<td>8-12</td>
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<tr>
<td>Arts and humanities</td>
<td>8-12</td>
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<td>Physical education and health</td>
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<td>Physical education and health</td>
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<tr>
<td>Major in office automation</td>
<td>57</td>
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**Systems and automation concepts**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BE 310 Word/Information Processing Administration</td>
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</tr>
<tr>
<td>BE 395 Office Administration</td>
<td>3</td>
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<tr>
<td>BE 396 Records Administration</td>
<td>3</td>
</tr>
<tr>
<td>BE 422 Office Systems</td>
<td>3</td>
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<td>BE 495 Office Automation</td>
<td>3</td>
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<tr>
<td>BE 496 Records Administration Using Database</td>
<td>3</td>
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<tr>
<td>BE 387 Cooperative Education</td>
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<tr>
<td>BE 387 Cooperative Education</td>
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<tr>
<td>IDT 305 Communication Transmission Systems</td>
<td>3</td>
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<tr>
<td>IDT 436 Electronic Publishing Technology</td>
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</table>

**Business Foundations**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BE 100 Contemporary Business</td>
<td>3</td>
</tr>
<tr>
<td>ACC 240, 241 Principles of Accounting I and II</td>
<td>6</td>
</tr>
<tr>
<td>ACC 342 Managerial Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>LAW 293 Legal Environment of Business</td>
<td>3</td>
</tr>
<tr>
<td>MKT 360 Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>ORI 1265 Business Statistics I</td>
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</table>

**Information processing**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BE 123 Word Processing/Keyboarding Applications</td>
<td>2</td>
</tr>
<tr>
<td>BE 210 Concepts of Information Processing</td>
<td>3</td>
</tr>
<tr>
<td>BE 220 Word/Information Processing Operations</td>
<td>3</td>
</tr>
<tr>
<td>BE 224 Computer-based Business Mathematics</td>
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**Science and technology**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CHM 119 Fundamentals of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>PHY 221 Mechanics, Sound and Heat</td>
<td>4</td>
</tr>
<tr>
<td>PSY 101 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Social science</td>
<td>12-15</td>
</tr>
<tr>
<td>A course in U.S. government</td>
<td>3</td>
</tr>
<tr>
<td>A course in history</td>
<td>3</td>
</tr>
<tr>
<td>ECO 201 Principles of Economics I</td>
<td>3</td>
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<tr>
<td>ECO 202 Principles of Economics II</td>
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</tbody>
</table>
A course in cross-cultural or international studies ............ 3
Arts and humanities ................................................................. 12
A course in literature ............................................................... 3
A second course in literature or a course in cross-cultural
studies ....................................................................................... 3
FA 122 Two-dimensional Design ............................................ 3
Education ...................................................................................... 27
EDP 322 Human Development and Learning ............................ 4
SFD 328 Social Aspects of Teaching ........................................ 3
CUR 311 Teaching Reading in the Secondary School ................. 3
SGN 251 Education of Exceptional Children .......................... 3
EDP 340 Introduction to Measurement and Evaluation ............ 2
IE 460 Practicum in Industrial Education .................................. 2
IE 461 The Teaching of Industrial Education ............................ 2
EDU 492 Student Teaching ....................................................... 8
Practical arts ................................................................................ 50
Choose one of the following majors:
Industrial Education/Industrial Arts
Industrial Education/Industrial-Vocational
Electives ...................................................................................... 0
Total ............................................................................................. 125

Major in Industrial Education/Industrial Arts

The industrial education/industrial arts major is designed to
prepare teachers of industrial arts for grades K-12 and industrial-
vocational teachers for grades 9-12 and post-secondary industrial-
vocational programs. All graduates with this major qualify for a
Secondary Provisional Certificate with an endorsement in indus-
trial arts. Graduates may qualify for vocational endorsement
(Temporary Vocational Authorization) by completing two years of
occupational experience in employment that is related to the area of
study. Options for cooperative work experience are available to the
students as partial credit toward that occupational requirement.

Sem hours

Major in industrial education/industrial arts ....................... 50
Basic technical courses .......................................................... 15
IE 102 Woodwork ..................................................................... 3
IDT 121 Graphic Communication ............................................ 3
IT 122 Engineering Graphics I ................................................. 3
IT 123 Manufacturing Processes and Methods I ..................... 3
IT 200 Industrial Electricity and Controls I ............................ 3
Industrial core courses .............................................................. 15
IT 103 Introduction to Automation ......................................... 3
IE 118 Energy Utilization .......................................................... 3
IT 125 Introduction to Construction ....................................... 2
IT 203 Industrial Operations .................................................... 3
IT213 Occupational Safety and Health ................................... 3
Professional sequence ............................................................... 6
IE 250 Foundations of Industrial Education ............................ 3
IE 350 Curriculum in Industrial Education ............................ 3
Area of concentration .............................................................. 15

In addition to the courses listed above, each industrial arts
major will complete 15 hours in an area of concentration. Concentra-
tions include construction, manufacturing, graphic communications
and power. Selections are to be made from the following in
consultation with the academic adviser.

Construction
Select 15 semester hours from the following:
IT 201 Construction Systems .................................................. 3
IT 206 Surveying ................................................................. 3
IT 229 Planning Commercial Structures ............................... 3
IE 387 Cooperative Education in Industrial Education .......... 3
IT 400 Site Planning and Development .................................. 3
IT 401 Construction Estimating and Bidding ......................... 3
IT 402 Construction Materials ............................................... 3
IE 487 Cooperative Education in Industrial Education .......... 3

Manufacturing
Select 15 semester hours from the following:
IT 124 Manufacturing Processes and Methods II ................... 3
IT 202 Plastics ................................................................. 3
IT 215 Machine Tool Metalworking ........................................ 3
IT 218 Industrial Electricity and Controls II ............................ 3
IT 223 Engineering Graphics I ................................................ 3
IT 231 Industrial Computer Graphics ...................................... 3
IT 251 Materials Analysis and Testing .................................... 3
IT 306 Plastics Processing ...................................................... 3
IT 316 Manufacturing Tooling ............................................... 3
IT 318 Fluid Power ........................................................... 3
IE 387 Cooperative Education in Industrial Education .......... 3
IT 416 Introduction to Numerical Control ............................. 3
IT 417 Industrial Robotics ....................................................... 3
IT 425 Advanced Manufacturing Methods ............................ 3
IE 487 Cooperative Education in Industrial Education .......... 3

Graphic communication
Select 15 semester hours from the following:
(Drafting option)
IT 206 Surveying ................................................................. 3
IT 223 Engineering Graphics II ............................................... 3
IT 228 Construction Drawing .................................................. 3
IT 230 Introduction to Computer Graphic Systems .................. 3
IT 231 Industrial Computer Graphics ...................................... 3
IT 324 Industrial Drawing ....................................................... 3
IE 387 Cooperative Education in Industrial Education .......... 3
IT 431 Interactive Industrial Computer Graphics ..................... 3
IT 432 3-D Computer-Aided Design .................................... 3
IT 433 Color Concepts in Computer-Aided Design ................ 3
IE 487 Cooperative Education in Industrial Education .......... 3

(Graphics arts option)
IDT 104 Introduction to Communication ................................ 2
IDT 204 Photographic Communications ................................ 3
IT 205 Photo-Technology ...................................................... 2
IT 207 Photographic Reproduction ........................................ 3
IDT 304 Advanced Photographic Communications ................. 3
IDT 305 Communication Transmission Systems ..................... 3
IDT 318 Graphic Arts Workshop ............................................ 3
IE 387 Cooperative Education in Industrial Education .......... 3
IDT 404 Photo Communication Workshop ............................ 3
IDT 425 Communication Technology and Social Change ........ 3
IDT 436 Electronic Publishing Technology ........................... 3
IE 487 Cooperative Education in Industrial Education .......... 3

Power
Select 15 semester hours from the following:
(Electronics option)
IT 218 Industrial Electricity and Controls ............................... 3
IT 314 Integrated Circuits: Digital .......................................... 3
IT 387 Cooperative Education in Industrial Education .......... 3
IT 414 Integrated Circuits: Linear ............................................ 3
IT 415 Communication Circuits ........................................ 3
IT 434 Microcomputer Circuits ...................................... 3
IE 487 Cooperative Education in Industrial Education ........ 3
(Energy systems option)
IT 219 Techniques of Energy Control ................................ 3
IT 318 Fluid Power ..................................................... 3
IT 324 Applied Mechanics, Kinematics, and Design .......... 3
IE 387 Cooperative Education in Industrial Education ........ 3
IT 417 Industrial Robotics .............................................. 3
IT 428 Control and Instrumentation .................................. 3

Major in Industrial Education/Industrial-Vocational

The industrial education/industrial-vocational major is designed to prepare teachers of industrial-vocational subjects for senior high school and community college vocational education programs. Graduates who complete this major and have a minimum of two years of work experience in a certifiable occupational area will qualify for the temporary vocational authorization to teach in a specific occupational area. Options for cooperative work experience studies are available to the student as partial credit toward the occupational requirement.

This major provides very favorable opportunities for community college transfer students who have completed a technical major at the community college and who wish to teach in a specific occupational subject area in the senior high school or community college. Individuals currently teaching in an industrial-vocational subject area under the annual vocational authorization would also find this major to be a desirable option.

This major qualifies individuals to teach only in selected occupational areas. The temporary vocational authorization is valid for six years. By that time individuals must have completed additional requirements to qualify for full vocational authorization.

Individuals should consult with the adviser-chairperson for the industrial education curriculum or with the head of the Department of Business and Industrial Education.

Major in industrial education/industrial-vocational .......... 50
Required courses ...................................................... 15
IDT 150 Understanding Technology .......................... 3
IT 213 Occupational Safety and Health ...................... 3
IE 250 Foundations of Industrial Education ............... 3
IE 350 Curriculum in Industrial Education .................. 3
IE 452 Principles of Vocational-Technical Education .... 3
Area of concentration .................................................. 35

Courses comprising these 35 hours should represent the occupational specialization in which the student will seek vocational authorization. Approval may be sought for community college or other technical school course work as transfer credit if it properly represents a certifiable occupational area. Work experience also may be validated and credit awarded toward the area of concentration by successfully passing an occupational competency examination.

Minors Offered in the Department of Business and Industrial Education

Office Technology Minor
(Non-teaching)

Sem hours

Minor in office technology ............................................ 21
Required courses ........................................................ 12
BE 201 Microcomputers for Business Applications ........ 3
BE 220 Word/Information Processing Operations .......... 3
BE 224 Computer-based Business Mathematics .............. 3
BE 395 Office Administration ......................................... 3
*Students must take BE 123 Word Processing/
   Keyboarding Applications if they do not have
   appropriate background.

Choose one option ................................................... 9
Option I Shorthand:
BE 225 Gregg Shorthand ............................................. 3
BE 325 Shorthand Transcription .................................. 3
BE 222 Transcription Applications and Technology .... 3

Option II Information Processing:
BE 210 Concepts of Information Processing .................. 3
BE 222 Transcription Applications and Technology .... 3
BE 396 Records Administration .................................... 3

Industrial Education Minor

Any student following an elementary or special education curriculum may choose this minor. It is not available to students in other programs.

Sem hours

Minor in industrial education ...................................... 20
1. Required courses .................................................. 15-16
   IE 253 Industrial Technology and the Elementary Teacher and .............. 3
   IE 354 Experiences in Technology for Children ............. 2
   IE 252 Pre-vocational/Vocational Special Needs Program . 4
   Choose 11 credits from the following ..................... 11
   IE 102 Woodwork .................................................. 3
   IE 118 Energy Utilization ....................................... 3
   IE 152 Arts and Crafts ........................................ 3
   IE 250 Foundations of Industrial Education .............. 3
   IE 355 Seminar in Technology for Elementary School ... 3
2. Restricted electives .............................................. 45
   Choose four credits from the following:
   IE 350 Curriculum in Industrial Education, IE 452 Principled Vocational-Technical Education, IE 497 Directed Study, IDT 204 Photographic Communication

Business Education Courses

BE 100 Contemporary Business. Three sem hours
BE 119 *Keyboarding for Computers.* Two sem hours
Basic touch keyboarding skills for persons who plan to work with
modern information processors, all of which utilize a basic alphabet/
figure keyboard and/or a 10-key numeric pad. Lab fee required. For
non-majors.

BE 122 *Keyboarding for Office Technology.* Two sem hours
Basic techniques and manipulative skills for efficient machine
operation. Speed and control emphasized. Introduction to applica­tions
through centering, tabulating and structuring typewritten
material for various purposes. Lab fee required.

BE 123 *Word Processing/Keyboarding Applications.* Two sem hours
Continued skill development. Application of skill to typing special
communication forms, letters, manuscripts and tabulated reports.
Improved form and punctuation. Lab fee required.
Prereq: BE 119 *Keyboarding for Computers* or BE 122 *Keyboard­
ing for Office Technology* or one year of high school typewriting.
No credit is given to students who have received credit for two years
of high school typewriting.

BE 200 *Principles of Marketing and Business Education.* Three sem hours
An introduction to marketing and office education. The scope and
importance of vocational education with emphasis on marketing
and office education. Pre-student teaching experience will be
initiated in conjunction with this course.

BE 201 *Microcomputers for Business Applications.* Three sem hours
Computer hardware and software for office use including both
mainframe and microcomputer systems. "Hands-on" experience
limited to microcomputers. Basic skills in using prepared software
and developing programs for office applications using Microsoft
BASIC. Requires no prior knowledge of computers or programming.
Lab fee required.

BE 205 *Women in Business.* Three sem hours
Social and business conditions that support the entry of women to
executive positions in business; career opportunities at the profes­sional and executive levels of business.

BE 210 *Concepts of Word/Information Processing.* Three sem hours
The concepts and functions of word processing equipment, procedures
and care opportunities. Applications and the organization of
word processing services; the extension of word processing through
the use of peripherals.

BE 211 *Introduction to Paralegalism and Legal Terminology.* Three sem hours
An overview of the nature of the legal assistant (paralegal) program,
with a look at the roles, opportunities, responsibilities and problems
encountered. The student is introduced to areas of the law in which
a legal assistant may work. Ethical considerations are addressed and
legal terminology will be introduced and emphasized. Must be
completed in the first 12 hours of the major.

BE 220 *Word/Information Processing Operations.* Three sem hours
Advanced document applications including merge and list processing,
graphics, math operations, and database integration. Keyboard speed
and accuracy is also included, as well as refinement of proofreading
and editing skills. Lab fee required.
Prereq: BE 123 *Word Processing/Keyboarding Applications* or
equivalent and BE 201 *Microcomputers for Business Applications.*

BE 222 *Transcription Applications and Technology.* Three sem hours
Using automated office equipment to produce mailable office
communications from dictated and other input. Building language
arts, keyboarding and word processing skills into transcription
skills required for word processing employment. Lab fee required.
Prereq: BE 220 *Word/Information Processing Operations.*

BE 224 *Computer-based Business Mathematics.* Three sem hours
Application of electronic and automated office equipment to the
solution of mathematical problems encountered in the business
office. Operational and keyboarding skills are developed on contem­porary office tools. Lab fee required.
Prereq: BE 201 *Microcomputers for Business Applications.*

BE 225 *Gregg Shorthand.* Three sem hours
An introduction to the alphabet, brief forms and theory of Gregg
shorthand. No credit given to students who previously have com­pleted a course in Gregg shorthand theory.
Prereq: BE 123 *Word Processing/Keyboarding Applications* or
equivalent.

BE 250 *Personal Finance.* Three sem hours
The management of financial resources to satisfy personal or
family goals. Budgeting, consumer credit, investments, insurance,
real estate, wills and trusts and incometaxes. Students learn to make
decisions within the context of a realistic consumer-oriented envi­ronment. Open to all students.

BE 304 *Legal Writing, Research and Analysis I.* Three sem hours
This course is designed to develop basic skills in analyzing legal
problems, researching those problems, and searching for legal
authority. Emphasis is given to preparing and writing legal memo­randa, and to good legal writing. The student will also be introduced
to computer research.
Prereq: ENG 121 *English Composition.*

BE 305 *Advanced Legal Writing, Research and Analysis II.* Three sem hours
This course will build upon skills acquired in Legal Writing and
Analysis I. The student will learn how to prepare an appellate brief
and how to do such legal writing as law office letters and legal
instruments. Special emphasis will be given to drafting simple
contracts and a study of commonly used contract forms.
Prereq: BE 304 *Legal Writing and Research I.*
BE 308 Personal Injury Law and Litigation. Three sem hours
A study of the law and litigation techniques in personal injury cases. Students will become acquainted with such torts as assault, battery, false imprisonment, defamation and strict product liability. Study will be directed particularly to the fields of negligence and medical malpractice.

BE 310 Word Processing Administration. Three sem hours
Techniques to utilize staff and equipment most effectively, record keeping, work flow, evaluating personnel, establishing policies and standards of operation as applied to word processing. Lab fee required.

BE 311 Probate, Estates, and Wills. Three sem hours
The student will study the Probate Code and probate procedures, descendents’ estates, death and inheritance taxes, and other related problems. Special attention will be given to wills and how wills are drafted.

BE 313 Family Law. Three sem hours
A basic introduction to the areas of domestic law, including such subjects as divorce, adoption, abortion, parental rights, children’s rights, child abuse, neglect and guardianship. The course will be directed toward the legal administrator’s role in preparing court documents and other tasks of the paralegal in this area.

BE 325 Shorthand Transcription. Three sem hours
Development of transcription skills. Application of shorthand, typewriting and English skills to produce business communications neatly and accurately at an acceptable rate. Prereq: BE 225 Gregg Shorthand, or a measured speed of 80 wpm or more in one of the shorthand systems and a typewriting speed of 50 net words per minute.

BE 364 Methods of Teaching General Business Subjects. Two sem hours
Methods in teaching general business, business law and typewriting with application to classroom situations. Objectives, lesson planning, techniques of teaching and sources of materials. Prereq: CUR 311 Teaching of Reading and EDP 332 Human Development and Learning. A 2.0 GPA in all business education subjects taken at EMU is required before enrollment, with no academic probation. To be taken semester before student teaching.

BE 365 Methods of Teaching Office Education. Two sem hours
Methods of teaching shorthand, office block, bookkeeping, accounting, typewriting, word processing and cooperative education classes. Objectives, lesson planning, techniques of teaching and sources of materials. Prereq: EDP 322 Human Development and Learning, and BE 364 Methods of Teaching General Business Subjects. A 2.0 GPA in all business education subjects taken at EMU is required before enrollment, with no academic probation.

BE 366 Methods of Teaching Marketing Education. Two sem hours
Techniques and practices utilized in teaching marketing and cooperative education in secondary schools, community colleges and adult evening schools. Prereq: EDP 322 Human Development and Learning. A 2.0 GPA in all business education subjects taken at EMU is required before enrollment, with no academic probation.

BE 367 Curriculum in Marketing Education. Two sem hours
Overviews content bases and other factors affecting marketing education curriculum. Includes development of comprehensive curriculum plans for a variety of marketing education settings, utilization of non-classroom curriculum delivery systems, and implementation of curriculum evaluation and revision procedures. Examines current trends in marketing education curriculum.

BE 368 Management of Marketing Education Programs. Two sem hours
Examines the marketing educator roles of DECA adviser, public relations specialist, career counselor, program administrator, supervisor, and professional educator.

BE 387, 487 Cooperative Education in Business Education. Three sem hours each
Business education majors will be placed on a job that relates to their primary area of study for one semester. During this period regular employees’ benefits may be received. Graded credit/no credit. Credit applicable to the major in business education only. Prereq: For BE 487, 387.

BE 395 Office Administration. Three sem hours
Office problems from the point of view of the administrator. Office organization, physical facilities, nature of office work, personal relations and control of office output. Prereq: BE 201 Microcomputers for Business Applications.

BE 396 Records Administration. Three sem hours
Management methodology in records, control, costs, protection, retention, retrieval and disposal. Records administration as a management tool. Prereq: BE 201 Microcomputers for Business Applications.

BE 411 Civil Litigation, Investigation, and Procedure. Three sem hours
A comprehensive survey of civil litigation and procedure. The student will be introduced to every phase of litigation starting with the filing of the lawsuit through the appellate process. The student will be expected to draw up a complaint and a number of pleadings, as well as drafting interrogatories and digesting depositions. Legal investigation will be addressed.

BE 412 Court Documents and Court Rules. Three sem hours
Study will be made of Michigan Court Rules and court forms commonly used in the Michigan Court system. The student will learn the practical aspects of preparing court forms for a variety of legal actions. Federal Court Rules will also be discussed.
BE 414 Advanced Probate, Estates, and Trusts. Three sem hours
This course will build upon the material covered in BE 311 Probate, Estates and Wills. Subject matter will include the Probate Code and probate procedure, federal and state inheritance taxes. Special emphasis will be given to trusts, purposes for them, and the drafting of trusts.
Prereq: BE 311 Probate, Estates, and Wills.

BE 415 Bankruptcy Law. Three sem hours
A study will be made of the Federal Bankruptcy Code, with emphasis on Chapters 7, 11, and 13. Students will learn how to prepare the necessary papers for filing for bankruptcy.

BE 416 Legal Assistant Internship. Three to six sem hours
Placement for students will be arranged with law firms, courts, or corporations, etc., for on-the-job training as a legal assistant. Each student will have a supervisor on the job and a faculty supervisor. The latter will consult with students individually or in a group meeting. A written report is required at completion of the internship. Where appropriate criteria are met, Cooperative Education can be substituted for an Internship.
Prereq: Permission of Instructor, BE 304 Legal Writing and Research I, BE 305 Advanced Legal Writing and Research II, BE 411 Civil Litigation and Procedure, BE 412 Court Documents and Court Rules.

BE 422 Office Systems. Three sem hours
Integration of automated office subsystems such as word processing, graphics, transcription, calendaring, scheduling, accounting and records management into the office setting. Lab fee required.

BE 461 Projects and Simulations in Marketing Education. Two sem hours
Project and simulation methods in marketing education are explored with a major focus on the operation and coordination of the school store. Implementation steps for the entrepreneurship simulation are developed. Small scale simulations and projects are also studied as well as procedures for developing simulations and projects.

BE 495 Office Automation. Three sem hours
Overview of office automation and its relationship to information technology. The application of information technology to the office. Significant new technologies and systems, how to apply these effectively, how to organize for office automation and how to implement office automation. Lab fee required.

BE 496 Records Administration Using Database. Three sem hours
Database as a tool of automated search and retrieval. Identifying information needs of users: design and development of records classification structures suitable for automated records systems; searching techniques; generation of reports such as records user listings, master record listings and records retention schedules. Extensive applications using database software. Lab fee required.
Prereq: BE 201 Microcomputers for Office Applications and BE 395 Records Administration.

BE 497, 498, 499 Independent Study. One, two, three sem hours
Students pursue some special area of study or experimentation under the direction of a designated faculty member from the department.
Prereq: Department permission.

Industrial Education Courses

IE 102 Woodwork. Three sem hours
Basic wood processing, with hand and power tools. Learning experiences in design, pattern development, project construction and finishing. Selection, use and care of hand and power tools. Lecture: two hours per week. Laboratory: two hours per week.

IE 104 Graphic Arts Processes. Three sem hours
History of printing, typography, layout, design and hand composition, printing methods, proofreading, basic press work, silk screen printing, duplication, thermography, rubber stamps and basic photolithography. Not open to majors in industrial education.
Lecture: two hours per week. Laboratory: two hours per week.

IE 105 History of Industrial Technology. Three sem hours
An introduction to the history of industrial technology. The development of industry and the impact on other arts and culture in general. Basic principles of design in industrial and home arts, and the cotechnic, palchtechnic, neotechnic and atometic periods of technology.

IE 118 Energy Utilization. Three sem hours
An introductory study of technical aspects of energy problems of the present and future. Methods of energy conversion demonstrated with steam engines, electrical and nuclear power plants, wind, solar and other alternate energy systems. Specifically designed for departmental minors and students with no technical background.

IE 119 Consumer Automotives. Three sem hours
A basic study of the operation of automobile engine and chassis systems, fuels and lubricants. The problems of purchasing, selection of repairman, cost of operation, tune-ups, safety and the social impact of the automobile. Open to all students, but specifically designed for those with little or no technical background. Lecture: two hours per week. Laboratory: two hours per week.

IE 152 Arts and Crafts. Three sem hours
Experience in design and use of a wide variety of craft materials. A vocational and recreational use of craft media.

IE 250 Foundations of Industrial Education. Three sem hours
An introduction to the philosophy and implementation of industrial arts and industrial-vocational education. Past, present and future developments within the profession. Lecture, discussion, role-playing, micro teaching, school visitations and pre-student teaching activities.
IE 252 Prevocational/Vocational Special Needs Program. Four sem hours
An examination of the role of special education personnel in providing career awareness, prevocational skill development and vocational education support activities. Laboratory activities focus on the integration of these concepts on a broad continuum from elementary to secondary school programs. Lectures and field experiences will be used to illustrate a variety of programs and services.

IE 253 Industrial Technology and the Elementary Teacher. Three sem hours
An introduction to the basic elements of our industrial society relevant to elementary education. Teaching children through activities about career- and self-awareness, how products are made and preparation for living and working in our changing society. Laboratory experiences develop skills in the use of tools and materials appropriate for the elementary classroom.

IE 255 Art Metalwork. Two sem hours
Copper, brass and silver jewelry and other art metal objects designed and made by the student. Emphasis on design and the basic processes. Open to all students. Lecture: one hour per week. Laboratory: two hours per week.

IE 305 Forest Products. Three sem hours
A study of products derived from the trees; analysis of wood structure, wood hydrolysis, destructive distillation, veneers, wood pulp, solid members and related materials; machining, fabrication, testing and production. Lecture: two hours per week. Laboratory: two hours per week. Prereq: IT 202 Plastics.

IE 350 Curriculum in Industrial Education. Three sem hours
Curricula and programs in industrial education for grades K-12. Structure of the various programs with emphasis upon the selection, organization and validation of the content for them. Prereq: IE 250 Foundations of Industrial Education and junior standing.

IE 354 Experiences in Technology for Children. Two sem hours
Laboratory experiences in the use of materials, tools, processes and products of industry as utilized in the elementary and middle school. Emphasis is on individual and group learning situations relevant to integrated curriculum activities. Prereq: IE 253 Industrial Technology and the Elementary Teacher.

IE 355 Seminar in Technology for the Elementary School. Two sem hours
Practical experiences in integrating concepts of technology with existing elementary and special education curricula. Students will design, conduct and evaluate manipulative activities for and with children. Prereq: IE 354 Experiences in Technology for Children.

IE 358 Tools and Materials. Three sem hours
Experiences in the use of selected tools, machines and materials following contemporary therapeutic practices in occupational therapy and related professions. Lecture: two hours per week. Laboratory: two hours per week. Prereq: Occupational Therapy major or department permission.

IE 387 Cooperative Education in Industrial Education. Three sem hours
Industrial education majors will be placed on a job that relates to their primary area of study for one semester. During this period regular employee benefits may be received. Graded credit/no credit. Credit applicable to the major in industrial education only.

IE 452 Principles of Vocational-Technical Education. Three sem hours
Concepts and principles of vocational-technical education; current issues in vocational education in Michigan. Prereq: IE 350 Curriculum in Industrial Education or department permission.

IE 460 Practicum in Industrial Education. Two sem hours
Problems related to classroom activities in industrial education programs. Methods employed in the classroom including the selection, organization and evaluation of activities. Laboratory: two hours per week taken concurrently with IE 461 The Teaching of Industrial Education and student teaching. Prereq: IE 350 Curriculum in Industrial Education.

IE 461 The Teaching of Industrial Education. Two sem hours
The relationship between principles of effective learning and various methods of organization of industrial education content. Taken concurrently with IE 460 Practicum in Industrial Education and student teaching. Prereq: IE 350 Curriculum in Industrial Education.

IE 487 Cooperative Education in Industrial Education. Three sem hours
The second in a two-course sequence for industrial education majors. The students will be placed on a job that relates to their primary area of study for one semester. Regular employee benefits may be received. Credit applicable to the major in industrial education only. Graded credit/no credit. Prereq: IE 387 Cooperative Education in Industrial Education.

IE 497, 498, 499 Directed Study. One, two, three sem hours
Available to selected students who have demonstrated ability to profit from a directed study project. Intensive study of a problem appropriate to the student's area of concentration. Enrollment and selection of a project proposal must be approved by the department adviser-chairman.
The Industrial Technology Department offers three curricula: construction with one major, industrial technology with one major, and manufacturing with four majors; and an industrial technology minor. In addition, two pre-professional programs are shared with the College of Arts and Sciences—pre-architecture and pre-engineering. Advising for these programs is provided by the department.

**Degree**: Bachelor of science

### Programs of Study

#### Construction curriculum

**Major:**
- Construction

#### Industrial technology curriculum

**Major:**
- Industry

**Minor:**
- Industrial technology
- Manufacturing curriculum

**Majors:**
- Computer-aided design
- Computer-aided manufacturing
- Manufacturing
- Plastics technology

**Engineering pre-professional program**
- Pre-engineering

**Architecture pre-professional program**
- Pre-architecture

Advising procedure is posted outside the department office. It is recommended that majors see their department adviser each semester to review their program. Majors are responsible for meeting the requirements for graduation. A new student in the department not assigned to an adviser should call the department office (487-2040) for an appointment.

### Advisers:

- Computer-aided design: Tony Shiue, Karen Sterzik
- Computer-aided manufacturing: Max Kanagy, Jonathon Lin
- Construction: Peter Loughney, John Weeks
- Industry: John Jellema
- Manufacturing technology: Tracy Tillman, Thomas Soyster, Walter Tucker, Alfred Roth
- Plastics technology: Erik Lokensgard

Industrial technology minor: Karen Sterzik
Pre-engineering: Daniel Fields
Pre-architecture: Peter Loughney

Graduate study leads to the master of science degree in industrial technology. Available areas of concentration are manufacturing and construction. These degrees are described in the Graduate Catalog.

### Construction Curriculum

The construction curriculum includes course work in basic studies with specified science and mathematics courses, recommended business course selectives (a list of recommended course electives that require the prior approval of a construction adviser), and technical courses. A minor is not required.

### Construction Major

The construction major is designed to prepare men and women for middle- and upper-level management in general contracting. The major has been developed in cooperation with experts in the construction industry, guidelines established by major construction associations, and feedback from employers and graduates. The construction major reflects the current needs and trends in the construction industry.

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbolics and communication</td>
<td>19</td>
</tr>
<tr>
<td>CTA 121 Fundamentals of Speech</td>
<td>2</td>
</tr>
<tr>
<td>ENG 121 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>ENG 324 Principles of Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>IT 105 Computer Applications for Industry</td>
<td>3</td>
</tr>
<tr>
<td>MTH 107 Plane Trigonometry</td>
<td>2</td>
</tr>
<tr>
<td>MTH 118 Mathematical Analysis I for Social Sciences I</td>
<td>3</td>
</tr>
<tr>
<td>MTH 119 Mathematical Analysis II for Social Sciences II</td>
<td>3</td>
</tr>
<tr>
<td>Science and technology</td>
<td>11</td>
</tr>
<tr>
<td>CHM 119 Fundamentals of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>PHY 221 Mechanics, Sound and Heat</td>
<td>4</td>
</tr>
<tr>
<td>PSY 101 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Social science</td>
<td>12</td>
</tr>
<tr>
<td>PLS 112 American Government</td>
<td>3</td>
</tr>
<tr>
<td>A course in history</td>
<td>3</td>
</tr>
<tr>
<td>ECO 201 Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>ECO 202 Principles of Economics II</td>
<td>3</td>
</tr>
<tr>
<td>Arts and humanities</td>
<td>11-12</td>
</tr>
<tr>
<td>A course in philosophy or religion</td>
<td>3</td>
</tr>
<tr>
<td>A course in art, dance, music or theatre arts</td>
<td>2-3</td>
</tr>
<tr>
<td>A course in literature</td>
<td>3</td>
</tr>
<tr>
<td>A course in cross-cultural or international studies</td>
<td>3</td>
</tr>
<tr>
<td>Academic major in construction</td>
<td>67</td>
</tr>
<tr>
<td>IT 125 Introduction to Construction</td>
<td>2</td>
</tr>
<tr>
<td>IT 201 Construction Systems</td>
<td>3</td>
</tr>
<tr>
<td>IT 206 Surveying</td>
<td>3</td>
</tr>
</tbody>
</table>
The industry curriculum has been designed to accommodate the needs of students transferring from community colleges and other similar educational institutions with an associate’s degree in a technical field related to manufacturing. Students transferring from other accredited technical schools and from four-year higher education institutions with a technical major may also find this major suitable. No minor is required.

Industry Major

The major in industry is designed to serve those individuals who wish to continue their education and seek a bachelor’s degree. It is especially designed to accommodate the needs of students transferring from community colleges with a technical associate’s degree. The major includes course work in basic studies, some specified science and mathematics courses and additional approved technical course work at the upper level.

### Industry Curriculum

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 213 Occupational Safety and Health</td>
<td>3</td>
</tr>
<tr>
<td>IT 228 Construction Drawing</td>
<td>3</td>
</tr>
<tr>
<td>IT 229 Analysis of Commercial Prints</td>
<td>3</td>
</tr>
<tr>
<td>IT 301 Planning and Scheduling</td>
<td>3</td>
</tr>
<tr>
<td>IT 302 Contract Documents, Regulations and Specification</td>
<td>3</td>
</tr>
<tr>
<td>IT 387 Cooperative Education in Industrial Technology</td>
<td>3</td>
</tr>
<tr>
<td>IT 401 Construction Estimating and Bidding</td>
<td>3</td>
</tr>
<tr>
<td>IT 402 Construction Materials</td>
<td>3</td>
</tr>
<tr>
<td>IT 403 Production Control</td>
<td>2</td>
</tr>
<tr>
<td>IT 406 Construction Law</td>
<td></td>
</tr>
<tr>
<td>IT 450 Fundamentals of Construction Project</td>
<td>3</td>
</tr>
<tr>
<td>IT 496 Industry Based Special Topics</td>
<td>3</td>
</tr>
<tr>
<td>GLG 160 Physical Geology</td>
<td>4</td>
</tr>
<tr>
<td>Construction restricted elective</td>
<td>3</td>
</tr>
<tr>
<td>(Adviser approval required)</td>
<td></td>
</tr>
<tr>
<td>Math/science restricted elective</td>
<td>3</td>
</tr>
<tr>
<td>(Adviser approval required)</td>
<td></td>
</tr>
<tr>
<td>Business restricted elective</td>
<td>15</td>
</tr>
<tr>
<td>(Adviser approval required)</td>
<td></td>
</tr>
<tr>
<td>ACC 240 Principles of Accounting and Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC 241 Principles of Accounting or Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC 130 Accounting for Non-Business Majors</td>
<td>3</td>
</tr>
<tr>
<td>FIN 350 Principles of Finance</td>
<td>3</td>
</tr>
<tr>
<td>FIN 352 Law of Business Enterprises</td>
<td>3</td>
</tr>
<tr>
<td>FIN 358 Analysis of Financial Statements</td>
<td>3</td>
</tr>
<tr>
<td>LAW 293 Legal Environment of Business</td>
<td>3</td>
</tr>
<tr>
<td>LAW 393 Law of Business Enterprises</td>
<td>3</td>
</tr>
<tr>
<td>LAW 403 Employment Law</td>
<td>3</td>
</tr>
<tr>
<td>MGT 202 Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>MGT 384 Human Resource Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT 386 Organizational Behavior and Theory</td>
<td>3</td>
</tr>
<tr>
<td>MGT 484 Management-Union Relations</td>
<td>3</td>
</tr>
<tr>
<td>MKT 360 Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>ORI 121 Introduction to Business Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>ORI 265 Business Statistics I</td>
<td>3</td>
</tr>
<tr>
<td>ENG 121 English Composition</td>
<td></td>
</tr>
<tr>
<td>ENG 324 Principles of Technical Writing</td>
<td></td>
</tr>
<tr>
<td>PHY 221 Mechanics, Sound and Heat</td>
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<tr>
<td>PSY 101 General Psychology</td>
<td></td>
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<tr>
<td>A course in history</td>
<td></td>
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<tr>
<td>A course in art, dance, music or theatre arts</td>
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<tr>
<td>A course in literature</td>
<td></td>
</tr>
<tr>
<td>A course in cross-cultural or international studies</td>
<td></td>
</tr>
<tr>
<td>Physical education and health</td>
<td>2</td>
</tr>
<tr>
<td>Physical education activity courses</td>
<td>2</td>
</tr>
<tr>
<td>(Two semester hours of Military Science may be substituted for physical education)</td>
<td>1-2</td>
</tr>
<tr>
<td>Free electives</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>124</td>
</tr>
</tbody>
</table>

### Manufacturing Curriculum

The manufacturing curriculum includes course work in basic studies with specified science and mathematics courses, manufacturing core courses and major courses in computer-aided design (CAD), computer-aided manufacturing (CAM), manufacturing and plastics technology. A minor is not required.
Computer-Aided Design Major

Men and women majoring in computer-aided design (CAD) are prepared for a wide range of computer related job opportunities. Graduates are employed in industry as CAD engineers, software development engineers, applications programmers, technical support engineers, systems managers, training consultants, entry-level designers, as well as in equipment sales and support. The applications of computer graphics are becoming more diverse and are found in many areas such as architecture, medicine, mapping, facilities management, and government.

The CAD major includes a core of manufacturing courses designed to provide a well-rounded graduate with hands-on experiences. Engineering graphics courses are included to provide an understanding of the process of producing models on the computer. In the CAD courses the students gain knowledge of graphics programming concepts involving interactive 2D and 3D wireframe drawing, hidden surface removal, shaded surfaces, business graphics, animation, interfaces, menu and icon development, database management, and microcomputer application.

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbolics and communication</td>
<td>19</td>
</tr>
<tr>
<td>CTA 121 Fundamentals of Speech</td>
<td>2</td>
</tr>
<tr>
<td>ENG 121 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>ENG 324 Principles of Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>IT 105 Computer Applications for Industry</td>
<td>3</td>
</tr>
<tr>
<td>MTH 107 Plane Trigonometry</td>
<td>2</td>
</tr>
<tr>
<td>MTH 118 Mathematical Analysis I for Social Sciences I</td>
<td>3</td>
</tr>
<tr>
<td>MTH 119 Mathematical Analysis II for Social Sciences II</td>
<td>3</td>
</tr>
<tr>
<td>Science and technology</td>
<td>15</td>
</tr>
<tr>
<td>CHM 119 Fundamentals of Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>PHY 221 Mechanics, Sound and Heat</td>
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</tr>
<tr>
<td>PHY 222 Electricity and Light</td>
<td>4</td>
</tr>
<tr>
<td>PSY 101 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Social science</td>
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</tr>
<tr>
<td>PLS 112 American Government</td>
<td>3</td>
</tr>
<tr>
<td>A course in history</td>
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</tr>
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<td>ECO 201 Principles of Economics I</td>
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</tr>
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<td>Arts and humanities</td>
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<td>A course in philosophy or religion</td>
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<tr>
<td>A course in art, dance, music or theatre arts</td>
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</tr>
<tr>
<td>A course in literature</td>
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<td>A course in cross-cultural or international studies</td>
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<td>Academic major in CAD</td>
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</tr>
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<td>CSC 239 Assembly Machine Language Programming</td>
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<tr>
<td>CSC 350 Programming in Unix Environment</td>
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<tr>
<td>IT 103 Introduction to Automation</td>
<td>3</td>
</tr>
<tr>
<td>IT 166 Microcomputer Applications in Manufacturing</td>
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</tr>
<tr>
<td>IT 122 Engineering Graphics I</td>
<td>3</td>
</tr>
<tr>
<td>IT 123 Manufacturing Processes and Methods I</td>
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<tr>
<td>IT 203 Industrial Processes</td>
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<td>IT 223 Engineering Graphics II</td>
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<td>IT 231 Industrial Computer Graphics</td>
<td>3</td>
</tr>
<tr>
<td>IT 316 Manufacturing Tooling</td>
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</tr>
</tbody>
</table>

Computer-Aided Manufacturing Major

Manufacturing's rapid evolution to dependence on developments in the research laboratory rather than the shop floor has created a void in the spectrum of available personnel. The increasingly theoretical preparation of the engineer, mandated by the advancing complexity of the technology, is not generally appropriate for production supervision and middle management.

The lack of appropriately-trained supervisory personnel has become even more acute since the beginning of the computer revolution and has recently increased, fueled by the availability of low-cost computer hardware and increasing demands for higher productivity.

The computer-aided manufacturing major combines instructional experiences in robotics, electronics, power systems, and numerical control. The major is designed to prepare individuals for supervisory and management positions in automated plants and factories of both today and in the future.

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbolics and communication</td>
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<tr>
<td>CTA 121 Fundamentals of Speech</td>
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<td>ENG 121 English Composition</td>
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<td>ENG 324 Principles of Technical Writing</td>
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</tr>
<tr>
<td>IT 105 Computer Applications for Industry</td>
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</tr>
<tr>
<td>MTH 107 Plane Trigonometry</td>
<td>2</td>
</tr>
<tr>
<td>MTH 118 Mathematical Analysis I for Social Sciences I</td>
<td>3</td>
</tr>
<tr>
<td>MTH 119 Mathematical Analysis II for Social Sciences II</td>
<td>3</td>
</tr>
<tr>
<td>Science and technology</td>
<td>19</td>
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<tr>
<td>CHM 119 and 122 General Chemistry I (High school chemistry or CHM 119 Fundamentals of Chemistry)</td>
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</tr>
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<td>4</td>
</tr>
<tr>
<td>PHY 221 Mechanics, Sound and Heat</td>
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</tr>
<tr>
<td>PHY 222 Electricity and Light</td>
<td>4</td>
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<td>PSY 101 General Psychology</td>
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<td>Social science</td>
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<tr>
<td>PLS 112 American Government</td>
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<td>A course in history</td>
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<td>Total</td>
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</table>
ECO 202 Principles of Economics II .................................. 3

*Arts and humanities* .................................................. 11-12

A course in philosophy or religion .................................. 3
A course in art, dance, music or theatre arts .................. 2-3
A course in literature .................................................. 3
A course in cross-cultural or international studies .......... 3

*Academic major in CAM* ................................................. 60
IT 103 Introduction to Automation .................................. 3
IT 106 Microcomputer Applications in Manufacturing ...... 3
IT 122 Engineering Graphics I ........................................ 3
IT 123 Manufacturing Processes and Methods I ............... 3
IT 124 Manufacturing Processes and Methods II ............. 3
IT 200 Industrial Electricity and Controls I ................. 3
IT 203 Industrial Operations ........................................... 3
IT 218 Industrial Electricity and Controls II ................. 3
IT 223 Engineering Graphics II ....................................... 3
IT 318 Fluid Power ....................................................... 3
IT 387 Co-operative Education in Industrial Technology ... 3
IT 416 Computer Numerical Control ................................ 3
IT 417 Industrial Robotics .............................................. 3
IT 420 Industrial Quality Control .................................... 3
IT 426 Manufacturing Information Systems .................... 3
IT 427 Advanced Industrial Control ................................ 3
IT 485 Flexible Manufacturing Systems ......................... 3
MGT 386 Organizational Behavior and Theory ................ 3

*Restricted elective* ..................................................... 6
Recommended
ACC 130 Accounting for Non-Business Majors and ........... 3
any other course approved by your adviser.

*Physical education and health* ......................................... 2
Physical education activity courses ................................. 2
(Two semester hours of Military Science may be
substituted for physical education)

*Free electives* ............................................................. 1-2

**Total** ........................................................................... 124

**Manufacturing Major**

The manufacturing technology major prepares individuals for
employment as professionals in industrial production. It is clearly
associated with the field of engineering involving work in planning,
organizing, improving and controlling the production process. The
major provides technical knowledge, skills, and attitudes necessary
for working closely with other people in solving technical, manager-
al, and production problems.

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
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</thead>
<tbody>
<tr>
<td><strong>Symbols and communication</strong></td>
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<tr>
<td>CTA 121 Fundamentals of Speech</td>
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<td>ENG 121 English Composition</td>
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<tr>
<td>MTH 118 Mathematical Analysis I for Social Sciences I</td>
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<tr>
<td>MTH 119 Mathematical Analysis II for Social Sciences II</td>
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<tr>
<td><strong>Science and technology</strong></td>
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<td>CHM 121 and 122 General Chemistry I (High school chemistry or CHM 119 Fundamentals of Chemistry)</td>
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<tr>
<td>CHM 241 and 242 Materials Science</td>
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<td>PHY 221 Mechanics, Sound and Heat</td>
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<td>PHY 222 Electricity and Light</td>
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<tr>
<td>PSY 101 General Psychology</td>
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</tbody>
</table>

**Social science** ..................................................... 11
PLS 112 American Government .......... 3
A course in history ...................... 3

**Academic major in manufacturing**
IT 103 Introduction to Automation ........ 3
IT 106 Microcomputer Applications in Manufacturing ...... 3
IT 122 Engineering Graphics I ............. 3
IT 123 Manufacturing Processes and Methods I ........ 3
IT 124 Manufacturing Processes and Methods II ....... 3
IT 200 Industrial Electricity and Controls I ....... 3
IT 203 Industrial Operations ................ 3
IT 218 Industrial Electricity and Controls II .... 3
IT 223 Engineering Graphics II ............. 3
IT 316 Manufacturing Tooling ............... 3
IT 318 Fluid Power ......................... 3
IT 325 Applied Mechanics, Kinematics and Design .... 3
IT 387 Co-operative Education in Industrial Technology ........ 3
IT 420 Industrial Quality Control ........... 3
IT 421 Manufacturing Product and Process Analysis .... 3
IT 425 Advanced Manufacturing Methods .......... 3
IT 426 Manufacturing Information Systems ....... 3
IT 490 Manufacturing Technology Laboratory .... 3
ACC 130 Accounting for Non-Business Majors .......... 3
MGT 386 Organization Behavior and Theory .... 3

**Physical education and health** ...................................
Physical education activity courses ................. 7
(Two semester hours of Military Science may be
substituted for physical education)

*Free electives* ............................................................. 6

**Total** ........................................................................... 12

**Plastics Technology Major**

The plastics technology major is designed to prepare men and
women for a wide range of technical positions in the plastics
processing industry. Graduates have a general understanding of
plastics industry, polymer materials, common plastics process,
and finishing and decorating techniques. Graduates are employed
as cost estimators, sales and marketing representatives, production
schedulers, mold designers, production supervisors, and quality
control supervisors as well as in other related technical specialties.

<table>
<thead>
<tr>
<th>Area</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Symbols and communication</strong></td>
<td>11</td>
</tr>
<tr>
<td>CTA 121 Fundamentals of Speech</td>
<td></td>
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<tr>
<td>ENG 121 English Composition</td>
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<tr>
<td>ENG 324 Principles of Technical Writing</td>
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</tr>
<tr>
<td>IT 105 Computer Applications for Industry</td>
<td></td>
</tr>
<tr>
<td>MTH 107 Plane Trigonometry</td>
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</tbody>
</table>

**Science and technology** ..........................................
CHM 121 and 122 General Chemistry I (High school chemistry or CHM 119 Fundamentals of Chemistry) | 4
CHM 241 and 242 Materials Science  | 4
MTH 118 Mathematical Analysis I for
Social Sciences I ............................................................. 3
MTH 119 Mathematical Analysis II for
Social Sciences II ............................................................. 3
Science and technology ................................................. 20
CHM 121 and 122 General Chemistry I (High school
chemistry or CHM 119 Fundamentals of Chemistry) .... 4
CHM 123 and 124 General Chemistry II .................... 4
CHM 270 and 271 Organic Chemistry ......................... 5
PHY 221 Mechanics, Sound and Heat ....................... 4
PSY 101 General Psychology ........................................... 3
Arts and humanities .................................................... 11-12
A course in philosophy or religion .......................... 3
A course in art, dance, music or theatre arts ......... 2-3
A course in literature .................................................. 3
A course in cross-cultural or international studies .... 3
Academic major in plastics technology ....................... 57
IT 103 Introduction to Automation ......................... 3
IT 106 Microcomputer Applications in Manufacturing .. 3
IT 122 Engineering Graphics I ...................................... 3
IT 123 Manufacturing Processes and Methods I ......... 3
IT 124 Manufacturing Processes and Methods II ........ 3
IT 200 Industrial Electricity and Controls I ............ 3
IT 201 Plastics .............................................................. 3
IT 202 Plastics .............................................................. 3
IT 203 Industrial Operations ....................................... 3
IT 218 Industrial Electricity and Controls II ........... 3
IT 223 Engineering Graphics II .................................... 3
IT 306 Plastic Processing .............................................. 3
IT 318 Fluid Power ....................................................... 3
IT 325 Applied Mechanics, Kinematics and Design ... 3
IT 387 Co-operative Education in Industrial Technology ..
IT 409 Plastics Mold Design and Construction ......... 3
IT 410 Plastic Product Design ...................................... 3
IT 411 Plastics Fabricating and Decorating ............... 3
IT 420 Industrial Quality Control ............................. 3
IDT 310 Polymers for Engineers and Technologists .... 3
Physical education and health .................................... 2
Physical education activity courses .......................... 2
(Two semester hours of Military Science may be
substituted for physical education)
Free electives ............................................................... 2-3
Total ................................................................. 124

Industrial Technology Minor

The industrial technology minor is designed to provide majors in industry, business and science with an introduction to basic technical concepts in construction and manufacturing. Employment opportunities for persons with these majors are often enhanced with technical courses.

Elective Courses in the minor are selected to relate to the student’s major. Academic advising to determine elective course choices is provided by the Department of Industrial Technology.

Construction Minor

1. Required courses .................................................. 8
   IT 125 Introduction to Construction ..................... 2
   IT 201 Construction Systems .................................. 3
   IT 228 Construction Drawing ................................ 3
2. Restricted electives ............................................ 12
   Select an additional 12 hours from the courses included in the
   construction curriculum with the approval of the departmental
   adviser.
   Suggested are:
   IT 229 Analysis of Commercial Prints ................... 3
   IT 301 Planning and Scheduling ........................... 3
   IT 302 Contract Document, Regulations and
   Specifications ......................................................... 3
   IT 401 Construction Estimating and Bidding ........... 3
   IT 402 Construction Materials ............................. 3

Manufacturing Minor

1. Required courses .................................................. 6
   IT 103 Introduction to Automation ..................... 3
   IT 203 Industrial Operations .................................. 3
2. Restricted electives ............................................ 15
   Select an additional 15 hours from the courses included in the
   manufacturing curriculum core with the approval of the departmental
   adviser.
   Suggested are:
   *IT 105 Computer Applications for Industry .......... 3
   IT 106 Industrial Computer Applications
   for Manufacturing .................................................. 3
   IT 122 Engineering Graphics I ............................. 3
   IT 123 Manufacturing Process and Methods I ......... 3
   IT 124 Manufacturing Process and Methods II ....... 3
   and/or from the following major program courses:
   IT 200 Industrial Electricity and Controls I ........ 3
   IT 218 Industrial Electricity and Controls II ........ 3
   IT 202 Plastics ....................................................... 3
   IT 223 Engineering Graphics II ......................... 3
   IT 230 Introduction to Computer Graphic Systems .. 3
   IT 231 Industrial Computer Graphics ................. 3
   IT 318 Fluid Power .................................................. 3
   IT 324 Industrial Drawing ...................................... 3
   *Not open to students who have completed the computer literacy
   requirement of basic studies.

Pre-Professional Programs
in Industrial Technology

The department of Industrial Technology is responsible for coordinating and advising students in two of the University’s pre-professional offerings: pre-architecture and pre-engineering. Department advisers in these areas maintain contact with universities that offer related four-year programs in order to maximize the value of the transfer program of study at Eastern Michigan University to other universities.
Pre-Engineering Program

This program is designed for the student who wishes to transfer to an engineering program at another university. Students are strongly advised to consult with the engineering school they plan to transfer to for specific requirements. Courses taken may apply to other majors at Eastern Michigan University if the student chooses to remain on this campus.

1. Required courses .......................................................... 57
   ENG 121 English Composition ........................................ 3
   ENG 225 Intermediate English Composition ....................... 3
   MTH 120 and 121 Calculus I and II ................................ 8
   MTH 122 Elementary Linear Algebra ................................ 3
   MTH 223 Multivariable Calculus ..................................... 4
   CSC 237 Computer Programming and Numeric Methods ...........
   CHM 121 and 122 General Chemistry I ................................ 4
   CHM 241 and 242 Materials Science .................................
   PHY 223 Mechanics, Sound and Heat ............................... 5
   PHY 224 Electricity and Light ....................................... 5
   ECO 201, ECO 202 Principles of Economics I and II ..........
   ENG 121 English Composition ........................................ 3
   MTH 120 and 121 Calculus I and II ................................ 8
   MTH 122 Elementary Linear Algebra ................................ 3
   MTH 223 Multivariable Calculus ..................................... 4
   CSC 237 Computer Programming and Numeric Methods .........
   CHM 121 and 122 General Chemistry I ................................ 4
   CHM 241 and 242 Materials Science .................................
   PHY 223 Mechanics, Sound and Heat ............................... 5
   PHY 224 Electricity and Light ....................................... 5
   ECO 201, ECO 202 Principles of Economics I and II ..........
   ENG 121 English Composition ........................................ 3
   MTH 120 and 121 Calculus I and II ................................ 8
   MTH 122 Elementary Linear Algebra ................................ 3
   MTH 223 Multivariable Calculus ..................................... 4
   CSC 237 Computer Programming and Numeric Methods .........
   CHM 121 and 122 General Chemistry I ................................ 4
   CHM 241 and 242 Materials Science .................................
   PHY 223 Mechanics, Sound and Heat ............................... 5
   PHY 224 Electricity and Light ....................................... 5
   ECO 201, ECO 202 Principles of Economics I and II ..........

2. Recommended course (course may not transfer) ............... 3
   IT 122 Engineering Graphics I ...................................... 3
   IT 223 Engineering Graphics II .................................... 3
   IT 231 Industrial Computer Graphics ............................... 3
   Two literature courses ................................................ 6
   A humanities course .................................................. 3

Pre-Architecture Program

This program is designed for students who wish to transfer to an architecture program at another university. Students are strongly advised to consult with the school they plan to transfer to for specific requirements. Courses taken may apply to other majors at Eastern Michigan University if the student chooses to remain on this campus.

1. Required courses .......................................................... 54
   ENG 121 English Composition ........................................ 3
   CTA 121 Fundamentals of Speech .................................... 2
   MTH 120 and 121 Calculus I and II ................................ 8
   CSC 137 Introduction to Computer Programming ................
   CHM 119 Fundamentals of Chemistry ................................ 4
   PHY 223 Mechanics, Sound and Heat ................................ 5
   PHY 224 Electricity and Light ....................................... 5
   PLS 112 American Government ....................................... 3
   HIS 123 History of United States to 1877 ........................
   ECO 201 and ECO 202 Principles of Economics I and II ....
   PHI 130 Introduction to Logic or approved alternative ........
   FA 123 Drawing I, Dance, Music or Theatre Arts course ....
   Two literature courses ................................................ 6

2. Recommended course (course may not transfer) ............... 2
   IT 125 Introduction to Construction ............................... 2
   Two literature courses ................................................ 6
   A humanities course .................................................. 3

Industrial Technology Courses

IT 101 Introduction to Industrial Drawing. Three sem hours
   An introductory mechanical drawing course emphasizing line
   measuring, geometric construction, sketching, equipment usage
   pictorials, orthographic projection and dimensioning. This course
   is intended for students without previous drafting experience.
   Lecture and laboratory course.

IT 103 Introduction to Automation. Three sem hours
   An introduction to the technology of discrete parts manufacturing.
   Topics include the contemporary manufacturing environment
   emerging technologies, human-machine interfaces, and human
   resources issues. Course includes field trips.

IT 105 Computer Applications for Industry. Three sem hours
   Provides the theory, general applications, and specific application
   of microcomputers. Students are exposed to software packages
   commonly used for general and specific applications in industry.
   Lecture and laboratory course.

IT 106 Industrial Computer Applications for Manufacturing. Three sem hours
   This course presents advanced DOS commands and concepts
   appropriate for microcomputers configured for CAD/CAM and
   other similar industrial applications. Lecture and laboratory course.
   Prereq: A course in computer literacy.

IT 122 Engineering Graphics I. Three sem hours
   A mechanical drawing course emphasizing orthographic proje-
   ction, pictorial representation, dimensioning, sectional and auxiliary
   views, computer-aided drafting, mechanical fasteners and working
   drawings. Lecture and laboratory course.
   Prereq: IT 101 Introduction to Industrial Drawing or one year of
   high school drafting.

IT 123 Manufacturing Processes and Methods I. Three sem hours
   An introduction and survey of manufacturing processes and mate-
   rials. Lectures, laboratory, and outside study assignments are an
   essential part of this course and are related to heat treating, prop-
   erties of materials, casting, forming and joining. Lecture and
   laboratory course.

IT 124 Manufacturing Processes and Methods II. Three sem hours
   An introduction and survey of machines, tools, processes, and
   materials of industry. Includes conventional and non-conventional
   machining, theory of metal removal, cutting tool geometry and
   materials, fixturing, and measuring devices. Lecture and laboratory
   course.
   Prereq: IT 123 Manufacturing Process and Methods I and MTH
   107 Plane Trigonometry.

IT 125 Introduction to Construction. Two sem hours
   Developing, planning and scheduling of construction projects. Six
   development, material usage, specifications, estimating and man-
   aging cost control are included.
IT 200 Industrial Electricity and Controls I.  
Three sem hours  
The application of fundamental concepts and principles of electricity. Topics include direct and alternating current, resistance, reactance, basic electrical machines and controls. The use of meters and test equipment is emphasized. Lecture and laboratory course.  
Prereq: One and one-half years of high school algebra and trigonometry.

IT 201 Construction Systems.  
Three sem hours  
Structural Systems, associated non-structural components and considerations appropriate to mechanical, electrical, plumbing and support equipment. Lecture and laboratory course.  
Prereq: IT 125 Introduction to Construction and IT 228 Construction Drawing.

IT 202 Plastics.  
Three sem hours  
A study of the plastics industry: material properties and identification, processing techniques and application of design to product manufacture. Lecture and laboratory course.  
Prereq: IT 123 Manufacturing Processes and Methods I.

IT 203 Industrial Operation.  
Three sem hours  
A survey course in the practices of manufacturing organizations. Units include careers, regulatory agencies, facilities management, group technology, problem solving, and quality decision-making.

IT 206 Surveying.  
Three sem hours  
The fundamental use of the transit and level. Linear measurement, angle measurement, extending straight lines, differential and profile leveling, a simple transverse survey and the keeping of accurate notes. Lecture and laboratory course.  
Prereq: MTH 107 Plane Trigonometry.

IT 213 Occupational Safety and Health.  
Three sem hours  
Philosophical, social, economic and technological bases of safety. Accident statistics, analysis of accident data, accident causation, federal and state safety legislation and employer-employee roles in occupational safety.

IT 215 Machine Tool Metalworking.  
Three sem hours  
Machine tools and metalworking processes including turning, drilling, shaping, milling and grinding. Principles of tooling, precision measurement, identification of metals. Lecture and laboratory course.

IT 218 Industrial Electricity and Controls II.  
Three sem hours  
The student of electrical principles related to power and control. Course content includes motors, instrumentation and programmable logic controls. Lecture and laboratory course.  
Prereq: IT 200 Industrial Electricity and Controls I.

IT 219 Techniques of Energy Control.  
Three sem hours  
An introduction to the use of tools, materials, machines, equipment, supplies and mechanisms utilized in power mechanics for energy control. Lecture and laboratory course.

IT 223 Engineering Graphics II.  
Three sem hours  
Engineering Graphics II is an advanced drawing course designed as a continuation of Engineering Graphics I. Units of instruction include fit classifications, geometric dimensioning and tolerancing, gears, cams, revolution, intersection and development. Lecture and laboratory course.  
Prereq: MTH 107 Plane Trigonometry and IT 122 Engineering Graphics I.

IT 228 Construction Drawing.  
Three sem hours  
Basic print reading skills. Symbols, terminology, print organization and basic material take-off techniques. Sketching and some basic drawing skills required. Lecture and laboratory course.

IT 229 Analysis of Commercial Prints.  
Three sem hours  
Development of the ability to read and interpret prints. Actual commercial prints and project manuals are used for analysis and material take-off procedures. Preparation of field drawings using graph paper and sketching techniques. Lecture and laboratory course.  
Prereq: IT 228 Construction Drawing or department permission.

IT 230 Introduction to Computer Graphic Systems.  
Three sem hours  
Students are provided with opportunities to work on a variety of CAD and paint systems. Students will learn terminology for graphics hardware and software, write short graphics programs, and explore applications of graphics to their own field of study. Course does not count for CAD majors. Lecture and laboratory course.

IT 231 Industrial Computer Graphics.  
Three sem hours  
A series of computer graphics programs illustrate graphics algorithms and terminology. Students write similar FORTRAN programs on graphics terminals using PLOT-10 subroutines. Topics include graphics, multiview drawings, rotations, data bases, plotting and display techniques, and interactive programming. Lecture and laboratory course.  
Prereq: MTH 107 Plane Trigonometry and CSC 137 Introduction to Computer Programming.

IT 240 Science, Technology and People.  
Three sem hours  
This course will help people to better understand the complementary relationship between science and technology in (a) creating technical devices, services and systems and (b) solving problems.  
Prereq: A basic studies approved physics or chemistry laboratory course.

IT 251 Material Analysis and Testing.  
Three sem hours  
Study of the structure, characteristics and working qualities of common industrial materials. Lecture and laboratory course.

IT 301 Planning and Scheduling.  
Three sem hours  
The planning process of the construction industry. Various scheduling systems commonly used within the industry.  
Prereq: IT 201 Construction Systems or department permission.

Three sem hours  
The different types of construction contracts, construction documents and regulations, the role of specifications and the project manual in the construction process.  
Prereq: IT 201 Construction Systems or department permission.
IT 306 Plastic Processing. Three sem hours
A study of high polymers, basic resin types and their application to molding and fabrication process. Analysis of chemical and physical properties, mold design and problems of production. Experimentation and testing required. Lecture and laboratory course.
Prereq: IT 202 Plastics.

IT 314 Integrated Circuits: Digital. Three sem hours
The study of combinational and sequential logic. Concepts of digital control and computer circuits. Lecture and laboratory course.
Prereq: IT 200 Industrial Electricity and Controls I.

IT 316 Manufacturing Tooling. Three sem hours
A study of manufacturing tooling systems with a focus on basic types, components, applications and principles of design. Tooling for metallic and non-metallic materials included. Lecture and laboratory course.
Prereq: MTH 107 Plane Trigonometry, IT 103 Introduction to Automation, IT 124 Manufacturing Processes and Methods II, IT 203 Industrial Operations and IT 223 Engineering Graphics II.

IT 318 Fluid Power. Three sem hours
Industrial hydraulic and pneumatic power transmission. Emphasis is on components, system control techniques, logic, system analysis and design. Lecture and laboratory course.
Prereq: PHY 221 Mechanics, Sound and Heat.

IT 324 Industrial Drawing. Three sem hours
An examination and application of fundamental engineering design and drawings including design and analysis techniques, gear and cam, linkage mechanisms, and tolerances. A computer-aided design and manufacturing system will be used as the method of producing designs and drawings. Lecture and laboratory course.
Prereq: IT 122 Engineering Graphics I.

IT 325 Applied Mechanics, Kinematics and Design. Three sem hours
The study of mechanical devices, the forces to which they are subjected and systems design considerations. Topics include statistics, dynamics, and modification of mechanisms. Lecture and laboratory course.
Prereq: PHY 221 Mechanics, Sound and Heat and IT 223 Engineering Graphics II.

IT 387 Cooperative Education in Industrial Technology. Three sem hours
Industrial technology majors will be placed on a job that relates to their primary area of study for one semester. During this period regular employee benefits are received. Graded credit/no credit. Credit applicable to the major in industrial technology or industrial teacher education only.

IT 401 Construction Estimating and Bidding. Three sem hours
The principles and procedures for developing estimates, bids and contracts for residential and commercial construction.
Prereq: IT 201 Construction Systems and IT 229 Analysis of Commercial Prints.

IT 402 Construction Materials. Three sem hours
The characteristics, specifications and applications of basic construction materials such as stone, concrete, wood, glass, plastic, metals and bituminous products. Lecture and laboratory course.
Prereq: IT 201 Construction Systems.

IT 403 Production Control. Two sem hours
Methods of control used in the construction industry for production problems involving the estimate, bidding schedules, cost analysis, cost comparison, scheduling systems, evaluation and debriefing. Prereq: IT 401 Construction Estimating and Bidding and IT 301 Planning and Scheduling.

IT 406 Construction Law. Two sem hours
Common basic legal problems associated with construction contracting. Current areas of concern and the significant implications are covered.

IT 409 Plastics Mold Design and Construction. Three sem hours
Principles of mold design for a variety of plastic molding processes. Mold materials, machining, fabricating and testing in appropriate processing equipment required. Lecture and laboratory course.
Prereq: IT 202 Plastics.

IT 410 Plastics Product Design. Three sem hours
The development of products through plastic materials selection and design includes the esthetics of design and the selection of engineering properties. Lecture and laboratory course.
Prereq: IT 202 Plastics.

IT 411 Plastics Fabricating and Decorating. Three sem hours
Processes involved in forming and fastening of standard plastics in plastics. Methods of joining, machining and decorating of plastics materials and products are required. Lecture and laboratory course.
Prereq: IT 202 Plastics.

IT 414 Integrated Circuit: Linear. Three sem hours
Prereq: IT 200 Industrial Electricity and Controls I or department permission.

IT 415 Communication Circuits. Two sem hours
Concepts and principles of electronics as applied to radio and television circuits. Concepts of instrumentation and control applications are required. Lecture and laboratory course.
Prereq: IT 200 Industrial Electricity and Controls I or department permission.

IT 416 Computer Numerical Control. Three sem hours
NC part programming for both mills and lathes. NC-code fundamentals, computer-assisted programming, and CAD/CAM programming are emphasized. Verification if accomplished by computer graphics and laboratory work. Lecture and laboratory course.
Prereq: MTH 107 Plane Trigonometry, IT 106 Industrial Computer Applications for Manufacturing, IT 124 Manufacturing Processes and Methods II and IT 223 Engineering Graphics II.
IT 417 Industrial Robotics. Three sem hours
The nature and use of industrial robotics: capabilities, equipment and associated hardware, justification, preparation and installation, launching and monitoring. Lecture and laboratory course.
Prereq: IT 106 Industrial Computer Applications for Manufacturing, IT 203 Industrial Operations, IT 218 Industrial Electricity and Controls II and IT 318 Fluid Power.

IT 420 Industrial Quality Control. Three sem hours
An introduction to quality control systems and methods utilized in industry. Topics include quality policy and organization, data collection, and reporting, control charts, process and gauge capability, sampling plans, reliability, cost of quality, product liability, and problem analysis.
Prereq: MT II 118 Mathematical Analysis for Social Sciences I, MT II 119 Mathematical Analysis for Social Sciences II and IT 420 Industrial Quality Control.

IT 421 Manufacturing Product and Process Analysis. Three sem hours
An advanced course in the analysis of manufacturing products and processes. Emphasis is placed on the identification and resolution of problems related to quality control and product reliability.
Prereq: MT II 119 Mathematical Analysis for Social Sciences II and IT 420 Industrial Quality Control.

IT 424 Industrial Plant Facilities and Planning. Three sem hours
Planning procedures related to small plant and heavy industrial production. Mass production layout methods, machine and production equipment arrangements, types of plant architecture and related facilities, transportation and handling facilities, lighting, sewerage, ventilation, water supply, electrical power, personal facilities are included.

IT 425 Advanced Manufacturing Methods. Three sem hours
The course emphasizes computerized methods of planning, material handling, machining cells, and inspection. Lecture and laboratory course.
Prereq: IT 103 Introduction to Automation, IT 124 Manufacturing Processes and Methods II, IT 203 Industrial Operations and IT 223 Engineering Graphics II.

IT 426 Manufacturing Communication Systems. Three sem hours
An overview of the computerization of information related to manufacturing production. Class will emphasize functional specification and installation problems of computer-integrated manufacturing communications systems. Lecture and laboratory course.
Prereq: IT 103 Introduction to Automation, IT 106 Industrial Applications of Microcomputer, IT 124 Manufacturing Processes and Methods II, IT 203 Industrial Operations and IT 223 Engineering Graphics II.

IT 427 Advanced Industrial Control. Three sem hours
The application of electricity, electronics, programmable logic controllers, data acquisition and analysis techniques to the open-loop and closed-loop control of machines and processes. Emphasis will be given to utilization of computers and programmable logic controllers for industrial control purposes. Lecture and laboratory course.
Prereq: IT 218 Industrial Electricity and Controls II and IT 318 Fluid Power.

IT 431 Interactive Industrial Computer Graphics. Three sem hours
Students develop a Two-D interactive graphics FORTRAN program. The use of graphics hardware and the generating, modifying and transforming of graphics entities and data bases are included. Lecture and laboratory course.
Prereq: IT 231 Industrial Computer Graphics and a course in FORTRAN programming.

IT 432 3-D Computer-Aided Design. Three sem hours
Using a graphics "toolbox" on a microcomputer, students develop a Three-D interactive BASIC CAD program. Hidden surface removal, Three-D transformation surface shading and Three-D data bases are required. Lecture and laboratory course.
Prereq: IT 431 Interactive Industrial Computer Graphics.

IT 433 Color Concepts in Computer-Aided Design. Three sem hours
Advanced computer-aided design color applications including the definition and use of menus and icons, complex surface shading with light source, defining multiple hardware surfaces, pixel manipulation, raster color concepts, and hardware pan and zoom. Lecture and laboratory course.
Prereq: IT 432 Interactive Industrial Computer Graphics.

IT 434 Microcomputer Circuits. Three sem hours
The microprocessor and its applications in the control of machines and industrial process. Lecture and laboratory course.
Prereq: IT 314 Integrated Circuits: Digital and a computer programming course.

IT 450 Fundamentals of Construction Project Management. Three sem hours
Students combine many previous concepts and skills into a single comprehensive project which includes estimating, scheduling, production control techniques, and documentation procedures. Lecture and laboratory course.
Prereq: IT 301 Planning and Scheduling, IT 302 Contract Document, Regulations and Specifications and IT 401 Construction Estimating and Bidding.

IT 485 Flexible Manufacturing Systems. Three sem hours
Design and implementation of a flexible manufacturing cell. Machining materials, material handling and storage, inspection and inventory are emphasized. Part programming using numerical control, robotics/programmable automation programming, development of a manufacturing data base and hierarchical computer control. Lecture and laboratory course.
Prereq: IT 416 Computer Numerical Control, IT 417 Industrial Robotics and IT 420 Industrial Quality Control.
IT 487 Cooperative Education in Industrial Technology. Three sem hours
The second in a two-course sequence for industrial technology majors. The students will be placed on a job that relates to their primary area of study for one semester. Regular employee benefits may be received. Graded credit/no credit. Prereq: IT 387 Cooperative Education in Industrial Technology.

IT 490 Manufacturing Technology Laboratory. Three sem hours
This course is capstone for manufacturing technology majors and will focus on the development of the plans for a functioning manufacturing system. Student experiences will include the integration of a breadth of technical knowledge and skills as well as a significant degree of project management. Guided laboratory course. Prereq: IT 316 Manufacturing Tooling, IT 324 Applied Mechanics, Kinematics and Design, IT 420 Industrial Quality Control, IT 421 Manufacturing Product and Process Analysis, IT 425 Advanced Manufacturing Methods and ENG 324 Principles of Technical Writing.

IT 494, 495, 496 Industry Bases Special Topics. One, two, three sem hours
Course descriptions are formulated at the time of an industry’s request and reflect the particular requirements of the client company.

IT 497, 498, 499 Directed Study. One, two three sem hours
Available to selected students who have demonstrated ability to profit from a directed study project. Intensive study of a problem appropriate to the student’s area of concentration. Enrollment and selection of a project proposal must be approved by the department adviser and chairperson.

INTERDISCIPLINARY TECHNOLOGY
Office: 122 Sill Hall

Department Head: Paul D. Kuwik
Professors: Taki Anagnostou, Stoil Drilvikov, John C. Graham, Felix Kaufmann, Paul D. Kuwik, Demo Stauro, Ronald M. Westrum
Associate Professors: Alexandra B. Aldridge, Wayne Hanewicz, John Preston
Assistant Professors: John Boyless, Norman L. Delventhal, David Gore, Gerald Lawver
Instructors: Chris Bradford, Timothy Doyle

Degree: Bachelor of science

The Department of Interdisciplinary Technology draws heavily from other disciplines throughout the University. Its undergraduate programs are listed below and are in addition to a master of liberal studies in technology and a master of science in polymers technology, described in the Graduate Catalog.

Programs of Study

Curricula:
- Aviation management technology
- Bilingual vocational teacher education
- Communication technology
- Coating process technology
- Facility management
- Industrial distribution
- Polymers and coatings technology

Minors:
- Aviation flight technology
- Graphic communication
- Technology and society

Advising or additional information is available within the department. Consult with an advising coordinator listed below.

Advising Coordinators:
- Aviation management technology: Timothy Doyle
- Bilingual vocational teacher education: John Boyless
- Communication technology: David Gore
- Coating process technology: Taki Anagnostou
- Facility management technology: John Preston
- Industrial distribution: Demo Stauro
- Polymers and coatings technology: Taki Anagnostou
- Aviation flight technology: Timothy Doyle
- Graphic communication minor: Norman Delventhal
- Technology and society minor: Ronald Westrum

Aviation Management Technology Curriculum

The aviation management technology curriculum is designed to prepare individuals for entry-level management and supervisory positions in the field of aviation technology. The program has a foundation of aviation-related and basic business coursework.
### Bilingual Vocational Teacher Education

Students wanting to become vocational teachers in high schools or vocational technical centers can participate in the bilingual vocational teacher education program. The program is a four-year curriculum in basic studies, education, practical arts and an occupational specialty that leads to a bachelor’s degree. Graduates also receive a Michigan temporary vocational authorization that enables them to teach in their occupational specialty. Two years of work experience in an occupational specialty are needed for the program. Financial aid is available to students in the program.

Two curricula are offered: a bachelor of science in industrial/vocational education and a bachelor of business education.

### Bilingual Industrial-Vocational Teacher Education Curriculum

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbolics and communication (five courses)</td>
<td>10-15</td>
</tr>
<tr>
<td>A course in written composition</td>
<td></td>
</tr>
<tr>
<td>A course in speech communication</td>
<td></td>
</tr>
<tr>
<td>An upper level course in written composition</td>
<td></td>
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<tr>
<td>A course in mathematical reasoning</td>
<td></td>
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<tr>
<td>(MTH 109 does not apply)</td>
<td></td>
</tr>
<tr>
<td>IDT 201 Microcomputer Applications in Technology</td>
<td>3</td>
</tr>
<tr>
<td><strong>Science and technology</strong> (three courses)</td>
<td>7-10</td>
</tr>
<tr>
<td>A course in physical science</td>
<td></td>
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<tr>
<td>A course in life science</td>
<td></td>
</tr>
<tr>
<td>IDT 150 Understanding Technology</td>
<td>3</td>
</tr>
<tr>
<td><strong>Social science</strong> (four courses)</td>
<td>8-12</td>
</tr>
<tr>
<td>PLS 112 American Government</td>
<td>3</td>
</tr>
<tr>
<td>A course in history</td>
<td>3</td>
</tr>
<tr>
<td>ECO 201 Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>ECO 202 Principles of Economics II</td>
<td>3</td>
</tr>
<tr>
<td><strong>Arts and humanities</strong> (four courses)</td>
<td>8-12</td>
</tr>
<tr>
<td>A course in literature</td>
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<tr>
<td>A second course in literature</td>
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<tr>
<td>A course in philosophy or religion</td>
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<tr>
<td>A course in art, dance, music, or theatre arts</td>
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<tr>
<td><strong>Cross-cultural or international studies</strong></td>
<td></td>
</tr>
<tr>
<td>At least one approved course in cross-cultural or international studies must be completed in the process of completing basic studies.</td>
<td></td>
</tr>
<tr>
<td><strong>Practical arts</strong></td>
<td>66</td>
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<tr>
<td>IDT 100 Introduction to General Aviation</td>
<td>1</td>
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<tr>
<td>IDT 110, 210 Aircraft Maintenance I and II</td>
<td>6</td>
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<tr>
<td>IDT 120, 220 Flight Operations I and II</td>
<td>6</td>
</tr>
<tr>
<td>IDT 170 Aviation Ground Instruction</td>
<td>3</td>
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<tr>
<td>IDT 303 Aviation Law and Insurance</td>
<td>3</td>
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<tr>
<td>IDT 392 Aviation Safety, Accident Investigation</td>
<td>3</td>
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<tr>
<td>and Training</td>
<td></td>
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<tr>
<td>IDT 341 Instrument Flight/IFR Operations</td>
<td>3</td>
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<tr>
<td>IDT 387 Cooperative Education in Aviation Management Technology</td>
<td>3</td>
</tr>
<tr>
<td>IDT 413 Computers in Aviation</td>
<td>3</td>
</tr>
<tr>
<td>IDT 422 Aviation Maintenance, Operations and Management</td>
<td>3</td>
</tr>
<tr>
<td>IDT 430 Aviation Facilities</td>
<td>3</td>
</tr>
<tr>
<td>MGT 384 Personnel Administration</td>
<td>3</td>
</tr>
<tr>
<td>MGT 386 Organization Theory and Development</td>
<td>3</td>
</tr>
<tr>
<td>MTH 118, 119 Mathematical Analysis for Social Science I and II</td>
<td>6</td>
</tr>
<tr>
<td><strong>Language and culture</strong></td>
<td>15</td>
</tr>
<tr>
<td>ECO 202 Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>ECO 202 Principles of Economics II</td>
<td>3</td>
</tr>
<tr>
<td><strong>Arts and humanities</strong></td>
<td>12</td>
</tr>
<tr>
<td>A course in literature or an intermediate or advanced foreign language literature course</td>
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<tr>
<td>An approved course in cross-cultural or international studies</td>
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<tr>
<td>A course in philosophy or religion</td>
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<tr>
<td>A course in art, dance, music or theatre arts</td>
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<tr>
<td><strong>Education</strong></td>
<td>30</td>
</tr>
<tr>
<td>EDP 322 Human Development and Learning</td>
<td>4</td>
</tr>
<tr>
<td>CUR 311 Teaching Secondary Reading</td>
<td>3</td>
</tr>
<tr>
<td>SFD 328 Social Aspects of Teaching</td>
<td>3</td>
</tr>
<tr>
<td>SGN 251 Education of Exceptional Children</td>
<td>2</td>
</tr>
<tr>
<td>EDP 340 Introduction to Measurement and Evaluation</td>
<td>2</td>
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<tr>
<td><strong>Student Teaching Sequence</strong>*</td>
<td></td>
</tr>
<tr>
<td>IIE 460 Practicum in Industrial Education</td>
<td>2</td>
</tr>
<tr>
<td>IIE 461 The Teaching of Industrial Education</td>
<td>2</td>
</tr>
<tr>
<td>EDU 492 Student Teaching</td>
<td>8</td>
</tr>
<tr>
<td><strong>Practical arts</strong></td>
<td>17</td>
</tr>
<tr>
<td>IT 213 Occupational Safety and Health</td>
<td>3</td>
</tr>
<tr>
<td>IE 250 Foundations of Industrial Education</td>
<td>3</td>
</tr>
<tr>
<td>IE 350 Curriculum in Industrial Education</td>
<td>3</td>
</tr>
<tr>
<td>IE 452 Principles of Vocational Technical Education</td>
<td>3</td>
</tr>
</tbody>
</table>
Bilingual Office and Marketing Teacher Education Curriculum

Bilingual Office Teacher Education

Area

Sem hours

Symbolics and communication ................................................... 15

A course in written communication
A course in speech communication
A course in one of the following areas:
  an upper-level course in written composition
  an upper-level course in speech communication
  a course in foreign language composition
A course in mathematical reasoning
IDT 201 Microcomputer Applications in Technology .................. 3

Science and technology ........................................................... 9

A course in physical science
A course in life science
IDT 150 Understanding Technology ........................................... 3

Social science ........................................................................... 12

A course in U.S. government
A course in history
ECO 201 Principles of Economics I .............................................. 3
ECO 202 Principles of Economics II .............................................. 3

Arts and humanities ................................................................... 12

A course in literature or an intermediate or advanced foreign
language literature course
An approved course in cross-cultural or international studies
A course in philosophy or religion
A course in art, dance, music or theatre arts

Education .................................................................................... 28

BE 200 Principles of Distributive and Office Education .......... 3
EDP 322 Human Development and Learning ......................... 4
SFD 328 Social Aspects of Teaching ....................................... 3
EDP 340 Introduction to Measurement and Evaluation .......... 2
CUR 311 Teaching Reading in Secondary Schools .................. 3

SON 300 Exceptional Children in the Regular Classroom ........ 1

EDU 492 Student Teaching ....................................................... 4

Two business methods courses

BE 364 Methods of Teaching General Business Subjects ........ 4
BE 365 Methods of Teaching Office Education ................. 4
BE 366 Methods of Teaching Distributive Education ....... 4

Practical arts ................................................................................ 5

Business education core ......................................................... 3

BE 100 Contemporary Business ............................................... 3
BE 123 Word Processing/Keyboarding Applications ............. 3
*BE 201 Microcomputers for Business Applications .......... 3
BE 124 Calculating Applications in Technology ................ 3
ACC 240, 241 Principles of Accounting I and II .............. 3
BE 250 Personal Finance ......................................................... 3
LAW 293 Legal Environment in Business ......................... 3
MKT 360 Principles of Marketing ............................................ 3
BE 395 Office Administration .................................................. 3
BE 396 Records Administration .............................................. 3
IDT 478 Teaching Methods in Bilingual Education ............ 3

Vocational Education ................................................................. 3

IDT 479 Seminar in Bilingual Vocational Education .......... 3

Major in business education/office education ...................... 11

1. Required course ................................................................. 3

**BE 422 Office Systems ......................................................... 3

2. Required option ................................................................. 5

Choose one option from the following:

Option I: Accounting
ACC 340, 341 Intermediate Accounting ................................... 4
ACC 342 Managerial Cost Accounting .................................... 1
ACC 344 Tax Accounting ....................................................... 3
ACC 346 Governmental Accounting ......................................... 1

Option II: Data processing
ORI 219 COBOL Programming ................................................. 3
ORI 265 Business Statistics I .................................................. 3

***Students electing business education/accounting or data
processing should take a three hour restricted elective instead
of BE 422 Office Systems

ORI 317 Systems Simulation .................................................. 3
ORI 413 Evaluation and Application of Computer
  Hardware ........................................................................... 3
ORI 4147 Systems Organization and Analysis ...................... 3

Option III: Shorthand
BE 220 Word Processing Operations ...................................... 3
BE 222 Transcription Applications and Technology ........... 3
BE 225 Gregg Shorthand ......................................................... 3
BE 325 Shorthand Transcription ............................................ 3
BE 495 Office Automation ....................................................... 3

Option IV: Word processing
BE 210 Concepts of Word Processing .................................. 3
BE 220 Word Processing Operations .................................... 3
BE 222 Transcription Applications and Technology .......... 3
BE 310 Word Processing Administration ........................... 3
BE 495 Office Automation ....................................................... 3

Business Education Restricted Electives

BE 201 Microcomputers for Business Applications .......... 3
BE 205 Women in Business .................................................. 3
BE 210 Concepts of Word Processing .................................. 3
BE 211 Introduction to Legal Assistance ............................... 3
ORI 219 COBOL Programming ................................................. 3
A course in history
ECO 201 Principles of Economics I .................................... 3
ECO 202 Principles of Economics II .................................. 3

Arts and humanities ................................................................ 12
A course in literature
An intermediate or advanced foreign language literature course
An approved course in cross-cultural or international studies
A course in philosophy or religion
A course in art, dance, music or theatre arts

Education .................................................................................. 28
BE 200 Principles of Distributive and Office Education .......... 3
EDP 322 Human Development and Learning ....................... 4
SFD 328 Social Aspects of Teaching ..................................... 3
EDP 340 Introduction to Measurement and Evaluation .......... 2
CUR 311 Teaching Reading in Secondary Schools .................. 3
SGN 300 Exceptional Children in the Regular Classroom ..... 1
EDU 492 Student Teaching ..................................................... 8

Business methods courses .................................................... 4
BE 364 Methods of Teaching General Business
Subjects and Methods ............................................................ 2

Courses appropriate to major:
BE 365 Methods of Teaching Office Education or
BE 366 Methods of Teaching Marketing Education .......... 2

Practical arts ......................................................................... 50
BE 100 Contemporary Business .............................................. 1
ACC 240, 241 Principles of Accounting I and II .................... 3
LAW 293 Legal Environment of Business ............................. 3
MKT 360 Principles of Marketing .......................................... 3

Major in marketing education .............................................. 24
Technical content courses
MKT 261 Contemporary Selling ............................................. 3
MKT 363 Retailing ................................................................. 3
MGT 386 Organizational Theory and Development ............... 3
MKT 365 Buyer Behavior ....................................................... 3

Select two of the following three semester hour courses:
MKT 369 Advertising, MKT 374 Industrial Marketing and
Purchasing, LAW 393 Law of Business Enterprises, MKT 461 Sales Management, MGT 384
Personal Administration, MGT 485 The Training
Function in Organizations.

Professional marketing education courses
BE 367 Curriculum in Marketing Education ....................... 2
BE 368 Management of Marketing Education .................... 2
BE 461 Project and Simulation Programs in
Marketing Education ............................................................ 2

IDT 478 Teaching Methods in Bilingual Vocational
Education ............................................................................ 2
IDT 479 Seminar in Bilingual Vocational Education .......... 3

Restricted Electives ................................................................. 11
BE 119 Keyboarding, BE 120 Typewriting Applications,
BE 124 Calculator Applications, BE 201 Microcomputers for Business Applications,
BE 250 Personal Finance, BE 387 Cooperative Education
in Business Education, BE 487 Cooperative Education
in Business Education, BE 497, 498, 499 Independent Study

IE 452 Principles of Vocational-Technical Education
HEC 145 Introduction to Fashion Merchandising,
HEC 235 Textiles for Consumers, HEC 255 Apparel
Analysis, HEC 439 Fashion Markets

Bilingual Marketing Teacher Education

Area: Symbolics and communication ............................. 15
A course in written communication
A course in speech communication
A course in one of the following areas:
  an upper-level course in written composition
  an upper-level course in speech communication
  a course in foreign language composition
A course in mathematical reasoning

IDT 201 Microcomputer Applications in Technology .......... 3

Science and technology ....................................................... 9
A course in physical science
A course in life science

IDT 150 Understanding Technology .................................. 3

Social science ..................................................................... 12
A course in U.S. government

Note: Satisfactory completion of this program will result in the
honor of science degree and issuing of the Michigan temporary
vocational authorization for teaching in occupational specialty,
grades 9-12.

*Students electing the business education/data processing
option must take ORI 215 Introduction to Business Information

**The completion of this 50-hour curriculum satisfies all
requirements for the major and minor areas of study.

**The occupational specialty must be in an accredited N.C.E.S.
title area and must be accompanied by two years (4,000 hours) of
recent and relevant work experience. Academic credit towards this
requirement can be granted for technical preparation in an occupa-
tion or for completion of appropriate examinations (e.g., the
Michigan Occupational Competency Assessment Center test).
Communication Technology Curriculum

Communication technology is a joint program offered by the Department of Interdisciplinary Technology and the Department of Communication and Theatre Arts. This curriculum is designed to provide the background necessary for graduates to find employment as managers in communication-based industries. The program emphasis is on having the student acquire those business, manufacturing, media, computer, and communication skills necessary for employment in today's communication technology industries and business organizations.

Area

**Sem hours**

**Symbols and communication** ................................................. 15

A course in written communication
A course in speech communication
ENG 324 Principles of Technical Communication or CTA 227 Interpersonal Communication or CTA 374 Intercultural Communication or any course in foreign language composition ............................................. 3
MTH 118 Mathematical Analysis for Social Sciences I ...... 3
IDT 201 Microcomputer Applications in Technology or ORI 215 Introduction to Business Information Systems .............................................................................. 3

**Science and technology** ......................................................... 7-10

A course in physical science
PSY 101 General Psychology (no laboratory) ................. 3
IDT 150 Understanding Technology (no laboratory) ........ 3

**Social science** ........................................................................... 8-12

A course in U.S. government
A course in history
ECO 201 Principles of Economics I ................................. 3
ECO 202 Principles of Economics II or a course in cross-cultural or international studies .............................................. 3

**Arts and humanities** ................................................................. 8-12

A course in literature
One of the following:
a second course in literature
an intermediate or advanced foreign language literature course
a course in oral interpretation
a course in cross-cultural or international studies
A course in philosophy or religion
A course in art, dance, music, or theatre arts

**Academic major in communication technology** ................. 62

**Media production**

CTA 140 Introduction to Telecommunications and Film ...... 3
CTA 141 Introduction to Radio-TV-Film Production ...... 3
CTA 331 Fundamentals of Radio Production and Direction or CTA 332 Fundamentals of Television Production and Direction ........................................... 3

**Electives** .................................................................................. 3-0

**Total** .................................................................................... 124-128

Coating Process Technology Curriculum

This curriculum is designed to develop technical professionals trained in the selection, use, and management of coating systems for fabricated products. The 124 semester hours include basic studies with some courses specified to meet these requirements and areas of technical courses.

Students completing this curriculum have met the major and minor requirements for graduation. No outside minor is needed.

Area

**Sem hours**

**Symbols and communication** .................................................. 11

ENG 121 English Composition ...................................................... 3
CTA 121 Fundamentals of Speech ....................................... 2
ECO 324 Principles of Technical Communication .......... 3
MTH 270 Elementary Statistics ................................................ 3
IDT 201 Microcomputer Applications in Technology ....... 3

**Science and technology** ............................................................ 10

CHM 121 General Chemistry I .................................................. 3
CHM 122 Chemistry Lab I ......................................................... 3
BIO 105 Biology and the Human Species ......................... 4
PHY 221 Mechanics, Sound and Heat ............................... 4

**Social science** ........................................................................ 12

PLS 112 American Government ............................................. 3
A course in history
ECO 201 Principles of Economics I ................................. 3
ECO 202 Principles of Economics II ................................. 3
Facility Management Curriculum

Facility management is the practice of coordinating the workplace with the people and work of the organization; it integrates the principles of business administration, architecture, and the behavioral and engineering sciences. Students completing this curriculum have met major and minor requirements for graduation.

Sem hours

<table>
<thead>
<tr>
<th>Area</th>
<th>Symbolics and communication</th>
<th>Science and technology</th>
<th>Physical education activity course</th>
<th>Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A course in written composition</td>
<td>A course in physical science</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>A course in speech communication</td>
<td>11</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>An upper-level course in written composition</td>
<td>4</td>
<td>2</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>A course in mathematical reasoning</td>
<td>3</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>IDT 201 Microcomputer Applications in Technology</td>
<td>3</td>
<td>7</td>
<td>18</td>
</tr>
</tbody>
</table>

Minor in management

Required

- RES 210 Real Estate Principles and Practices 3
- ACC 240 Principles of Accounting 3
- MKT 360 Principles of Marketing 3
- MGT 386 Organization Theory 3

Recommended courses (page 219)

- MGT 384 Human Resources Management 3
- MGT 483 Staffing Organizations 3
- MGT 484 Management-Union Relations 3

Electives 2, 5, 7

Total 124
**Industrial Distribution Curriculum**

The industrial distribution program is designed to provide the background necessary for graduates to find employment in wholesale sales, sales management, and operation management with suppliers of durable and non-durable goods and with wholesale distributors who purchase, warehouse, sell and distribute these goods.

Students completing this curriculum have met the major and minor requirements for graduation.

<table>
<thead>
<tr>
<th>Area</th>
<th>Sem hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Symbolics and communication</strong></td>
<td><strong>15</strong></td>
</tr>
<tr>
<td>ENG 121 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>CTA 121 Speech</td>
<td>3</td>
</tr>
<tr>
<td>An upper level course in speech communication</td>
<td>3</td>
</tr>
<tr>
<td>MTH 118 or MTH 270</td>
<td>3</td>
</tr>
<tr>
<td>IDT 201 Micro Computer Applications in Technology</td>
<td>3</td>
</tr>
<tr>
<td><strong>Science and technology</strong></td>
<td><strong>10-11</strong></td>
</tr>
<tr>
<td>Physical science elective</td>
<td>4</td>
</tr>
<tr>
<td>Life science elective</td>
<td>3</td>
</tr>
<tr>
<td>IDT 150 Understanding Technology</td>
<td>3</td>
</tr>
<tr>
<td><strong>Social science</strong></td>
<td><strong>12</strong></td>
</tr>
<tr>
<td>PLS 112 American Government</td>
<td>3</td>
</tr>
<tr>
<td>A course in History</td>
<td>3</td>
</tr>
<tr>
<td>ECO 201 Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>ECO 202 Principles of Economics II</td>
<td>3</td>
</tr>
<tr>
<td><strong>Arts and humanities</strong></td>
<td><strong>12</strong></td>
</tr>
<tr>
<td>A course in literature</td>
<td>3</td>
</tr>
<tr>
<td>A course in cross-cultural or international studies</td>
<td>3</td>
</tr>
<tr>
<td>A course in philosophy or religion</td>
<td>3</td>
</tr>
<tr>
<td>A course in art, dance, music, or theatre arts</td>
<td>3</td>
</tr>
<tr>
<td><strong>Major requirements</strong></td>
<td><strong>66</strong></td>
</tr>
<tr>
<td><strong>Business</strong></td>
<td><strong>24</strong></td>
</tr>
<tr>
<td>ACC 240 Principles of Accounting</td>
<td>3</td>
</tr>
<tr>
<td>MGT 202 Business Communication</td>
<td>3</td>
</tr>
<tr>
<td>MGT 386 Organizational Theory and Development</td>
<td>3</td>
</tr>
<tr>
<td>MKT 261 Contemporary Selling</td>
<td>3</td>
</tr>
<tr>
<td>MKT 360 Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>MKT 368 Marketing Strategy</td>
<td>3</td>
</tr>
<tr>
<td>MKT 374 Industrial Marketing and Purchasing</td>
<td>3</td>
</tr>
<tr>
<td>MKT 461 Sales Management</td>
<td>3</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td><strong>24</strong></td>
</tr>
<tr>
<td>IT 122 Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>IT 123 Metal Processes</td>
<td>3</td>
</tr>
<tr>
<td>IT 200 Industrial Electricity</td>
<td>3</td>
</tr>
<tr>
<td>IT 314 Integrated Circuits</td>
<td>3</td>
</tr>
<tr>
<td>IT 318 Energy Transfer Systems</td>
<td>3</td>
</tr>
<tr>
<td>IT 417 Industrial Robotics</td>
<td>3</td>
</tr>
<tr>
<td>IT 428 Control and Instrumentation</td>
<td>3</td>
</tr>
<tr>
<td>IDT 310 Polymers for Engineers and Technologists</td>
<td>3</td>
</tr>
<tr>
<td><strong>Industrial distribution</strong></td>
<td><strong>18</strong></td>
</tr>
<tr>
<td>IDT 240 Introduction to Industrial Distribution</td>
<td>3</td>
</tr>
<tr>
<td>IDT 340 The Industrial Climate and Its Effects Upon Distribution</td>
<td>3</td>
</tr>
<tr>
<td>IDT 387 Co-op for Industrial Distribution</td>
<td>3</td>
</tr>
<tr>
<td>IDT 440 Industrial Distributor Operation</td>
<td>3</td>
</tr>
<tr>
<td>IDT 444 Industrial Distribution</td>
<td>3</td>
</tr>
<tr>
<td>ECO 460 Industrial Organization</td>
<td>3</td>
</tr>
</tbody>
</table>

**Concentrations** .................................... **11-13**

Students may select concentrations from below to meet their career plans with approval of adviser. Other concentrations may be selected with adviser approval.

**Mechanical/manufacturing** ................................................................. **13**

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 215 Machine Tool Metallurgy</td>
<td>3</td>
</tr>
<tr>
<td>IT 251 Material Analysis and Testing</td>
<td>3</td>
</tr>
<tr>
<td>IT 420 Controlling Manufacturing</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>4</td>
</tr>
</tbody>
</table>

**Electronics** ................................................................. **13**

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 405 Computer Applications for Industry</td>
<td>3</td>
</tr>
<tr>
<td>IT 414 Solid State Electronics</td>
<td>3</td>
</tr>
<tr>
<td>IT 434 Microcomputer Circuits</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>4</td>
</tr>
</tbody>
</table>

**Energy management** ................................................................. **11**

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDT 300 Energy Management Controls</td>
<td>3</td>
</tr>
<tr>
<td>IDT 312 Heating, Ventilating and Air Conditioning</td>
<td>4</td>
</tr>
<tr>
<td>IDT 316 Lighting for Energy Management</td>
<td>2</td>
</tr>
<tr>
<td>IDT 412 Energy Measurement</td>
<td>2</td>
</tr>
</tbody>
</table>

**Recommended Electives** ................................................................. **11**

(No more than six semester hours can be taken from the College of Business)

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDT 121 Graphic Communications</td>
<td>3</td>
</tr>
<tr>
<td>IDT 300 Energy Management Controls</td>
<td>3</td>
</tr>
<tr>
<td>IT 316 Advanced Machinery Processes</td>
<td>3</td>
</tr>
<tr>
<td>FIN 350 Principles of Finance</td>
<td>3</td>
</tr>
<tr>
<td>FIN 358 Analysis of Financial Statements</td>
<td>3</td>
</tr>
<tr>
<td>MGT 402 Business Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>IT 416 Introduction to Numerical Control</td>
<td>3</td>
</tr>
<tr>
<td>MKT 470 Marketing Research</td>
<td>3</td>
</tr>
<tr>
<td>BE 396 Records Administration</td>
<td>2</td>
</tr>
</tbody>
</table>

**Physical education and health** ................................................................. **2**

Two semester hours of Military Science may be substituted for physical education.

**Total** ................................................................. **124**

**Polymers and Coatings Technology Curriculum**

The polymers and coatings curriculum is designed to provide the background necessary for graduates to find employment in research and development laboratories of companies that manufacture paints, coatings, rubber, plastics, polymers, adhesives and inks, or in companies that manufacture raw materials for these industries.

Students completing this curriculum have met the major and minor requirements for graduation. No outside minor is needed.

<table>
<thead>
<tr>
<th>Area</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Symbolics and communication</strong></td>
<td><strong>15</strong></td>
</tr>
<tr>
<td>ENG 121 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>CTA 121 Fundamentals of Speech</td>
<td>3</td>
</tr>
<tr>
<td>ENG 324 Principles of Technical Communication</td>
<td>3</td>
</tr>
<tr>
<td>MTH 120 Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>IDT 201 Microcomputer Application in Technology</td>
<td>3</td>
</tr>
<tr>
<td><strong>Science and technology</strong></td>
<td><strong>13</strong></td>
</tr>
<tr>
<td>CHM 121 General Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHM 122 Chemistry Lab I</td>
<td>3</td>
</tr>
<tr>
<td>BIO 105 Biology and the Human Species</td>
<td>4</td>
</tr>
<tr>
<td>PHY 221 Mechanics, Sound and Heat</td>
<td>4</td>
</tr>
<tr>
<td><strong>Social science</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>
### Minors Offered in the Department of Interdisciplinary Technology

The aviation flight technology minor is designed to develop flight skills as a pilot for various fields of aviation. Students who complete the minor will have earned their private pilot license and their commercial pilot license with an instrument rating, be certified for flying for personal and business interests and will be prepared for entry into the professional and career pilot field if they so choose.

#### Academic minor in aviation flight technology

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDT 170</td>
<td>Aviation Ground Instruction</td>
<td>3</td>
</tr>
<tr>
<td>IDT 251</td>
<td>Basic Flight I</td>
<td>2</td>
</tr>
<tr>
<td>IDT 261</td>
<td>Basic Flight II</td>
<td>2</td>
</tr>
<tr>
<td>IDT 271</td>
<td>Basic Flight III</td>
<td>2</td>
</tr>
<tr>
<td>IDT 341</td>
<td>Instrument Flight-IFR Operations</td>
<td>3</td>
</tr>
<tr>
<td>IDT 351</td>
<td>Advanced Flight I</td>
<td>2</td>
</tr>
<tr>
<td>IDT 361</td>
<td>Advanced Flight II</td>
<td>2</td>
</tr>
<tr>
<td>IDT 371</td>
<td>Advanced Flight III</td>
<td>2</td>
</tr>
<tr>
<td>IDT 320</td>
<td>Aviation Safety — Accident Investigation and Training</td>
<td>3</td>
</tr>
</tbody>
</table>

2. Electives

Select one course from the following:

- IDT 110 Aircraft Maintenance I
- IDT 120 Flight Operations I
- IDT 303 Aviation Law and Insurance
- IDT 315 Airport Management

#### Graphic Communication Minor

This minor is designed to provide technical communication skills to majors in fields such as graphic design and journalism. The electives in the minor are diverse and extensive enough to allow for individual flexibility.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDT 104</td>
<td>Introduction to Communication Technology</td>
<td>2</td>
</tr>
<tr>
<td>IDT 121</td>
<td>Graphic Communication</td>
<td>3</td>
</tr>
<tr>
<td>IDT 204</td>
<td>Photographic Communication</td>
<td>3</td>
</tr>
<tr>
<td>IDT 207</td>
<td>Photographic Reproduction</td>
<td>3</td>
</tr>
</tbody>
</table>

2. Electives

Select one course from the following:

- IDT 201 Microcomputer Application Technology
- IDT 304 Advanced Photographic Communication
- IDT 318 Graphic Arts Workshop
- IDT 404 Photographic Communication Workshop
- IT 231 Industrial Computer Graphics
- FA 165 Graphics Design

Electives selected from journalism, marketing, or management
Technology and Society Minor

This minor is interdisciplinary in nature and provides students majoring in science or technology with an understanding of the societal impact of existing and emerging technologies. While housed in the Department of Interdisciplinary Technology, the minor utilizes contributions from several departments including biology, chemistry, computer science, economics and history.

Sem hours
Minor in technology and society ...................................... 24-26

1. Required courses .................................................................. 15
   CSC 136 Computers for the Non-Specialist or CSC 137
   Introduction to Computer Programming .......................... 3
   IDT 150 Understanding Technology ................................. 3
   HIS 290 History of Technology ........................................ 2
   IDT 308 Seminar in Technological Impacts ......................... 3
   IDT 495 Technology, Values, and the Future ....................... 3

2. Restricted Electives ............................................................. 9
   Choose three courses (with at least one course from each subgroup, A and B) from the following:
   Subgroup A:  
   BIO 224 Principles of Conservation, BIO 314 Energy Analysis and Environmental Decision Making
   CHM 118 Contemporary Materials, CHM 415 Environmental Chemistry
   ECO 337 Energy Economics and Policies
   GEO 310 Energy Awareness, GEO 315 Land Use Planning, GEO 440 World Food Systems
   SOC 334 Population
   Subgroup B:
   CTA 446 Contemporary Problems in Telecommunications
   ECO 386 Technology and Economic Growth
   GEO 100 Future Worlds, GEO 235 Environmental Geography, GEO 495 Environmental Impact Assessment
   IDT 420 Women and Technology
   IDT 201 Microcomputer Applications in Technology
   PHI 380 Philosophy of Science
   PLS 381 Public Policy Analysis, PLS 382 Politics and the 21st Century
   PSY 350 Environmental Psychology, PSY 351 Industrial Psychology
   SOC/ANT 336 Social and Cultural Change, ANT 378 Special Topics: Contemporary Issues in Developing and Modern Technological Societies, SOC 307 Industrial Society

Interdisciplinary Technology Courses

IDT 100 Introduction to General Aviation. One sem hour
   The role of general aviation in the total framework of air transportation; the general structure of the industry including regulatory agencies, ground service equipment and aircraft refueling. Lecture: one hour per week.

IDT 104 Introduction to Communication Technology. Two sem hours
   An introduction to the field of communication technology. Communication theory and the graphic and telecommunication industries. Lecture: two hours per week.

IDT 110 Aircraft Maintenance I. Three sem hours
   The functions and roles of maintenance personnel in an aviation maintenance organization structure. Lecture: three hours per week.

IDT 120 Flight Operations I. Three sem hours
   The role of aviation in general aviation and the interface with regulatory agencies and parent organizations. Lecture: three hours per week.

IDT 121 Graphic Communication. Three sem hours
   Preparation and design of graphic media. The theory and application of effective communications. Information collection, analysis and dissemination, survey of the graphic communication industry. Lecture: three hours per week. Laboratory: two hours per week.

IDT 150 Understanding Technology. Three sem hours
   A course to develop basic technological literacy by providing an introduction to technological concepts and problems and to the technology literature. Several concrete technological systems and their dynamics, particularly as they relate to society.

IDT 170 Aviation Ground Instruction. Three sem hours
   Basic flight training ground instruction and practice in aircraft theory, aerial navigation, civil air regulations, meteorology and radio. Directed toward preparation for the private pilot written examination.

IDT 201 Microcomputer Applications in Technology. Three sem hours
   An introduction to microcomputers and their applications in technology. The course contains an introduction to word processing, spreadsheets, database management and their applications. Basic keyboard skill is recommended.

IDT 202 Introduction to Facility Management. Three sem hours
   The student will be introduced to the major fields of facility management: building operation, construction management, space allocation, and budget preparation.

IDT 204 Photographic Communication. Three sem hours
   Basic functions, principles and applications of photography in graphic communication. Lecture: two hours per week. Laboratory: two hours per week. Students must furnish their own camera and photo materials.
IDT 205 Photo-Technology. Two sem hours
The applications of light sensitive materials used in industry to include photo-drafting, photofabrication. Lecture: one hour per week. Laboratory: two hours per week.
Prereq: IDT 121 Graphic Communication and a chemistry course.

IDT 207 Photographic Reproduction. Three sem hours
Study and laboratory work in photomechanics, stripping and plate-making as applied to offset presswork. Includes the preparation of layout materials for printing. Lecture: one hour per week. Laboratory: two hours per week.
Prereq: IDT 104 Introduction to Communication Technology or IDT 121 Graphic Communication.

IDT 210 Aircraft Maintenance II. Three sem hours
The functions and organization of an aircraft maintenance facility and role of the supervisors within that structure. Lecture: three hours per week.
Prereq: IDT 110 Aircraft Maintenance I.

IDT 214 Rubber Technology I. Two sem hours
Lectures and laboratory experiments on the fundamentals of rubber chemistry, compounds and processing technology, and rubber testing methods.
Prereq: High school or college course in chemistry or approval of instructor.

IDT 220 Flight Operations II. Three sem hours
In-depth study of the functions and organization of operations and the relationship with the other departments within an aviation organization.
Prereq: IDT 120 Flight Operations I.

IDT 240 Introduction to Industrial Distribution. Three sem hours
Definitions, history, types of distribution, range of products, lines of distribution, function of and services provided by distributors; employment and professional advancement opportunities with industrial distributors and suppliers.

IDT 250 Wire Technology I. Three sem hours
The fundamentals of wire manufacturing, steel production, wire joining, cleaning, descaling, coating, drawing, cooling and lubrication. Lecture and demonstration. No previous wire manufacturing knowledge required.

IDT 251 Basic Flight. Two sem hours
The student will receive dual instruction in pre-flight procedures, ground reference maneuvers, take-off, and landings, power-off and power-on stalls, local flight operations and precision flight maneuvers. Remaining hours will be solo flight.
Prereq: IDT Student Pilot Certificate and Class II or III Medical.

IDT 251 Basic Flight II. Two sem hours
The student will receive dual instruction and solo practice in extended cross-country flight operations, flight proficiency maneuvers and all phases of flight specified by the Federal Aviation Administration. The student will be prepared to take the oral and flight examination for the Private Pilot Certificate.
Prereq: IDT 251 Basic Flight I.

IDT 271 Basic Flight III. Two sem hours
The student will receive an introduction to commercial maneuvers and instrument flying techniques, including dual instruction and solo practice in areas of ground reference maneuvers, flight precision maneuvers, radio navigation and special cross-country flight operations.
Prereq: IDT 261 Basic Flight II.

IDT 277, 278, 279 Special Topics in Interdisciplinary Technology. One, two, three sem hours
An examination of topics in interdisciplinary technology not covered in other departmental offerings. Students may elect these courses more than once as long as different topics are studied.

IDT 300 Energy Management Controls. Three sem hours
Classroom activity combined with site visitations. Automatic controls ranging from infrared motion sensors to computer based energy management systems; savings calculation techniques.
Prereq: IDT 312 Heating Ventilation and Air Conditioning.

IDT 303 Aviation Law and Insurance. Three sem hours
Overview of legal considerations in general aviation, government agencies exercising control, regulations, laws, advisory information and insurance requirements and considerations.

IDT 304 Advanced Photographic Communication. Three sem hours
Photographic theory and techniques, with particular emphasis upon commercial and industrial applications. Lecture: two hours per week. Laboratory: two hours per week. The student must furnish a camera and photo materials.
Prereq: IDT 204 Photographic Communication.

IDT 305 Communication Transmission Systems. Three sem hours
Consideration of source, encoder (transmitter), channel and receiver functions. Principles of line communication, a study of various systems and future developments in communication transmission systems.

IDT 308 Seminar in Technological Impacts. Three sem hours
An undergraduate level introduction to technology assessment. Development of skills related to forecasting technological inventions and assessing their effect if adopted by society.

IDT 310 Polymers for Engineers and Technologists. Three sem hours
Introduction to polymer science, polymerization, polymer modifications, size and weight of polymer molecules, plastics, adhesives, silicones, foams, surface coatings, fibers, elastomers, transitions and relaxations in polymers, theology, polymer fabrication techniques.

IDT 312 Heating, Ventilating and Air Conditioning. Four sem hours
Commercial systems will be studied with an emphasis on which energy saving strategies are appropriate to each and how to calculate potential savings.
Prereq: IT 125 Introduction to Construction, IT 228 Construction Drawing.
IDT 313 Aviation Industry Relations. Three sem hours
The major significance of aviation regulations and policies including the development and enforcement of federal aviation regulations will be presented. The major elements of managing an aviation operation within the guidelines of international and federal aviation industry regulations together with the influence of local and state requirements will be presented.

IDT 314 Utility Rates and Building Codes. Two sem hours
Understanding utility rates to compute savings from reduced usage. Utility rates for residential, commercial and industrial users; building codes related to ventilation, construction, and fire safety. Prereq: IDT 201 Microcomputer Applications in Technology.

IDT 315 Airport Management. Three sem hours
The major elements in the process of planning and managing airports are presented, including federal airport policy, the airport master planning process, capacity analysis, site selection and funding. The historical development of and current practices in airport administration, operations management, maintenance and safety will be presented.

IDT 316 Lighting for Energy Management. Two sem hours
Light sources such as high intensity discharge, fluorescent, incandescent and daylight, compared for efficiency, color, maintenance, initial cost and life cycle cost. Appropriate retrofit opportunities identified and savings calculations methods evaluated. Prereq: IDT 201 Microcomputer Applications in Technology.

IDT 318 Graphic Arts Workshop. Three sem hours
Selected topics in the field of graphic arts technology, such as composition, press work, screen process and advanced photomechanics. May be repeated for additional credit. Prereq: IDT 207 Photographic Reproduction or department permission.

IDT 320 Aviation Safety, Accident Investigation and Training. Three sem hours
In-depth study of aviation safety (flight and ground); accident prevention, accident investigation and personnel training. Prereq: IDT 170 Aviation Ground Instruction.

IDT 340 The Industrial Climate and its Effects Upon Distribution. Three sem hours
Historical development and current factors influencing industrial products and their usage, including financial and geographical factors, machinery, power, raw materials, markets and labor, which have direct influence upon the development, distribution and use of industrial goods. Specific studies of representative industries including steel and other metals, machine tool, automobile and transportation.

IDT 341 Instrument Flight/IFR Operations. Three sem hours
The factors affecting operation of aircraft in instrument meteorological conditions (IMC); the impact upon scheduling and related considerations. Prereq: IDT 170 Aviation Ground Instruction.

IDT 350 Wire Technology II. Three sem hours
An intermediate course designed to study contemporary concepts and practices of wire manufacturing. Prereq: IDT 250 Wire Technology I or approval of instructor.

IDT 351 Advanced Flight I. Two sem hours
The student will receive dual instruction and solo practice in advanced cross-country navigation, commercial maneuvers, and an introduction to instrument flying techniques. Prereq: IDT 271 Basic Flight III.

IDT 356 Advanced Flight II. Two sem hours
The student will receive dual instruction and solo practice in commercial flight maneuvers and instrument flight procedures, including instrument approaches, holding patterns and partial panel procedures. Prereq: IDT 351 Advanced Flight I.

IDT 357 Advanced Flight III. Two sem hours
The student will complete the dual instruction and solo practice in all phases of flight training specified by the Federal Aviation Administration for the issuance of the Commercial Pilot Certificate and the instrument rating. The student will complete theoretical examinations and flight tests required for this certificate and rating. Prereq: IDT 351 Advanced Flight II.

IDT 387, 487 Cooperative Education in Interdisciplinary Technology. Three sem hours each
A minimum of three to four months of full-time employment in a business or industry that provides experiences directly related to the major area of study. Work sites must be approved in advance by the Department of Interdisciplinary Technology. Regular employee benefits may be received during the employment period. Prereq: Department permission.

IDT 391 Wholesale Account Development. Three sem hours each
An in-depth study into the processes and techniques involved in acquiring and developing industrial accounts from the distributor's and the manufacturer's point of view. The course will develop practical and efficient skills in the area of advanced industrial wholesale account development. Guest lectures by manufacturer representatives and from purchasing agents will augment the course.

IDT 400 Polymers and Coatings Technology I. Three sem hours
Introduction to synthesis, film formation, structure and properties of polymers commonly used in coatings. Polymer systems to be covered include acrylic, vinyls, polyesters, alkyls, oils, epoxies, epoxyesters, aminoplasts, urethanes, phenolics, hydrocarbons, cellulosics. Prereq: CHIM 270 Organic Chemistry, CHIM 271 Organic Chemistry Laboratory.

IDT 401 Polymers and Coatings Technology I Laboratory. Three sem hours
Synthesis, characterization and identification of polymers used in coatings. The synthesis of solution acrylic, vinyl, acrylic emulsion, polyester, alkyd, epoxyester, melamineformaldehyde and urea form polymers with extensive use of physical techniques such as GC, I.R.T., G.P.C. and calorimetry. Coreq: IDT 400 Polymers and Coatings Technology I.
IDT 402 Polymers and Coatings Technology II. Three sem hours
Formulation in oil-based and waterborne coatings covering the use of solvents, pigments and additives. Principles of adhesion and corrosion and the use of conversion coatings. Safety, health, government regulations and paint production techniques.
Prereq: IDT 400 Polymers and Coatings Technology I.
Coreq: IDT 402 Polymers and Coatings Technology II.

IDT 403 Polymers and Coatings Technology II Laboratory. Three sem hours
Practical formulation in oil-based and waterborne systems including the preparation and evaluation of various topcoats and primers currently used in the coatings industry (e.g., oil based air dry enamel, thermosetting coating, epoxyester primer, two package methane, acrylic latex and E.D. primer).
Coreq: IDT 402 Polymers and Coatings Technology II.

IDT 404 Photo Communication Workshop. Three sem hours
Selected topics in photo communications, such as commercial and industrial photography, photo journalism, sensitometry and photography, photo journalism, sensitometry and photo processing. The class schedule describes the specific topic being offered during a given semester. May be repeated for additional credit.
Prereq: IDT 304 Advanced Photographic Communication.

IDT 405 Coating Process I. Three sem hours
Development of expertise in industrial coating processes. Substrate preparation, principles of adhesion, corrosion control, industrial coating materials, industrial coating systems and regulatory compliance in the coatings industry.
Prereq: IDT 310 Polymers for Engineers and Technologists or IDT 400 Polymers and Coatings Technology I or department permission.

IDT 406 Coatings Processes I Laboratory. Three sem hours
Hands-on experience in industrial coating processes. Substrate preparation, coatings application and industrial coating systems design and operational control.
Coreq: IDT 405 Coating Processes I.

IDT 407 Coating Processes II. Three sem hours
Processes and equipment for coatings application, economic analysis, coating operations, paint defects and line design for productivity and energy conservation.
Prereq: IDT 405 Coating Processes I or department permission.

IDT 409 Emerging Technologies in Storage and Retrieval. Three sem hours
Conventional as well as emerging technologies of information storage and retrieval. Lecture and laboratory.

IDT 410 Mechanical and Physical Properties of Polymers. Three sem hours
Detailed study of the mechanical and physical properties of polymers from both theoretical and practical viewpoints. Polymer morphology, transitions and relaxations in polymers, mechanical properties of high polymers, theology and their relationship to polymer fabrication processes.
Prereq: IDT 310 Polymers for Engineers and Technologists or department permission.

IDT 411 Mechanical and Physical Properties of Polymers Laboratory. One sem hour
A laboratory course designed to supplement lecture material from IDT 410. Hands-on exposure to a variety of experimental techniques commonly encountered in the polymers industry; glass transitions in polymers, melt-flow characteristics, measurement of Newtonian and non-Newtonian flow, mechanical behavior of polymers and plastic deformation.
Coreq: IDT 410 Mechanical and Physical Properties of Polymers.

IDT 412 Energy Measurement. Two sem hours
Present energy use patterns and locations of potential energy savings as well as follow-up studies to determine program effectiveness. Submetering, infrared scanning, sonic detection and seasonal adjustment.
Prereq: Senior standing, IDT 201 Microcomputer Applications in Technology.

IDT 413 Computers in Aviation. Three sem hours
Applications of computers in aviation at various levels of hardware and software complexity. Basic programs appropriate to aviation operations and maintenance control.

IDT 414 Rubber Technology II. Two sem hours
Special topics related to rubber compounding, processing and testing, and problems in specific applications of rubber products. Guest lecturers, students and staff will cover topics.
Prereq: IDT 214 Rubber Technology I or department permission.

IDT 415 Computer Programming for Energy Management. Three sem hours
The use of existing energy auditing programs as well as creation of programs for specialized use.
Prereq: IDT 201 Microcomputer Applications in Technology.

IDT 420 Women and Technology. Three sem hours
An interdisciplinary course designed to familiarize students with various concepts of technology, technological change and technological society; probe the problems and advantages women face in technological society or technology-based professions; explore women's roles in several specific technology professions.

IDT 421 Photographic Typesetting. Three sem hours
Study of the fundamentals of phototypesetting technology. Document preparation, keyboard entry, file manipulation and typeset copy output will be covered as well as word processor interfacing.
Two hour lecture, two hour lab.

IDT 422 Aviation Maintenance, Operations and Management. Three sem hours
Utilization of information covered in other courses to solve functional problems using simulation and real data.
Prereq: IDT 100 Introduction to Aviation, IDT 110 Aircraft Maintenance I, IDT 120 Flight Operations I, IDT 170 Aviation Ground Instruction, IDT 210 Aircraft Maintenance, IDT 303 Aviation Law and Insurance, IDT 320 Aviation Safety, Accident Investigation and Training, IDT 341 Instrument Flight/IFR Operations and IDT 413 Computers in Aviation.
IDT 425 Communication Technology and Social Change. Three sem hours
The social implications of recent and future developments in communication technology. The effects upon education, research and scientific knowledge, business and entertainment.

IDT 430 Senior Seminar in Energy Management Technology. Three sem hours
Projects coordinated with local firms to give the student practical experience. Selected topics not covered in previous courses.

IDT 432 Senior Seminar in Facility Management. Three sem hours
Ties together previous experiences and training and deals with specific topics in facility management. Advanced projects of simulations will be used.
Prereq: Senior standing, majors only.

IDT 436 Electronic Publishing Technology. Three sem hours
The application of electronic design and layout principles to publication and presentation documents. Develop skills in graphics, type, file creation and manipulation, word processing interface, and output of paginated, camera-ready copy through several software packages.

IDT 440 Industrial Distributor Operations. Three sem hours
Industrial distributors' operations, concepts of value added, organizational structure, time and space use, systems contracting, profitability, efficiency, distributor-supplier relations and trends in industrial distribution. Case studies and industrial speakers.
Prereq: IDT 240 Introduction to Industrial Distribution, junior standing and approval of instructor.

IDT 444 Industrial Distribution. Three sem hours
Seminar approach to study of problems of industrial distribution with assistance of representative from industrial distributor organizations in the geographical area.
Prereq: IDT 440 Industrial Distributor Operations, senior standing.

IDT 450 Advanced Coatings Topics III. Three sem hours
Advanced wire technology; in-depth study of wire in manufactured products.
Prereq: IDT 350 Wire Technology II or permission of instructor.

IDT 460 Advanced Coatings Topics. Three sem hours
Development of in-depth formulating skills; new technology areas in coatings and polymers.
Prereq: IDT 402 Polymers and Coatings Technology II, IDT 403 Polymers and Coatings Technology II Laboratory or department permission.

IDT 470 Senior Seminar in Communication Technology. Two sem hours
Guest speakers and/or site visitations will be used to illustrate the application of new communication technologies common to business, industrial or governmental environments.

IDT 477, 478, 479 Special Topics in Interdisciplinary Technology. One, two, three sem hours
An examination of topics in interdisciplinary technology not offered in other departmental offerings. Students may elect these courses more than once as long as different topics are studied.
Prereq: Department permission.

IDT 495 Technology, Values and the Future. Three sem hours
The development of modern technological society: major breakthroughs in the physical and life sciences, the influence of some of these breakthroughs on technological development, the consequent shaping of new world views and hence, values in contemporary and future societies. Interrelationships between technology and political, socioeconomic and environmental systems; the relationship between technology and values.

IDT 497, 498, 499 Independent Study. One, two, three sem hours
Individual work in some area of interdisciplinary technology under the direction of a faculty member. Preliminary draft of proposed study must be approved by the department prior to enrollment. May be selected more than once, after resubmission and approval.
Prereq: Department permission.
The military science program provides men and women training that prepares them for entry into the active Army, Army Reserve, or National Guard as commissioned officers. Emphasis is given to the development of the student as a leader and a manager, capable of organizing and motivating others.

The program is of either four or two years' duration and is pursued as a complement to the student's academic major. If the program is successfully completed, the student may be commissioned as a second lieutenant upon graduation.

Students must complete all of the military science courses unless granted advanced placement for the 100 and 200-level classes.

ROTC scholarships for three to two years' duration are available and are awarded on a "best qualified" basis. Scholarships cover payment of tuition, fees, texts, and supply costs related to the student's curriculum for the period of award. Also, a $100 per month subsistence allowance is paid for each school month during the period of the scholarship. Application can be made by contacting the Department of Military Science in January of the school year preceding the effective semester of the award.

The two-year program is designed for students transferring from community colleges and other students who were not enrolled in military science courses during their first two years of college. Applicants complete a six-week training program during the summer months, which takes the place of the on-campus MS 100 and 200 courses. While in summer training, the student remains a civilian but earns army pay and travel allowances. Upon completing the program, the student may be granted eight semester hours credit upon the recommendation of the Military Science Department and may apply for entry into the MS 300-level courses. Students may compete for two-year ROTC scholarships while at summer training. Applications for the two-year program are accepted from December through May.

The Simultaneous Membership Program (SMP) is a co-op work experience program where advanced ROTC students are assigned to local Army Reserve or National Guard units. They spend a month each semester learning and management skills by drilling with the unit. For this experience, students earn approximately $130 per month. SMP is an excellent opportunity to learn applied management skills.

Veterans and JROTC program members have advanced placement credit to individuals who have completed basic training or three years of JROTC in high school and have completed a minimum of 54 college credits. Credit may be given for MS 100 and 200 courses. Applicants should contact the department for acceptance into the program.

All uniforms and texts are provided to the student without cost. Additional college credits. Credit may be given for MS 100 and 200 courses. While in summer training, the student remains a civilian but earns army pay and travel allowances. Upon completing the program, the student may be granted eight semester hours credit upon the recommendation of the Military Science Department and may apply for entry into the MS 300-level courses. Students may compete for two-year ROTC scholarships while at summer training. Applications for the two-year program are accepted from December through May.

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All uniforms and texts are provided to the student without cost. Additionally, MS 300 and 400 participants receive $100 per month during the school year and are paid at one-half the rate of a second lieutenant while attending a summer field course. Armed forces veterans may receive the $100 per month pay in addition to any other veterans benefits they are receiving.

### Programs of Study

#### Minor:

**Military Science**

Advising requirements specify that each year-level of students must report to an assigned instructor. All students, prior to entry into the advanced program, must be processed by the enrollment officer.

#### Special Requirements

Admission into the advanced program requires that all students successfully complete the Officer Selection Battery Test (OSB), undergo a complete physical examination at the Snow Health Center, and have completed the basic course or its equivalent.

The criteria for continuation is that all students maintain a 2.0 GPA or better.

The field work criteria is that all members of the advanced program participate in a field training exercise (FTX) each semester.

### Credit Toward Graduation

The 12 semester hours credit earned in the advanced program may be used as free elective credit. Requirements in certain majors and curricula will cause the ROTC student to take more than the minimum 124 hours credit for graduation. When finalizing their undergraduate program, students should consult their academic advisers or the Academic Advising Center.

#### Minor in Military Science

(Non-teaching)

<table>
<thead>
<tr>
<th>Minor in military science</th>
<th>20</th>
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<tbody>
<tr>
<td>Required courses</td>
<td>20</td>
</tr>
<tr>
<td>MS 100 Fundamentals of Leadership and Management I</td>
<td>2</td>
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<tr>
<td>MS 101 Fundamentals of Leadership and Management II</td>
<td>2</td>
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<tr>
<td>MS 200 Applied Leadership and Management I</td>
<td>2</td>
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<tr>
<td>MS 201 Applied Leadership and Management II</td>
<td>2</td>
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<tr>
<td>MS 300 Advanced Military Leadership and Management I</td>
<td>3</td>
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<tr>
<td>MS 301 Fundamentals and Dynamics of the Military Team I</td>
<td>3</td>
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<tr>
<td>MS 400 Fundamentals and Dynamics of the Military Team II</td>
<td>3</td>
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<tr>
<td>MS 401 Advanced Military Leadership and Management II</td>
<td>3</td>
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</tbody>
</table>

Students must take all of the above courses unless granted advanced placement. Students electing a minor in military science may not use this minor to fulfill the state secondary provisional certificate requirement of a teaching minor.
Courses

Any two military science courses may be applied in fulfillment of the physical education activity requirement, unless a specified activity course is required in a program of study.

MS 100 Fundamentals of Leadership and Management I,
First Year — Basic Program. Two sem hours
An introduction to the U.S. defense establishment with emphasis on the role and structure of the U.S. Army as compared to those of the Soviet Union. Students also participate in adventure mini-courses (rappelling, rifle marksmanship, etc.)

MS 101 Fundamentals of Leadership and Management II,
First Year — Basic Program. Two sem hours
An introduction to the role of the army officer, ethics, professionalism, leadership traits and principles. As a part of the course, students receive a mini-course in first aid and land navigation.

MS 200 Applied Leadership and Management I,
Second Year — Basic Program. Two sem hours
An introduction to basic military leadership skills to include: map reading, communications, drill and ceremonies, physical training, and individual leadership skills.

MS 201 Applied Leadership and Management II,
Second Year — Basic Program. Two sem hours
A continuation of MS 200 in the study of military leadership and management skills. Included in this course are: individual leadership skills, applied management skills, military procedures, and platoon offense/defense operations.

MS 300 Advanced Military Leadership and Management I,
First Year — Advanced Program. Three sem hours
Techniques of leadership and management with emphasis on the role of the small unit leader as a teacher. Theory and application of basic military skills: topography, close order drill and weaponry.

MS 301 Fundamentals and Dynamics of the Military Team I,
First Year — Advanced Program. Three sem hours
An examination of the leader's role as an organizer, decision-maker and leader of a military team. Small unit leadership studied from the perspective of mission, capabilities and management. Prepares students for the advanced summer camp experience.

MS 302 Leadership Laboratory,
First Year — Advanced Program.
Conducted for both semesters of the 300-level courses. Field application of classroom theories and studies. Physical abilities strengthened and tested. All areas of classroom instruction, drill, military skills, leadership and physical aptitude.

MS 400 Fundamentals and Dynamics of the Military Team II,
Second Year — Advanced Program. Three sem hours
The organization and functioning of command and staff in army organizations. The essentials of military correspondence, communications and training.

MS 401 Advanced Military Leadership and Management II,
Second Year — Advanced Program. Three sem hours
The essentials of the army personnel and logistics management systems. An in-depth examination of ethics and professionalism and how they apply to the military officer. Case study of small unit combat leadership.

MS 402 Leadership Laboratory,
Second Year — Advanced Program.
A two-semester practicum conducted concurrently with 400-level courses. Exercise of organizational and leadership theory to which the student has been exposed. The cadet battalion command and staff structure is used as a vehicle to provide practical experience in the processes of leadership.
AEROSPACE STUDIES

The Air Force officer education program at the University of Michigan provides Eastern Michigan University students the opportunity to earn a commission as a second lieutenant in the U.S. Air Force through the Air Force ROTC (AFROTC). Four- and two-year programs are offered and aerospace studies classes are conducted on the University of Michigan campus. Class registration is handled by AFROTC. Interested students should contact AFROTC at 747-4093 or visit Room 154 at North Hall on the University of Michigan campus. *This is not a concentration program.*

Students who enroll as cadets in the Air Force officer education program, successfully complete the program and receive a university degree are commissioned as second lieutenants in the United States Air Force.

NAVAL SCIENCE STUDIES

The Navy officer education program at the University of Michigan provides Eastern Michigan University students the opportunity to earn a commission as an ensign in the U.S. Navy or a second lieutenant in the U.S. Marine Corps through the Naval ROTC program (NROTC). Four and two-year programs are offered and naval science classes are conducted on the University of Michigan central campus. Registration for naval science classes is handled by the NROTC. Interested students should contact the NROTC Unit at 764-1498 or visit Room 103 in North Hall on the University of Michigan campus.

Students who enroll as midshipmen (officer candidates) in the Navy officer education program, successfully complete the program, and receive a university degree, are commissioned as ensigns in the U.S. Navy or second lieutenants in the U.S. Marine Corps.
CONTINUING EDUCATION

Dean: Paul T. McKelvey
Associate Dean: Arthur N. McCafferty
Director of International Studies: George J. Klein
Coordinator of Independent Study: Michael McPhilips
Upward Bound Program Director: Hildred Lewis
Weekend University Coordinator: Art Towers-Hoover

Goodison Hall

Service to the community-at-large and the non-traditional as well as the traditional student commitments of Eastern Michigan University, which through its Division of Continuing Education and Office of International Studies seeks to extend learning opportunities both within and outside the university environment.

The Division of Continuing Education offers off-campus courses, the Weekend University, special summer sessions (usually at resort locations), travel-study and semester abroad programs, Independent Study Through Correspondence courses, and various other special topics courses both on- and off-campus. The Upward Bound Program, a federally funded program for high school students, is also a part of the division.

Inquiries about current programs and suggestions for new services should be directed to the Office of the Dean, 321 Goodison Hall, Eastern Michigan University, Ypsilanti, Mich. 48197.

Students enrolled in EMU Continuing Education programs may use the facilities of the University Library by having their course registration certified by the Office of Continuing Education and then obtaining a courtesy card for the duration of the course from the circulation desk at the library. Library regulations and fines apply.

Programs offered by the Division of Continuing Education follow:

Off-Campus Credit Courses

Off-campus credit courses for undergraduates and graduates are scheduled at 45 centers in 14 counties throughout Southeastern Michigan and are usually conducted by regular EMU instructors. Classes include many of the arts and science disciplines, education, business, technology and human services. A list of fall and winter semester, spring and summer session courses may be acquired by writing or calling (313) 487-0407.

The following regulations apply:

A. "Matriculated student" is an individual who has been officially admitted to Eastern Michigan University either as a graduate or undergraduate student.
B. "Non-matriculated student" is an undergraduate who has not been officially admitted to Eastern Michigan University as an undergraduate student. (Enrollment is limited to one semester only.) Non-matriculated and special students are not eligible to enroll in graduate business courses.
C. A "special student" is an individual who holds a bachelor's degree but who has not been officially admitted to a degree program in the Graduate School. Special students may enroll for more than one enrollment period but must recognize that enrollment as a special student does not constitute admission to the Graduate School. Applications for admission to the Graduate School may be obtained at Starkweather Hall (487-3400).
D. Students must register by mail or in person for off-campus credit courses through the Registration Office, Pierce Hall, Eastern Michigan University, Ypsilanti, Mich. 48197 (487-2300).
E. Students are held to the same requirements concerning distribution of courses as are students in residence. Students should consult program outlines as published in the University Catalog and make their selection of classes and should consult the Office of the Registrar.
F. No credit course will be offered that is not a part of the regular curricula of Eastern Michigan University.

Fees

1. The registration procedures and policies and the tuition and fees for students taking off-campus credit classes are the same as on-campus classes (see "Tuition and Fees").
2. Students taking off-campus credit classes may use the installment payment option for tuition.
3. Enrollment in off-campus credit courses may be made by mail and should be completed well in advance of the first meeting date of the course to ensure a place in class.
4. Tuition adjustment ("refund") policy for cancellation of registration or withdrawal from a class or classes is the same as on-campus classes (see "Withdrawals").

Credits

1. To avoid possible loss of credit toward graduation requirements, an Eastern Michigan University student who wishes to take courses at another college or university should secure approval of the head of the department concerned or Office of the Registrar.
2. Students regularly enrolled at other colleges or universities may be enrolled as guest matriculants.
3. Students must complete all work on time. Incompletes are awarded only when the student's work has been of acceptable quality, but the required amount has not been completed because of illness, necessary absence or other satisfactory reason (see "Incompletes").
4. It is expected that students seeking certification or degrees will acquaint themselves with the University regulations, which are available from the Office of the Registrar.
5. Persons may audit a course without credit upon payment of regular fees, following the established policy (see "Auditing").
Independent Study Through Correspondence

Correspondence courses for University credit are available through the Division of Continuing Education. Up to 15 hours of academic credit can be applied to an undergraduate degree and four hours to a graduate degree.

Upon completion of enrollment, students receive a study guide that outlines all course work assignments. Students submit the required assignments by mail to the Independent Study Office; it is then forwarded to the appropriate faculty member for evaluation. When graded, it is returned to the student by the Independent Study Office. Upon completion of all assignments, students take a proctored final examination.

Admission

2. Course enrollment may be made at any time.
3. Students must be officially admitted to Eastern Michigan University before enrolling for Independent Study Through Correspondence course work. Application blanks and details of the admission procedure may be obtained by writing to the Office of Admissions, Pierce Hall.
4. Students working toward a degree to be awarded by Eastern Michigan University are held to the same requirements concerning distribution of courses as those of students in residence.
5. Students should plan for one or more meetings on campus with the assigned instructor.

Course Requirements

1. Correspondence courses should be completed within six months from the date of enrollment. In special cases and upon written request from the student, a limited extension of time may be granted by the coordinator of Independent Study Through Correspondence.
2. Courses are designed so that each assignment is equivalent to a week's work in an on-campus course. Students are encouraged to submit assignments by mail one at a time.

Credits

1. Courses that are completed satisfactorily carry the same amount of credit as those pursued in residence. The grade earned is entered on the permanent record.
2. Up to 15 semester hours of credit earned through correspondence may be applied toward an undergraduate degree.
3. Students enrolled on campus may enroll in an Independent Study Through Correspondence course if their total academic load does not exceed the maximum allowed in a given semester or session. Exceptions must be approved by the director of the Academic Advising Center.

Fees

1. Tuition and fees of $185 per course are assessed correspondence students. This is payable in full at the time of enrollment.
2. Included in the fees are registration, study guides, tapes, and University postage.
3. In the event a student withdraws within 45 days of registration, 50 percent of tuition shall be refunded.

Correspondence Courses

The following courses are currently available. As new courses are regularly added, a student interested in other courses is advised to check with the Independent Study Office, Division of Continuing Education, for information about other offerings.

MT H 104 Intermediate Algebra
SOC 105 Introductory Sociology
IDT 150 Understanding Technology
MGT 281 Basic Supervision
ENG 325 Expository Writing
ENG 402 Modern English Grammar
ENG 421 The History of the English Language
HIS 123 U.S. History to 1877
MGT 202 Business Communication
BIO 301 Genetics
MGT 281 Basic Supervision
LIT 100 The Reading of Literature
LIT 207 Children's Literature
HIS 124 U.S. History 1877-Present
RES 210 Real Estate Principles

For additional information about independent study, contact:
Independent Study Office
Division of Continuing Education
327 Goodison Hall
Eastern Michigan University
Ypsilanti, MI 48197
Phone: (313) 487-1081 or 487-2424

International Studies

The Office of International Studies provides opportunities for Eastern Michigan University students to complement their university education through several different kinds of study abroad programs.

Semester Abroad Program: The Fall European Cultural History Program is a travel study program that visits 40 cities throughout Europe and the Mediterranean area. Professors travel with the group, lecturing on the important features of each stop. The courses are centered in the humanities and team taught in an interdisciplinary context. This program offers up to 15 hours of credit in history, art, literature and political science.

The European Cultural History Program: This program has been offering low-cost extended European travel for University credit for 17 years. Since its beginning, the program has grown to
be the largest university-sponsored program of its kind in the country, drawing students from EMU as well as colleges and universities throughout the United States. Options offered for travel include Europe, the Soviet Union, Greece and Egypt with university credit available in history, music, art and literature.

Other travel study programs: Many other study abroad programs are initiated and directed by EMU faculty through the Office of International Studies. These programs are usually offered in the summer and carry credit in such fields as biology, business, education, history, music and political science. These educational trips have taken students to countries in Asia, Europe and South America.

Residential Language Program: This program, offered in cooperation with the Department of Foreign Language and Bilingual Studies, provides intensive foreign language instruction in foreign countries during the spring/summer sessions. Currently, residential foreign language programs are offered in Spanish, French, and German. Interested students should contact the head of the Foreign Language and Bilingual Studies Department for details.

Additional Information

For additional information, contact:
The Office of International Studies
333 Goodison Hall
Eastern Michigan University
Ypsilanti, Michigan 48197
Phone: (313) 487-2424

THE GRADUATE SCHOOL
Dean: Ronald E. Goldenberg
Starkweather Hall (487-3400)

The Graduate School at Eastern Michigan University provides advanced undergraduate students with an opportunity to enroll in selected graduate level courses provided that they meet the Graduate School's admission standards and have achieved the requisite number of undergraduate credits. This privilege afforded to EMU undergraduate senior students will provide these students with an opportunity to advance their academic standing at the graduate level and be considered for graduate admission to one of the many graduate programs offered by The Graduate School.

Graduate School Catalogs are available at the time of admission without charge at Starkweather Hall. (Additional copies may be purchased at University Bookstore, McKenny Union.) Students are responsible for the information therein and are affected by the policies and regulations explained in that catalog.

Advanced undergraduate students at Eastern Michigan University may register for 500-level graduate courses if recommended by their advisers and approved by the assistant dean of The Graduate School prior to registering for the class. Credit earned may be used to meet the requirements of the baccalaureate degree (recorded as undergraduate credit) or to apply toward a master's degree (receive graduate credit).

The following regulations apply:
1. Student applicants must have accumulated 76 hours or more of undergraduate credit and have a cumulative grade point average (GPA) of 2.50 or better in all course work completed at Eastern Michigan University.
2. Election of graduate hours as an undergraduate must be limited to the 500-level course series. Advanced undergraduate seniors permitted to enroll in 600- or 700-level course series. Students must be admitted to a graduate degree program in the College of Business in order to enroll for a 500-level business course.
3. Credit in graduate courses may be used for only one purpose, either undergraduate credit or graduate credit.
4. Permission to enroll in graduate courses as an advanced undergraduate should not prolong the completion of undergraduate degree requirements.
5. The maximum number of graduate hours that can be elected an advanced undergraduate student is 15. Senior students who hold guest admission in the University are not eligible to enroll in graduate courses.
6. Permission to take graduate courses does not represent admission to The Graduate School. Students wishing to continue graduate study and utilize the graduate credit earned in courses elected as an undergraduate must apply and meet all requirements for admission to The Graduate School and degree programs.

Procedures for graduate admission require the student to complete and submit the application for admission directly to The Graduate School with official transcripts of all undergraduate and graduate credit earned. Where necessary, official scores from national examinations must be submitted (departments requiring exams are listed in the Graduate Catalog).
A primary condition for admission is the requirement that the candidate meet both the Graduate School requirements (conferring bachelor's degree and at least a 2.5 GPA in the last half of the undergraduate program) and the departmental admission requirements as stated in the Graduate Catalog. Specialist's degree admission requires a 3.3 GPA in the completed master’s program.

Conditional Admission

Condition 1: Curriculum Deficiencies is a conditional admission for students who meet the degree admission requirements of The Graduate School, but have curricular deficiencies in their undergraduate program and/or other departmental standards and therefore do not meet departmental admission requirements. In such cases, special conditions noted below must be completed prior to gaining degree admission.

Condition 2: Senior Status is a conditional admission granted to candidates completing an undergraduate degree at the end of the current semester and is valid for one enrollment period only. This condition is removed when the student submits an official undergraduate transcript with the baccalaureate degree posted.

Condition 3: College of Business/Foundation Courses is a conditional admission status granted to students who must complete foundation courses with a “B” (3.0 GPA) average. If successful, the student must then complete 12 hours of required core courses with a “B+” (3.3 GPA) average, with no grades below “B,” and no course repeats.

Condition 4: English as a Second Language Program is a conditional admission status granted to international non-native speakers of English who scored below the required minimum score in the English proficiency exam (TOEFL and the Test of Written English, or MELAB) and will be required to elect appropriate ESL courses. The ESL courses are determined by the ESL program staff based on the candidate’s score and a placement examination. The examination is administered by the English as a Second Language program staff at Eastern Michigan University prior to the beginning of each term.

Non-Degree Admission

Non-degree students may enroll under this status for any of the semesters or sessions (fall, winter, spring or summer) and there is no limit to the number of hours a non-degree student may earn. However, students will be subject to course prerequisites. Also a student cannot earn a degree with non-degree student status. Students can transfer from non-degree student status to degree status if they meet departmental and Graduate School requirements (see Transfer of Credit to Degree Programs in the Graduate Catalog). Policy states that a student must complete a minimum of 10 semester hours after admission to the degree program. Non-degree students can earn a graduate certificate in such programs as historic preservation planning and social work. However, for the purpose of teacher certification and for professional licensing, the submission of official transcripts is necessary.

Credits earned do not automatically apply toward a degree program but are dependent upon admission to The Graduate School. The requirements of the program, recommendation by an advisor and the approval of The Graduate School.
Status 1: Academic Deficiencies is a non-degree admission status granted on the recommendation of the academic department to candidates who do not meet the minimum undergraduate grade point average (2.5 GPA) requirement of The Graduate School or the academic department GPA requirements, whichever is higher; and/or have graduated from a non-accredited academic institution; and/or have demonstrated the potential to perform graduate level work at Eastern Michigan University. This type of admission provides students with an opportunity to demonstrate that they can be successful in a graduate program at EMU by completing a minimum of nine and no more than 12 graduate level credit hours specified by the department, while maintaining good academic standing (3.0 GPA). These hours elected as a non-degree admission candidate can only be applied to a graduate degree program upon the recommendation of the coordinator of graduate advising. It should be specifically noted that successful completion of nine and not more than 12 graduate level credit hours with a 3.0 GPA does not guarantee, nor does it constitute admission to a graduate degree program.

Status 2: Continuing Certification is a non-degree admission status granted to certified teachers and other professionals in education who explicitly indicate that they do not intend to pursue a graduate degree program but wish to enroll only in graduate level courses to meet continuing certification requirements. The academic courses which are elected via this non-degree admission status do not follow a prescribed graduate degree program and do not earn the student a graduate degree.

Status 3: Continuing Education Division Courses is a non-degree admission status granted to students who enroll in courses through the Division of Continuing Education. Courses taken under this non-degree admission status do not automatically apply to a graduate degree. Students intending to use graduate level courses offered through the Division of Continuing Education on a degree program must seek formal admission to a graduate degree by completing an admission application and providing The Graduate School with official transcripts. Students intending to enroll in graduate level courses to meet degree requirements must meet all of the program admission requirements prior to enrollment in Continuing Education courses.

Status 4: Personal/Professional Development is a non-degree admission status granted to candidates who wish to enroll in graduate level courses for self-enrichment purposes and/or participate in a graduate certificate/advanced graduate certificate program. Courses taken under this admission status do not automatically apply to a graduate degree at Eastern Michigan University.

Financial assistance is available to graduate students under specific programs listed previously in the Financial Aid section of this catalog. This includes the College Work-Study Program, student employment and educational loans such as National Direct Student Loans (NDSL), Michigan Guaranteed Student Loans (MGL) or the Canadian equivalent, and Michigan State Direct Loans (MSDL).

Graduate assistantships are available through academic departments, and are awarded on the basis of the qualifications of the applicant. Each appointment requires considerable research time and precludes other employment. The academic year stipend ranges from about $2,400 to $4,800. In addition, the University pays full tuition for up to 18 credit hours for each fiscal year of the assistantship, as well as registration, health service, and student government fees.

The total assistantship award may pay up to $8,400 per academic year depending on whether you receive a full-time or part-time assistantship or whether you are a resident or non-resident of Michigan. Graduate students interested in applying for such positions should write to their major area department head or the Graduate Dean's Office.

A limited number of assistantships are funded through the College Work-Study Program. Interested students should contact their major area department head or the Graduate Dean's Office. Students need to submit the Graduate Assistantship Application material, as well as the Family Financial Statement or Financial Aid Form, to qualify for the College Work-Study Program.

The minority graduate assistantship program strives to attract highly qualified minority students in academic disciplines that traditionally have not been accessible to minorities. Eastern Michigan University has continually encouraged the application and enrollment of promising minority graduate students and recognizes the need for well-trained minority scholars. For more information on this program, please call 487-0042.

The graduate fellowship program is an honor awarded to selected graduate students for academic merit. The award is a $300 tuition waiver per semester (fall and winter) with the provision that the fellow must enroll in and complete at least six hours of graduate level course work in each of the terms of the award. Undergraduate courses taken for graduate credit are NOT considered part of the required six hours.

Both new and continuing graduate students may apply for graduate fellowships. New graduate students must present a minimum of 3.2 cumulative undergraduate GPA to receive consideration. Graduate students who have already begun their program must present a minimum of 3.6 cumulative graduate GPA for consideration. Students having completed more than 15 graduate hours of their current degree program at the time of initial application are not eligible for this program.

Graduate fellows (1) must hold admission to an academic program leading to either a master's or a specialist's degree; (2) must maintain a cumulative graduate GPA of 3.6 at all times during their fellowship in order to maintain the award; (3) are eligible for reappointment for one additional academic year if they continue to achieve a 3.6 cumulative graduate GPA. Students accepted into graduate assistantship programs are not eligible to be graduate fellows.

Applications are available in the Graduate Dean's Office, Starkweather Hall.

The Graduate Dean's Award for Research Excellence is a $250 cash award made in the fall/winter semesters to reward excellence in ongoing or completed research projects. The Graduate Dean's Award for Research Excellence is a $250 cash award made in the fall/winter semesters to reward excellence in ongoing or completed research projects.

Current applicants for graduate assistantships (within one year) are eligible to apply for the award. Part- and full-time students who have completed 15 semester hours and are in good academic standing are encouraged to apply. The major criterion for the award is the exhibition of superior initiative in the student's own research project.

Deadlines for application are November 15 for the fall award and March 15 for the winter award. Applications are available in the Graduate Dean's Office, Starkweather Hall.
The Barton Scholarship is a one-time competitive award of $500 which is applied to the recipient's tuition and fees. Applications will be considered by The Graduate School Scholarship Committee bi-annually for the fall and winter semesters. Applicants must (1) either be enrolled in the final semester of their undergraduate program of study and earn a baccalaureate degree from Eastern Michigan University with no graduate level academic work completed prior to receiving the award, or have previously earned a baccalaureate degree from EMU and have not enrolled in courses as a graduate student prior to receiving the award; (2) must have a cumulative undergraduate GPA of 3.5 or better at the time of submitting the scholarship application; (3) must become candidates for admission into a graduate academic program at Eastern Michigan or The University of Michigan prior to submitting the Barton Scholarship application form. Students who wish to pursue their graduate studies at The University of Michigan must submit a completed Graduate Admission Verification Form before consideration can be given to their scholarship application. The deadline for submission of materials for a fall semester award is June 30 and November 30 for a winter semester award. Applications are available in The Graduate School, Starkweather Hall.

The Anton Brenner Scholarship is a one-time competitive award of $500 which is applied to the recipient's tuition and fees. Applications will be considered by The Graduate School Scholarship Committee for each fall semester. Applicants must (1) have completed at least one full academic semester (spring and summer combined equals one full semester) at EMU and earned at least 10 graduate credit hours toward their master's degree prior to submitting an application for the award; (2) have a cumulative graduate GPA of 3.5 or better at the time of submitting the scholarship application; (3) be enrolled in at least four graduate credit hours during the fall semester for which the scholarship award is granted; (4) submit an application on or before April 15 to be considered for an award the following fall. Applications are available in The Graduate School, Starkweather Hall.

UNIVERSITY ADVANCEMENT
Office of Alumni Relations and University Development
Director: Jack I. Slater Jr., CFRE
015 Welch Hall (487-0250)

The Office of Alumni Relations and University Development was established in 1987 to coordinate the University's alumni and development activities.

Alumni are Eastern Michigan University's lifeline to every community in the state of Michigan, to business and industry across the country and to the world-at-large. The continuing interest of graduates and former students is a major investment in the progress and future of EMU.

The Office for Alumni Relations is the coordinating body for all alumni activity and the means by which personal relationships established during student days can be maintained and renewed.

It is responsible for updating the computerized list of 70,000 known alumni, assisting in special reunions of various constituent groups of alumni, providing programs for special alumni meetings and giving staff support to the Alumni Association and various other alumni groups. Special activities include Homecoming, golf outings, concerts and an active outreach program.

In August 1983, it initiated a new alumni periodical, *Eastern Today*, published four times yearly in cooperation with the Office of Public Information and Publications. The magazine is designed to enhance communications about and among alumni, faculty, administration and friends of EMU.

The Alumni Association plans programs of interest for alumni and serves as the vehicle for communicating to the University faculty and administration the concerns of EMU's alumni as they relate to the development of the University.

Active in fund raising campaigns, the association is responsible for the Memorial Chimes and Pierce Hall clocks given in former years, and more recently for gifts to the University Library, various established funds and scholarships, and additional scholarships and aid to student organizations. Charles McKenny Union, completed in 1931 and built through the cooperative efforts of alumni and the University, stands as a visible symbol of the association's ongoing service to EMU.

The association is governed by a 24-member board of directors elected in the spring of each year by a vote of all eligible association members. The president of the University is an ex-officio member of the board and the director of the Office for Alumni Relations serves as secretary.
Office of Development

The Office of Development was established in 1975 to create a new awareness of the University’s ever-increasing need for private support and to organize a University-wide development program.

Its primary functions include the identification, cultivation and solicitation of alumni, friends, parents, corporations, foundations, and civic and labor organizations; the design and implementation of direct-mail, telemarketing and personal solicitations to meet specific annual capital and endowment objectives; the receipt, acknowledgment and accurate recording of all gifts to the University; and the coordination of all fund-raising activities undertaken in the name of Eastern Michigan University.

Office of Research Development

Director: David L. Clifford
Goddard Hall Basement (487-3090)

The Office of Research Development’s objectives are to stimulate, initiate, develop and administer externally funded research activities in the University by working with faculty, administrators and students interested in obtaining funds for independent research, demonstration programs, training, experimental projects and other efforts directed toward expanding the scope and quality of the University.

Its activities include:
1. Identification of funding sources through liaison with governmental and private agencies, screening of grant announcements and requests for proposals, and personal contacts.
2. Providing information on funding opportunities through the sponsored program announcements to EMU personnel.
3. Maintaining informational files on foundation, corporate, state and federal funding programs and updating changing priorities or funding levels of potential sponsors.
4. Assisting proposal writers in editing, typing and preparing proposals for submission, obtaining all necessary University approvals and formally submitting the completed application to the funding agency.
5. Assisting in the administration of externally sponsored programs by providing post-award support services to grant recipients.
6. Administer faculty release time awards, special project funds and other research support programs.
7. Develop, implement and monitor policies in the area of human subjects, care of laboratory animals, intellectual property, and scientific misconduct.

The World College

Eastern Michigan University established the World College in 1987 as one of the top institutional priorities of the University’s “Decade of Advancement.” The result of internal restructuring, this new college evolved from the administrative function of the Language and International Trade Program in the Department of Foreign Languages and Bilingual Studies. It also encompasses the functions of the former Office of International Projects.

Now reporting directly to the associate vice president for academic affairs, the World College coordinates and facilitates the development of internationally-focused programs via collaboration with the entire University community. Among the major goals of the World College are:

- To facilitate the incorporation of global perspectives in university curricula.
- To assist in developing and maintaining liaison with foreign academic institutions, governments and business organizations.
- To serve as a clearinghouse of information and referrals regarding internationally-focused projects, programs, events and activities.
- To assist faculty and staff in internationalizing their own expertise and in applying their expertise to new international endeavors.
- To increase international educational experiences for students and faculty, on campus and abroad.
- To seek and develop international programs through federal and state funding.
- To develop contract-based non-credit, internationally-focused experiences and courses for the public and for the private sector.

The World College is not a traditional academic college with its own departments and courses, faculty members, majors and degrees. Rather, it serves as a facilitating and coordinating center for international education, seeking to promote the broadening of awareness and understanding—in all colleges, departments and programs at EMU—of the world outside the borders of our county. World College programs are developed in conjunction with faculty and administrators in the other academic colleges.
STUDENT REFERENCES
Dean of Students: Bette White
205 Goodison Hall (487-3118)

Official policies regarding student conduct and grade grievance procedures are established by the University's Board of Regents. Copies of the Student Conduct Code may be obtained in the Dean of Students' Office.

Conduct Code and Judicial Structure for Students and Student Organizations

Section I.
A. University-Wide Regulations

The following conduct, should it take place on University owned or controlled property or at a University sponsored or supervised event, may result in disciplinary action by the University, including dismissal from the University.

1. Use of alcohol

Consumption or possession of alcoholic beverages by persons under 21 years of age. Consumption or possession of alcoholic beverages by any person at any place or at any time where not specifically permitted by University policy or regulation. NOTE: Transportation in sealed containers to and from an authorized area or place is permissible if the person in possession has attained the legal age as prescribed by Michigan law for the legal possession of alcoholic beverages.

2. Drugs

(a) Drug distribution. Distribution of narcotic or drug substance in violation of local, state, or federal drug or narcotic laws.
(b) Drug usage. Use or possession of any drug or narcotic in violation of local, state, or federal drug or narcotic laws.

3. Property

(a) Theft of University property or property of a member of the University or visitor.
(b) Damage, destruction or defacement of University property or property of a member of the University or visitor.
(c) Wrongful appropriation of University property or property of a member of the University or visitor.
(d) Unauthorized possession of University property or property of a member of the University or visitor.

4. University facilities

(a) Unauthorized use including entry to, occupation of, or blocking ingress or egress of University facilities such as but not limited to buildings, classrooms, hallways, entryways, conference rooms, campus grounds, as well as unauthorized use of vehicles, equipment, or services or University name or logo (including University Computing Center).
(b) Gambling on campus for money or other things of value except as provided by law.
(c) Pets: Dogs, cats, reptiles, or other animals are prohibited in University buildings or on University grounds, except where properly authorized.

5. Disruptive conduct

(a) Active participation in or instigation of disruption or obstruction of any University activity.
(b) Disturbance of or harassment of any member of the University community or visitor.

6. Physical abuse

(a) Physical abuse or threat of physical abuse or unwarranted inflammatory provocation to physical abuse against any member of the University community or any person on University property or conduct which threatens or endangers the mental or physical health or safety of any such person.
(b) Sexual harassment: Unconsented physical contact of a sexual nature, unwelcome sexual advances, unwelcome requests for sexual favors, and other verbal or physical conduct or communications constituting sexual harassment.

7. Falsification of records

(a) Furnishing false information to the University.
(b) Forgery, alteration or improper use of University documents, records, or identification.

8. Firearms, weapons, and explosives

(a) Possession or use of firearms and other weapons.
(b) Possession or use of firecrackers, gunpowder, explosives or incendiary devices, or other materials which endanger health or safety.

9. Fires or fire alarm systems and equipment

(a) Tampering with or misuse of fire alarm systems or firefighting equipment.
(b) Intentionally or recklessly burning or setting fire to or in any building or starting unauthorized fire on University property.

10. Academic dishonesty

Students are not to engage in any form of academic dishonesty including, but not limited to, plagiarism, alteration of records, substitution of another’s work representing it as the student’s own, and knowingly assisting another student in engaging in any such activity.

For purposes of this section, plagiarism is defined as the knowing use, without appropriate approval, of published materials, expressions or works of another with intent to represent the material(s) as one’s own.

11. Other University regulations:

(a) Violation of any of the following posted or published University regulations:
   (a) EMU policy manual(s);
   (b) Terms and conditions of the residence hall contract;
   (c) EMU published undergraduate and graduate catalogs;
   (d) Rules and regulations specific to University buildings.

B. Off-Campus Conduct

Individual or group conduct described in the regulations in Part A which occurs off-campus may also result in disciplinary action by the University when:

1. such conduct has or tends to have a substantial adverse impact on the interest of the University or an individual within the University community, AND
2. there is a showing to that effect to the satisfaction of a University hearing board to which the case is referred.
Section II. Conduct Code for Student Organizations
Recognized student organizations have considerable freedom to accomplish their goals. However, they must conform to the policies, regulations and procedures for student organizations and the Code of Conduct. Any group in violation of these standards is subject to disciplinary action. Original jurisdiction for conduct cases for all recognized student organizations is held by the Dean of Students Office.

A. University-Wide Regulations
The following conduct, should it take place on University owned or controlled property or at a University sponsored or supervised event, may result in disciplinary action by the University, including separation from the University.

1. Non-discrimination by organizations
   (a) Every student organization registered and approved by the University is expected to be free to select its membership upon the basis of individual merit. Any student organization selecting its membership upon the basis of restrictive clauses involving race, religion, color, national origin, sex, age or handicap will be considered to be operating in conflict with University policy.
   (b) Exceptions to this policy include religious qualifications which may be required by organizations whose aims are primarily sectarian, and social fraternities and sororities that are permitted by federal and state law to discriminate on the basis of sex.
   (c) Should a student organization be in conflict with University policy in the selection of its members, the group will be asked to submit evidence that action has been or is being taken to remove such restrictive membership provision; such as a request for a waiver of the restriction from the national organization. A reasonable period of time as determined by the Dean of Students Office may be granted to remove the restrictive provisions. Continued restriction of membership by constitutional requirements or other binding enactment contrary to University policy will result in withdrawal of University registration of the student organization.

2. Property
   (a) Theft of University property or property of a member of the University or visitor.
   (b) Damage, destruction or defacement of University property or property of a member of the University or visitor.
   (c) Wrongful appropriation of University property or property of a member of the University or visitor.
   (d) Unauthorized possession of University property or property of a member of the University or visitor.

3. University facilities
   (a) Unauthorized use including entry to, occupation of, or blocking ingress or egress of University facilities such as but not limited to buildings, classrooms, hallways, entryways, conference rooms, outside grounds as well as unauthorized use of vehicles, equipment, services or University name or logo (including University Computing Center).
   (b) Misuse of University facilities, vehicles, equipment, services or University name or logo including but not limited to use for purposes other than intended for or authorized.

4. Falsification of records
   (a) Furnishing false information to the University.
   (b) Forgery, alteration or improper use of University documents, records or identification.

5. Disruptive conduct
   (a) Active participation in or instigation of disruption or obstruction of any University activity.
   (b) Disturbance of or harassment of any member(s) of the University community or any person(s) on University property or conduct which threatens or endangers the mental or physical health or safety of any such person.

6. Physical abuse
   Physical abuse or threat of physical abuse or unwarranted inflammatory provocation to physical abuse against any member of the University community or any person on University property or conduct which threatens or endangers the mental or physical health or safety of any such person.

7. Sexual harassment
   Unwelcome sexual advances, requests for sexual favors and other verbal or physical conduct or communications constituting sexual harassment as defined and otherwise prohibited by state or federal statutes.

   In cases where the activity is performed by an individual member of a student organization, the total organization may be held responsible, when those members not directly involved participate in said activity by encouraging, witnessing or condoning the act in any manner.

8. Hazing
   (a) Eastern Michigan University students as individuals or members of registered student organizations are expressly forbidden from engaging in hazing. Initiation into University organizations is permissible excluding any activities construed as hazing.
   (b) Hazing shall be defined as the performing of an act or activities involving initiation individually or with any student or organization which may cause or create an unnecessary risk or cause mental or physical harm to any person which is not deemed socially acceptable.

   Such acts include, but are not limited to: requiring an initiate to consume alcohol or any other substance, preventing an initiate from having at least six hours sleep in any 24 hour period, branding, paddling, causing excessive fatigue—mental or physical—, expecting participation in any activity in which full members will not participate, engaging in acts which cause embarrassment, humiliation, discomfort, pain, fright or injury which violate any federal, state or local statute or University policy.

   (c) In cases where the activity is performed by an individual member of a student organization, the total organization may be held responsible, when those members not directly involved participate in said activity by encouraging, witnessing or condoning the act in any manner.

   (d) Any individual and/or organization found guilty of hazing will be subject to a minimum penalty of suspension.

9. Other University regulations
   Violation of any other posted or published University regulations, including but not limited to:
   (a) EMU policy manual(s);
   (b) Terms and conditions of the residence hall contract;
A closed hearing means participants only: student(s)/student organization charged, adviser(s), dean of students and/or designee(s), witnesses, members of the board.

8. The student(s)/student organization may submit to the dean of students, University Judicial Board or the Judicial Appeals Board, in writing, a supportive report of any individual organization who chooses to intervene in their behalf.

9. The student(s)/student organization shall have the right to challenge for cause any member of the University Judicial Board or Judicial Appeals Board. Each body shall determine the validity of such challenges.

10. No member of the University Judicial Board or Judicial Appeals Board who is involved with the investigation of a case or is a party to the case shall sit on the Board while the case is being heard. Rights 5-10 shall extend to all cases before the University Judicial Board or Judicial Appeals Board.

11. With the assistance of the Dean of Students Office, the University Judicial Board and the Judicial Appeals Board must keep official records of each case which the student(s)/student organization may examine.

B. Dean of Students Office

1. The dean of students shall have the power to investigate each student(s)/student organization disciplinary case.

2. After investigation, the dean of students will make one of the following decisions:
   (a) charge the student(s)/student organization with misconduct and assign a penalty;
   (b) charge the student(s)/student organization with misconduct and refer the case to the UJB for action;
   (c) refer the case to the UJB for review and action;
   (d) not charge the student(s)/student organization.

3. In all cases where a student/student organization is charged, a written notice shall be prepared by the Dean of Students Office and served on the student(s)/student organization involved. It will satisfy this provision if such a notice is given to the student(s)/student organization's last known address registered with the University. The notice shall include the following:
   (a) A recitation of the facts which surround the violation giving, so far as possible, the date, time, and location of the behavior in question.
   (b) A recitation of the specific regulation violated.
   (c) Any penalty assigned or other action taken.
   (d) The student/student organization has ten (10) calendar days to appeal the finding in writing.
   (e) Failure to appeal the decision within ten (10) calendar days shall result in the penalty taking effect.

4. When a case is taken to the University Judicial Board (or Judicial Appeals Board), the complaint should be submitted in writing to the hearing board by a representative from the Dean of Students Office or by an appointee of the Dean of Students Office.

5. In case of a hearing before the University Judicial Board (or Judicial Appeals Board), the Dean of Students Office shall notify the student(s)/student organization involved of the date, time, and place of the hearing and/or pre-hearing conference. The date of the pre-hearing conference shall not be less than two (2) days prior to the date of the hearing except by mutual consent.
C. Pre-hearing Conferences
At least two days prior to any hearing by the University Judicial Board or hearing officer, the dean of students shall schedule a pre-hearing conference for any student(s)/student organization charged with conduct violations. Such conference shall be attended by:

1. The presiding officer of the University Judicial Board or Judicial Appeals Board, or the hearing officer or a designee of one of these officers.
2. The dean of students or his/her designee and may be attended by:
   (a) Any employee of the University who may be designated to represent the University.
   (b) The student(s)/student organization involved.
   (c) Any member of the University community in good standing selected by the student(s)/student organization to serve as an adviser or representative.

The purpose of such conference shall be to identify those issues and facts which will be presented at the hearing, to exchange information as to witnesses likely to be called, to answer procedural questions so far as possible, and to settle those matters which may be agreeably concluded. This conference will not determine questions of innocence or guilt or recommendation of penalty. The failure of the student(s)/student organization or their adviser or representative to appear shall in no way affect any procedural rights of the student(s)/student organization in subsequent disciplinary proceedings and such failure will not prohibit a hearing from being set and a hearing being held.

D. The University Judicial Board
1. Composition
   (a) The University Judicial Board shall consist of five (5) enrolled students and two (2) alternates, two (2) full-time faculty members and one (1) alternate, and two (2) full-time members of the University community and one (1) alternate (which includes current faculty, staff, employees, and students).
   (b) No member shall be on any probationary status and no member shall have any pending disciplinary action which may lead to a change of status.
2. Selection of members
   (a) The student members shall be appointed by the Student Senate as directed by their constitution and by-laws; with one student member from the Office of Campus Life.
   (b) The faculty members shall be selected by the Faculty Council.
   (c) The president or his/her designee shall appoint the members from the University community.
3. Term of office
   (a) Members shall be appointed for up to a two year period. They may be reappointed by the person or body who appointed them.
   (b) Members may be removed from the board for poor attendance by a simple majority vote of the total board.
4. The chief justice shall be elected from within the body by a majority of the body.

E. Jurisdiction of the University Judicial Board
1. The University Judicial Board shall have original jurisdiction in all cases involving violations of University regulations.
2. The University Judicial Board shall exercise superintending control if there is probable cause to believe that elementary principles of fairness and justice are being or will be violated.

F. Appeals to the University Judicial Board
All appeals to the University Judicial Board shall be governed by the following:
1. Appeal may be granted on any basis.
2. Appeals shall be made to the University Judicial Board in writing through the Dean of Students Office.
3. The University Judicial Board shall decide whether to hear the case by majority vote.
4. All cases shall be heard from the beginning.
5. Upon motion of the student(s)/student organization party, any case may be removed directly to the Judicial Appeals Board, which shall assume original jurisdiction.

G. Procedure of the University Judicial Board
1. Prior to any discipline hearing, a pre-hearing conference will be held (see Item C, Pre-Hearing Conferences).
2. Quorum
   A quorum shall exist with the presence of any six (6) members.
3. Disposition of cases
   (a) A simple majority of the board members present shall be required for any action taken.
   (b) Decisions of the University Judicial Board shall be in writing. The decision shall be based on the evidence presented. The decision shall state what rule was violated, the behavior constituting the violation and, if known, the date, time, and place of the violation. Within forty-eight (48) hours, the decision will be submitted in writing to the dean of students for mailing to the student(s)/student organization's last known address. Also a copy will be sent to the Judicial Appeals Board.
   (c) The University Judicial Board shall have authority to decide on penalties sanctioned by the University (see Section 4) and/or other action deemed appropriate.

H. Judicial Appeals Board
1. Composition
   (a) The Judicial Appeals Board shall consist of two (2) enrolled students, two (2) full-time faculty members, and two (2) full-time members of the University community.
   (b) No members shall be on any probationary status, and no member shall have any pending disciplinary action which may lead to a change of status.
2. Selection of members
   (a) The student members shall be appointed by the Student Senate as directed by their constitution and by-laws.
The faculty members shall be selected by the Faculty Council.

The president or his/her designee shall appoint the members from the University community.

3. Term of office
   (a) Members shall serve for up to a three year term. They may be reappointed by the person or body that appointed them.
   (b) Members may be removed from the board for poor attendance by a simple majority vote of the total board.

4. Chairperson
   The chairperson of the Judicial Appeals Board shall be elected by a majority vote of the board.

J. Appeals to the Judicial Appeals Board
1. Student(s)/student organization appeals or administrative appeals shall be made in writing to the chairperson of the Judicial Appeals Board and submitted to the Dean of Students Office within five (5) working days. In case of administrative appeal, the student(s)/student organization involved shall be notified at least five (5) working days prior to their hearing before the Judicial Appeals Board.

2. All cases on appeal will be heard from the beginning.

K. Procedure of the Judicial Appeals Board
1. Prior to any discipline hearing, a pre-hearing conference will be held (see Item C, Pre-Hearing Conferences).
2. Quorum
   A quorum shall exist with the presence of any four members.

3. Disposition of cases
   (a) A simple majority of those present shall be required for any action taken by this board.
   (b) Decisions of the Judicial Appeals Board shall be in writing. The decision shall be based on the evidence presented. The decision shall state what rule was violated, the behavior constituting the violation and, if known, the date, time, and place of the violation.
   (c) Decisions of the Judicial Appeals Board shall be submitted to the president for review with copies to the Dean of Students Office, University Judicial Board, and the student(s)/student organization.
   (d) The president will make the final decision by accepting, modifying or rejecting the Judicial Appeals Board decision. If the decision is modified or rejected, then the president shall provide the student(s)/student organization and the Judicial Appeals Board with the reason(s) for the modification or rejection in writing.

(e) Judicial Appeals Board and/or presidential decisions shall be in writing with specific factual findings, citing rule(s) violated and setting forth discipline to be imposed, any.

(f) For cases on which there has been no presidential action within five (5) working days after submission, the Judicial Appeals Board decision is deemed to be approved.

(g) All decisions approved and permitted to stand shall become effective immediately.

(h) Decisions shall be made in writing and made available to the student(s)/student organization on the first day following Judicial Appeals Board action and following acceptance by the president or his/her designee. In cases permitted to stand without presidential action, the decision shall be made available to the student(s)/student organization no later than the sixth (6th) working day following the submission for review of the decision of the Judicial Appeals Board.

(i) Application for additional review and modification of the Judicial Appeals Board and presidential decision may be made to the Board of Regents through the secretary of the Board of Regents. The Board of Regents, at its discretion, may agree to review the findings and decision of the president or the Judicial Appeals Board.

L. Alternate Hearing Procedure
1. In the event the University Judicial Board shall fail to convene and/or act within a reasonable time, the president shall be authorized to refer the case directly to the Judicial Appeals Board.

   In the event the Judicial Appeals Board shall fail to convene and/or act within a reasonable time, the president shall be authorized, after consultation with and approval by the Board of Regents, to appoint a hearing officer, not otherwise employed by the University, who shall conduct such hearings and perform the functions otherwise specified for the Judicial Appeals Board. The hearing officer shall submit his/her findings and recommendations to the president or his/her designee in the same manner and within the time as required for the Judicial Appeals Board.

2. Discipline by administrative action

   It is the policy and practice of the University to handle disciplinary cases administratively without involvement of the student(s)/student organization judicial systems when the judicial bodies are not in sessions.

Section IV. Penalties for misconduct

Discipline is intended to be corrective and educational as well as punitive. It is intended that the student(s)/student organization will learn from disciplinary experience and develop a more mature attitude toward group living problems. The penalties which may be incurred include, but are not limited to, the following:

A. Penalties for students

1. Reprimand
   An official written statement of the University’s disapproval of an individual or group action.

2. Administrative warning
   Will be issued to students for lesser offenses than those subject to administrative probation. A breach of conduct will be viewed not only as the breach of conduct itself but a violation of this warning, which may result in dismissal.
Section V. Presidential Responsibility

A. Presidential Review

1. The authority to suspend or dismiss a student/student organization from the University for conduct in violation of University rules and regulations is vested in the president as the chief executive officer of the University or in his/her designated representative.

2. All disciplinary penalties assigned through the University judicial and review system which would result in suspension or dismissal of a student/student organization from the University shall be reviewed by the president or his/her designee.

3. The president or his/her designated representative may:
   (a) Accept the decision of the judicial review system or
   (b) Reject the decision. If the decision rejected is:
       1) A Dean of students decision, the rejection will constitute an automatic appeal to the University Judicial Board.
       2) A University Judicial Board decision, the rejection will constitute an automatic appeal to the Judicial Appeals Board.
       3) A Judicial Appeals Board decision, the procedure stated in Procedure of the Judicial Appeals Board, Item K, 3, b, c, will be followed.

B. Interim Suspension

The president, as the chief executive officer of the University, is directly responsible to the Board of Regents for the enforcement of the University policies, rules, and regulations and is charged with the maintenance of that degree of order and safety necessary to the successful continuation of the University’s lawful mission, and she is further charged with the authority to protect the members of the University community and University property.

Although such authority has always existed in the Office of the President, it is herein made explicit that the president or his/her designated representative is authorized to suspend a student/student organization prior to a hearing and procedure through the University judicial process when in the judgment of the president or his/her designated representative, the misconduct of the student(s)/student organization threatens or endangers University property, and that such student(s)/student organization’s continued presence on campus creates a clear and present danger to the safety of students, faculty, administrators, and University property and which constitutes an interference with the maintenance of the University’s educational processes and missions.

The student(s)/student organization shall be notified of the suspension status orally, by written notice served on the student(s)/student organization, or written notice sent to the last address on record. Within five (5) days after the notice, the student(s)/student organization shall be provided with the opportunity for an informal hearing before the president or his/her designee. At this hearing, the student(s)/student organization shall be permitted to present their side of the story. After the hearing, the president or his/her designee may lift suspension and direct that a hearing follow within eight (8) days before the University Judicial Board, or maintain the student(s)/student organization on suspension status and direct that a hearing follow within eight (8) days before the University Judicial Board. The above provisions concerning judicial power are the official policy of the University, subject to such specific amendments as shall hereafter be made and subject to those exceptions to the procedures implicit in the emergency powers of the president. Nothing in the above shall be construed as affecting the standards of conduct or rules of behavior as established by the Regents. All publications of the University which contain rules and procedures other than the above which describes the judicial structure or the procedures of student/student organization courts, Greek courts or residence hall courts shall not be construed as controlling those courts, but rather shall be merely descriptive of the system and procedures which the student(s)/student organization have themselves enacted as controlling their institutions.
**C. Emergency Powers of the President**

When faced with mass disruptions, activity of a violent and destructive nature, or other dangerous violations of University rules, the president may take note in a general statement of the seriousness of the threat to the University. As chief executive officer of the University, the president is charged with the maintenance of that degree of order necessary to the successful continuation of the University’s lawful mission. Such responsibility carries with it the necessity for a certain degree of authority. Such authority has always existed in the Office of the President. It is herein made explicit but to the extent that the courts of the land may deem such authority to be inherent or implicit, it is not limited.

The president, after consultation with and approval of the Board of Regents, may:
1. Impose and have enforced a curfew on all or portions of the campus of the University.
2. Curtail or suspend services.
3. Close the University or portions of the University entirely for the period of emergency.
4. Suspend student(s)/student organizations and forbid their presence on campus if they have been sufficiently identified to him/her as participants in activities violative of University policy leading to the conditions described above. Suspensions shall continue for the period of emergency.
5. Appoint a hearing board on an ad hoc or extraordinary basis to make a recommendation as to whether individual interim suspension shall be continued. Such a hearing board shall convene and make its recommendations within ten (10) days from the effective date of the interim suspension.

In making more explicit the authority of the president to take necessary actions in the interest of the University, the Board of Regents in no way restricts its own powers and prerogative to carry out its obligations and duties as imposed by the constitution and laws of the State of Michigan.

**Family Educational Rights and Privacy Act**

In compliance with the Family Educational Rights and Privacy Act, Eastern Michigan University assures that any person who is or has been in attendance as a student at EMU has access to his/her educational records. Furthermore, such individual's rights to privacy are assured by limiting the transferability of records without the student’s consent.

1. The following are matters of public record and may be included in publications or disclosed upon request without consent: the student's name, address, telephone listing, date and place of birth, major field of study, participation in recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent educational agency or institution attended by the student.
2. Registration documents of student organizations which contain the names and addresses of the officers and the statement of purpose of the organization are also considered public information. These documents are available in the Campus Life Office, 221 Goodson Hall.

EMU reserves the right to make directory information public unless a student's written objection (specifying the category of information not to be made public without prior consent) is filed at the Registration Office within fourteen (14) days after each term begins.

**UNIVERSITY CAMPUSES**

Eastern Michigan University occupies 420 acres on the northwestern side of the city of Ypsilanti on high ground overlooking the Huron River valley.

The 217-acre main campus encompasses historic and new academic buildings, residence halls and physical education facilities including Bowen Field House and Olds Student Recreation Center. Nearby outdoor general recreational fields include the equivalent of four softball diamonds or two football fields—all under light for nighttime use—ten tennis courts, eight of which are lighted, and softball playing fields for women's sports.

The Clarence M. Loesell Field Laboratory, a 21-acre tract west of the main campus, was dedicated in 1958 in honor of the longtime head of the Natural Science Department (now the Biology Department). It provides an undeveloped, natural habitat for the study of wildlife, flora and fauna for teaching of natural sciences.

The west campus was created in 1965 and 1967 by the addition of 142 acres of land to allow expansion of the academic campus into the site of athletic areas. It includes a baseball stadium, football stadium, all-weather running track, six intramural fields, two practice football fields, apartment complexes and paved parking.

The Kresge Environmental Education Center at Fish Lake in Mayfield Township, Lapeer County, was created in 1965 as a resident field study center for experimentation and dissemination of environmental education programs. The 241-acre site is surrounded on three sides by 4,000 acres of the Lapeer State Game Area and has a wide variety of topography, a natural lake, a man-made impoundment and a bog for aquatic studies. Facilities include a 64-person dormitory, dining commons that can feed 200, a remodeled one-room schoolhouse, and four modular units that house the center office, provide staff housing and a lab-classroom.

**University Buildings**

University buildings continue to increase in number to serve the needs of educational growth and change. Remodeling of old buildings is continuous to update facilities and to accommodate departmental reorganization as well as growth. Almost all of EMU’s major classroom, administration and residence halls are named in honor of early administrators and dedicated faculty who laid the foundation for educational advancement or for donors who have assured the University’s future.

Frederick M. Alexander Music Building, completed in 1980, houses the departments of Music and Foreign Languages and Bilingual Studies. It features three large rehearsal rooms (band, choir and orchestra), a 150-seat recital hall, an organ teaching recital facility and 64 individual practice rooms. Designer/architect Robert C. Wakely Sr. employed the latest in acoustical and sound isolation techniques to provide for music instruction.

The Business and Finance Building, adjacent to Pease Auditorium, is utilized by the Division of Business and Finance to administer the business operations of the University.

Richard G. Boone Hall, built in 1914 as an administration building, now houses the College of Education offices and classrooms. It is named for the ninth president of the Normal College (1893-1899).

Wilbur P. Bowen Field House, completed in 1955 and named for the founder and long-time head of the Department of Physical Education, is the home of Huron basketball teams. It also has an

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eight-laps-to-the-mile track, locker facilities and a hard surfaced infield. Additions in recent years to both the south and north ends of the building have added to its ability to serve the needs of the University community.

Walter O. Briggs Hall was the first unit of the University’s field house. The $150,000 grant that provided the initial building was given by Briggs when he was owner of the Detroit Tigers baseball team.

The University Library, opened in 1967, has provided the University with more than five times the floor space and double the book capacity of the original Mark Jefferson Library (in what is now Ford Hall). The seating capacity is 1,800 and most library materials are on open shelves. The lower floors house the Media Services Center and the Instructional Support Center and include a computer laboratory for student use.

R. Clyde Ford Hall, created as the Mark Jefferson Library, bears the name of the modern literature professor who headed the library during his tenure from 1903-1940. It has been remodeled twice and since 1982 has provided office and classroom space and art galleries for the Art Department. The Department of Communication and Theatre Arts also holds most of its production classes in this building to utilize two television studios on a lower floor. The building was opened in 1929 and first remodeled in 1967.

Bertha M. Goodson Hall, dedicated in memory of the 1900-1937 Department of Art professor and head, houses the offices of Afro-American Studies, Campus Life, Career Services, Continuing Education, Dean of Students, Faculty Council, Foreign Student Affairs, International Studies, Minority Affairs, Special Student Services, Student Government, student organizations, Student Media, Upward Bound, Veterans Affairs and the Women’s Commission.

J.M. Hover Laboratory, completed in 1941 and honoring the head of the Department of Natural Sciences and dean of admissions (1919-1940), holds the Department of Biology laboratories, a greenhouse and plant laboratory plus the Biology Career Center.

Mark Jefferson Hall, new in 1970 and named for the internationally-known professor of geography (1896-1928), has completely equipped modern laboratories for the departments of Chemistry, Biology and Psychology, as well as classrooms and offices for teaching personnel.

Julia Anne King Hall, is the base of operations for the Colleg of Health and Human Services, which uses a limited number of classrooms in this building as well as classrooms in Roosevelt Hall. It houses the offices of the dean of the College of Health and Human Services and the departments and programs of Nursing Education, Occupational Therapy, Social Work, Health Administration, Clinical Laboratory Sciences, and Gerontology. Other offices are those of the Institute for the Study of Children and Families, the National Center of Teaching and Learning, the director of Affirmative Action and the administrative offices of Human Resources. University Radio-Station WEMU also is in this building.

Charles McKenny Hall, also named for a past president of EMU, is the student union and social center of the University. Completely remodeled in 1964-65, it is double its original size and now includes a cafeteria and dining services, snack bar, the University Bookstore, a bowling alley, a billiard room, offices for student organizations, lounges, meeting rooms, a large ballroom and the offices of Development and Alumni Relations.

The Lloyd W. Olds Student Recreation Center was dedicated in the fall of 1982. The $18.2 million facility was named for the former faculty member and HPERD department head who founded the intramural program on campus in 1921. It is funded by student fees and provides recreation and intramural facilities for the entire campus community. Its most distinctive feature is the 50-meter swimming pool which is the largest indoor pool in Michigan and has 7-, 8- and 10-meter diving platforms.

The Paint Research Laboratory, completed in 1987, is utilized by the Paint Research Association for scientific paint research activity.

The Parking Structure, west of Bowen Field House, will accommodate 800 cars and houses the University Safety Department offices. It has direct access to Washenaw via Oakwood Avenue, is adjacent to Pittman and Ford roads, which border the campus, and is accessible from North Huron River Drive via West Tower Drive and Oakwood Avenue. Numerous parking lots for students and faculty surround the campus.

Frederick H. Pease Auditorium, completed in 1914 and named for the long-time head of the Conservatory of Music, is the center for many University and civic activities as well as music events. The auditorium is the $100,000 Frederick Alexander Memorial Organ.

John D. Pierce Hall, which in 1948 replaced the original building on campus, honors the first superintendent of public instruction in the state of Michigan. It houses Admissions and Financial Aid, the Office of the Registrar, Equity Programs, Cashier’s Office, and Student Accounting.

Pray-Harrold Hall provides classrooms and offices for the departments of English Language and Literature, History and Philosophy, Mathematics, Computer Science, Sociology, Economics, and Political Science in the College of Arts and Sciences. The Administrative Computer Center is located on the first floor. Pray-Harrold recognizes the services of Carl E. Pray, head of the History Department from 1913-1927, and Charles F. Harrold, professor of English literature from 1925-1943.

Daniel L. Quirk Jr. Dramatic Arts Building, original funds for which were made available by the Quirk family of Ypsilanti, opened in 1959. The building provided an instructional theatre seating 381, a flexible laboratory theatre, scene and costume shops, radio facilities, an outdoor amphitheater, classrooms and offices for drama, speech and radio activities. In 1966, a classroom-office wing was added to accommodate increased needs in all areas, especially TV broadcasting and film. In 1983, the Department of Communication and Theatre Arts and the University launched a major capital fund raising campaign to enclose the 200-seat outdoor amphitheater and expand the capabilities of technical studies, costume and scene shops. Construction of these additions was complete in the summer of 1985.

The Horace H. Rackham School of Special Education, constructed in 1938 as one of many educational projects of the Detroit lawyer and philanthropist, became the first building of this kind in the state dedicated to the needs of special children. It houses a school for impaired children, the Department of Special Education, a speech and hearing clinic, a diagnostic prescriptive/intrusive learning-disabled children and their families, and facilities for physical therapy.

Roosevelt Hall, built on campus in 1925 as a laboratory school for training student teachers and providing private education for children of area residents, has been remodeled to house the departments of Human, Environmental and Consumer Resources, Military Science and Health Administration. It was named for President Teddy Roosevelt.
The Sculpture Studio, located on the west campus, is utilized by the Art Department.

William H. Sherzer Hall, erected in 1903 and named for the professor of geology and head of the Department of Natural Sciences (1892-1932), now provides offices and classrooms for the Art Department and contains the University's observatory.

J.M.B. Sill Hall houses classrooms and offices of the College of Technology, founded in 1980. Its large lecture halls are available to other departments. The Art Department retains offices and facilities for its ceramics, jewelry and multi-media courses on the lower floor.

Glenadine C. Snow Health Center, named for the first medical director of health services (1915-1947), who created the plans for the building opened in 1959, includes a pharmacy, medical laboratory, x-ray department, Physicians' clinical offices, nurses' consulting rooms, examination and treatment areas and mental health counselors' offices. The Children's Center is on the lower level.

Mary Ann Starkweather Hall, erected in 1897 and designated as a student Christian center by the Ypsilanti donor, was remodeled and modernized in 1961. It currently houses the Graduate School.

The Edwin A. Strong Physical Science Building, opened in 1957, houses the departments of Physics and Astronomy and Geography and Geology, providing both laboratory and large lecture halls. Strong was head of the Physical Science Department between 1885-1919.

The Joseph E. Warner Physical Education Building, completed in 1964, is immediately adjacent to Bowen Field House and connected to the Olds Student Recreation Center. It houses offices of the Department of Health, Physical Education, Recreation and Dance, classrooms, gymnasiums, special purpose rooms and a swimming pool designated for intramural use. Warner, for whom the building is named, was state representative for Washtenaw County, 2nd District.

Adonijah S. Welch Hall, erected in 1896 and the oldest standing building on campus, is named for the first head of the University. It was originally a training school for teachers and a public school and until 1982 housed University business offices. This facility now houses the main administrative offices of the University, Alumni Relations and University Development, Public Information, and State/Federal/Community Relations.

The Corporate Education Center opened in May 1989. It and the nearby Huron Golf Club are owned and operated by EMU. The adjoining Radisson Resort Hotel is privately owned. The Corporate Education Center has 38,000 square feet of conference and seminar meeting space, is designed to serve multiple needs, and has the most advanced communications and audio-visual equipment available. The development includes a 133-acre, eighteen-hole championship golf course.

The Gary M. Owen Building, located on Michigan Avenue in downtown Ypsilanti, houses the College of Business and provides classrooms and offices for the departments of Accounting, Finance, Management, Marketing, and Operations Research and Information systems. The building also contains a library, a computer laboratory, and facilities for other programs operated by the College of Business. The building is named for Gary M. Owen, who was Speaker of the Michigan House of Representatives at the time of the building's construction.

Athletic Fields

Two major athletic facilities, in addition to main campus physical education buildings, attract students to the west campus for football and baseball events. Both stadiums also are sites of community, state and national events such as annual drum corps competitions, Special Olympics and state high school baseball playoffs.

Rynearslon Stadium, named for Elton J. Rynearslon Sr., who coached football for 26 years, is the football stadium. It has 12,500 permanent seats on the west side of the field. Temporary bleachers can expand the seating on the east side to a total of 22,000. Included are complete press box and locker room facilities.

The Ronald E. Oestrike Stadium, which in 1968 replaced Briggs Field (now the parking lot adjacent to McKenny Union), has a covered grandstand seating 2,500. It is among the finest baseball facilities in intercollegiate competition.

Student Housing

University residence halls and student apartments are operated on a self-liquidating plan; i.e., construction is financed from rental revenue, which together with operational costs are paid from rental revenue.

Residence Halls:
The Jones-Goddard Community of Scholars serves approximately 400 students and is the headquarters for the University Honors Program. Goddard Hall also provides classroom space for Industrial Education in a converted cafeteria. The residence halls, traditional in design, enclose a central courtyard. They are named for Lydia Jones, EMU's first full-time dean of women, who served from 1924-39, and Mary Goddard, professor of botany from 1900-1939. The Office of Research Development is located in the basement of Goddard Hall.

downing-Buell-Wise-Best comprise a four-unit complex of separate buildings adjoining a central dining commons. Located in the heart of the campus, they provide space for approximately 1,200 students. Estelle Downing was professor of English from 1898-1938; Bertha G. Buell was professor of history, English literature and political science, 1899-1937; Margaret E. Wise, a first grade teacher trainer during her tenure from 1893-1939, also served as director of placement, 1927-1939; and Martha Best was professor of biology and bacteriology from 1924-1952.

Phepls-Sellers-Walton-Putnam, a second four-unit complex, has physically attached buildings that share a common dining area. Also built to accommodate 1,200 students, the complex honors Jessie Phelps, professor of zoology, physiology and hygiene from 1898-1939; John A. Sellers, professor of chemistry from 1921-1961 and department head from 1958-1961; Genevieve Walton, head librarian from 1892-1932, who planned the initial Mark Jefferson Library and co-founded the Michigan Library Association; and Daniel Putnam, first head of the Education Department, the University's first librarian from 1875-87 and considered EMU's sixth president for his services in this capacity from 1868-1870 and 1871-1906.

Pittman-Hill are contemporary 11-story, high-rise towers and the most recently constructed campus residential units. Both halls have ample social and study space on each floor and each room
offers a panoramic view of the campus and surrounding area. Marvin Pittman was director of rural education and a teacher trainer from 1921-1934; Susan B. Hill was dean of women from 1939-1962, then dean of students from 1962-1969 and also served as a Ypsilanti city councilwoman.

Student Apartments:
The Brown-Munson Apartments were remodeled from a residence hall facility to 207 single-student apartments in the early 1970s. They are designed primarily for two tenants, although some single and multiple occupancy units are available. Apartments are furnished, carpeted and air-conditioned, and all utilities except telephone are included in the monthly rent. The apartments carry the names of James M. “Bingo” Brown, football and baseball coach from 1923-29 and the first dean of men from 1925-1962, and John M. Munson, an EMU graduate who served as president from 1933-1948.

Pine Grove Terrace, on the northwestern corner of main campus, is the closest family housing unit to campus and has 140 one-bedroom apartments and 29 two-bedroom apartments in two-story masonry units. Each building contains laundry and storage facilities, provides exterior balconies and private furnaces. Constructed in the late 1950s, the apartments are furnished.

Cornell Courts Apartments, west of Pine Grove and across Oakwood Avenue, offer 69 one-bedroom and 66 two-bedroom apartments in two-story masonry buildings. Each apartment is furnished; laundry facilities are in each building unit and courtyards provide family social areas.

The Westview Apartments, completed in the late 1960s, are approximately one mile west of main campus near the intercollegiate athletic facilities. They are built in the townhouse style with bedrooms generally located on the second floor above living areas. Occupants have both a front and back yard. A total of 73 one-bedroom and 72 two-bedroom furnished apartments are available.

Note: In the three student family housing areas, a limited number of unfurnished units are available for those desiring to provide their own furnishings, but early reservations must be made with the Housing Office for these unfurnished units.
College of Education:
Dean..........................W. Scott Westerman Jr.
Associate Dean................Mary A. Green
Director of Student Teaching ..Robbie A. Johnson

Departments:
Health, Physical Education, Recreation and Dance, Head..........................Patric L. Cavanaugh
Leadership and Counseling, Head..........................Martha Tack
Special Education, Head..........................Vacant
Teacher Education, Head..........................Jeanne Pietig
Center for Community Education, Director..........................William F. Kromer

College of Health and Human Services:
Dean..........................Elizabeth C. King

Departments:
Occupational Therapy, Director..........................Yvonne Teske

Academic Advising Center:
Director, Acting..........................Charles Fulford
Associate Director..........................Patricia Williams
Coordinators..........................Mary Krieger, Joan Schiller

University Honors Program:
Director..........................Robert Holkeboer
Assistant Director..........................Ruth Gordon
Coordinator, Talented and Gifted Programs..........................Lynn Proegler

Office of the Registrar:
Registrar, Interim..........................Ann Kettles
Associate Registrar..........................Paul L. Zabawa

Continuing Education:
Dean..........................Paul T. McKelvey
Associate Dean..........................Arthur N. McCafferty
Director, Academic Programs Abroad..........................George J. Klein
Coordinator, Independent Study..........................Michael McPhillips
Director, Upward Bound..........................Hildred J. Lewis
Associate Director..........................Clifford McNish
Coordinator, Weekend University..........................Arthur Hoover

Graduate School:
Dean..........................Ronald E. Goldenberg
Associate Dean..........................Hector Garza
Interim Assistant Dean..........................Dennis C. Jackson

Learning Resources and Technologies:
Dean..........................Morell D. Boone
Interim Associate Dean..........................Sandra G. Yee

Office of Research Development:
Director..........................David L. Clifford
Associate Directors..........................Rich Howard, Cheryl Kozell

Executive Division:

Human Resources:
Executive Director..........................Vacant
Director, Employment and Affirmative Action..........................Tamara Fackler
Employment Programs Associate..........................Patricia Harris
Director, Compensation and Benefit Programs..........................James R. Laatsch
Benefit Programs Associate..........................Jeanette Hassan
Compensation Programs Associate..........................Craig Reidsma
Director, Employee Relations..........................Vacant
Employee Relations Associate..........................George Torok
University Attorney..........................Kenneth McKanders

Institutional Advancement:
Director..........................Vacant

University Computing:
Executive Director..........................Vacant
Assistant Director..........................Lawrence A. Ripley
Assistant Director..........................Vacant

University Planning, Budgeting and Analysis:
Executive Director..........................George A. Johnston
Director of Budget Management..........................Alvin S. Levett
Coordinator of Institutional Analysis and Reporting..........................Paul N. Moniodis
Coordinator of Management Information Systems..........................John Senko

University Development:
Director..........................Jack I. Slater, Jr.
Assistant Director..........................Beverly Farley
Development Officer..........................Donald Moffat
Development Officer..........................Mary Ann Staff
Alumni/Development Records and Research, Coordinator..........................Linda Radke

Alumni Relations:
Director..........................George Beaudette
Assistant Director..........................Carole Lick

Center for Entrepreneurship:
Director..........................Patricia Weber
Corporate Education Center:
Director ................................................................. Marcia D. Harrison

Huron Golf Club:
Director ................................................................. Thomas Pendlebury

Intercollegiate Athletics:
Director .................................................................... Eugene Smith
Associate Director ..................................................... John Nordlinger
Assistant Director ......................................................... Lucy Parker
Business Manager ...................................................... Bruce Zylstra
Sports Information Manager ................................. James L. Streeter

Internal Audit:
Director ......................................................................... Peter Witker

Public Information and Publications:
Associate Director, Public Information .................... Susan Bairley
Associate Director, University Publications ............ Sue McKenzie

State, Federal and Community Relations:
Director ....................................................................... Doris A. Komblevitz

WEMU Radio:
Director ................................................................. Arthur J. Timko
News and Public Affairs Manager ......................... Clark Smith
Marketing and Development Manager ................. Wilburn Humphries
Music Program Manager ......................................... Linda Yohn

Business and Finance Division

Assistant Vice President ........................................ Patrick J. Doyle
Controller ................................................................. Susan Merrick
Assistant Controller: Accounts Payable, Payroll .......... Regina Kelly
Assistant Controller: Funds Accounting ....................... Lee Lien
Assistant Controller: Student Business Services ....... Dan Cooper
Director, Physical Plant ............................................. William Smart
Principal Plant Engineer .......................................... Glen Bolling
Project Manager ..................................................... Daniel Klenczar
Manager, Facilities Maintenance ........................... Ray Sowers
Director, Public Safety ............................................. John C. Garland
Associate Director, Public Safety ......................... Cindy Hall
Director, Risk Management, Procurement \ and Stores ... Mary C. Brooks
Director, Purchasing ............................................... Gary Reffitt
Service Operations Manager ................................. Albert A. Robinson
Resident Director, Kresge Environmental Education Center, Lapeer, Mich. ... Ben Czinski

University Marketing and Student Affairs Division

Assistant Director, Internal Operations .................. Patricia Molloy
Assistant Director, Outreach Operations .................. Alberto Peralta

Equity Programs:
Director ..................................................................... Lynette Findley
Coordinator ................................................................ Vacant

Financial Aid:
Director ................................................................... Judy B. Taun
Associate Director .................................................. Pamela Fowler
Assistant Director, Operations ............................. Elaine Kintoch

Campus Life:
Director .................................................................... Glenn Frank Miltz
Program Coordinators ........................................... William Baran

Career Services Center:
Director .................................................................... James Vick
Associate Director .................................................. J. Michael Erwi
Assistant Director, Placement ................................ Vacant
Career Planning Manager ..................................... Joanne Burr
Career Development Associates ...................... Gloria Augen
Jocelyn Chait
Theo Hamilton
Karen Simpkins
Barbara Jones

Corporate Relations Manager ................................ertia
Employee Relations Associate ................................. Kenneth L. Meyer
Manager of Operations .......................................... Jan Benda
Assistant Manager of Operations ......................... James Locke

Dean of Students:
Dean ........................................................................ Bette C. White
Associate Dean ...................................................... Vacant
Director, Foreign Student Affairs ..................... Paul Dean Womack
Veterans Affairs Officer ................................. Robert Teahan

Health Services:
Director ................................................................. Ellen Goto
Associate Director ..................................................... Linda Vengroff

Health Care:
Clinical Administrator ........................................... Diane Sobel
Staff Physician ......................................................... James M. Reame

Employee Assistance:
Program Coordinator ............................................ Robert Dargel
Counseling:
Associate Director ................................................ Rosalyn Barch

University Children's Institute:
Director ................................................................. Vacant
Coordinator of Services .......................................... Lorraine Patrick
Coordinator of Programs ....................................... Terry McVicar

Housing, Dining, Union, Conferences
Director ................................................................. Russell Wigg
Assistant to Director ................................................ Deborah Profit Yoo

Housing:
Director ................................................................. Vacant
Special Projects ..................................................... Deborah McNabb
Facilities ................................................................. Neal Belfsky
Apartments ............................................................. Michael Consueo

Dining Services:
Director ................................................................. Michael Crab
Purchasing ............................................................... Margaret Browne
FACULTY AND STAFF

A

Abbott, Richard H. (1966), Professor, History and Philosophy. Ph.D., University of Wisconsin

Abdullah, Dehan A. (1988), Assistant Professor, Economics. Ph.D., University of Kentucky

Abramson, Armand R. (1967), Professor, Music. M.M., Eastman School of Music


Adams, J. Richard (1960), Professor, Health, Physical Education, Recreation and Dance. Ph.D., University of Michigan

Adams, Leah D. (1969), Professor, Teacher Education. Ph.D., University of Michigan

Aebersold, JoAnn (1980), Associate Professor, Foreign Languages and Bilingual Studies. Ph.D., University of Michigan

Ahlbredt, Gisela E. (1984), Associate Professor, Mathematics. Ph.D., University of Illinois at Chicago

Ahmad, S. Imtiaz (1983), Professor, Operations Research and Information Systems. Ph.D., University of Ottawa


Aldridge, Henry B. (1972), Professor, Communication and Theatre Arts. Ph.D., University of Michigan

Allen, Irene A. (1968), Professor, Teacher Education. Ed.D., Ball State University

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Ph.D., University of Michigan

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Ph.D., Michigan State University

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Reed, Russell D. (1979), Professor, Music.
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Ph.D., Wayne State University

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Rengan, Krishnaswamy (1970), Associate Professor, Criminology.
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Reynolds, Margaret A. (1981), Associate Professor, Nursing Education.
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Ph.D., University of Michigan

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Samonte, Quirico S. (1963), Professor, Teacher Education.
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Ph.D., University of North Carolina

Samuels, Brian A. (1985), Technician, Chemistry.
B.S., Sienna Heights College

Sanchez, Pedro P. (1972), Associate Professor, Operations Research and Information Systems.
Ph.D., University of Michigan

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M.F.A., Arizona State University

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Sayles-Folks, Sherry L. (1978), Associate Professor, Occupational Therapy.
Ph.D., University of Michigan

Schatz, Kenneth (1990), Assistant Professor, Special Education.
M.A., Eastern Michigan University

Schaub, Raymond E. (1969), Interim Director, World College: Professor, Foreign Languages and Bilingual Studies.
Ph.D., Rice University

Schefter, Barbara K. (1976), Assistant Professor, Nursing Education.
M.S., University of Michigan

Scherer, Lester B. (1969), Professor, History and Philosophy.
Ph.D., Northwestern University

Schiller, Joan A. (1973), Academic Adviser, Academic Services Center.
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Schmitt, Donna M. (1975), Acting Department Head, Professor, Leadership and Counseling.
Ph.D., Western Michigan University

Schulterly, Stephen E. (1970), Professor, Chemistry.
Ph.D., Cornell University

Schwartz, Ellen C. (1977), Professor, Art.
Ph.D., Institute of Fine Arts, New York

Schwarze, Richard (1970), University Photographer, Public Information and Publications.
Ph.D., University of Illinois

M.A., Texas A&M University

Scott, Joanna V. (1990), Department Head, Professor, Political Science.
Ph.D., University of Strathclyde, Glasgow, Scotland

Scott, Ronald M. (1959), Professor, Chemistry.
Ph.D., University of Illinois

Seely, Daniel T. (1988), Assistant Professor, English Language and Literature.
Ph.D., University of Massachusetts-Amherst

Ph.D., Northwestern University

B.A., Oakland University

Senteney, David L. (1989), Assistant Professor, Accounting.
Ph.D., University of Illinois at Urbana-Champaign

Sharifi, Mohsen (1981), Department Head, Professor, Accounting.
Ph.D., Louisiana State University

Sharma, Nathi L. (1986), Assistant Professor, Physics and Astronomy.
Ph.D., Ohio State University

Sharp, David W. (1962), Professor, Art.
M.F.A., University of Iowa

Sheard, Joan (1988), Assistant Professor, Health, Physical Education, Recreation and Dance.
M.S., Indiana University

Sheard, John E. (1963), Professor, Health, Physical Education, Recreation and Dance.
P.E.D., Indiana University

Sheffon, William (1988), President.
Ed.D., University of Mississippi

Shemwell, Judy (1983), Instructor, Learning Resources and Technologies.
A.M.L.S., University of Michigan

Shen, Patrick (1988), Assistant Professor, Finance.
Ph.D., University of Houston

Shichtman, Martin B. (1984), Associate Professor, English Language and Literature.
Ph.D., University of Iowa

Shiskowski, Kenneth M. (1983), Associate Professor, Mathematics.
Ph.D., Lehigh University

Shive, Tony F. (1990), Assistant Professor, Industrial Technology.
Ph.D., Iowa State University

Shuter, William F. (1968), Professor, English Language and Literature.
Ph.D., University of Wisconsin

Silver, Robert (1966), Professor, Physics and Astronomy.
Ph.D., University of California
Starko, Al
Stavros, Demo A. (I 984), Associate Professor, Interdisciplinary Technology.

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Spitzer, Andrew (1984), Associate Professor, Accounting.

Smith, Doris A. (1958), Professor, Art.

Smith, John R. (1969), Assistant Professor, Music.

Smith, Karen M. (1987), Assistant Professor, Communication and Theatre Arts.

Smith, Laurence N. (1975), Vice President, University Marketing and Student Affairs.

Smith, Lawrence R. (1970), Professor, English Language and Literature.

Smith, Margaret J. (1981), Assistant Professor, Special Education.

Smith, Margarette D. (1972), Associate Professor, Social Work.

Smith, Steven A. (1984), Department Head, Associated Health Professions.

Smith, Thomas G. (1982), Associate Professor, Industrial Technology.

Smith, Thomas M. (1982), Assistant Professor, Teacher Education.

Smith, William (1966), Director, Physical Plant.

Smith, Clark A. (1983), News and Public Affairs Manager, WEMU.

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Smith, Ramona (1978), Director, Family and Student Affairs.

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Stein, Diane W. (1988), Assistant Professor, Music.

Stephenson, Susanne G. (1963), Professor, Art.

Stephenson, Susanne G. (1963), Professor, Art.

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Stein, Diane W. (1988), Assistant Professor, Music.

Stephenson, Susanne G. (1963), Professor, Art.

Stephenson, Susanne G. (1963), Professor, Art.

Sterzik, Karen (1985), Assistant Professor, Industrial Technology.

Stein, Diane W. (1988), Assistant Professor, Music.

Stephenson, Susanne G. (1963), Professor, Art.

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Stephenson, Susanne G. (1963), Professor, Art.

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Wong, James C. (1968), Professor, History and Philosophy.
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Warren, Bethe (1984), Associate Professor, Mathematics.
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Weiss, Paul Dean (1983), Director, Foreign Student Affairs.
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D.E.A., Universite de Paris II, France
Zeiger, Michael (1979), Assistant Professor, Computer Science.  
Ph.D., University of Michigan
Zellers, Parker R. (1964), Professor, Communication and Theatre Arts.  
Ph.D., State University of Iowa
Ziefert, Marjorie (1981), Associate Professor, Social Work.  
M.S.W., Columbia University
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M.F.A., Florida State University
Zylstra, Bruce (1982), Business Manager, Athletics.  
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Professor Emeritus, History and Philosophy
Associate Professor Emeritus, Administrative Services and Business Education
Professor Emeritus, Psychology
Professor Emeritus, English Language and Literature
Angelo, Angelo A., B.A., M.A., Ph.D. (1965-87)  
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Associate Professor Emeritus, Marketing

B

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Belcher, Robert O., B.A., M.S., Ph.D. (1946-80)  
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Bell, Margaret E., B.S., M.S. (1968-85)  
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Belt, Mary L., B.S., M.A. (1949-83)  
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Bidwell, Jean S., A.B., M.A., Ph.D. (1962-89)  
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Blask, Manuel, B.A., M.A., Ph.D. (1948-80)  
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Birleson, Clifford, B.A., M.A. (1951-80)  
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Borusch, Barbara, B.S., A.M., Ph.D. (1950-79)  
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Professor Emeritus, Physics and Astronomy
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Brown, Leland, A.B., M.A., Ph.D. (1964-83)  
Professor Emeritus, Management
Brownrigg, William J., B.S., A.M. (1932-64)  
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Professor Emeritus, Accounting and Finance
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Dean Emeritus, Leadership and Counseling
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Professor Emeritus, Foreign Languages

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Jackson, Donald, B.A., M.A., Ph.D. (1967-89)
Professor Emeritus, Psychology

Professor Emeritus, Music

Johnston, Fred T., A.B., Ph.D. (1967-84)
Professor Emeritus, Physics and Astronomy

Jones, Hebert, B.S., M.A., Ed.D. (1964-86)
Associate Professor Emeritus, Teacher Education

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Kraushaar, Donald, B.S., M.B.A., M.D., M.S. (1982-87)
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Kuhl, Francis, B.S., M.A., Ed.D. (1964-87)
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Assistant Professor Emeritus, Teacher Education

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Professor Emeritus, Teacher Education
L
Laliberty, Raymond A., B.S., M.A., Ed.S. (1945-81)
Professor Emeritus, Industrial Education; Vice President Emeritus, Administration
Lamkin, Ervin G., B.S., M.S. (1946-69)
Associate Professor Emeritus, Chemistry
Lamming, Dorothy, B.S., M.P.A. (1947-76)
Professor Emeritus, Art
Laney, Maurice L., B.A., M.M., Ph.D. (1968-90), Professor Emeritus, Music
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Professor Emeritus, Curriculum and Instruction
Lansing, Marjorie J., B.A., M.A., Ph.D. (1968-86)
Professor Emeritus, Political Science
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Professor Emeritus, Business and Industrial Education
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MacDonald, Alister, B.A., M.A. (1948-78)
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Professor Emeritus, Learning Resources and Technologies
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Professor Emeritus, History and Philosophy
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Associate Professor Emeritus, Economics
Professor Emeritus, Communication and Theatre Arts
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McHugh, Frank, A.B., M.A. (1958-85)
Professor Emeritus, English Language and Literature
McWilliams, Robert O., A.B., M.P.A., Ph.D. (1956-86)
Professor Emeritus, Political Science
Menzi, Elizabeth A., B.A., M.A., Ph.D. (1964-86)
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Professor Emeritus, Leadership and Counseling
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Professor Emeritus, English Language and Literature
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Quaye, Robert G., B.S., M.M. (1964-84)
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Rorer, Gertrude, B.A., A.M. (1926-61)
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Rossler, Margaret L., A.B., M.A., Ph.D. (1965-80)
Professor Emeritus, History and Philosophy
Dean Emeritus, College of Business; Professor Emeritus, Marketing
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Ruhley, Glenn, B.A., M.A., Ph.D. (1968-87)
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S
Satter, John W., B.A., M.A., Ph.D. (1947-74)
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Schatz, Lillian, A.B., Ph.M. (1950-70)
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Associate Professor Emeritus, Curriculum and Instruction

Sobussen, Harold, B.A., M.A. (1960-88)

Smythe, Frank L., B.S., M.S., M.A. (1955-86)

Associate Professor Emeritus, Economics

Snyder, Carl D., B.S., A.M., D.Sc. (1957-79)

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Spedding, William D., B.S., M.A. (1960-83)

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W


Professor Emeritus, Biology

Waugh, Edgar W., A.B., M.A., L.L.D. (Hon) (1927-68)

Professor Emeritus, History and Social Sciences

Wawrzyniec, Frank J., B.S., M.Ed. (1956-86)

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Wells, Phillip G., B.S., M.S., Ed.D. (1959-80)

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Wilson, Charlotte K., B.S., M.A. (1954-89)

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# Index of Programs of Study

## A

- Accounting major .......................................................... 212
- Accounting information systems major ........................................ 212
- Accounting minor .......................................................... 213
- Actuarial science and economics major ........................................ 165
- Aerospace studies .......................................................... 345
- African-American studies major .............................................. 55
- African-American studies minor .............................................. 56
- Anthropology major ........................................................ 200
- Anthropology minor ........................................................ 200
- Applied science curriculum .................................................. 179
- Architecture, pre-professional program ....................................... 326
- Area studies majors ............................................................ 148
  - Africa ............................................................................ 149
  - Asia-Far East ................................................................. 149
  - Latin America ............................................................... 149
  - Middle East and North Africa ........................................... 150
  - Soviet Union ................................................................ 150
- Area studies minors .............................................................. 151
  - Africa ............................................................................ 151
  - Asia-Far East ................................................................. 151
  - Latin America ............................................................... 151
  - Middle East and North Africa ........................................... 151
  - Soviet Union ................................................................ 151
- Art education curriculum ....................................................... 57
- Art history minor .................................................................. 59
- Art major ............................................................................. 59
- Art minor ............................................................................. 59
- Arts group major for elementary and early childhood teachers .......... 261
- Arts group minor for elementary and early childhood teachers .......... 262
- Arts management curriculum ............................................... 86
- Astronomy group minor ...................................................... 183
- Aviation management technology curriculum ............................. 330

## B

- Bachelor of arts basic degree curriculum ................................... 46
- Bachelor of business administration degree curriculum ............ 209
- Bachelor of business administration in economics .................... 106
- Bachelor of fine arts plus teacher certification .......................... 58
- Bachelor of science basic degree curriculum ............................ 54
- Bilingual-bicultural education minor (Spanish-English) ............... 125
- Bilingual vocational teacher education ..................................... 331
  - Bilingual industrial-vocational teacher education curriculum .... 331
  - Bilingual office and marketing teacher education curriculum .... 332
- Biochemistry, general curriculum ........................................... 79
- Biochemistry minor .......................................................... 80
- Biochemistry, professional curriculum ..................................... 78
- Biochemistry/toxicology curriculum ........................................ 79
- Biology major ........................................................................
  - Ecosystem biology concentration (aquatic and terrestrial) ......... 65
  - General biology concentration ........................................... 66
  - Microbiology concentration ............................................... 66
  - Physiology concentration ................................................... 67
  - Biology minor .................................................................... 67
- Botany minor ........................................................................ 67
- Business computer systems major ........................................... 225
- Business computer systems minor .......................................... 226
- Business education curriculum .............................................. 311
  - Business education/marketing education major ...................... 311
  - Business education/office education major ......................... 311

## C

- Cartography and remote sensing minor .................................... 139
- Chemistry major .................................................................... 71
- Chemistry minor .................................................................... 80
- Chemistry, professional curriculum ....................................... 70
- Child development minor ..................................................... 289
- Children’s literature and drama/theatre for the young
  interdisciplinary major ....................................................... 89, 113
- Children’s literature minor .................................................. 114
- Clinical laboratory sciences .................................................. 273
- Clothing and textiles minor ................................................... 289
- Coaching minor ..................................................................... 217
- Coastal environments minor .................................................. 140
- Coating process technology curriculum ................................... 334
- Communication and theatre arts comprehensive major ............. 88
- Communication and theatre arts comprehensive minor ............ 91
- Communication major ........................................................ 86
  - Interpersonal communication option .................................... 87
  - Organizational communication option ................................... 87
  - Speech communication option ........................................... 87
- Communication minor ......................................................... 89
- Communication minor for elementary and special
  education students .............................................................. 50
- Communication technology curriculum ................................. 87, 334
- Computer science major (non-teaching) .................................. 100
- Computer science minor (teaching) ........................................ 100
- Computer science minor (non-teaching) .................................. 101
- Computer science minor (teaching) ........................................ 101
- Computer technology curricula
  - Computer-aided design ..................................................... 323
  - Computer-aided manufacturing .......................................... 323
  - Construction and resource use minor .................................. 68
  - Construction technology major .......................................... 321
- Consumer home economics education curriculum .................... 284
- Content and methods minor ................................................ 265
- Criminology and criminal justice curriculum .......................... 199
- Criminology and criminal justice minor ................................. 200

## D

- Dance, curriculum for teachers of .......................................... 235
- Dance minor ......................................................................... 231
- Dental hygiene and dental assisting, pre-professional program .... 80
- Dentistry, pre-professional program ....................................... 80
- Dietetics curriculum .......................................................... 285
- Drama/theatre for the young minor ......................................... 91
- Driver education .................................................................. 266

## E

- Early childhood education curriculum ..................................... 260
- Early childhood education minor ........................................... 261
- Earth science major .......................................................... 137
- Earth science minor .......................................................... 140
- Economics major .................................................................. 105
- Economics minor .................................................................. 106
- Educational media (library science) ....................................... 266
- Elementary education curriculum .......................................... 269
- Elementary minor in industrial education ................................ 263
- Elementary science group major ......................................... 262
- Elementary science group minor .......................................... 262
- Emotionally impaired (special education major) ....................... 257
- Engineering physics concentration ....................................... 192
- Engineering, pre-professional program ................................... 398
- English and American literature and language group major ....... 112
- English as a foreign language minor ...................................... 125
<table>
<thead>
<tr>
<th>Index of Programs of Study</th>
<th>385</th>
</tr>
</thead>
</table>

**English**

- English language and literature minor ........................................... 114
- English language major ......................................................................... 109
- English language minor .......................................................................... 114
- English linguistics major ...................................................................... 110
- English linguistics minor ...................................................................... 115

**F**

- Family and children’s services program ............................................. 303
- Family life minor .................................................................................. 290
- Fashion merchandising curriculum ....................................................... 287
- Finance major ......................................................................................... 215
- Finance minor .......................................................................................... 216
- Fine arts curriculum ................................................................................ 58
- Foreign language minor ........................................................................... 126
- Forestry, pre-professional program ...................................................... 69

**French majors**

- French ........................................................................................................ 122
- French for business .................................................................................... 123

**French minors**

- French business language ..................................................................... 126
- French language ....................................................................................... 126
- French language and literature ............................................................... 126
- French literature ......................................................................................... 126

**G**

- General business major ......................................................................... 218
- General business minor ........................................................................... 219
- General science group major/minor ....................................................... 180
- General science group minor .................................................................. 183
- Geography major ...................................................................................... 137
- Geography minor ....................................................................................... 139
- Geology major .......................................................................................... 137
- Geology minor .......................................................................................... 139
- Geophysics major ..................................................................................... 181

**German majors**

- German for business ............................................................................... 123
- German language and literature ............................................................. 123

**German minors**

- Business German ...................................................................................... 127
- German language ....................................................................................... 126
- German language and literature .............................................................. 126
- German literature ........................................................................................ 126

**Gerontology minor .................................................................................. 307

**Graphic communication minor .............................................................. 337

**Group majors and minors for elementary education**

- Arts group major ....................................................................................... 261
- Arts group minor ........................................................................................ 262
- Bilingual-bicultural education (Spanish-English) group minor ............. 262
- Elementary science group major ............................................................. 262
- Elementary science group minor ............................................................. 262
- Literature, language, communication and theatre arts group major ....... 262
- Social science group major ..................................................................... 263
- Social science group minor ..................................................................... 263
- Content and methods minor .................................................................... 263
- Industrial education minor ..................................................................... 263
- Foreign language minor ............................................................................ 263

**H**

- Health administration curriculum ......................................................... 278
- Health and illness studies interdisciplinary minor ................................... 201
- Healthcare services program ................................................................... 303
- Health minor ............................................................................................... 238

**Hearing impaired (special education major)** ..................................... 251

**Historic preservation minor** ................................................................. 140

**I**

- Individualized interdisciplinary concentration ....................................... 55
- Industrial distribution curriculum ......................................................... 336
- Industrial education curriculum .............................................................. 314

  **Industrial education/industrial arts major** ......................................... 315
  **Industrial education/industrial-vocational major** ................................ 316
- Industrial education minor ...................................................................... 316
- Industrial technology curriculum ............................................................ 321

  **Construction technology major** .......................................................... 321
  **Industry major** ...................................................................................... 322
  **Manufacturing technology major** ......................................................... 324
  **Plastics technology major** ................................................................... 324
  **Industrial technology major** ................................................................. 325
- Industry major ........................................................................................... 322
- Instrumental music, curriculum for teachers of ..................................... 170
- Interior design curriculum ........................................................................ 288

**J**

- Japanese language and culture teaching major ....................................... 123
- Journalism major ....................................................................................... 111
- Journalism minor ....................................................................................... 115

**L**

- Labor studies major .................................................................................. 106
- Labor studies minor .................................................................................. 106
- Land use planning major ......................................................................... 137
- Land use planning minor .......................................................................... 140
- Language and international trade major .................................................. 123
- Language, journalism, telecommunications and film group major ........ 123
- Law, pre-professional program ................................................................ 191
- Library science (see educational media) .................................................... 89, 113
- Literature, language, communication and theatre arts group major ....... 89, 113
- Literature major ........................................................................................ 111
- Literature minor ........................................................................................ 115

**M**

- Management major ................................................................................... 219
- Management minor ................................................................................... 219
- Manufacturing technology major .............................................................. 324
- Marketing major ........................................................................................ 222
- Marketing minor ........................................................................................ 223

**Mathematics majors**

- For the elementary teaching certificate .................................................. 163
- Teaching and non-teaching ..................................................................... 162

**Mathematics minors**

- For the elementary teaching certificate .................................................. 165
- Teaching and non-teaching ..................................................................... 164

- Medical technology (see clinical laboratory sciences) ....................... 70
- Medicine, pre-professional program ....................................................... 70
- Mentally impaired (special education major) ......................................... 251
- Metallurgical chemistry curriculum ....................................................... 79
- Military science minor ............................................................................... 343
- Mortuary science, pre-professional program .......................................... 81
- Musical theatre minor ................................................................................. 91
- Music major (non-teaching) ..................................................................... 173

**Music minors**

- Elementary music education .................................................................... 173
- General music ............................................................................................ 173
- Music performance curriculum .................................................................. 171
- Music therapy curriculum ......................................................................... 172
INDEX

A

Academic advising ................................................. 39
Academic Affairs Division officers ......................... 362
Academic calendar ............................................. 2
Academic procedures ........................................... 21
Academic retention and dismissal ............................. 25
Accounting Department ....................................... 212
Majors and minors .............................................. 212
Accounting courses ............................................. 213
Accounting information systems major ..................... 212
Accounting major .............................................. 212
Accounting minor .............................................. 213
Accreditation .................................................... 7
Actuarial science and economics major ..................... 164
Administrative officers ........................................ 362
Admission to the University .................................... 9
Advanced placement ............................................ 10
Advising: sequence of courses ................................. 37
Aerospace studies ............................................... 345
African-American Studies, Department of ................ 55
Major .......................................................... 55
Minor .................................................................. 56
Courses ........................................................... 56
Alternative credit options ...................................... 10
Alumni Relations, Office of .................................... 351
Anthropology major ............................................. 200
Anthropology minor ............................................. 200
Applied science curriculum .................................... 179
Architecture, pre-professional program ...................... 326
Area studies majors .............................................
Africa .................................................................. 148
Asia-Far East ..................................................... 149
Latin America .................................................... 149
Middle East and North Africa ................................. 150
Soviet Union ..................................................... 150
Area studies minors .............................................
Africa .................................................................. 151
Asia-Far East ..................................................... 151
Latin America .................................................... 151
Middle East and North Africa ................................. 151
Soviet Union ..................................................... 151
Armed forces financial aid programs ......................... 19
Art Department .................................................... 37
Majors and minors .............................................. 57
Courses for non-majors ........................................... 59
Art education courses .......................................... 60
Studio art courses .............................................. 60
Art history courses ............................................. 63
Art education curriculum ....................................... 57
Art history minor .............................................. 59
Art major ......................................................... 59
Art minor ......................................................... 59
Arts and Sciences, College of ................................ 53
Arts management curriculum .................................. 86
Associated Health Professions Department ................. 273
Clinical laboratory sciences program ....................... 273
Clinical laboratory sciences courses ......................... 276
Health administration program ................................ 278
Health administration courses ................................ 280
Occupational therapy program ................................ 281
Occupational therapy courses ................................ 282
Astronomy group minor ........................................ 183
Athletic fields ..................................................... 361
Athletics, intercollegiate ......................................... 48
Aviation management technology curriculum ............. 330

B

Bachelor of arts basic degree curriculum .................... 54
Bachelor of business administration degree curriculum .. 209
Bachelor of business administration in economics .......... 106
Bachelor of fine arts plus teacher certification ............. 58
Bachelor of science basic degree curriculum ............... 54
Basic studies requirements ..................................... 28
Bilingual-bicultural education minor (Spanish-English) ... 125
Bilingual vocational teacher education ....................... 331
Bilingual industrial-vocational teacher education curriculum 331
Bilingual office and marketing teacher education curriculum 331
Biochemistry, general curriculum ............................. 79
Biochemistry minor ............................................ 80
Biochemistry, professional curriculum ....................... 78
Biochemistry, toxicology curriculum .......................... 79
Biology Department ............................................. 64
Majors and minors .............................................. 64
Biology courses ................................................... 70
Botany courses ................................................... 72
Microbiology courses .......................................... 73
Zoology courses ................................................... 74
Elementary science courses .................................... 76
Biology major .................................................... 65
Biology minor .................................................... 67
Botany minor .................................................... 68
Buildings, University ........................................... 359
Business and Finance Division officers ...................... 364
Business and Industrial Education Department ............ 310
Majors and minors .............................................. 310
Business education courses .................................... 316
Industrial education courses .................................... 319
Business, College of .......................................... 207
Business computer systems major ............................ 225
Business computer systems minor ............................ 226
Business education curriculum ................................ 311
Business education/marketing education major ............ 311
Business education/office education major .................. 311
Business education minor ..................................... 310

C

Calendar, University ........................................... 2
Campuses, University ........................................... 359
Campus Life, Office of ........................................ 44
Career services ................................................... 39
Cartography and remote sensing minor ..................... 139
Center for Entrepreneurship ................................... 49
Certification ..................................................... 35
Charges per semester, schedule of ............................ 17
Chemistry Department ........................................ 77
Majors and minors .............................................. 76
Courses ......................................................... 81
Chemistry major ............................................... 77
Chemistry minor ............................................... 80
Chemistry, professional curriculum ......................... 78
Children’s Center ............................................... 42
Child Development Laboratory ................................ 50
Child development minor ...................................... 289
Children’s literature and drama/theatre for the young interdepartmental major ................................ 89, 113
Children’s literature minor .................................... 114
Clinical laboratory sciences ................................... 273
Cytochemistry/histotechnology track ......................... 275
Phlebotomy program .......................................... 276
Courses ......................................................... 276
Clothing and textiles minor .................................... 289
General science group mmor ................................................... 34
French minors French business language .......................................................... 126
French language ........................................................................... 126
French language and literature .................................................. 126
French literature ........................................................................... 126

G
General biology concentration .......................................................... 65
General business major ................................................................ 218
General business minor ................................................................ 219
General humanities courses .......................................................... 161
General science group major/minor ............................................. 180
General science group minor .......................................................... 183
Geography and Geology Department ........................................... 138
Majors and minors ................................................................. 138
Geography and earth science courses ........................................... 143
Geology courses ........................................................................... 144
Geography courses in social science ............................................ 146
Geography courses in education .................................................. 149
Geography courses in historic preservation ................................ 149
Geography major ........................................................................... 137
Geography minor ........................................................................... 139
Geology major .............................................................................. 137
Geology minor .............................................................................. 139
Geophysics major ................................................................. 181
German majors German for business ............................................. 123
German language and literature .................................................. 123

German minors Business German ............................................. 127
German language ........................................................................... 126
German language and literature .................................................. 126
German literature ........................................................................... 126

Gerontology minor ................................................................. 307
Government of the University .................................................... 7
Grade grievance procedure .......................................................... 23
Grade point average ..................................................................... 23
Grade reports ............................................................................... 23
Grades ......................................................................................... 22
Graduate School ........................................................................... 348
Admission ..................................................................................... 349
Financial assistance ................................................................... 350
Graduation audit .......................................................................... 36
Graduation requirements .............................................................. 28

Graphic communication minor .................................................. 337
Group majors and minors for elementary education ................... 261
Arts group major ......................................................................... 261
Arts group minor ......................................................................... 262
Bilingual-hicultural education ..................................................... 262
(Spanish-English) group minor ..................................................... 262
Elementary science group major ................................................. 262
Elementary science group minor .................................................. 262

Literature, language, communication and theatre arts

group major ..................................................................................... 262
Social science group major .......................................................... 263
Social science group minor .......................................................... 263
Content and methods minor ........................................................ 263
Industrial education minor .......................................................... 263

Foreign language minor ............................................................... 263

H
Handicapped student services ......................................................... 47
Health administration curriculum ................................................. 278
Health and Human Services, College of ........................................ 271

Health and illness studies interdisciplinary minor ......................... 201
Health care ................................................................................. 40
Health care services program ..................................................... 303
Health minor ................................................................................ 238

Health, Physical Education, Recreation and Dance Department 232
 Majors and minors ................................................................. 232
 Activity courses for general students ........................................ 239
 Athletic courses ........................................................................... 240
 Dance courses .............................................................................. 241
 Health courses ............................................................................. 241
 Physical education courses ......................................................... 242
 Recreation and park management and therapeutic recreation courses .................................................. 245

Hearing impaired (special education major) ................................ 251
Historic preservation minor .......................................................... 140
History and Philosophy Department ........................................... 149
History majors and minors .......................................................... 149

History courses
World history ................................................................................. 154
Ancient and medieval history ..................................................... 154
European history ........................................................................ 155
American history ........................................................................ 156
Asian and African history ........................................................... 158
Teaching methods: history and social studies ............................. 158
Independent study ..................................................................... 158
Cooperative education ............................................................... 158
Philosophy major and minor ....................................................... 158
Philosophy courses ..................................................................... 159

History major ................................................................................. 150
History minor ................................................................................. 151
Honors program, University ......................................................... 12
Hospitality management ............................................................... 287
Housing/dining services ............................................................... 81
Housing, student ........................................................................... 360
Human, Environmental and Consumer Resources Department ................................. 284
Majors and minors ................................................................. 284
Courses ......................................................................................... 290

Humanities courses, general .......................................................... 161

I
Incomplete grades ........................................................................... 23
Individualized Interdisciplinary Concentration ............................... 55
Industrial distribution curriculum ............................................... 336
Industrial education courses .......................................................... 319

Industrial education curriculum .................................................. 314
Industrial education/industrial arts major ........................................ 315
Industrial education/industrial-vocational major ............................... 316
Industrial education minor .......................................................... 316

Industrial technology curriculum .................................................. 321
Construction technology major ..................................................... 321
Construction technology minor ..................................................... 325
Industry major .............................................................................. 322
Manufacturing technology major .................................................. 324
Manufacturing technology minor .................................................. 325
Plastics technology major ............................................................. 324

Industrial Technology Department .............................................. 321
Majors and minor ................................................................. 321
Courses ......................................................................................... 326

Industrial technology minor .......................................................... 325
Information requests ..................................................................... 47
Institute for Community and Regional Development ................... 49
Institute for the Study of Children and Families .......................... 50
Instrumental music, curriculum for teachers of ............................. 170
Intercollegiate athletics ............................................................... 48
Interdisciplinary Technology Department ................................. 330
Majors and minors ................................................................. 330
Courses ......................................................................................... 338
U
University advancement.......................................................... 351
University buildings ................................................................ 360
University calendar ................................................................ 2
University campuses ................................................................ 359
University honors program .................................................. 12
University mission ................................................................. 5
University profile .................................................................. 4
University short term loans .................................................... 20

V
Validation ................................................................................ 11
Veterans Affairs, Office of ....................................................... 47
Visually impaired (special education major) ......................... 252
Vocal music, curriculum for teachers of ................................ 171

W
Welcome ................................................................................ 4
WEMU ..................................................................................... 48
Withdrawals .......................................................................... 26
Women's studies program ....................................................... 206
  Minor .................................................................................. 206
  Courses ............................................................................... 207
World college .......................................................................... 352
WQBR ..................................................................................... 48
Writing minor ......................................................................... 115
Written communication major ............................................. 111

Z
Zoology minor .......................................................................... 68