



*Eastern  
Michigan  
University*

*Bulletin*

*Undergraduate  
Catalog*

*1987-88*



# INFORMATION REQUESTS

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

<b>ACADEMIC RECORDS</b> .....	Academic Records and Certification Office, 5 Pierce, 487-4111
Catalogs (undergraduate)	
Degree requirements	
Re-enrollment application	
Teacher certification	
Transfer credit	
Transcripts	
<b>ACADEMIC SERVICES</b> .....	Academic Advising Center, 229 Pierce, 487-2170
Advising (undergraduate)	
Courses and programs of study	
Evening advising and programs of study	
<b>ADMISSION (UNDERGRADUATE)</b> .....	Admissions Office, 214 Pierce, 487-3060
International students	
New students	
Non-traditional students	
Transfer students	
<b>ADMISSION (GRADUATE)</b> .....	Graduate School, 116 Pierce, 487-3400
Advising	
Catalogs	
Programs of study	
<b>ALUMNI AFFAIRS</b> .....	Alumni Relations Office, 202 McKenny Union, 487-0250
<b>ATHLETIC TEAMS AND TICKETS</b> .....	Athletics Office, 200 Bowen Field House, 487-0351
<b>BILLING AND FEES</b> .....	Student Accounting Office, Briggs, 487-3335
<b>BOOKS</b> (new, used and supplies).....	University Bookstore, McKenny Union, 487-1000
<b>CAMPUS VISITS</b> (individuals or groups).....	Admissions On-Campus Programs, Starkweather, 487-1111
<b>CHILD CARE CENTER</b> .....	Snow Health Center, 487-1126
<b>CLUBS AND ORGANIZATIONS</b> .....	Campus Life, 117 Goodison, 487-3045
<b>CONTINUING EDUCATION</b> .....	319 Goodison, 487-0407
Conferences and workshops	
Correspondence courses	
In-house training	
Off-campus credit courses	
Professional development	
<b>EDUCATIONAL CENTERS</b>	
Center for Entrepreneurship.....	487-4140, 487-0225
Child Development Laboratory (Children's Center).....	209-212 Rackham, 487-0286
Corporate Training Center.....	482-2977
Educational Service Center.....	111 King, 487-1060
Institute for Community and Regional Development.....	714 Pray-Harrod, 487-0243
Institute for the Study of Children and Families.....	102 King, 487-0372
Michigan Consumer Education Center.....	207 Rackham, 487-2292
Technology Services Center.....	206 Sill, 487-2259
<b>EDUCATIONAL RESOURCES</b> .....	Learning Resources and Technologies, 487-0020
Center for Instructional Computing.....	487-1347
Instructional Support Center.....	487-1380
Library.....	487-3316
Media Services Center.....	487-2220
<b>FINANCIAL AID</b> .....	Financial Aid Office, 212 Pierce, 487-0455
Loans and grants-in-aid	
Scholarships	
<b>HEALTH SERVICES</b> .....	Snow Health Center, 487-1122
Counseling services.....	487-1118
<b>HONORS PROGRAM</b> .....	Jones-Goddard Community of Scholars, 487-0341
<b>LIVING ACCOMMODATIONS</b> .....	Housing Office, Dining Commons #1, 487-1300
<b>PARENTS ASSOCIATION</b> .....	Starkweather, 487-2222
<b>REGISTRATION FOR CLASSES</b> .....	Registration Office, Briggs, 487-2300
<b>RECREATION AND INTRAMURAL SPORTS</b> .....	Olds Student Recreation Center, 487-1338
<b>VETERANS AFFAIRS</b> .....	Veterans Affairs Office, 217 Goodison, 487-3116

**EASTERN MICHIGAN UNIVERSITY  
BULLETIN  
1987-88**

**THE UNDERGRADUATE CATALOG**

**130th Annual Edition**

ACCREDITED BY: The North Central Association of  
Colleges and Secondary Schools

The contents of this Catalog are subject to revision any time. The University reserves the right to change fees, courses, policies, programs, services and personnel as required.

Volume CXXX

Number 1

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# UNIVERSITY CALENDAR

## 1986-87 Academic Calendar

### Spring Session, 1987

May 3, Sunday . . . . .	Move-in Day
May 4, Monday . . . . .	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, 1987

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

## 1987-88 Academic Calendar

### Fall Semester, 1987

September 3 & 4, Thursday and Friday . . . . .	Program Adjustment
September 6, Sunday . . . . .	Freshman Residence Hall Move-in Day
September 6, 7 & 8, Sunday, Monday and Tuesday . . . . .	Freshman Orientation
September 7 & 8, Monday and Tuesday . . . . .	Upperclass Residence Hall Move-in Days
September 9, Wednesday . . . . .	Classes Begin
November 25, Wednesday . . . . .	No Classes after 5 p.m.
November 26-29, Thursday through Sunday . . . . .	Thanksgiving Recess
November 30, Monday . . . . .	Classes Resume
December 13, Sunday . . . . .	Mid-year Commencement
December 17-19, 21 and 22, Thursday through Saturday, Monday and Tuesday . . . . .	Final Examinations
December 22, Tuesday . . . . .	Fall Semester Closes

### Winter Semester, 1988

January 8, Friday . . . . .	Program Adjustment
January 10, Sunday . . . . .	Move-in Day
January 11, Monday . . . . .	Classes Begin
March 6-13, Sunday through Sunday . . . . .	Winter Recess
March 14, Monday . . . . .	Classes Resume
March 27, Sunday . . . . .	Honors Convocation
April 1-3, Friday through Sunday . . . . .	Spring Recess
April 4, Monday . . . . .	Classes Resume
April 23, Saturday . . . . .	Commencement
April 26-30, Tuesday through Saturday . . . . .	Final Examinations
April 30, Saturday . . . . .	Winter Semester Closes

### Spring Session, 1988

May 3, Tuesday . . . . .	Move-in Day
May 4, Wednesday . . . . .	Classes Begin
May 30, Monday . . . . .	Memorial Day (No Classes)
June 23 & 24, Tuesday and Wednesday . . . . .	Final Examinations
June 24, Friday . . . . .	Spring Session Closes

## Summer Session, 1988

June 26, Sunday . . . . .	Move-in Day
June 27, Monday . . . . .	Classes Begin
July 4, Monday . . . . .	Independence Day (No Classes)
August 4 & 5, Thursday and Friday . . . . .	Six-week Final Examinations
August 16 & 17, Tuesday and Wednesday . . . . .	Seven and One-half Week Final Examinations
August 19, Friday . . . . .	Summer Session Closes

## 1988-89 Academic Calendar

### Fall Semester, 1988

September 2 & 6, Friday and Tuesday . . . . .	Program Adjustment
September 4, Sunday . . . . .	Freshman Residence Hall Move-in Day
September 4, 5 & 6, Sunday, Monday and Tuesday . . . . .	Freshman Orientation
September 5 & 6, Monday and Tuesday . . . . .	Upperclass Residence Hall Move-in Days
September 7, Wednesday . . . . .	Classes Begin
November 23, Wednesday . . . . .	No Classes after 5 p.m.
November 24-27, Thursday through Sunday . . . . .	Thanksgiving Recess
November 28, Monday . . . . .	Classes Resume
December 18, Sunday . . . . .	Mid-year Commencement
December 15-17 and 19-20, Thursday through Saturday and Monday and Tuesday . . . . .	Final Examinations
December 20, Tuesday . . . . .	Fall Semester Closes

### Winter Semester, 1989

January 5 & 6, Thursday and Friday . . . . .	Program Adjustment
January 8, Sunday . . . . .	Move-in Day and Winter Orientation
January 9, Monday . . . . .	Classes Begin
March 5-12, Sunday through Sunday . . . . .	Winter Recess
March 13, Monday . . . . .	Classes Resume
April 2, Sunday . . . . .	Honors Convocation
April 22, Saturday . . . . .	Commencement
April 25-29, Tuesday through Saturday . . . . .	Final Examinations
April 29, Saturday . . . . .	Winter Semester Closes

### Spring Session, 1989

May 2, Tuesday . . . . .	Move-in Day
May 3, Wednesday . . . . .	Classes Begin
May 29, Monday . . . . .	Memorial Day (No Classes)
June 22 & 23, Thursday and Friday . . . . .	Final Examinations
June 23, Friday . . . . .	Spring Session Closes

### Summer Session, 1989

June 25, Sunday . . . . .	Move-in Day
June 26, Monday . . . . .	Classes Begin
July 4, Tuesday . . . . .	Independence Day (No Classes)
August 3 & 4, Thursday and Friday . . . . .	Six-week Final Examinations
August 15 & 16, Tuesday and Wednesday . . . . .	Seven and One-half Week Final Examinations
August 18, Friday . . . . .	Summer Session Closes

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**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 in which 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 24,000 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.

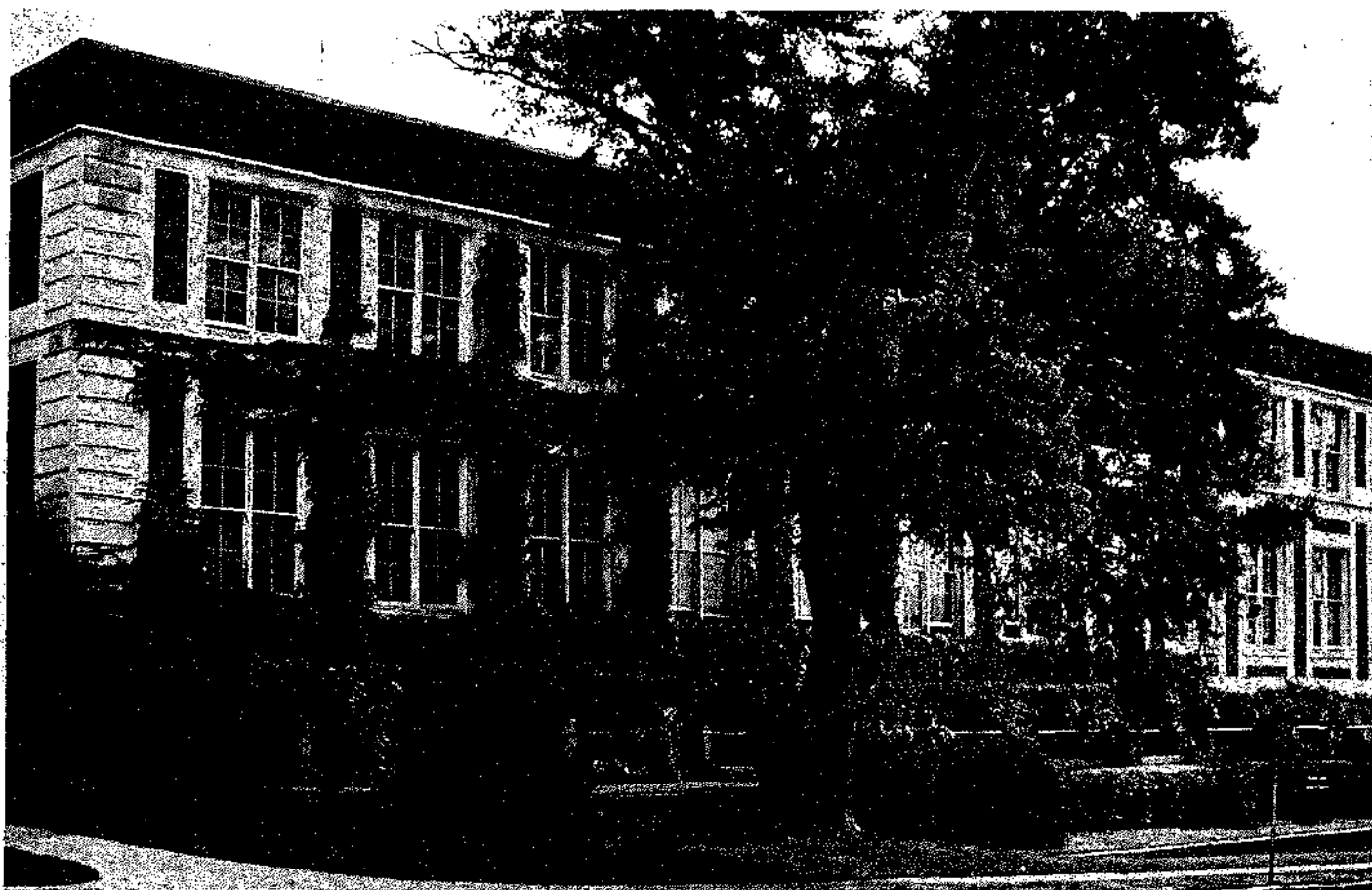
Advantageous to all students are not only the cultural activities of the metropolitan areas, both within a 45-minute drive from the campus, but also the resources of its sister city, Ann Arbor, home of the University of Michigan. EMU offers its own cultural opportunities through the artistic accomplishments 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 I-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 school-houses 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 has expanded three more times: 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 spreading from its original 275 acres on the south side of the Huron River to 182 acres west of the campus primarily for student residences and athletic facilities. Buildings have multiplied, with the newest being the Olds Student Recreation Center, opened in the fall of 1982 to provide needed recreational and intramural activities for the growing student body, and the Sponberg Theater addition to the Quirk Building, dedicated in January 1986. By 1990, EMU's campus also will extend into downtown Ypsilanti, where its new College of Business building will be located.

**Student enrollment** has 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 23,095 in the fall of 1986, 16,739 students enrolling as undergraduates and 6,356 as graduate students.

Today's student body represents both full-time and part-time students, indicative of the national trend of mature adults returning to complete college educations and to prepare for new careers in a changing society. Women comprise almost 59 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 escalating costs of a college education. In 1985, statistics showed that within the student body there were 10,535 full-time and 9,783 part-time students.

Included in the geographic distribution of EMU undergraduates in 1985 were 90.6 percent from the state of Michigan, 4.9 percent from out-of-state and 4.5 percent who listed citizenship from countries other than the United States. Within Michigan, 77 of 82 counties had student representatives on campus with 79.6 percent of those coming from the seven counties in southeastern Michigan. Approximately 3.3 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 greets 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 to the ever-diversifying student body.

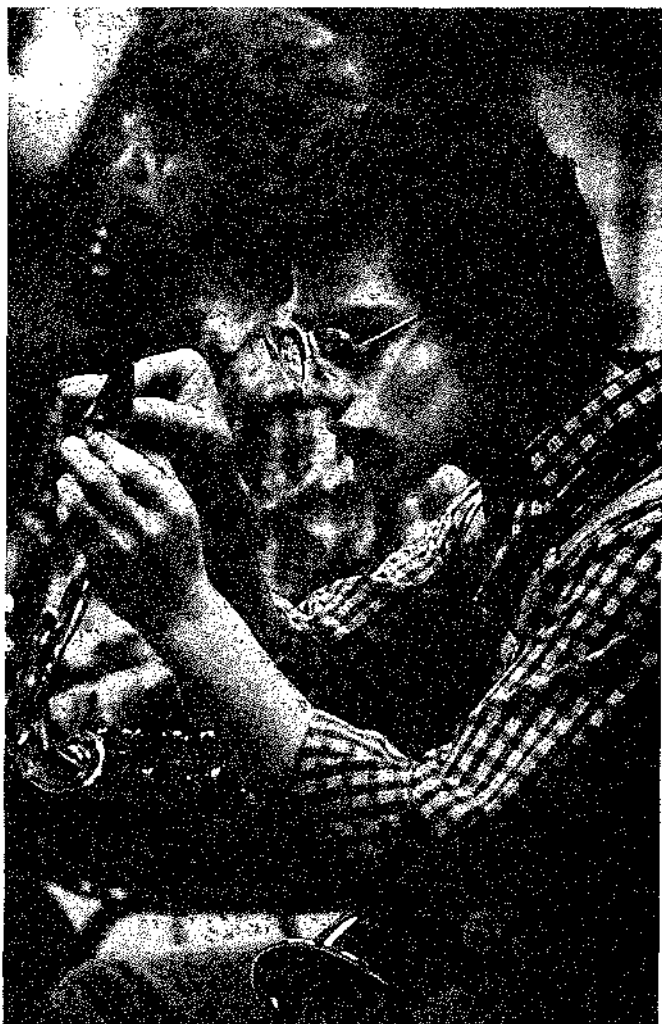
EMU's **perspective** also has grown larger, not only in on-campus program developments but also in regular or special courses offered in 17 communities through its Division of Continuing Education and in cooperative agreements with nearby community colleges. The Office of International Studies plans 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, each college's service center provides a vital link between research theory and practical application as they are called upon by businesses, schools, industries and agencies to lend their expertise.

**Eastern Michigan University** today is known world-wide for its educational contributions. Its 72,000 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, Mich.

**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.



## 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 William Simmons ('90), Wayne, chairperson; Geneva Y. Titsworth ('90), Dearborn Heights, vice chairperson; John Burton ('94), Ypsilanti; Anthony Derezinski ('88), Ann Arbor; Geraldine M. Ellington ('88), Detroit; Thomas Guastello ('92), Grosse Pointe Woods; Richard N. Robb ('92), Ypsilanti; Donald E. Shelton ('94), Saline.

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:** This 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.

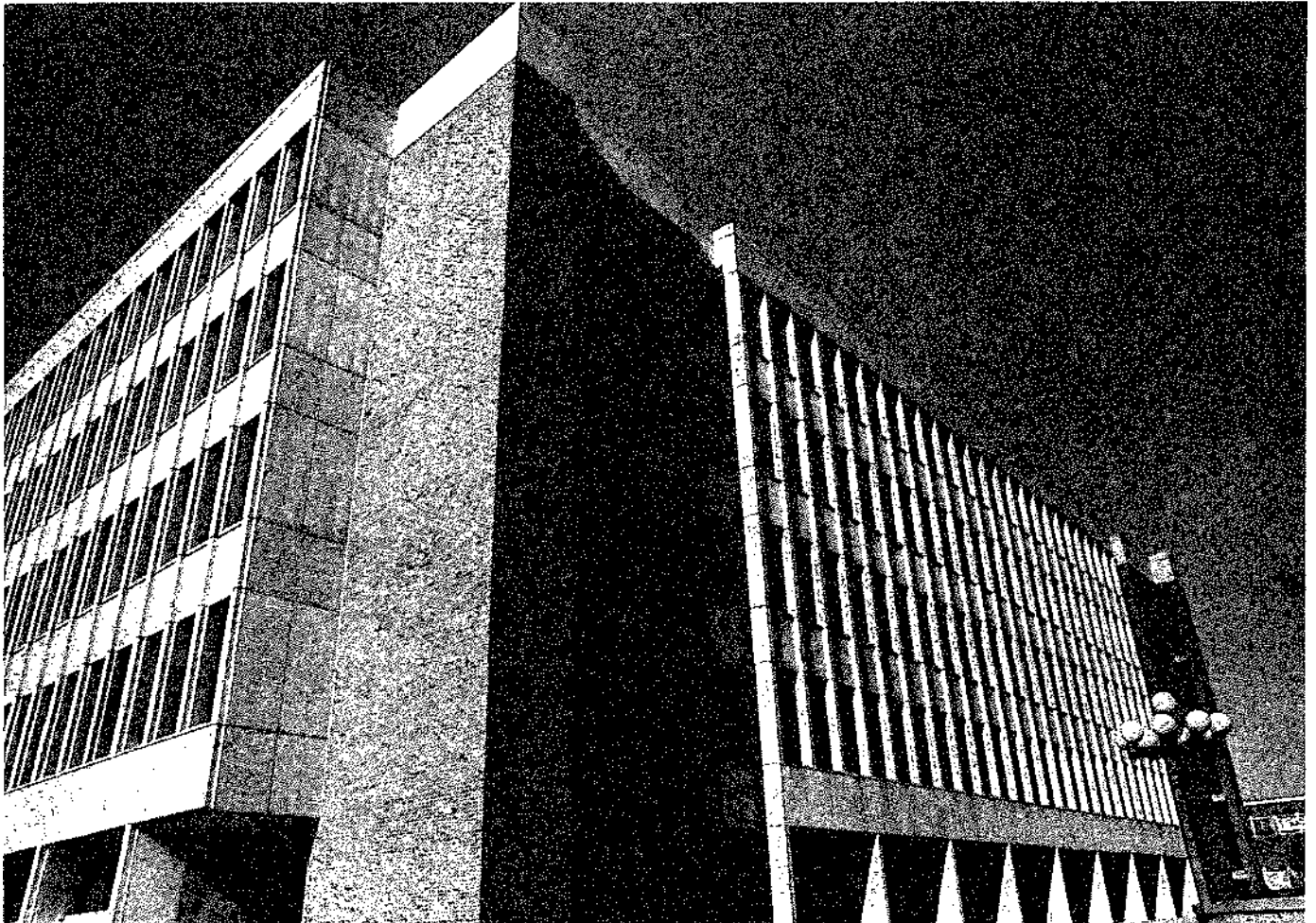
**Title IX, Education Amendments of 1972:** This University complies with the athletic regulations which prohibit discrimination on the basis of sex.

**Rehabilitation Act of 1973:** This 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 to 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:** Afro-American Studies; Art; Biology (Botany, Zoology); Chemistry — **accredited**, American Chemical Society; Communication and Theatre Arts (Radio-T V-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 and 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; 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 — **accredited** by 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; Nursing Education — **accredited** by the National League for Nursing; Social Work — baccalaureate program **accredited** by the Council on Social Work Education.

**College of 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:

DEPARTMENT NAME/SUBJECT AREA	PREFIX	DEPARTMENT NAME/SUBJECT AREA	PREFIX
Afro-American Studies	AAS	Human, Environmental and Consumer Resources	HEC
Accounting	ACC	Interdisciplinary Technology	IDT
Applied Music	AMU	Industrial Education	IE
Anthropology	ANT	Industrial Technology	IT
Astronomy	AST	Japanese	JPN
Athletics	ATH	Journalism	JRN
Business Education	BE	Law	LAW
Biology	BIO	Literature	LIT
Botany	BOT	Management	MGT
Courses Given in English in Department of Foreign Languages and Bilingual Studies	CEN	Microbiology	MIC
Chemistry	CHM	Marketing	MKT
Classical Languages	CLA	Military Science	MS
Clinical Laboratory Sciences	CLS	Mathematics	MTH
Computer Science	CSC	Music	MUS
Communication and Theatre Arts	CTA	Nursing	NUR
Curriculum and Instruction	CUR	Operations Research and Information Systems	ORI
Dance	DAN	Occupational Therapy	OT
Early Childhood Education	ECE	Physical Education	PED
Earth Science	GES	Physical Education Activity — General	PEG
Economics	ECO	Physical Education Activity — Majors	PEP
Educational Leadership	EDL	Philosophy	PHI
Educational Media	EDM	Physics	PHY
Educational Psychology	EDP	Political Science	PLS
Educational Technology	EDT	Psychology	PSY
Student Teaching	EDU	Recreation	REC
English	ENG	Real Estate	RES
Elementary Science	ESC	Special Education — Emotionally Impaired	SEI
English as a Second Language	ESL	Social Foundations of Education	SFD
Fine Arts (Art)	FA	Special Education — General	SGN
Finance	FIN	Special Education — Hearing Impaired	SHI
Foreign Language	FLA	Special Education — Learning Disabled	SLD
French	FRN	Special Education — Speech and Language Impaired	SLI
Guidance and Counseling	G&C	Special Education — Mentally Impaired	SMI
Geography	GEO	Sociology	SOC
Geology	GLG	Special Education — Physically and Otherwise Health Impaired	SPI
German	GER	Spanish	SPN
Gerontology	GRT	Special Education — Visually Impaired	SVI
Health Administration	HAD	Social Work	SWK
Health Education	HED	Women's Studies	WMS
Historic Preservation	GHP	Zoology	ZOO
History	HIS		

The sections on Admission, Tuition and Fees, Financial Aid, Academic Procedures and Graduation Requirements that follow represent the official policies of Eastern Michigan University as adopted by its Board of Regents.

## ADMISSION

**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**, 214 Pierce Hall, provides information to meet the varied circumstances of the applicant. The **Academic Advising Center**, 229 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). 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).

**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 from a junior or community college must earn a minimum of 60 semester hours at EMU 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 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.

**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. 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 semester hours may cross-register for one course per semester or session at Eastern Michigan University.

- 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 beginning the last week of regular registration and through 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 (pages 108-109 and 111-112).**

## Re-Enrollment

**FORMER EMU STUDENTS** desiring to re-enroll at EMU after an absence one year should make application in the **Academic Records and Certification Office**, 5 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, Briggs 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 Academic Records and Certification Office with an application for readmission.

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

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 .....	March 15
For winter semester .....	Nov. 1
For spring session .....	March 1
For summer session .....	Between April 10 and June 8



## 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, higher placement, and/or honors credit. 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.

Department	Exam/Subject	Min. Score	Credit Awarded*	Placement	Departmental Credit-by-exam Available?
Art	AP History of Art	3	FA 101 (3)	FA 107	yes
	AP Studio Art: General Portfolio or Drawing Portfolio	3	FA 108 (3)		
			NOTE: An additional three credit hours may be awarded to art majors and minors through departmental evaluation of art portfolio.		
Biology	CLEP General Biology	46	BIO 105 (4) -- Basic Studies or elective credit only	BOT 221 or ZOO 222	with special permission
	AP General Biology	3	BIO 105 (4) -- Basic Studies or elective credit only	BOT 221 or ZOO 200	
	IB (Higher Level)	4	BIO 105 (4) -- Basic Studies or elective credit only	BOT 221 or ZOO 200	
Chemistry	CLEP General Chemistry	48	CHM 131 (5)	CHM 132	with special permission
		58	CHM 131 (5) and CHM 132 (4)	CHM 281	
	AP Chemistry	3	CHM 131 (5)	CHM 132	
		4	CHM 131 (5) and CHM 132 (4)	CHM 281	
	IB Chemistry	4	CHM 131 (5)	CHM 132	
	5	CHM 131 (5) and CHM 132 (4)	CHM 281		
Computer Science	CLEP Elementary Computer Programming	51	CSC 137	CSC 238	yes
	AP Introductory Computer Science	3	CSC 138 (3)	CSC 238	
Economics	CLEP Introduction to Macroeconomics	50	ECO 201 (3)	ECO 202	no
	Introduction to Microeconomics	50	ECO 202 (3)	ECO 302	
English	CLEP College Composition**	55	ENG 121 (3) waived to take ENG 225	any 200-300 level English course	yes
		65	ENG 121 (3)		
		55	waived to take advanced literature courses up to 6 hours of LIT 100, 101, 102, or 103		
	English Literature**	65		any 200-300 level literature course	
	AP English Language	3	ENG 121 (3)	LIT 101, 102, or 103	
English Literature	3	LIT 100 (3)			
Foreign	AP French Language or French Literature	3	FRN 121 (5)	FRN 122	languages***
		4	FRN 122 (5)	FRN 221	
	German Language	3	GER 121 (5)	GER 122	
		4	GER 122 (5)	GER 221	
	Latin: Vergil or Latin: Catullus-Horace	3	CLA 121 (5)	CLA 122	
		4	CLA 122 (5)		
	Spanish Language or Spanish Literature	3	SPN 121 (5)	SPN 122	
		4	SPN 122 (5)	SPN 221	
	**Additional credit may be offered to intended majors or minors through departmental placement examinations.				
History	CLEP American History I**	50	HIS 223 (3)	Most courses in the department	yes
		50	HIS 224 (3)		
		50	HIS 101 (3)		
		50	HIS 102 (3)		
	AP American History	3	HIS 123 (3)		
		3	HIS 102 (3)		
Management	CLEP Introduction Business Management	50	MGT 382 (3)	MGT 386	yes
Marketing	CLEP Introduction to Business Law	55	LAW 293 (3)		yes
Mathematics	CLEP College Algebra	53	MTH 105 (3)	MTH 118, MTH 119 or MTH 120 or MTH 122	yes
			53		
	Trigonometry	55	MTH 120 (4)	MTH 120 or MTH 122	
	AP Calculus AB	3	MTH 120 (4)	MTH 121	
	Calculus BC	3	MTH 120 (4) and MTH 121 (4)	MTH 223	
Music	AP Music Listening and Literature	3	MUS 107 (2)		yes
	Music Theory	3	MUS 100 (3)		
Physics	AP Physics B	3	PHY 221 (4)	PHY 222	with special permission
		4,5	PHY 221 (4) and PHY 222 (4)	PHY 370 (requires calculus)	
	AP Physics C	3	PHY 223 (5) and PHY 224 (5)		
Political Science	CLEP American Government	50	PLS 112 (3)	most upper-level courses	yes
	AP American Government and Politics	3	PLS 112 (3)		
	AP Comparative Government and Politics	3	PLS 211 (3)		
Psychology	CLEP General Psychology	50	PSY 101 (3)	most upper-level courses	yes
Sociology	CLEP Introduction to Sociology	50	SOC 105 (3)	SOC 202 or SOC 204	yes
Teacher Education	CLEP Human Growth and Development	50	EDP 322/325		with special permission

\*Credit hours indicated in parenteses.

\*\*Essay required. Maximum score must be earned in both essay and objective portions.

**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.
5. Academic departments may exclude certain other courses from credit by examination.
6. A student who fails to pass such an examination will not be permitted to take another examination in the same course until four months have elapsed, and until the student shall have presented evidence of sufficient further study to justify re-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.
2. Passing a comprehensive examination in the course for which EMU validation is requested.

**Procedures** for credit by examination and validation are:

1. Pick up, fill out and return application for credit by examination/validation to the Academic Records and Certification Office. Eligibility to sit for credit by examination/validation will be determined by the Academic Records Office.
2. Take paper provided by Academic Records 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 Academic Records and Certification Office.

## UNIVERSITY HONORS PROGRAM

**Director: Robert Holkeboer**  
**Jones-Goddard Community of Scholars**  
**487-0341**

**ENTERING FRESHMEN OR UPPERCLASS 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 study 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 designations "cum laude," "magna cum laude" and "summa cum laude," which refer strictly to GPA.

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

**Other benefits** include housing in the Jones-Goddard Community of Scholars, early registration, maximum computer access, extended library loan and advising support. Honors students may become members of the Honors Advisory Council, which provides input to the director 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 \$20 for each fall and winter semester and \$15 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, Briggs 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 1986 levels are:

#### MICHIGAN RESIDENT

Undergraduate courses (100-400 level) .....	\$47.75
Graduate courses (500-600 level) .....	\$65.75

#### NON-RESIDENT

Undergraduate courses (100-400 level) .....	\$117.00
Graduate courses (500-600 level) .....	\$153.50

### 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 over 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 a G-4 visa, or an alien with other documentation from the Immigration and Naturalization Service that reflects such status.

##### 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 his/her 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 non-resident 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** may be made in two installments. 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 address, 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 \$5 is assessed with the first installment payment and a late payment fee of \$6 is assessed 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 for five days prior to the beginning of classes without penalty. During this period, each academic department will maintain a station at one central location to assist in program planning and scheduling conflicts. At least 50 percent of the increased tuition resulting from adjustments must be paid at the time of adjustment in the fall and winter semesters, 100 percent in the spring and summer sessions. Actual dates are printed in the Class Schedule Bulletins.



During the first seven 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 simultaneously 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.

**CREDIT ADJUSTMENTS** for students desiring to decrease their academic load follow the same formula as program adjustments.

A 100 percent adjustment in the tuition assessment will be made for those students who decrease their class load prior to the eighth day in the fall/winter semesters or prior to the fifth day in the spring/summer sessions. From the eighth through the 15th day in the fall/winter semester and the fifth through seventh day in the spring/summer sessions, 50 percent of the tuition assessment will be granted.

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

**UNIVERSITY WITHDRAWAL ADJUSTMENTS** to be made for tuition or housing assessments after classes have begun must be initiated by the student in person or by letter to the Registration Office, Briggs Hall. The date the request is made or the postmark date will be used in determining the amount of any adjustment.

Credit is granted according to the credit adjustment policy above, less a withdrawal fee of \$10.

**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 Accounting Office in Briggs Hall (P.O. Box 600, 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 coordinator for 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 (137 Pierce Hall, Ypsilanti, MI 48197).

*Tuition and fee appeal applications must be submitted as early in the semester as possible. Applications received later than 15 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 1986-87 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 ACTIVITIES** 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 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 . . . . . \$20.00  
Master's and specialist's degrees . . . . . \$25.00

**A TRANSCRIPT** fee charge of \$3 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 1986-87 motor vehicle rates are as follows:

Permit Type	1986/87 Permit Cost
Commuter Permit:	Fall/Winter . . . . . \$30.00*
	Evening Fall/Winter . . . . . 20.00*
	Spring/Summer . . . . . 15.00*
Resident Permit:	Apartment Housing . . . . . 25.00*
	Fall/Winter Dorm . . . . . 10.00*
	Premium Dorm . . . . . n/a
	Brown-Munson . . . . . 60.00*
Staff/Faculty:	Spring/Summer Dorm . . . . . 5.00*
	Annual Permit . . . . . 36.00*

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.

\*Rates are subject to change for 1987/88 pending Board of Regents approval.

## Course Fees

**MUSIC** fees are charged for private lessons according to the following schedule: (1986-87 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 and may be changed without notice.)

Item Due	1986-87 Amount	When Due
Tuition for 15 hours		
Michigan resident (\$47.75 per hour)	\$716.25	In accordance with
Out-of-state resident (\$117.00 per hour)	\$1,755	University payment plan
Registration fee — All students	\$20	At registration
Student Government fee — All students	\$2	With tuition
Health care fee — \$1.25 per credit hour	\$18.75	With tuition
Music fee — Music majors	\$60	With tuition
Other students taking an applied music lesson	\$30-\$60	With tuition
Residence hall room and board	\$2,736	In accordance with
(double room with 20 meals per week)		University payment plan

## 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	\$1,514
Books and academic supplies	\$ 300
Residence hall room and board	\$2,736
<b>Total University costs</b>	<b>\$4,550</b>

Estimated additional costs of personal, transportation, and miscellaneous expenses \$1,000

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 1987-88 costs).

Single dependent student (Residence hall)	\$5,550
Single dependent student (Commuting from home)	\$4,250
Single dependent student (Apartment)	\$5,550
Single independent student (Apartment)	\$5,550
Married student (Student and spouse only)*	\$8,600
Head of Household (Student and one child)**	\$9,000

\*Increase total by \$1,500 for first child, \$500 for each additional child.

\*\*Increase total by \$950 for each additional child.

The above budgets are based on Financial Aid Office budgets for 1987-88. They include no provision for a tuition increase but should be within \$100 of actual costs even if tuition should increase.

## FINANCIAL AID

**FIVE TYPES** of financial aid are available to Eastern Michigan University undergraduates—scholarships, grants, awards, loans and part-time College Work-Study employment—and are administered under a coordinated program of financial assistance. The purposes of EMU's financial aid program are to recognize outstanding achievements and special talents and to assist qualified students who have limited financial resources. During 1985-86 more than 10,000 students received \$23.1 million in financial aid. Applicants are considered for all types of financial aid for which they are eligible.

**Scholarships, grants and awards** range from small amounts to full tuition, room, board, books, transportation and miscellaneous expenses. Qualifications may vary but, in general, scholarships are awarded on the basis of academic achievement and for some scholarships, financial need; grants on the basis of financial need; and awards on the basis of special talents. They are normally awarded in the spring preceding the school year.

**Loans and College Work-Study** eligibility are based on financial need. All students applying for aid based on financial need must submit a Financial Aid Form (FAF) to the College Scholarship Service or a Family Financial Statement (FFS) to the American College Testing Program. FAFs and FFSs are available from high school and community college counselors and EMU's Office of Financial Aid, 203 Pierce Hall (487-0455), where professional advisers are available throughout the day.

Applications for achievement scholarships and talent awards not based on financial need are available from EMU's Office of Admissions (new students) and the Office of Financial Aid (returning students).

### Need-Based Aid (Federally Funded)

**THE COLLEGE WORK-STUDY PROGRAM** provides full-time students with funds through employment. The student may be employed on campus or at one of the participating off-campus agencies. Approved students may work a maximum of 20 hours per week. Limited full-time employment is available in the summer.

The hourly rate of pay is determined by the skills required for the job. Recipients must be U.S. citizens or permanent U.S. residents.

**NATIONAL DIRECT STUDENT LOANS (NDSL)** are low interest, long-term repayment loans available to full-time students for up to a maximum of \$1,500 each academic year (\$2,500 for graduate students). The amount of the award varies according to the student's demonstrated financial need. Recipients must be U.S. citizens or permanent U.S. residents.

**SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANTS (SEOG)** assist full-time undergraduate students who are U.S. citizens or permanent U.S. residents and who have exceptional financial need. Approval and amount of each award are determined by the student's financial need. The maximum yearly grant is \$1,000.

**UNIVERSITY GRANTS** are awarded to SEOG-eligible students when SEOG funds are not available. The funds are made available by the Board of Regents.

**PELL GRANTS** assist undergraduate students with considerable financial need who are U.S. citizens or permanent U.S. residents.

Students apply either by answering the (PELL) questions or the FAF or FFS or by applying directly to the PELL program for eligibility determination. In either case, students receive a Student Aid Report (SAR).

Eligible students then submit the SAR to the Office of Financial Aid for final award determination. Grants currently range from \$200 to \$2,300. Applications are available from high school counselors as well as the Office of Financial Aid.

### EMU Scholarships/Awards (Not based on financial need)

**EASTERN MICHIGAN UNIVERSITY** offers scholarships and awards not based on financial need to recognize academic excellence and special talents. All students are encouraged to apply.

Scholarship/award recipients must be full-time students and maintain passing grades. Credit is given toward tuition and/or residence hall room and board. Students must renew applications yearly. Applications are available the second week of October each year.

These scholarship awards include:

**The Presidential Scholarship** is a full-ride academic scholarship valued at \$18,000. To compete for the Presidential Scholarship a student must be a high school senior with a minimum 3.75 grade point average and a minimum ACT score of 24 and/or SAT score of 1050. Students are invited to participate in a day-long competitive examination held in February. Students with the five highest scores are awarded the five \$18,000 Presidential Scholarships. In order to maintain the award the student must have a 3.5 grade point average at Eastern Michigan University and complete 15 hours per semester.

**The Regents Scholar Award** is a guaranteed renewable award and is based on maintaining a 3.5 grade point average. Fifteen credit hours must be completed each semester. Initial applicants must have a 3.75 cumulative GPA. The stipend is \$1,500 and renewal is guaranteed for up to eight semesters if the student maintains a 3.5 GPA and completes 15 hours each semester.

**The Recognition of Excellence Award** is available to students with a 3.5 minimum cumulative GPA who have demonstrated leadership activities at EMU or in the community. The award is \$1,000 per year and a scholarship application for renewal must be submitted each year.

**The Recognition of Merit Award** is available to undergraduate upperclass students (non-freshmen) who maintain a 3.3 minimum GPA. Students must submit a yearly application to affirm eligibility and renewal is not guaranteed. The award is \$200 per year.

**Departmental Recognition Awards of Uniqueness** are determined by each department. Students must have a 3.0 cumulative GPA minimum and meet such requirements as auditions, providing letters of recommendation, transcripts, and portfolios. The awards vary from \$50 to \$1,200.

**Campus Leader Awards** are given for outstanding leadership activities at EMU. The student must have a minimum 2.5 cumulative GPA. The awards are \$400 per year if living off campus, \$600 if living in EMU residence halls.

**Service Awards** are offered by the departments of Communication and Theatre Arts, Music, and Athletics (intercollegiate). For information, contact the individual departments.

**Endowment Fund Scholarships** are awarded through the Office of Financial Aid. There are numerous endowment scholarships, and eligibility varies according to donor requirements, such as departmental major and membership in particular societies and organizations. Some are general in nature and most apply to returning students only. Grade point average and financial need may be criteria. A complete list is on file at the Office of Financial Aid.

**General and Special Scholarships** offered by associations, clubs, agencies and corporations also are available to new and continuing EMU students. Qualifications and eligibility vary considerably and are on record in the Office of Financial Aid.

## State of Michigan Resources

**COMPETITIVE SCHOLARSHIP AWARDS**, funded by the state of Michigan, are based on competitive test results and financial need. Students apply by taking the American College Test (ACT) no later than October of their senior high school year and have the test results sent to the State Scholarship Program (code 2076) with FAF or FFS (financial need) verification. Students may renew eligibility by maintaining a satisfactory academic record in an accredited college or university in the state of Michigan and completing the FAF and FFS each year.

**MICHIGAN GUARANTEED STUDENT LOANS (MGSL)** are available through banks, savings and loan associations and credit unions up to \$2,625 per year for freshmen and sophomores, \$4,000 per year for juniors and seniors and \$7,500 for graduate students. The 8 percent yearly interest-repayment, guaranteed by the federal government while the student is in school, must be repaid beginning six months after the student graduates or withdraws from classes. All students must submit a financial aid form (FAF) or family financial statement (FFS) to borrow under this program. (Other states have similar guaranteed loan programs. The guidelines and eligibility may change by federal legislation.)

**MICHIGAN STATE DIRECT STUDENT LOAN PROGRAM (MDSLPL)** is available as a last resort for students denied a Michigan Guaranteed Student Loan by a private lender. The loan amounts, interest rate and terms are the same as for the GSL. Forms may be obtained through the Office of Financial Aid.

**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 a 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 Office of Financial Aid or the Student Loan Accounting Office, Briggs 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.

## 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 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.

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.

Pass/Fail semester hours are included in the total course load. No credit will be given for work in courses not officially enrolled in or approved.

**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.

**Auditing of courses** is permitted for the student who wishes to hear the subject matter presented but does not desire to obtain credit for the course. The student must obtain the approval of the head of the department offering the course, register by turning in a "permission to audit" 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 that classes may be added or sections changed.

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:

Class	Semester Hours
Freshman .....	0-24
Sophomore .....	25-54
Junior .....	55-84
Senior .....	85 or over

**COURSE NUMBERS** indicate the academic level of the course as follows:

Course Number	Academic Level*
100-199 .....	Introductory
200-299 .....	Intermediate
300-499 .....	Advanced

Courses numbered 500 and above are intended primarily for graduate students but are open in some cases to seniors. To be eligible, an undergraduate student must have acquired 76 hours or more of undergraduate credit and have a cumulative grade point average of 2.50 or better. 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 intermediate or advanced 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.

**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 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."

## Grades

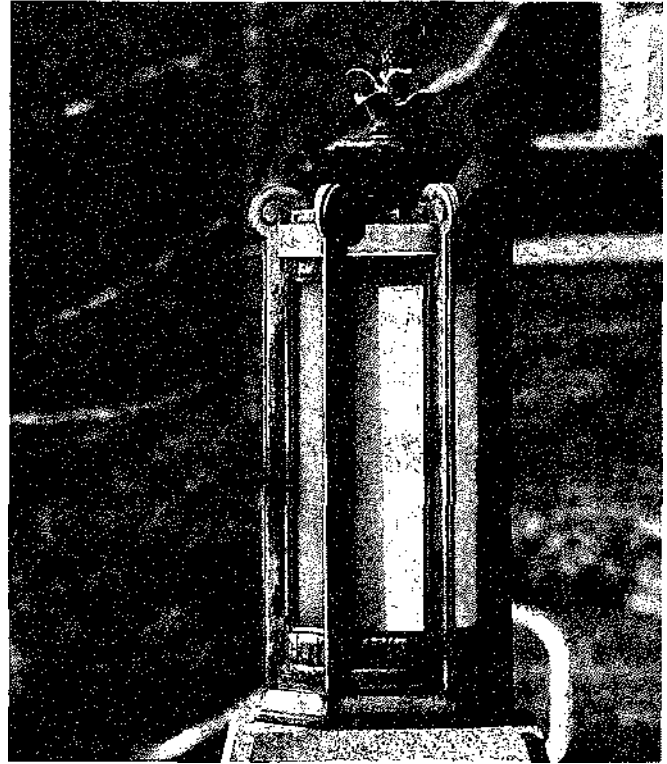
**THE GRADES** used by the University with their corresponding values in points are as follows:

Grade	Significance	Grade points per semester hour
A	Exceptionally high order	4.0
A -		3.7
B +		3.3
B	Distinctly above the average	3.0
B -		2.7
C +		2.3
C	Average	2.0
C -		1.7
D +		1.3
D	Below Average	1.0
D -		0.7
E	Unsatisfactory (denoting failure)	0
CR	Passing grade in Credit/No Credit courses	0
NC	Failing grade in Credit/No Credit courses	0
S	Passing grade in Pass/Fail elections and credit for certification in student teaching courses	0
P	Passing grade in student teaching but not at level sufficient for certification	0
U	Failing grade in Pass/Fail and in student teaching elections	0

*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 discontinues 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.



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.
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 under the Pass/Fail option at the time of registration. This decision becomes binding at the end of the period for dropping classes (three weeks during the regular semesters).
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 recorded 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 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'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.)

**Changes in grades** 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. 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.
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 5, 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. Course work taken at Eastern Michigan University may not be repeated at other colleges or universities without prior written approval of the provost or the provost's designated representative.

Calculation of GPA for returning former or transfer students who have not attempted any college or university work for at least two calendar years is computed as follows:

1. Non-index courses are not included in the computation of the grade point average.
2. Courses in which a grade of less than "D -" was assigned are not to be included in the computation of the grade point average.
3. When a course has been repeated, only the last grade is used in the computation of the grade point average. (See restrictions for repeating courses.)
4. 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.

**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.

## 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 additional 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 stu-

dent'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 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. This requirement applies regardless of where the academic work is taken. 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: CUR 100 Introduction to Education, EDP 106 Introduction to University Studies, G&C 100 Career Exploration and Decision-Making, SLI 241 Introduction to Speech Pathology and SGN 251 Education of Exceptional Children.

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

**ACADEMIC DISMISSAL** results 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 also will 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.
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** of a student dismissed from the University cannot take place until two successive enrollment periods (including one full semester) have elapsed unless unusual or extenuating circumstances exist. This waiting period is designed to help the student gain the needed maturity for pursuing a degree through work experience, travel or course work at other accredited collegiate institutions.

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 re-admission 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.)
3. Taking the SAT for re-evaluation in conjunction with the above if considered necessary by the Academic Advising Center.

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, 229 Pierce Hall; complete the form and return it well in advance of the beginning of the semester for which readmission is desired and no later than 14 calendar days prior to the first day of classes of a semester or session.
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 of a semester or session. The grade point average for all such work must be at least 2.00 ("C" average) or readmission will be cancelled.
3. Students who have been discharged from active military duty must include a copy of their separation record (DD Form 214) with the petition for 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 educations. 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 Office of the Director of Registration 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 either the Registration Office, Briggs Hall, or from the office of any academic department, and 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, Briggs Hall. (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 which have arisen after the 10th week of the semester 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 by the instructor at the time of the student’s application 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 present their reasons in person at the Registration Office, Briggs Hall. 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 withdraw 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. A withdrawal fee of \$10 is charged.
2. Students who withdraw 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 withdraw 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 University final examination period has begun.

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

**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, 229 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, and the grade grievance procedure 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 Academic Records and Certification 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; **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 (CASCI). 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 Requirements

**BASIC STUDIES** are the requirements that all University students must meet in the subject areas of language, science and mathematics, social sciences, and in humanities, which include courses in English literature, foreign language literature, history, philosophy, religion, art, music and theatre arts. The selected areas are designed to provide students with a broad awareness of fields beyond their specific areas of specialization to enable them to become educated contributors to the complex world in which they live.

In the social sciences and humanities boxes following, courses designated by asterisks (\*) may be fulfilled by the general humanities courses listed on pages 141-143. These courses provide cross-cultural comparisons and are team-taught by faculty from the departments of English, History and Philosophy, Art, Music, Communication and Theatre Arts and Foreign Languages. Up to six General Humanities courses (18 hours) may be substituted for social science and humanities requirements.

**A Basic Studies course** must carry a minimum of two semester hours of credit. A minimum of 40 semester hours of Basic Studies is required for all degrees awarded by the University.

Students who have fulfilled the course requirements in each of the four areas but have not achieved the required 40 hours minimum may elect any other University course to complete the 40 hours, including courses in the area of their majors or minors, if appropriate.

The general requirements in each of the Basic Studies areas are boxed below, followed by EMU courses applicable to each area:

**Language Area: Three courses required**

1. One course in English composition, or, if eligible, a foreign language course.
2. One course in fundamentals of speech.
3. One elective course in English language, foreign language (except ESL), speech, or educational media.

**Regulations governing:**

1. **English composition/foreign language option:** A student must complete one (or more) of the following, dependent on eligibility:

- a. **ENG 121 English Composition**

- Students whose SAT scores are below 400, whose ACT English scores are below 17, or who do not submit test scores must take, as space permits, ENG 120 English Composition Laboratory their first semester. When students pass ENG 120, they must take ENG 121 English Composition the next semester.

**NOTE:** ENG 120 does *not* apply as credit toward Basic Studies; these credits *do* apply, however, toward the 124 hours required for graduation.

- Unusually competent students may request departmental placement in advanced English language courses to complete the requirement or select option b. below.

- b. The foreign language option requires that a student scores 550 or above on the verbal part of the SAT or 25 or above on the English section of the ACT and has at least a 2.5 high school grade point average.

2. **Speech:** The student usually meets this requirement by taking:

- a. CTA 121 or CTA 124 Fundamentals of Speech.

- b. Students with strong previous preparation in speech may, with departmental permission, take advanced courses such as CTA 224 Public Speaking, CTA 350 Persuasion, CTA 356 Argumentation and Debate, CTA 359 Small Group Communication.

3. **Electives: English language, foreign language, speech, educational media**

- a. Any course listed under composition and English language in the English Department may be elected except ENG 118 English Fundamentals, ENG 120 English Composition Laboratory or ENG 308 High School English. No literature courses apply.

- b. Any course taught in a foreign language may be selected as well as CEN 134 Etymology and CEN 223 Introduction to Language.

- c. Courses listed in the Department of Communication and Theatre Arts may be selected from those designated under the heading communications, oral interpretation, telecommunications and film, and speech improvement except CTA 307 The Teaching of Speech. Theatre arts courses do not apply.

- d. The following courses taught under educational media are applicable: EDM 101 Use of Books and Libraries, EDM 314 Literature for Young Adults, EDM 402 General Reference and EDM 406 Storytelling.

**Science and Mathematics Area: Three courses required**

In this area not more than two courses may be selected in one department.

1. One laboratory science course.
2. A second laboratory science course or a course in mathematics or computer science.
3. One elective course in science and mathematics (Group 11).

**Regulations governing:**

1. **Laboratory science courses:** Students may select from courses offered by the departments of Biology, Chemistry, Geography/Geology, Physics/Astronomy, and Psychology.

- a. Appropriate beginning laboratory science classes include, but are not limited to, AST 204 Astronomical Investigation plus either AST 203 Exploration of the Universe or AST 205 Principles of Astronomy (counts as one course); BIO 105 Biology and the Human Species and BIO 224 Principles of Conservation; BOT 221 General Botany; CHM 105 Survey of Chemistry, CHM 115 Chemistry and Society plus CHM 116 Chemistry and Society Laboratory (counts as one course), CHM 119 Fundamentals of Chemistry, CHM 120 Fundamentals of Organic and Biochemistry and CHM 131 General Chemistry I; GES 108 Earth Science, GLG 160 Geology; PHY 110 Physical Science, PHY 115 Physics in the Modern Home, PHY 140 Light, Color and Photography for Artists and Others, PHY 210 Musical Acoustics and PHY 221 Mechanics, Sound and Heat or PHY 223 Mechanics, Sound and Heat (for students with proper mathematics background); ZOO 222 General Zoology.

PSY 102 General Psychology is applicable on degree programs only when students are enrolled in *non-teaching* programs. PHY 100 Science for Elementary Teachers, CHM 101 Science for Elementary Teachers, GES 202 Science for Elementary Teachers, ESC 303 Science for the Elementary Teacher are for students in elementary education only. PHY 210 Musical Acoustics is applicable toward the Bachelor of Music Education degree.

2. **Second science course or mathematics/computer science:**

- a. The second science course may be any laboratory course in the disciplines above for which the prerequisite has been met. For PSY 102 General Psychology, the same restrictions as in 1.a. apply. PSY 301 Introductory Experimental Psychology also may be selected.

- b. The mathematics or computer science course may be any course offered by the departments of Mathematics

and Computer Science for which the student is qualified and is not limited to such elementary courses as MTH 104 Intermediate Algebra, MTH 108 Functional Mathematics I and CSC 136 Computers for the Non-Specialist.

3. **Science/mathematics elective:** Students may select courses in any of the above science departments or in the departments of Mathematics and Computer Science.
  - a. If students select two laboratory sciences from the same department in 1. and 2. above, the elective must be chosen from a different department.
  - b. GEO 110 or other Group III geography courses are *not applicable in this elective*.

#### Social Science Area: Three or four courses required

1. One course in American government.†
2. One course in history.\*
3. A second course in history or a two-course sequence in sociology-cultural anthropology or economics or geography (Group III).\*

#### Regulations governing:

1. **American government†:** Students may select PLS 112 or PLS 113 American Government or PLS 202 State and Local Government in Political Science.

†All University students are required to complete a three semester hour course in American government.

2. **History:** Students may select their first course from the following 100-level courses in the History/Philosophy Department: HIS 101 History of Western Civilization, HIS 102 History of Western Civilization, HIS 103 History of Non-Western Civilization, HIS 105 The World in the 20th Century and HIS 123 Major Trends in United States History. HIS 100 Comparative Study of Religion is *not* applicable toward the history requirement.
3. **Second history course or two-course sequence:**
  - a. The student may select a second 100-level history course or any other course taught in the **history** section of the History/Philosophy Department for which the prerequisite is met, excluding HIS 100 The Comparative Study of Religion and HIS 481 The Teaching of Social Studies.
  - b. • If the student chooses the two-course sequence in sociology-cultural anthropology, it may be any two courses offered by the **Sociology Department** including SOC 105 Introductory Sociology or ANT 135 Introduction to Cultural Anthropology or any others for which the prerequisite is met.
    - In the **Economics Department** the two-course sequence is ECO 201 and 202 Principles of Economics I and II.
    - In **geography**, GEO 110 World Regions is usually selected along with any other Group III geography courses for which the prerequisite is met. No geography-geology Group II courses nor GEO 347 Teaching Earth Science and Physical Geography or GEO 348 Teaching Social Studies in Elementary Schools may be applied.

#### Humanities Area: Four courses required

1. Two courses in literature in the English Department, or two intermediate foreign language reading courses, or two advanced foreign language literature courses.\*
2. One course in philosophy or religion.\*
3. One course in art, music, or theatre arts.\*

#### Regulations governing:

##### 1. Literature and foreign language/literature

- a. In the **English Department** most students will select LIT 100 Reading of Literature. A second course is usually selected from LIT 101 The Reading of Literature: Fiction, LIT 102 The Reading of Literature: Poetry, LIT 103 The Reading of Literature: Drama, LIT 210 Introduction to Shakespeare, LIT 251 The Bible as Literature or LIT 260 Afro-American Literature. Students scoring 500 or above on the SAT verbal test or 23 or above on the ACT English may select both courses from the second-course sequence. Students desiring to elect more advanced literature courses to fulfill this requirement must have written permission from the department.

LIT 207 Introduction to Children's Literature may *not* be applied.

- b. In the **Foreign Language Department**, students may choose two reading courses from 221 and 222 intermediate courses in French, German or Spanish and 341 and 342, surveys of literature in French, German and Spanish. Any other 300- or 400-level advanced literature courses also may be selected.

##### 2. Philosophy/religion

- a. Any course taught in the philosophy section of the History and Philosophy Department may apply. PHI 100 Introduction to Philosophy, PHI 110 Philosophies of Life, PHI 130 Introduction to Logic, PHI 212 Philosophy of Art, PHI 215 Philosophy of Religion, PHI 220 Ethics and PHI 225 Philosophical Foundations of Political Thought are available without prerequisite or department permission.
- b. Religion courses may be selected from HIS 100 The Comparative Study of Religion, HIS 301 The Religions of South and East Asia, HIS 302 Near Eastern and Western Religions, HIS 303 History of American Religion; PHI 215 Philosophy of Religion; ANT 338 Anthropology of Religion; PSY 225 Psychology of Religion; SOC 320 Sociology of Religion. Students must meet required prerequisites.

##### 3. Art, music and theatre arts

- a. All courses except Group IV methods and music therapy classes are applicable from the Art and Music departments and courses listed in the theatre arts section of the Communication and Theatre Arts Department. The Music Department permits two credits from ensemble courses or applied music to be counted as a course to meet this requirement.

**NOTE:** Credit earned in ENG 120 English Composition Laboratory, EDP 106 Introduction to University Studies and any physical education activity courses **cannot** be applied to meet Basic Studies requirements.

**BASIC STUDIES TRANSFER CREDITS** need not be the exact equivalent of particular courses at this University but must meet, for example, the criteria of two literature courses, a laboratory science, etc. For this reason the Basic Studies requirements given in the boxed statements are in broad, general terms.

**STUDENTS WILL FIND ADVISING SHEETS TO ASSIST IN PLANNING BASIC STUDIES AT THE END OF THIS SECTION.**

**UNDER THE MACRAO AGREEMENT** of 1972,\* which has been signed by 26 two-year public community colleges and 29 four-year colleges and universities in the state of Michigan, students who have been certified by a signatory community college as having satisfied the agreed upon Basic Studies requirements at the community college will not be required to complete additional Basic Studies at Eastern Michigan University. Satisfying the articulation Basic Studies agreements does *not* guarantee admission to Eastern Michigan University or to a particular program such as Nursing or Occupational Therapy. This agreement applies only to Basic Studies and does not exempt the community college student from meeting specific requirements for a particular curriculum or area of study such as Education, Business Administration, Social Work, Physical Education, etc.

*\*Eastern Michigan University is a signator of the MACRAO (Michigan Association of Collegiate Registrars and Admission Officers) Agreement. (Effective fall 1986 a grade of "C" or better is required in Basic Studies course work if the MACRAO agreement is to be satisfied at Eastern Michigan University.)*

## 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.

English Composition 121, which is a required course, and professional education courses (Group IV) 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 requirements in ad-

vanced 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 elective 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 Department on special opportunities which are available (see Military Science Department Advanced Program).

**Military Science courses** are credited in the 124 minimum credit-hour requirement for the bachelor's degree.

## 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 registration for the semester or session in which the student expects to graduate.)

Application forms, obtained in the Academic Records and Certification Office, Pierce Hall, must be submitted with the \$20 graduation fee to the Cashier's Office, Briggs Hall.

**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 Academic Records and Certification Office.

**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-8) and appropriate majors and/or minors in grade 9.

**State Secondary Provisional Certificate,\*** which certifies the holder to teach all subjects in grades 7 and 8 and major and minors in grades 9-12.

*\* A holder of this certificate who has completed EMU's curricular requirements in art, home economics, industrial arts, music, physical education or special 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 Academic Records and Certification.

**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 Academic Records and Certification.
2. Fill out the application as required and return it to the Office of Academic Records and Certification with a copy of front of 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.

**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 "Certificat pratique 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 French major.

The Carl Duisberg Society, in cooperation with the Goethe House, awards a "Zertifikat Handelsdeutsch" 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.

## SENIOR CHECK-OUT

**STUDENTS** who have completed 70 credit hours or more and were enrolled at EMU the previous semester automatically receive a pre-printed Senior Check-Out request card at registration, as part of registration packet. An update card is supplied at registration every semester thereafter.

If students do not receive such a card (blue band at the top), they may obtain it in Room 2, Pierce Hall. Night students or others unable to go to Room 2 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 Academic Records and Certification and processed according to expected graduation date. A senior checker verifies the credit hours taken and records the credit hours still needed. One copy of this report is mailed to the student, another is sent to the student's major department and the third copy is filed. Lead time is given to students to complete the necessary requirements prior to filing applications for graduation.

Students may return the cards at registration or may file them in person in Room 2, 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:

### First Year

**Fall semester**

**Winter semester**

**Spring/Summer session**


### Second Year


### Third Year


### Fourth Year


Advising Contact (Academic Advising Center) \_\_\_\_\_

Department Adviser: \_\_\_\_\_ (Office No. \_\_\_\_\_)

(Building \_\_\_\_\_)



## ADVISING: SEQUENCE OF COURSES

USE THE FOLLOWING PROGRAM PLAN to organize the sequence in which courses are likely to be taken:

### First Year

Fall semester

Winter semester

Spring/Summer session

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Advising Contact (Academic Advising Center) \_\_\_\_\_

Department Adviser: \_\_\_\_\_ (Office No. \_\_\_\_\_)

(Building \_\_\_\_\_)

## STUDENT SERVICES

### Academic Advising

**Director: Ann C. Kettles**  
229 Pierce Hall (487-2170)

**THE ACADEMIC ADVISING CENTER** provides help and 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 advisers 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 (EDP 106) 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 42).

**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 advisers).

**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 and BE 100 Contemporary Business.

**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 cooperative education, student employment, and career placement for both students and alumni. Its objectives are to assist students in identifying employment opportunities and developing job search skills from the time they first enroll at Eastern Michigan University through their alumni years.

**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 experience.

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 schedules and career goals.

**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, 212 Pierce Hall.

**A Career Resource Center** collects and disseminates information concerning 1) employers seeking college graduates; 2) employers seeking students for part-time and summer employment; 3) the job search process; and 4) self-help materials to assess interests, skills and values related to occupations and educational programs. Three complete computerized career guidance systems are available to assist students in making sound career decisions.

**Career Placement** assists 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 and letter of application preparation; 3) interview preparation and technique; 4) an Education Bulletin listing current vacancies, employers' addresses, methods of contact and interview schedules; 5) on-campus interview appointments with employer representatives; 6) employer career literature, directories and job description materials; and 7) a computerized referral service.

It is recommended that students register at the Career Services Center late in their junior year or early in their senior year and develop a credential file for future reference use.

## 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 is available to all enrolled students, faculty, staff and their spouses.

During the fall and winter semesters, the Health Center is open from 8 a.m. to 10 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.

**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 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. 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 weekday evenings 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

**Coordinator: Rosalynn L. Barclay**  
Snow Health Center (487-1118)

**Counseling Services** provides personal counseling to students and their spouses who are experiencing stresses or developmental problems that interfere with academic or interpersonal functioning. Professional staff members provide confidential, short-term counseling on an individual or group basis. Graduate students from the departments of Guidance and Counseling and Psychology also provide services under supervision. In response to student needs, specialized workshops and programs are offered throughout the year.

Counseling Services hours are 8 a.m. to 12 p.m. and 1 to 5 p.m. Monday through Friday.

## Child Care

Snow Health Center (487-1126)

**THE EMU CHILD CARE CENTER** currently offers educational and recreational programs for children aged 2½ to 12 years of

all University families—students, staff and faculty. Beginning in fall 1987, care will be offered for infants and toddlers as well as for kindergartners. The programs currently offered are:

**Preschool Daytime Program** for children ages 2½ to 5 years.

(7:45 a.m. - 5:15 p.m., Mon. - Fri., summer, fall, winter and spring terms)

Activities to promote growth in all areas: intellectual, social, emotional, and physical. Creative projects, stories, music, science, cooking, learning games, outdoor play and gym.

**School-Age Summer Program** for children ages 6 to 12.

(7:45 a.m. - 5:15 p.m., Mon. - Fri., summer term)

Gym and swim, arts and crafts, science, cooking, woodworking, sports, drama, music and school work assistance.

**Evening Program** for preschoolers ages 2½ to 5, and school age children ages 6 to 12.

(4:45 p.m. - 10:15 p.m., Mon. - Thurs., fall and winter semesters)

See School-Age and Preschool program descriptions above.

**After-School Program** for ages 6 to 12.

(2:45 - 5:15 p.m., Mon. - Fri., fall, winter and spring terms)

See description above.

The center has a flexible scheduling system so that parents can design their children's schedules as needed for each term. Pre-arranged drop-in care is also available when there are openings. The center is on the ground floor of Snow Health Center, close to Pray-Harrod and the Recreation Building. Interested persons are encouraged to stop by or call for more information.

## Housing/Food Services

**Director: Russell Wright**

**Dining Commons #1 (487-1300)**

**EASTERN MICHIGAN UNIVERSITY HOUSING AND FOOD SERVICES** welcomes all students. Housing on campus accommodates 5,000 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.

**Twelve 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 Food Services Information booklet, the Residence Hall/Food 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.
4. Record selections on the Residence Hall/Food Service Contract and the Residence Hall Assignment Request form. Complete the forms fully.
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 12 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.

**Graduate Floor**, Fourth Floor Walton

For graduate students with special needs for a quiet environment and the opportunity to meet other grad students.

**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

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

Men and women residents live on the same floor but in same sexed suites with private bath facilities.

**Computer Floors**, First Floor Hill/Pittman

Each floor has a computer lab with three CRTs connected to the academic computer, Texas Instrument personal computer and printer.

**International Residence Center**, Walton/Putnam

A cosmopolitan blending of international and American cultures, with one-third of the students from 31 different countries. Includes the friendship floor (third) and the foreign language floor (second). Open 365 days/year.

**Foreign Language Floor**, Second Floor Putnam

Spanish, French and German speakers will enjoy the opportunity to improve language skills.

**Quieter Hall**, Pittman

Extended quiet hours rigorously enforced, for students who want a quiet place to live and study. Limited singles available.

**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

Open 365 days a year for students planning to stay for spring-summer or who need vacation housing at no extra charge.

## University Food Services

University Food Services provide several options to meet the varying appetites and dining habits of today's on-the-go lifestyles. Various options are designed for commuters and residence students.

There is a flexible "ala carte" pre-paid credit card as well as four contract plans with all-you-can-eat buffet-style dining.

The Huron Hideaway, EMU's "on-campus fast food connection," offers a fast food menu with chargrilled burgers. The Hideaway also offers a video game area and a small country grocery store — all in a congenial setting. The Hideaway is located on the lower level of Dining Commons #2, just three minutes from Pray-Harold classroom building.

The Greenhouse and Gardener's Room are located in McKenny Union. The Greenhouse offers a broad range of options from salad bar, hot entrees, fast food and deli sandwiches. The Gardener's Room offers fine lunches with gracious table service and is open to faculty, students and the public.

## 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 \$50 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 \$50 apartment deposit.

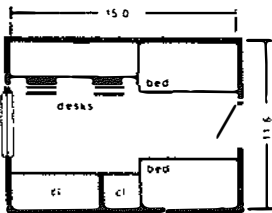
## Off-Campus Housing

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.

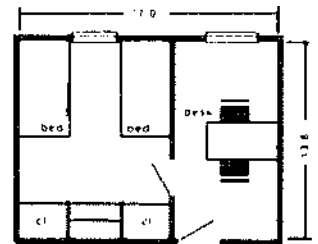
The REACT Office in Goodison Hall assists students who desire advice on finding off-campus housing and/or addressing any problems that might be associated with off-campus apartment living.

## Typical Residence Hall Room Floor Plans

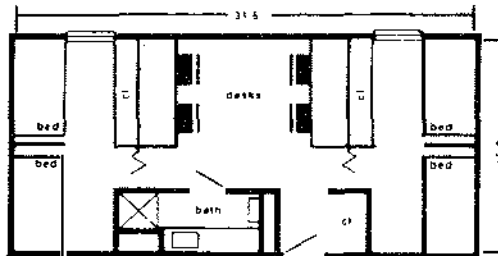
Wise Hall



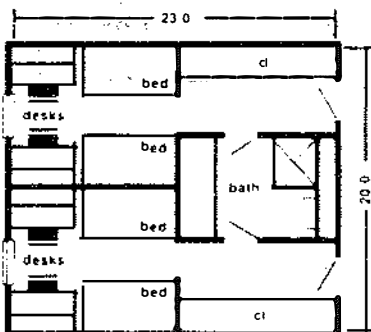
Jones Hall



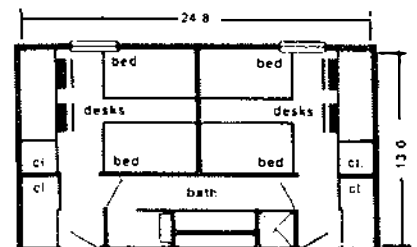
Downing, Buell, and Goddard Halls



Residence Hall Towers  
Hill and Pittman Halls



Best, Phelps-Sellers and  
Walton-Putnam Halls



## CAMPUS LIFE

**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** and its student board, the Campus Life Council, provide an exciting and balanced extracurricular program and serve as the central resource for students seeking opportunities outside the classroom.

Among the Campus Life program offerings are the professional Lively Arts Series, the Silver Screen Cinema Series, daytime and evening speakers, concerts, the EMU Residency Program, and such traditional all-campus celebrations as the First Week Fling, Homecoming, Parent's Day and Founder's Day.

Leadership training, student development and student organization workshops, seminars and conferences are sponsored by Campus Life as well as the University's new student and parent Orientation Programs.

Following is a list of University-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

Accounting Club  
 Administrative Management Society  
 Advertising Association of EMU  
 Alpha Epsilon Rho (Broadcasting)  
 Alpha Phi Omega (Service)  
 Alpha Psi Omega (Drama)  
 American Advertising Federation  
 Associated General Contractors of America  
 Astronomy Club  
 Beta Alpha Psi (Accounting)  
 Beta Beta Beta (Biology)  
 Black Accountants  
 Black Communicators  
 Chemistry Club  
 Computing Machinery Assoc.  
 Dance Forum  
 Economic Club  
 English Club/Sigma Tau Delta  
 Entrepreneurs Club  
 Finance Club  
 Forensics Forum  
 French Club  
 Graduate Student Assoc.  
 Graphic Design  
 Health Administration Student Organization  
 History Club  
 Intermedia Group  
 Kappa Alpha Psi  
 Kappa Delta Pi (Educ.)  
 Language/International Trade Student Association  
 Marketing Students Assoc.  
 Medical Technology  
 Merchandising Club  
 National Student Nurses Association  
 National Student Speech, Language, & Hearing Assoc.  
 Occupational Therapy  
 Phi Delta Kappa (Educ.)

Phi Mu Alpha  
 Professional Assoc. for Industrial Distribution  
 Psychology Club  
 Public Administration Assoc.  
 Real Estate Association  
 Retina Retina Retina (Photography)  
 Society for Advancement of Management  
 Spanish Club  
 Students Advisory of Arts and Sciences  
 Student Home Economics Assoc.  
 Student Social Work Organization  
 Undergraduate "E" Club  
 Veterans Scholastic Honor Society  
 Wo/Men in Communications

#### Greek

Greek Council  
 Inter-Fraternity Council  
 Order of Omega (Honorary)  
 Panhellenic Council

#### Sororities

Alpha Gamma Delta  
 Alpha Kappa Alpha  
 Alpha Pi Beta  
 Alpha Xi Delta  
 Delta Sigma Theta  
 Sigma Gamma Rho  
 Sigma Kappa  
 Sigma Nu Phi  
 Sigma Sigma Sigma

#### Fraternities

Alpha Phi Alpha  
 Arm of Honor  
 Chi Delta  
 Delta Sigma Phi  
 Kappa Phi Alpha  
 Lambda Chi Alpha  
 Omega Psi Phi  
 Phi Beta Sigma  
 Phi Eta Psi  
 Phi Sigma Kappa  
 Tau Kappa Epsilon  
 Theta Chi

#### Periphery

Alpha Angels  
 Kappa Sweethearts  
 Omega Gold Little Sisters  
 Phi Beta Sigma  
 Phi Eta Psi Emeralds  
 Sigma Sweethearts  
 TKE Little Sisters

#### Honors

Golden Key National Honor Society  
 Honors Society of Nursing  
 Mortar Board  
 Phi Kappa Phi  
 Stoic Society

#### Minority/Foreign

African Student Association  
 Black Student Union  
 Chinese Student Union  
 Hellenic Student Association  
 Hispanic Student Association  
 Indian Students Association  
 International Student Association  
 Iranian-Moslem Student Society  
 Japanese Student Association

Korean Student Association  
Malaysian Student Association  
Moslem Student Association  
NAACP  
Nigerian Student Association  
Organization of Arab Students  
Thai Association  
Pakistani Student Association  
P.R.E.S.S. Club

**Recreational**

Athletic Trainer's Club  
Bowling Club  
Huron Guard Drill Team  
Korean Karate Club  
Racquetball Club  
(EMU) Recreational Club  
Ski Club  
Ski Team (EMU)

**Religious**

Agape Campus Fellowship  
Alpha Omega Fellowship  
Athletes United  
Baptist Student Union (BASIC)  
(EMU) Gospel Choir  
Great Commission Students  
Holy Trinity  
Campus Crusade for Christ  
Christians in Action  
Christian Science Organization  
InterVarsity Christian Fellowship  
Kappa Phi  
United Ministries of Higher Education  
University Christian Outreach  
University Lutheran Chapel

**Special Interest**

Alcoholics Anonymous  
Amateur Radio Club  
Association of Prospective Teachers  
Association of the US Army  
College Republicans  
Circle K International  
Gay Students Association  
Huron Guard Rifle Team  
Michigan Assoc. of Teachers of Emotionally Disturbed Children  
Mudpack (Ceramics Club)  
Music Therapy Club  
People for Animal Welfare  
PIRGIM (Consumer Issues)  
EMU Players  
ROTC Raider Platoon  
ROTC Battalion  
EMU Rifle Team  
Silversmith's Guild  
SOS Crisis Center  
Student Council for Exceptional Children  
Student Organization for the Education of Hearing Impaired  
Student Veterans Association  
WQBR (Radio)  
Ypsilanti Food Co-op

**Coordinating**

Arrival (Handicap Issues)  
R.E.A.C.T.  
RHA (Residence Hall Association)  
Student Government  
University Ambassadors Society  
Student Association of Alumni Relations (SOAR)  
Campus Life Council

**Special Student Services**

Dean: Bette C. White  
Associate Dean: Leslie K. Bates  
(487-3116)

THE OFFICE OF SPECIAL STUDENT SERVICES serves undergraduate and graduate students through the combined offices of Minority Affairs, Foreign Student Affairs, Handicapped Student Services, and Veterans Affairs.

**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.

**Office of Minority Affairs**

Director: Leslie K. Bates  
205 Goodison Hall (487-3116)

THE OFFICE OF MINORITY AFFAIRS provides support services to African American, Hispanic American, native American and Asian American students. The office, in conjunction with other University offices, develops retention activities, off-campus opportunities, intercollegiate conferences and campus orientations, and problem-solving strategies.

In addition to the varied campus organizations open to all students, the PRESS Club and the Hispanic Student Association—umbrella groups for campus-based black and Hispanic organizations—are advised through this office, as they serve specific student and community needs.

The associate dean also serves as a liaison between the administration and all Greek letter organizations.

**Office of Veterans Affairs**

Robert E. Teehan  
201-202 Goodison Hall (487-3116)

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.

## Handicapped Student Services

Dean: Bette C. White  
218 Goodison Hall (487-3116)

**THE OFFICE OF SPECIAL STUDENT SERVICES** utilizes resources of 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 (487-1470)

**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 appellate board from UJB, has two student representatives, two faculty representatives and two administrative appointees.

## Student Media

Director: Rita Abent  
Manager: Sally Wright  
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 Publication Board, a policy-review board comprised of three faculty and three student members. All students are encouraged to join publication staffs 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 in-

terested in the field of journalism or who seek experience in the writing field. It is written and edited by student editors and reporters. To apply, call the telephone number listed above.

**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 twice yearly, its contents are chosen by a selection committee comprised of faculty and students.

## 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 vice president for University relations 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

Executive Director: Eugene Smith  
Director, Men's Programs: Paul Shoults  
Director, Women's Programs: Lucy 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 the 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 IA 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

Assistant Director: Rick McNeil

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 slimnastics); 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 and schedules clinics and outdoor adventure trips 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; an annual Bong Show, and the fall semester Float-A-Thon on the Huron River for which students design and man rafts in a highly competitive race.

**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  
(487-4140/487-0225)

**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.

### Child Development Laboratory

Director: Judy Williston  
Assistant Director: Phyllis Young  
209-213 Rackham (487-0286)

**THE CHILD DEVELOPMENT LABORATORY**, known also as The Children's Center by Ypsilanti families who use its services, is the University's demonstration preschool for instruction and research. The laboratory classrooms are staffed and operated under the auspices of the Department of Human, Environmental and Consumer Resources.

**The purpose** of the center is to provide comprehensive developmental programs for approximately 100 community-area children each year while also offering credit-producing and non-credit opportunities to approximately 350 University students. The children served are from 3-5 years of age and are enrolled in four half-day programs. Infants, toddlers and two-year-olds attend on a semi-regular basis as University courses are scheduled.

Students enrolled in beginning courses learn to apply principles of growth and learning to individual children and groups of young children in 12 laboratory classes. Students in advanced child development, administration and supervision learn to apply their knowledge to the management of preschools and child development centers. Students in child-related majors and minors outside the department who want to work professionally with young children and families observe and participate on short or long-term bases, depending on the nature of their instructor's assignments.

The director and assistant director oversee the administration of the programs for the children and instruct the University students. Students are directed by staff lab supervisors and graduate assistants in child/family development.

### Corporate Training Center

(482-2977)

**THE CORPORATE TRAINING CENTER** is an entrepreneurial organization owned and operated by EMU that serves the public and private sector. The center utilizes both University and non-University expertise to provide training and consulting to organizations ranging from local government agencies to multinational Fortune 500 companies. While the CTC's services extend nationwide and globally, the focus is on training and consulting within the Great Lakes region.

The Corporate Training Center, with its start-up office beginning September 1985 and construction of the facility beginning winter 1987, will be a 38,000 square foot conference center that will incorporate the latest in technological features with the most flexible space utilization.

Such features include:

- two auditoriums seating 100 and 150 respectively, complete with audiovisual systems including rear screen projection and built-in response panels,
- a computer laboratory with 25 stations, and
- a library/media distribution center.

The center will be located off Ford Lake at I-94 and Whittaker Road in Ypsilanti, and is part of a 185-acre development that will include a 252-room Radisson Hotel, an 18-hole championship golf course and Ypsilanti Township's development of North Bay Park with lakeside jogging and bicycling paths.

### Educational Service Center

Director: Mary Green  
111 King Hall (487-1060)

**THE EDUCATIONAL SERVICE CENTER** has been extending the public service and research mission of Eastern Michigan University throughout southeastern Michigan since 1984.

Through its various components, the center demonstrates a unique ability to promote joint ventures in educational improvement with schools and other units sponsoring teaching-learning enterprises, such as business, industry and labor unions.

The center works on the assumption that, before the most effective teaching can be achieved, educators and training personnel must be brought together to discuss available research and planning techniques. The center then links this research directly to its clients' policy decisions, curriculum planning, pedagogy, testing, evaluation and staff development practices to improve the overall productivity of the educational enterprise.

The specific goals and objectives of the center are:

- the identification of training and evaluation needs of schools, educational agencies, businesses and industries in southeastern Michigan,
- program development,
- research and evaluation, and
- dissemination of successful practices.

The center develops contracts and implements programs with specific organizations to meet educational needs and accomplish mutually agreed upon goals. The center also offers credit and non-credit educational activities, such as university courses, workshops, conferences, seminars and short-term instructional experiences. In addition, short-term and long-term contracts to provide research, evaluation and technical assistance may be arranged.

## 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 Developments*, and an Economic Analysis Forum is held on campus each spring.

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,  
Angelo Angelocci, 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 Program 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 34 publications based on Institute projects.

## Learning Resources and Technologies (University Library, Media Services and Instructional Support Center)

Dean: Morell D. Boone

Associate Dean: Jon D. Drabenstott

Assistant Dean: Sandra G. Yee

Professor: Fred Blum, Morell D. Boone

Associate Professors: Sarell W. Beal, Mary Clare Beck,  
Margaret A. Eide, Joanne J. Hansen, Twyla M. Mueller Racz  
Assistant Professors: Ann Andrew, Margaret E. Best, Haydee M.  
Cabrera, Ronald P. Colman, Nelly E. Doll, J. Ronda Glikin,  
Walter P. Hogan, Raymond A. Lukasavitz, Keith J. Stanger,  
Helen M. Wilkinson

Instructors: Rita Bullard, Marian Hampton, Carolyn Kirken-  
dall, Glenn Mensching, Judy Shemwell

**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 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 of which there are 1,500 films, 5,400 filmstrips, 7,100 recordings, and 2,800 audio cassettes. 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 which makes available portable recording and playback units.

The center is equipped to produce charts, graphs, photographic slides, mounted and laminated materials and overhead 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 subject areas (current schedules are posted in Room 102).
2. A Writing Clinic with student tutors, supervised by the English Department, to help both students in advanced courses and those seeking to master basic skills. (Students need not be enrolled in an English class. Schedules are posted in Room 102.)
3. Workshops, such as test-taking, vocabulary-building and time management, to enhance and sharpen students' academic success skills.
4. Classes in reading and study skills (non-credit and non-graded classes).
5. Audio-tape recordings and phono discs with available stereo and video equipment for personal use or class assignment.
6. A Foreign Language Laboratory equipped with audio-aural assignments for students taking classes in the Department of Foreign Languages and Bilingual Studies.
7. 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 the use of 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 million has been received from external public and private sources since 1973.

## Technology Services Center College of Technology

Sill Hall (487-2259)

**THE TECHNOLOGY SERVICES CENTER**, established in 1983, is an agency within the College of Technology. Its primary responsibility is to provide business and industry with short- and long-term assistance in training, research and development.

Center staff, including College of Technology faculty, 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, Saõ Paulo, Brazil, London, England and Cardiff, Wales. Contracts have ranged from one day to one year, and much of the center's activities relate to work force training-on-site in manufacturing plants.

The areas in which the staff is working include:

- statistical quality and process control
- environmental technology
- just-in-time manufacturing
- coatings technology
- office automation and information technology
- transportation technology

The center currently is regarded as one of the premier agencies capable of providing comprehensive training and consultation in statistical process control (SPC) and experimental design/industrial statistics.

# **COLLEGE OF ARTS AND SCIENCES**

## **Programs of Study and Course Descriptions**

**Interim Dean: Ira M. Wheatley**

**Administrative Associate: Velma G. Clarke**

### **Departments and Programs**

**Afro-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**

**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.) and the Bachelor of Music-Performance (B.Mu.). These specialized degrees are described more fully within the individual departments.

Several professional certificate and pre-professional programs are also offered within the College of Arts and Sciences. These programs, described more fully within the departments, are: Registered Music Therapy (RMT); international diplomas in business French, German, and Spanish; Certified Actuarial Science (CAS); pre-dental hygiene and dental assisting; 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 (Group I), science and mathematics (Group II) and social sciences (Group III).

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

**Advising Coordinator: Ann C. Kettles**  
**Academic Advising Center**  
**229 Pierce Hall**

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

	<b>Semester hours</b>
<b>Language</b> .....	8-12
One course in English composition or, if eligible, a foreign language course.	
One course in fundamentals of speech.	
One elective course in English language, a foreign language, speech, or educational media (Group I).	
<b>Science and mathematics</b> .....	10-12
(No more than two courses in one department)	
One laboratory science course.	
A second laboratory science course or a course in mathematics or computer science.	
One elective course in Group II.	
<b>Social sciences</b> .....	9-12
One course in American government selected from: PLS 112 or PLS 113 American Government or PLS 202 State and Local Government.	
One course in history.	
A second course in history or a two-semester sequence in sociology-cultural anthropology or economics or geography (Group III).	
<b>Humanities</b> .....	11-12
Two courses in literature in the English Department, two intermediate foreign language courses, or two advanced foreign language literature courses.	
 <b>(The B.A. degree requires completion of one year college credit in one foreign language under Humanities and/or Language.)</b>	
One course in philosophy or religion.	
One course in art, music or dramatic arts.	
<b>Major, minimum</b> .....	30
<b>Minor, minimum</b> .....	20
<b>Physical education and health</b> (Group VII).....	2
Physical education activity courses.....	2
(Any two courses in Military Science may be applied.)	
<b>Electives</b> .....	34-24
<b>Total</b> .....	<b>124</b>

## Individualized Interdisciplinary Concentration

Advising Coordinator: Ann C. Kettles  
 Academic Advising Center  
 229 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. Requiring 60 semester hours, it is for the person with a clear personal goal and is especially attractive for students over 24 years of age who are resuming their education.

Available within the Bachelor of Science degree, this option does not lead to a teaching certificate and might not be considered appropriate by some graduate and professional schools.

Those electing the option develop a plan with the help of the director of academic advising by selecting courses equivalent to satisfying major and minor requirements for graduation. Courses selected may not include 60 hours of courses from one department nor merely be a smorgasbord of general studies courses. The Basic Studies requirements of the University must be completed.

An individualized program will be considered for approval by an Individual Concentration Committee when the student provides the following information:

1. Reasons the program cannot be pursued within the framework of the traditional major.
2. The immediate goals of the proposed program.
3. The way in which the proposed program will operate to fulfill stated educational and life objectives.
4. A detailed listing of courses the student wishes to elect.



## AFRO-AMERICAN STUDIES PROGRAM

Office: 304 Goodison

Director: Ronald C. Woods

**AFRO-AMERICAN STUDIES** examines the cultural, economic, legal and social evolution of Afro-America. The program also studies the relationship between Afro-America, the American body politic and the world community.

Objectives of the program are to disseminate knowledge about Afro-America, to provide students an informational and methodological basis for confronting the future world, and to increase understanding of the role of law and public policy in the social order. It is affiliated with the National Council for Black Studies, the American Legal Studies Association and the Law and Society Association.

### PROGRAMS OF STUDY

**Minor:**

Afro-American Studies

**Concentration:**

Individualized Interdisciplinary Concentration in Afro-American Studies

**ADVISING** is available through the Afro-American Studies Program director.

### Minor in Afro-American Studies

	Sem hours
<b>Minor in Afro-American studies</b> .....	<b>20</b>
(Non-teaching)	
<b>1. Required courses</b> .....	<b>11-12</b>
AAS 101 Afro-American Studies: An Introduction.....	3
AAS 201 Afro-American Studies II.....	3
AAS 301 Seminar in Afro-American Studies.....	3
AAS 498 or AAS 499 Independent Study.....	2-3
<b>2. Electives</b> .....	<b>8-9</b>
Choose eight to nine credits from one of the options below. Selection from both options to fulfill minimal minor requirements requires permission of the director of Afro-American Studies Program.	
<b>Communicative arts option</b> .....	<b>9</b>
Choose three courses from the following:	
AAS 202 Black Social Movements 1880-1890s,	
AAS 203 Blacks in the City, AAS 304 The African Diaspora and the Black Experience	
CTA 151 Black Theatre: An Introduction, CTA 251 Black Theatre: Creative Problems	
FA 222 African and Afro-American Art	
LIT 260 Afro-American Literature	
<b>Cultural sciences option</b> .....	<b>9</b>
Choose three courses from the following:	
ANT 236 Peoples of Africa, ANT 336 Social and Cultural Change	
ECO 320 Labor Economics, ECO 321 Minority Workers in the Labor Market, ECO 332 Urban Economics	
GEO 322 Geography of Africa, GEO 332 Urban Geography	
HIS 103 History of Non-Western Civilization, HIS 315 History of Black Americans, HIS 340 The Middle East and North Africa to 1798, HIS 347 History of Sub-Saharan Africa, HIS 365 The Old South	

PLS 372 Government and Politics of Sub-Saharan Africa  
 PSY 340 Psychological Perspectives on Prejudice and  
 Discrimination  
 SOC 306 The Urban Community, SOC 309 Culture and  
 Personality, SOC 324 Racial and Cultural Minorities

### Individualized Interdisciplinary Concentration in Afro-American Studies

**AN INDIVIDUALIZED CONCENTRATION PROGRAM** can be designed for students who wish to pursue a more extensive course of study in the area of Afro-American studies. Because a major is not offered in this program, an alternative 30 semester hour program can be developed with the assistance of the Academic Advising Center and the director of the Afro-American Studies Program. This may serve as part of a co-major or as part of a thoroughly integrated curriculum of 60 semester hours. The program devised must meet the approval of the Individual Concentration Committee. The student who meets the 60 semester hour concentration will have satisfied all major requirements for graduation.

## Courses

### AAS 101 Afro-American Studies: An Introduction.

**Three sem hours**

Provides students with a fundamental knowledge of the Afro-American experience and culture and an introduction to basic analytical and conceptual tools.

### AAS 201 Afro-American Studies II.

**Three sem hours**

Provides students with the opportunity to study in depth the Afro-American experience in America during the 20th century.

*Prereq: AAS 101 Afro-American Studies: An Introduction.*

### AAS 202 Black Social Movements 1880-1890s.

**Three sem hours**

Examines the rise of black social movements, with particular emphasis on the role of Afro-Americans in the struggle for equality, manhood, and suffrage. Focuses on this period as a part of the continued struggle for liberation.

*Prereq: AAS 101 Afro-American Studies: An Introduction.*

### AAS 203 Blacks in the City.

**Three sem hours**

Examines the role of Afro-Americans in shaping the urban setting. Focuses on the northern migration movement as the first stage in the development of racial crises in urban areas.

*Prereq: AAS 101 Afro-American Studies: An Introduction.*

### AAS 297, 298, 299 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 101 Afro-American Studies: An Introduction.*

### AAS 301 Afro-American Contemporary Issues Seminar.

**Three sem hours**

Provides students with specialized information on the Afro-American in the context of urban living and primary learning experiences and perspectives into the most recent issues and problems.

*Prereq: AAS 201 Afro-American Studies II.*

### AAS 304 The African Diaspora and the Black Experience.

**Three sem hours**

The African diaspora is the dispersion of people of African descent throughout the world as a result of slave trade. This course examines the process of dispersion as well as the impact of the African presence on world development.

*Prereq: AAS 101 Afro-American Studies: An Introduction.*

### 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 Afro-American Studies Program.

*Prereq: AAS 101 Afro-American Studies: An Introduction, or department 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 Afro-American Studies Program.

*Prereq: AAS 101 Afro-American Studies: An Introduction, or department permission.*

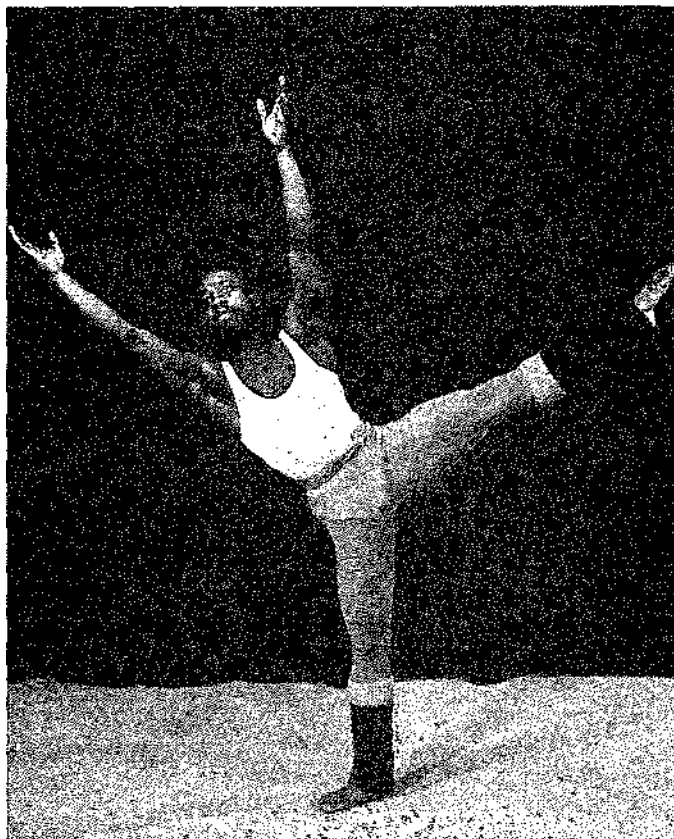
### AAS 497, 498, 499 Independent

**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 301 Afro-American Contemporary Issues Seminar, junior standing, and department permission.*





# ART

Office: 114 Ford Hall

Department Head: John E. Van Haren

Professors: Marvin C. Anderson, Barry Avedon, Igor Beginin, Richard T. Fairfield, Jan Field, Lawrence L. Freeman, Sharon R. Harrison, Fredrick C. Hunter, Judy Loeb, John P. Loree, John N. Pappas, James Sandall, David W. Sharp, Doris A. Smith, Susanne G. Stephenson, Patricia Williams, Jay R. Yager, John E. Van Haren, Michael Zahratka

Associate Professors: Robert E. Chew, Sheldon S. Iden, Charles McGee, Richard Rubinfeld, Ellen Schwartz, Beverly A. Shankwiler, Richard E. Washington

Assistant Professors: Carmen King, Doug Kisor

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 Art Education and Bachelor of Fine Arts

## 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, John Van Haren  
Art History Minor: Sharon Harrison  
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. 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 (Group V) 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. Include MTH 108 Functional Mathematics I and PSY 101 General Psychology in the science and mathematics area of Basic Studies.

	Sem hours
Language.....	8-9
Requirements 1, 2 and 3 (Box page 26).....	8-9

Science and mathematics.....	10-12
Requirements 1 and 2 (Box page 26).....	7-9
PSY 101 General Psychology.....	3
Social sciences.....	9-12
Requirements 1, 2 and 3 (Box page 27).....	9-12
Humanities.....	9
Requirements 1, 2 and 3 (Box page 27).....	9
One course in art, music or theatre arts will automatically be met by Group V courses below.	
Education (Group IV).....	30
EDP 322 Human Development and Learning.....	4
CUR 305 Curriculum and Methods.....	3
SGN 300 The Exceptional Student in the Regular Classroom.....	3
CUR 311 Teaching of Reading in the Secondary Schools.....	3
EDP 340 Introduction to Measurement and Evaluation.....	2
SFD 328 Social Aspects of Teaching.....	3
EDT 300 Introduction to Computer Applications.....	1
EDM 345 Media for Classroom Teachers.....	1
FA 416 Art Methods and Materials.....	2
FA 417 Teaching of Art.....	2
EDU 492 Student Teaching.....	8
Fine arts (Group V).....	54
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 201 Graphic Design.....	3
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
FA 235 Textiles.....	3
FA 304 Beginning Photographic Imagery.....	3
FA 305 Printmaking.....	3
FA 307 Ceramics.....	3
FA 310 Sculpture.....	3
FA 313 Painting.....	3
FA 314 Painting - Watercolor.....	3
FA 320 Jewelry.....	3
Physical education and health (Group VII).....	2
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
Electives.....	0-2
Total.....	124-128

## 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 semester hours within this curriculum will have satisfied all major and minor requirements for graduation.

	Sem hours
Language.....	8-9
Requirements 1, 2 and 3 (Box page 26).....	8-9
Science and mathematics.....	10-11
Requirements 1, 2 and 3 (Box page 26).....	10-11
Social sciences.....	9-12
Requirements 1, 2 and 3 (Box page 27).....	9-12
Humanities.....	9
Requirements 1 and 2 (Box page 27).....	6

One course in art, music or theatre arts will automatically be met by Group V courses below.

<b>Fine arts (Group V)</b> .....	<b>54</b>
<b>1. Required courses</b> .....	<b>27</b>
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
<b>2. Area of concentration</b> .....	<b>12</b>
Choose a sequence of four courses in a major area.....	12
<b>3. Electives</b> .....	<b>15</b>
<b>Physical education and health (Group VII)</b> .....	<b>2</b>
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Electives (No more than six hours in art)</b> .....	<b>27-32</b>
<b>Total</b> .....	<b>124</b>

### Bachelor of Fine Arts Plus Teacher Certification

	<b>Sem hours</b>
<b>Education (Group IV — see education requirements)</b> .....	<b>30</b>
<b>Fine arts (Group V)</b> .....	<b>54-60</b>
<b>Required courses</b> .....	<b>27</b>
FA 107 Art Survey I.....	3
FA 108 Art Survey II.....	3
FA 122 2-D Design.....	3
FA 123 Drawing I.....	3
FA 124 Drawing II.....	3
FA 210 Life Drawing.....	3
FA 215 History of 19th Century Art.....	3
FA 216 History of Contemporary Art I.....	3
FA 231 3-D Design.....	3
<b>Elect six of the following courses</b> .....	<b>18</b>
FA 235 Textiles.....	3
FA 201 Graphic Design.....	3
FA 304 Photography.....	3
FA 305 Printmaking.....	3
FA 307 Ceramics.....	3
FA 310 Sculpture.....	3
FA 313 Painting.....	3
FA 314 Painting — Watercolor I.....	3
FA 320 Jewelry.....	3
FA 432 Drawing III.....	3
<b>Area of concentration</b> .....	<b>9</b>
Select a sequence of three advanced courses from one of the above areas (18 hour group).	
<b>Electives in art</b> .....	<b>0-6</b>
<b>Electives outside the Art Department</b> .....	<b>0-10</b>
No more than 60 semester hours in Group V 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 semester hour majors is preferred.

	<b>Sem hours</b>
<b>Academic major in art</b> .....	<b>30</b>
<b>1. Required courses</b> .....	<b>18</b>

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 231 Three-Dimensional Design .....	3
<b>2. Electives</b> .....	<b>12</b>
Choose 12 credits from art studio and/or art history courses in consultation with the advising coordinator, and department permission.	

### Minors Offered in the Department of Art

#### Art

AN ADDITIONAL four hours beyond the minimum 20 semester hours for the minor must be completed to meet North Central Association requirements for teaching art at the junior/senior high school level. Methods courses may be included in the 24 hour total.

	<b>Sem hours</b>
<b>Minor in art</b> .....	<b>21-24</b>
<b>1. Required courses</b> .....	<b>9</b>
FA 107 Art History Survey I or FA 108 Art History Survey II.....	3
FA 122 Two-Dimensional Design .....	3
FA 123 Drawing I or FA 101 Introduction to Art.....	3
<b>2. Electives</b> .....	<b>12</b>
FA 100 Art Appreciation, FA 101 Introduction to Art, FA 179 Studio Experience, Non-Major, FA 300 Art for the Elementary Teacher may be used as electives.	

#### 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.

	<b>Sem hours</b>
<b>Minor in art history</b> .....	<b>20</b>
<b>1. Required courses</b> .....	<b>14</b>
FA 107, 108 Art History Survey I and II .....	6
FA 215 History of 19th Century Art .....	3
FA 216 History of Contemporary Art I.....	3
FA 428 Seminar: Modern Art .....	2
<b>2. Restricted electives</b> .....	<b>6</b>
Choose six credits from art history courses in consultation with advising coordinator.	

### Art Courses for Non-Majors

**FA 100 Art Appreciation.** **Three sem hours**  
A course for non-specializing students. The aim is to acquaint students with art philosophies, their elements, principles and values.

**FA 101 Introduction to Art.** **Three sem hours**  
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.

**FA 121 Islam: The Golden Age.** Three sem hours  
(See humanities courses, page 142.)

**FA 127 The Splended Centuries of Austria.** Three sem hours  
(See humanities courses, page 142.)

**FA 151 Reason and Revolution.** Three sem hours  
(See humanities courses, page 142.)

**FA 153 From the Middle Ages to the Renaissance: Sacred and Profane Love.** Three sem hours  
(See humanities courses, page 142.)

**FA 177, 178, 179 Studio Experience — Non-Major.** One, two, three sem hours  
Art studio classes for non-majors in all studio areas available in the department. Hands on approach to provide students with opportunity to develop skills in ceramics, drawing, graphic design, jewelry, painting, photography and others to be determined.

**FA 181 The Legacy of Greece.** Three sem hours  
(See humanities courses, page 143.)

**FA 182 The Legacy of China.** Three sem hours  
(See humanities courses, page 143.)

**FA 187, 188, 189 Studio Experience.** One, two, three sem hours  
Art studio classes for non-majors in all studio areas available in the department. Hands on approach to provide students with opportunity to develop skills (laboratory fee may be required).

## Art Education Courses

**FA 300 Art for the Elementary Teacher.** Four sem hours  
Hands-on use of art media suitable to the elementary classroom. Understanding, appreciation and awareness of art in its varied contemporary and multi-cultural contexts. Non-majors only.

**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  
This course should be taken in the junior year. Designed to meet the needs of the classroom. Choosing, exploring, presenting materials for creating experiences in relation to growth and development of the child. Senior standing. Not open to students on academic probation.  
*Prereq: Art education majors only.*

**FA 417 Teaching of Art.** Two sem hours  
Focuses on the development of the creative potential of children and the study of varied art education programs. Assignments will include readings, library research, panels and field trips. Not open to students on academic probation.  
*Prereq: Senior standing and art education major.*

**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.  
*Prereq: FA 122 Two-Dimensional Design, FA 123 Drawing I, FA 124 Drawing II, one art history course (FA 108 Art History Survey II preferred).*

**FA 203 Black and White Design.** Three sem hours  
Beginning course in creative solution of visual problem solving. Emphasis on visual sensitivity. Use of mechanical drawing tools stressed. Practical and theoretical styles are covered.  
*Prereq: FA 124 Drawing II.*

**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. Fabrications using industrial materials and equipment. Introduction to kinetics, pneumatics and electronic equipment.

**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 representational-ly 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 303 Graphic Design.** **Three sem hours**  
The study of structural problems and visual techniques in connection with three-dimensional commercial design problems, such as display, product design and interiors.  
*Prereq: FA 302 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 lithography.  
*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; etching and silk screen.  
*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 315 TV Graphics.** **Three sem hours**  
Preparing art specifically for television with gray scale and color work. Experimentation with styles and projects for both educational and commercial television.  
*Prereq: Art majors only.*
- 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 330 Multi-Media Workshop.** **Three sem hours**  
Investigations and experiments in direct use of industrial materials and kinetic media. Emphasis on media that have little art history.  
*Prereq: FA 231 Three-Dimensional Design. Art majors only.*
- FA 331 Multi-Media Workshop.** **Three sem hours**  
Investigations and experiments in direct use of industrial materials and kinetic media. Emphasis on media that have little art history.  
*Prereq: FA 330 Multi-Media Workshop. Art majors only.*
- 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 depart-  
 mental offerings. Students may elect more than once provided dif-  
 ferent topics are studied.  
*Prereq: Department permission.*

**FA 404 Lettering.** **Three sem hours**  
 A survey of basic letter forms; problems include letter and type  
 indication of rough comprehensive layout as well as finished let-  
 tering for reproduction purposes. Lettering and type are used as  
 they apply to labels, packaging, magazine and newspaper  
 advertising.  
*Prereq: FA 201 Graphic Design.*

**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 will include lithography, etching and aqua-  
 tint processes plus individual assignments.  
*Prereq: FA 405 Printmaking.*

**FA 407 Ceramics.** **Three sem hours**  
 Intensive work for art majors specializing in ceramics with an em-  
 phasis 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, ex-  
 hibition 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 estab-  
 lished 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 pro-  
 cesses 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 openform con-  
 struction; 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 develop-  
 ment of individual style.  
*Prereq: FA 313 Painting.*

**FA 414 Painting — Watercolor II.** **Three sem hours**  
 Further development of painting skills and aesthetic understanding  
 of the two-dimensional surface complex. Emphasis on develop-  
 ment of individual style.  
*Prereq: FA 314 Painting — Watercolor I.*

**FA 418 Portraiture.** **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 per-  
 sonal 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 430 Multi-Media Workshop.** **Three sem hours**  
 Advanced investigation and experiments in direct use of industrial  
 materials and kinetic media. Emphasis on media that have little  
 art history.  
*Prereq: FA 331 Multi-Media Workshop.*

**FA 431 Multi-Media Workshop.** **Three sem hours**  
 Advanced investigation and experiments in direct use of industrial  
 materials and kinetic media. Emphasis on media that have little  
 art history.  
*Prereq: FA 430 Multi-Media Workshop.*

**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.  
*Prereq: FA 348 Logos and Symbols.*

**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 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.  
*Prereq: FA 108 Art History Survey I or FA 215 History of 19th-Century Art.*

**FA 340 History of Classical Art.** **Three sem hours**  
A study of the art and architecture of the classical civilization of Greek 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: Herbert H. Caswell Jr.**

**Professors: Howard D. Booth, Herbert H. Caswell Jr., William E. Fennel, 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, Dale C. Wallace, Shih-An Yu**

**Associate Professors: Gary L. Hannan, P. George Simone, Elizabeth L. Waffle**

**Assistant Professors: Patrick C. Kangas, Paul W. Milske, Robert K. Neely, John A. Novak, V. Jean Wainscott**

**THE DEPARTMENT OF BIOLOGY** offers a major in biology with five specified fields of concentration and four minors: biology, botany, zoology, conservation and resource use. It participates in a joint curriculum in forestry 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. The adjacent Loesell Field Laboratory and nearby Huron River 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.

The Kresge Center Office in 305 Mark Jefferson provides information and room and board contracts for the full-resident program conducted normally during the six-week summer session. Registration and tuition payments are made during the regular spring/summer registration. A limited number of commuters can be accommodated. Emphasis is on environmental education.

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.

The Bio-Career Center, Room 306 Mark Jefferson, maintains an extensive reference collection for students seeking career information.

**DEGREES: Bachelor of Science and Bachelor of Arts**

**PROGRAMS OF STUDY:****Major:**

Biology

**Concentrations:**

Ecosystem Biology (Aquatic and Terrestrial)

General Biology

Microbiology

Microbiology Professional Concentration

Physiology

**Minors:**

Biology

Botany

Zoology

Conservation and Resource Use

**Joint Curriculum in Forestry with the University of Michigan****Pre-professional programs:**

Pre-Forestry

Pre-Medicine

Pre-Osteopathic Medicine

Pre-Optometry

Pre-Podiatry

**ADVISING** procedure is posted on separate program of study boards opposite the biology office, or the department office may be contacted for information on an appropriate adviser.

**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 and be accepted in one of the areas of concentration on the major. The initial meeting should take place by the end of the sophomore year. Changes made should be accomplished with the same faculty adviser.

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. All undergraduates who intend to continue in the biology graduate program must include at least seven semester hours in botany and seven semester hours in zoology in the course work for the bachelor's degree.

**Biology majors who elect a botany or zoology minor** must file an approved schedule of electives for the minor with their faculty adviser. No substitute courses will count on these minors unless specifically approved by the faculty adviser.

**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.

**Forestry, joint curriculum, students** must be accepted in this program by meeting with the advising coordinator to be recommended for completion of the program at Camp Filibert Roth 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:**

Biology: Paul W. Milske

Community College Teaching: Paul W. Milske

Microbiology: V. Jean Wainscott

Physiology: P. George Simone

Ecosystem Biology: William E. Fennel

Conservation and Resource Use: Frank L. Sinclair

Forestry, Joint Curriculum: Frank L. Sinclair

Pre-Medical, Pre-Osteopathic Medical, Pre-Optometry and

Pre-Podiatry: Edith M. Hurst

**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 and physiology. These programs are described in the Graduate Catalog.

**Biology Major**

**THE MAJOR IN BIOLOGY** has 10 semester hours of required basic courses and 20 to 26 hours in a field of concentration: general biology, microbiology, or physiology (20 semester hours), ecosystem biology—aquatic and terrestrial—or microbiology professional (26 semester hours). All biology majors are encouraged to participate in undergraduate research by using elective credit (up to six semester hours).

Prospective majors with no previous high school biology should start with BIO 105 Biology and the Human Species, two of the four semester hours of which may be substituted for the required BIO 106 Orientation to Biology if a grade of “B” or better is earned (the remaining two hours count as elective credit). Students who earn less than a “B” in BIO 105 must take BIO 106 but may take it concurrently with either BOT 221 General Botany or ZOO 222 General Zoology. Transfer students entering with credit for BOT 221 or ZOO 222 should take BIO 106 concurrently with their first biology course at EMU unless they have transfer credit for BIO 105 with a grade of “B” or better.

The minimum requirement in chemistry for all biology majors is CHM 131 General Chemistry I and CHM 270 Organic Chemistry. However, some concentrations require more than this minimum.

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, and BIO 403 Methods and Materials for Teaching Biology.

	<b>Sem hours</b>
<b>Academic major in biology</b> .....	<b>30-36</b>
<b>1. Required basic courses</b> .....	<b>10</b>
BIO 106 Orientation to Biology .....	2
BOT 221 General Botany .....	4
ZOO 222 General Zoology .....	4
<b>2. Field of concentration</b> .....	<b>20-26</b>

**Ecosystem Biology Concentration  
Aquatic and Terrestrial**

**THIS CONCENTRATION** includes 16 semester hours of required courses and a required group science minor of 27 semester hours. It is suggested that a second minor be selected from among the following: botany (20 sem hours), zoology (20 sem hours) or conservation and resource use (24 sem hours)—all found in this section; chemistry (22 sem hours, page 71); coastal environments (21 sem hours, pages 123-124); computer science (21 sem hours, page 91); or land use analysis (24 sem hours, page 123).

Courses most appropriate for use on the second minor in conjunction with the ecosystems biology concentration should be



chosen in consultation with the student's faculty adviser. Minors in botany, zoology and conservation and resource use also must be approved by the designated adviser for each. Course substitutions also require the approval of both the adviser for the minor and the advising coordinator for ecosystem biology concentration or, in some cases, the head of the department. Students should consult individual advisers for approvals needed.

**Honors courses** involving research, both optional and 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.

Students who wish to prepare for graduate work in marine or aquatic biology will find it possible to choose courses on aquatic organisms; those interested in terrestrial environments will be able to find courses with that emphasis.

	<b>Sem hours</b>
<b>Ecosystem biology concentration (aquatic and terrestrial)</b> .....	<b>53</b>
<b>1. Required courses</b> .....	<b>26</b>
BIO 301 Genetics.....	3
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.	
<b>2. Required group science minor</b> .....	<b>27</b>
CHM 131 General Chemistry I†.....	5
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 and Climate.....	3
CSC 137 Introduction to Computer Programming or CSC 237 Computer Programming and Numeric Methods.....	3
†Mathematics prerequisites for CHM 131 General Chemistry and PHY 221 Mechanics, Sound and Heat are not included in this minor.	

**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 (pre-dentistry, pre-medicine, pre-osteopathic medicine, pre-podiatry, pre-veterinary medicine, pre-optometry), specializing in field biology or plant and animal taxonomy, cell biology, pre-forestry, laboratory or museum research, or seeking to teach in a community or four-year college should 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 (including microbiology) and zoology. A botany, chemistry or zoology minor is recommended, as well as a field experience at a biological station.

	<b>Sem hours</b>
<b>General biology concentration</b> .....	<b>20</b>
<b>1. Required courses</b> .....	<b>14</b>
BIO 301 Genetics.....	3
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**.....6

Choose six credits in biology, botany, microbiology or zoology except BIO 205 Field Biology, BIO 207 Elements of Ecology, or ZOO 326 Human Physiology.

**Courses designated as botanical taxonomic field courses:**

- BOT 302 Systematic Botany
- BOT 354 Trees and Shrubs
- BOT 450 Aquatic Tracheophyta
- BOT 451 Freshwater Algae
- BOT 453 Taxonomy and Ecology of Diatoms

**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** electing the microbiology concentration are urged to minor in botany, chemistry, biochemistry, physics or zoology. It is an appropriate choice for those in pre-professional programs in medicine, osteopathic medicine, dentistry, veterinary science or pharmacy, and as a second major choice for those students majoring in medical technology.

	<b>Sem hours</b>
<b>Microbiology concentration</b> .....	<b>20</b>
<b>1. Required courses</b> .....	<b>11</b>
BIO 301 Genetics.....	3
MIC 329 General Microbiology.....	5
MIC 444 Microbial Physiology.....	3
<b>2. Electives</b> .....	<b>9</b>
Choose nine credits from the following:	
BIO 333 Principles of Immunology, BIO 335 Immunology and Serology Lab, BIO 427 Introductory Molecular Genetics, BIO 461 Oncology, BIO 540 Cell Biology	
BOT 404 Mycology, BOT 430 Plant Morphology of Algae and Fungi, BOT 446 Medical Mycology	

MIC 340 Basic Virology, MIC 432 Clinical Microbiology,  
MIC 442 Microbial Ecology, MIC 445 Food Microbiology,  
MIC 452 Advanced Microbiology, MIC 454 Molecular  
Biology of Bacteria and Viruses  
ZOO 462 Parasitology, ZOO 480 Protozoology

### Microbiology Professional Concentration

**THE MICROBIOLOGY PROFESSIONAL CONCENTRATION** meets the educational requirements at the bachelor's degree level established by the American Academy of Microbiology. This allows students completing the program and meeting the additional experience requirements set by the academy to make formal application for the examinations to become a Registered Microbiologist, RM (AAM).

It also provides the requisites for acceptance into graduate programs leading to qualification as a Specialist in Public Health and Medical Laboratory Microbiology, SM (AAM) and Specialist in Food, Dairy and Sanitation Microbiology, SM (AAM), or to a doctoral degree in microbiology.

A biochemistry minor is required. Mathematics and physics courses are specified.

	Sem hours
<b>Microbiology professional concentration</b> .....	<b>27</b>
<b>I. Required courses</b> .....	<b>18</b>
BIO 301 Genetics.....	3
BIO 427 Introductory Molecular Genetics.....	3
MIC 329 General Microbiology .....	5
MIC 444 Microbial Physiology.....	3
MIC 452 Advanced Microbiology.....	4
<b>2. Electives</b> .....	<b>8</b>
Choose eight credits from the following:	
BIO 333 Principles of Immunology, BIO 335 Immunology and Serology Lab, BIO 461 Oncology, BIO 540 Cell Biology*	
BOT 404 Mycology, BOT 430 Plant Morphology of Algae and Fungi, BOT 446 Medical Mycology, BOT 451 Freshwater Algae	
MIC 340 Basic Virology, MIC 432 Clinical Microbiology, MIC 442 Microbial Ecology, MIC 445 Food Microbiology, MIC 454 Molecular Biology of Bacteria and Viruses	
ZOO 462 Parasitology, ZOO 480 Protozoology	
*Qualified students may use <i>BIO 540 Cell Biology</i> (listed in the <i>Graduate Catalog</i> ) with approval of their adviser.	
<b>3. Required biochemistry minor</b> .....	<b>23</b>
CHM 131, 132 General Chemistry I and II.....	9
CHM 270 Organic Chemistry.....	4
CHM 271 Organic Chemistry Laboratory.....	1
CHM 281 Quantitative Analysis.....	4
CHM 351 Introductory Biochemistry.....	3
CHM 352 Biochemistry Laboratory.....	2
<i>Students with a 3.0 GPA or better, or those planning on graduate work in microbiology, are encouraged to substitute CHM 371 Organic Chemistry I, CHM 372 Organic Chemistry II and CHM 373 Organic Chemistry Laboratory for CHM 270 and 271 and CHM 451 Biochemistry I and CHM 452 Biochemistry II for CHM 351 and 352. Pre-medical and pre-dental students should substitute CHM 371, 372 and 373 to satisfy most medical and dental school requirements for organic chemistry.</i>	

<b>4. Mathematics requirement</b> .....	<b>4</b>
MTH 120 Calculus I.....	4
<i>Prerequisite of "B" average in high school mathematics through trigonometry, or MTH 105 College Algebra (and MTH 107 Plane Trigonometry, if not taken in high school).</i>	
<b>5. Physics requirements</b> .....	<b>8</b>
PHY 221 Mechanics, Sound and Heat .....	4
PHY 222 Electricity and Light .....	4
Students are encouraged to take at least three semester hours in research and practical experience through the following courses: BOT 497, 498, 499 Special Problems in Microbiol- ogy (one, two, three credits); MIC 387, 487 Cooperative Education in Microbiology (three credits each).	

### Physiology Concentration

**STUDENTS** electing this concentration are strongly advised to take minors in botany or zoology, and chemistry or biochemistry. CHM 451 Biochemistry I is recommended, and an elementary physics course is desirable. 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.

	Sem hours
<b>Physiology concentration</b> .....	<b>20</b>
<b>I. Required course</b> .....	<b>4</b>
BIO 320 Introduction to Cell Physiology.....	4
<b>2. Restricted electives</b> .....	<b>6</b>
Choose six credits from the following:	
BOT 442 Plant Physiology	
MIC 444 Microbial Physiology	
ZOO 427 Vertebrate Physiology, ZOO 437 Invertebrate Physiology	
<b>3. Electives</b> .....	<b>10</b>
Choose 10 credits from the following:	
BIO 301 Genetics, BIO 415 Basic Histological Techniques, BIO 416 Biological Instrumentation—Theory and Practice, BIO 420 General Ecology, BIO 480 Radiation Biology	
BOT 312 Plant Anatomy, BOT 404 Mycology	
MIC 329 General Microbiology	
CLS 400 Pathophysiology	
ZOO 323 Animal Embryology, ZOO 324 Comparative Anatomy of Vertebrates, ZOO 404 Mammalian Histology ZOO 417 Neuroanatomy	

### Minors Offered in the Department of Biology

#### Biology Minor

**STUDENTS MINORING IN BIOLOGY** are advised to take CHM 119 Fundamentals of Chemistry or CHM 131 General Chemistry I. 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 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.

	Sem hours
<b>Minor in biology</b> .....	<b>20-24</b>
<b>1. Required courses</b> .....	<b>10</b>
BIO 106 Orientation to Biology.....	2
BOT 221 General Botany.....	4
ZOO 222 General Zoology.....	4
<b>2. Electives*</b> .....	<b>10</b>
Choose 10 credits from the following: biology, botany, microbiology, or zoology except ESC 303 (BIO ESC) Science for the Elementary Teacher, BIO 205 Field Biology and BIO 403 Methods and Materials for Teaching Biology	
<i>*No more than four hours of electives on the minor may be taken in any combination of BIO, BOT or ZOO 497, 498 and 499 Special Problems courses (one, two, three credits), and BIO, BOT, MIC or ZOO 387, 487 Cooperative Education courses (three credits each).</i>	

### Botany Minor

**OPEN ONLY** to those who are majoring in biology. Students electing this minor must consult with the advising coordinator to obtain and file an approved schedule of electives chosen from courses in the botany and biology areas.

Students in the curriculum for secondary teachers who elect this minor with a biology major must complete a second minor outside of the Biology Department to satisfy the current requirements for teacher certification.

	Sem hours
<b>Minor in botany</b> .....	<b>20</b>

### Zoology Minor

**OPEN ONLY** to those who are majoring in biology. Students electing this minor must consult with the advising coordinator to obtain and file an approved schedule of electives chosen from courses in the zoology and biology area.

Students in the curriculum for secondary teachers who elect this minor with a biology major must complete a second minor outside the Biology Department to satisfy the current requirements for teacher certification.

	Sem hours
<b>Minor in zoology</b> .....	<b>20</b>

### 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
<b>Minor in conservation and resource use</b> .....	<b>24</b>
<b>1. Required courses</b> .....	<b>13</b>
*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
<b>2. Electives</b> .....	<b>11</b>
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, GES 305 Aerial Photography Interpretation, GEO 310 Energy Awareness, GES 315 Land Use Planning, GEO 320 Geography of U.S. and Canada, GES 324 Weather and Climate, GES 327 Soils Science, GEO 332 Urban Geography, GEO 361 Geography of Population, GES 424 Climatology, GLG 448 The Subsurface Water Resource, GES 495 Environmental Impact Assessment	
SOC 306 The Urban Community, SOC 334 Population	

*\*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 106 Orientation to Biology and BIO 420 General 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 Forestry

**Cooperative Program between Eastern Michigan University and the School of Natural Resources at the University of Michigan**

**THE JOINT CURRICULUM IN FORESTRY** includes three years at Eastern Michigan University, one summer at Camp Filibert Roth, and three semesters 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 complete the minor in conservation and resource use at EMU. After the third semester at the SNR, students receive either a B.S. in forestry (B.S.F.) or a B.S. in natural resources from the University of Michigan.

## Curriculum at Eastern Michigan University

## First Year (at EMU)

	Sem hours
First Semester.....	15
BIO 106 Orientation to Biology.....	2
ENG 121 English Composition.....	3
CHM 131 General Chemistry I.....	5
CTA 121 Fundamentals of Speech.....	2
A history course.....	3
Physical education activity course.....	1
Second Semester.....	14
BOT 221 General Botany.....	4
PLS 112 American Government or PLS 202 State and Local Government.....	3
MTH 120 Calculus I.....	4
GLG 160 Physical Geology.....	3

## Second Year (at EMU)

First Semester.....	16-17
ZOO 222 General Zoology.....	4
CHM 270 Organic Chemistry.....	4
ECO 201 Principles of Economics I.....	3
Literature course.....	3
Art, drama or music course.....	2-3
Physical education activity course (optional).....	1
Second Semester.....	15
BOT 354 Trees and Shrubs.....	3
ECO 202 Principles of Economics II.....	3
SOC 105 Introductory Sociology or PSY 101 General Psychology.....	3
Literature course.....	3
Elective.....	3

## Third Year (at EMU)

First Semester.....	15-16
BIO 301 Genetics.....	3
BIO 224 Principles of Conservation.....	4
CSC 137 Introduction to Computer Programming.....	3
Philosophy or religion.....	3
Elective.....	2-3
Second Semester.....	15-16
BIO 320 Introduction to Cell Physiology.....	4
ENG 225 Intermediate English Composition or CTA 224 Public Speaking.....	3
ZOO 310 Natural History of Vertebrates.....	3
Electives.....	5-6

Curriculum at the University of Michigan  
Camp Filibert Roth

**THE SUMMER PROGRAM** at Camp Filibert Roth is preferably taken between the second and third years as a student at Eastern Michigan University but may be taken during the summer after the third year and before commencing study at the U-M Admission to the camp is dependent on recommendation by the Biology Department at EMU.

NR 330 Forest Biology.....	4
NR 338 Forest Survey.....	2
NR 339 Resource Sampling.....	4

## First Year (at U-M)

First Semester.....	14
NR 333 Soils.....	3
NR 435 Forest Ecology.....	4
NR 417 Forest Entomology.....	4
NR 450 Recreation Management.....	3
Second Semester.....	15
NR 231 Tree Growth.....	3
NR 241 Image Interpretation.....	2
NR 433 Forest Pathology.....	3
NR 435 Wood Structure.....	4
NR 471 Forest Economics.....	3

## Second Year (at U-M)

First Semester.....	14
NR 331 Silviculture.....	3
NR 365 N.R./Env. Policy.....	3
NR 452 Forest Management.....	4
NR 438 Applied Statistics.....	4

## 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 a thorough understanding of modern concepts in biology, chemistry and physics, and all value mathematical competence, with some specifying a course sequence in mathematics. Most pre-medical students, therefore, elect a major in biology and a minor in chemistry or vice versa, or a biochemistry major, although this is not mandatory. Most candidates earn the bachelor's degree prior to seeking admission to medical school although a few outstanding students may be admitted with only three years of college.

**An important admission requirement** for most medical schools, the admission test, is given in May and October in various centers throughout the nation. This test should be taken during the junior year.

Medical and osteopathic schools establish their own requirements for admission. The course requirements are similar, but differ enough so that students should consult the catalogs of the various schools in which they are interested. The latest edition of *Medical School Admission Requirements*, available at the reference desk of the 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 soon 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 vocation 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:

	Sem hours
ENG 121 English Composition.....	3
Elective in English language or literature.....	2
BIO 106 Orientation to Biology.....	2
ZOO 222 General Zoology.....	4
BIO 301 Genetics.....	3
CHM 131, 132 General Chemistry I and II.....	9
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.....	6

Because of the highly structured nature of the pre-medical program and the biology or chemistry majors, it is almost mandatory for the student to follow the first year as patterned below.

#### First Year—Pre-Medicine

	Sem hours
<b>First semester</b> .....	15
ENG 121 English Composition.....	3
CHM 131 General Chemistry I.....	5
*Mathematics.....	2-4
BIO 106 Orientation to Biology.....	2
Physical education activity or military science.....	1
<b>Second semester</b> .....	15-16
CHM 132 General Chemistry II.....	4
*Mathematics.....	3-4
ZOO 222 General Zoology.....	4
Physical education activity or military science.....	1
Elective.....	3
*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 Algebra. Students without trigonometry take MTH 107 Plane Trigonometry. Students with strong high school preparation and at least a "B" average in mathematics, including two years of algebra, and trigonometry, may take MTH 120 Calculus I during the first semester or later.	

#### Pre-Optometry and Pre-Podiatry

STUDENTS can complete course requirements at EMU for admission to optometry and podiatry 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 the human, his 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 two and one-half laboratory hours per week. Audio-tutorial laboratory covers basic biological concepts. *Not open to students with credit in BOT 221 General Botany, ZOO 222 General Zoology or BIO 106 Orientation to Biology.*

### BIO 106 Orientation to Biology. Two sem hours

For prospective biology majors. An overview of science as exemplified in biology. The common properties of living things and the variety of ways evolved to exploit these properties. Provides a framework for the specialized sub-sciences included in biology. *Prereq: One year of high school biology. Prospective majors with no previous biology should begin with BIO 105 Biology and the Human Species.*

### 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.*

### 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.*

### 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 work in natural history and 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 BIO 106 Orientation to Biology, 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: BIO 106 Orientation to Biology or BIO 105 Biology and the Human Species and department permission.*

**BIO 301 Genetics.****Three sem hours**

A lecture course emphasizing the basic principles of inheritance with their application to plants and animals, including man.

*Prereq: BOT 221 General Botany or 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 fruitful in extending our understanding of genetic principles, especially *Drosophila* and *Neurospora*. Practice in gathering and analyzing data from living populations will be provided. Highly recommended for majors.

*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 BIO 106 Orientation to Biology; 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 or processes 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 131 General Chemistry I. Organic chemistry is recommended.*

**BIO 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.*

**BIO 334 Immunohematology/Urinalysis.****Three sem hours**

A lecture and laboratory course dealing with the principles of immunohematology and the theory and practice of urinalysis. Not open to those with credit in CLS 334 Immunohematology/Urinalysis.

*Prereq: ZOO 201/202 Anatomy and Physiology or ZOO 222 General Zoology and ZOO 326 Human Physiology, BIO 333 Principles of Immunology.*

**BIO 335 Immunology and Serology Laboratory.****Two sem hours**

A laboratory course designed to accompany or follow BIO 333. Theory and practice in serological techniques with emphasis on antigen-antibody reactions such as precipitation, agglutination, viral neutralization and complement fixation. Not open to those with credit in CLS 335 Immunology and Serology Laboratory.

*Prereq: BIO 333 Principles of Immunology taken previously or concurrently.*

**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: BIO 320 Introduction to Cell Physiology and junior standing. For BIO 487, BIO 387.*

**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 (Group IV). Does not apply on 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**

An advanced course on the 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 BIO 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**

A follow-up to introductory genetics. Concentrates on the molecular aspects of the subject and the properties of genetical 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**

Studies the in-depth principles and procedures of the blood bank and relates them to problem situations in the laboratory. Not open to those with credit in CLS 434 Advanced Immunohematology.

*Prereq: BIO 334 Immunohematology/Urinalysis.*

**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 physico-chemico-biological agents and factors of non-human and human cancer etiology, pathogenesis of neoplastic transformation in vitro, biochemistry and immunobiology of cancer, host-tumor relationship, and "model systems" in control.

*Prereq: MIC 329 General Microbiology or equivalent; organic chemistry (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**

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. A lecture course.

*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.

## 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 audio-tutorial laboratory experience.

*Prereq: BIO 106 Orientation to Biology. A student with exceptionally good high school biology preparation may request department permission to take BIO 106 concurrently with either BOT 221 or ZOO 222 General Zoology. Cannot be taken concurrently with ZOO 222 except by department permission.*

**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: BIO 105 Biology and the Human Species or BIO 106 Orientation to Biology and department permission.*

**BOT 302 Systematic Botany. Three sem hours**

Covers the essentials of the collection, identification and classification of flowering plants. The student will become familiar with the major plant groups, both from lecture and herbarium study and from field experience in varied habitats near Ypsilanti. Counts as taxonomic field course.

*Prereq: BOT 221 General Botany.*

**BOT 354 Trees and Shrubs. Three sem hours**

A taxonomic field course on identification of native trees and shrubs in winter and spring conditions. Counts as taxonomic field course.

*Prereq: BOT 221 General Botany or BIO 205 Field Biology.*

**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 two work experiences alternated with full-time attendance at the University. Admittance to program by application only. Graded credit/no credit basis.

*Prereq: BIO 320 Introduction to Cell Physiology and junior standing. For BOT 487, BOT 387.*

**BOT 404 Mycology. Three sem hours**

Lecture-laboratory course on the study of molds, rusts, mildews, edible and poisonous mushrooms and other fungi. Their life histories, their economic importance, methods of identification and preservation of specimens.

*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 430 Plant Morphology of Algae and Fungi. Four sem hours**

A lecture and laboratory course on comparative morphology of the algae (freshwater and marine) and the fungi. A study of the structure and life cycles of representative organisms with emphasis on the relationship of morphology to reproduction, environmental adjustment, classification and evolution.

*Prereq: 15 hours of biology including BOT 221 General Botany.*

**BOT 431 Plant Morphology of Mosses Through the Vascular Plants. Four sem hours**

A lecture and laboratory course on comparative morphology of the mosses, liverworts, ferns and other vascular plants. A study of the structure and life cycles of representative forms with emphasis on the relationship of morphology to reproduction, environmental adjustment, classification and evolution.

*Prereq: 15 hours of biology, including BOT 221 General Botany. BOT 430 Plant Morphology of Algae and Fungi recommended.*

**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 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 freshwater 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 or equivalent.*

**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 477, 478, 479 Special Topics in Botany. One, two, three sem hours**

An examination in 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 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 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 Organic Chemistry. A biochemistry course recommended.*

**MIC 340 Basic Virology. Three sem hours**

A basic lecture and laboratory course on physico-chemico-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. For MIC 487, MIC 387.*

**MIC 432 Clinical Microbiology. Three sem hours**

A lecture and laboratory course on qualitative and quantitative aspects of microbiology in relation to diseases as found in humans and especially in hospitalized patients. Methods of detection, isolation, enumeration, toxin production and identification as used in clinical laboratories.

*Prereq: MIC 328 Introductory Microbiology or MIC 329 General Microbiology or equivalent and CHM 270 Organic Chemistry.*

**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 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 ultra-structure 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 or equivalent, BIO 301 Genetics, a course in physiology and a course in organic chemistry (lecture and laboratory). BIO 427 Introductory Molecular Genetics recommended.*

**Zoology Courses****ZOO 201 Human Anatomy and Physiology I. Three sem hours**

An intensive lecture and laboratory course investigating the anatomy and physiology of man 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 the anatomy and physiology of man 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 one-hour recitation plus audio-tutorial laboratory experience.

*Prereq: BIO 106 Orientation to Biology. A student with exceptionally good high school biology preparation may request department permission to take BIO 106 concurrently with either BOT 221 General Botany or ZOO 222. Cannot be take 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 designed to give training 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 306 Physical Anthropology.** Three sem hours

A lecture-demonstration course that introduces the study of man from the organic or physical standpoint: man's place in the animal kingdom, the evolution of primates, the primate fossil record, the biology of selected living primates, pleistocene climate, racial diversity and distribution, and the role of culture in man's evolution.

*Prereq: BIO 105 Biology and the Human Species or BIO 106 Orientation to Biology or equivalent.*

**ZOO 310 Natural History of Vertebrates.** Three sem hours

A survey of vertebrates, emphasizing their adaptations and their natural history (i.e., those aspects of their ecology that cannot readily be studied by the experimental methods either in the laboratory or in the wild). Laboratory work will stress the taxonomic classification, identification and distribution of local and other forms. Field work, sometimes conducted under adverse weather conditions and/or at night, 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 Anatomy for Occupational Therapy Students.** 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.*

**ZOO 318 Laboratory in Human Anatomy.** Two sem hours

Laboratory with prosection 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 324 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 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, ZOO 317 Anatomy for Occupational Therapy Students or equivalent previously or concurrently.*

**ZOO 366 Economic Zoology.** Two sem hours

The species, varieties 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: BIO 320 Introduction to Cell Physiology and junior standing. For ZOO 487, ZOO 387.*

**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 Anatomy for Occupational Therapy Students or ZOO 222 General Zoology and department permission.*

**ZOO 421 Entomology.****Three sem hours**

A survey of the world of insects, their structure, function, behavior and ecology. The identification and classification of local insects will be stressed. A student field project will be required. Counts as a taxonomic field course.

*Prereq: ZOO 222 General Zoology or department permission.*

**ZOO 422 Ichthyology.****Three sem hours**

A study of some aspects 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 or equivalent.*

**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 or department permission.*

**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 both ZOO 326 Human Physiology and ZOO 427 on the major.

*Prereq: ZOO 222 General Zoology, BIO 320 Introduction to Cell Physiology, CHM 270 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 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 invertebrates 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 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 man and his environment. Emphasis is on the zoological interrelationships. 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 324 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: BIO 105 Biology and the Human Species or BIO 106 Orientation to Biology and 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, including adaptations to the aquatic environment, 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 five or more museum study specimens of different species is required of each student. Counts as a taxonomic field course.

*Prereq: ZOO 222 General Zoology and either ZOO 310 Natural History of Vertebrates, BIO 420 General Ecology or ZOO 324 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 pages 226-230.)

**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

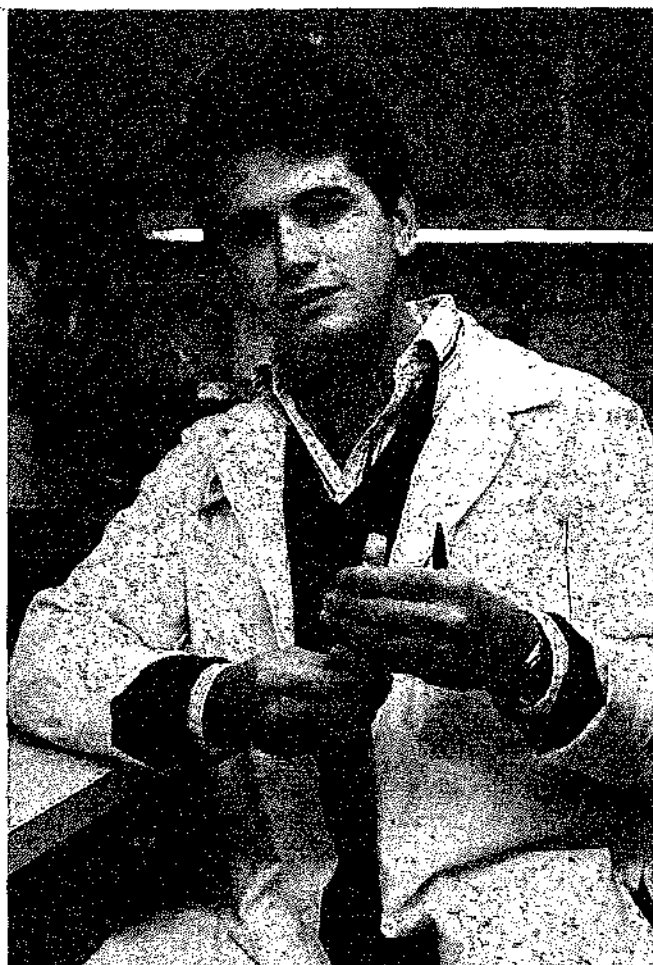
of presenting simple experiments to children and conducting field trips will be demonstrated. Two one-hour lectures and one two-hour laboratory. Not open to students who have taken ESC 303 Science for the Elementary Teacher.

**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.*



## CHEMISTRY

Office: 225 Mark Jefferson

**Department Head: Judith T. Levy**

**Professors: Stephen W. Brewer, Giles F. Carter, Ronald W. Collins, Edward L. Compere Jr., Judith T. Levy, John W. Moore, Elva Mae Nicholson, Donald B. Phillips, O. Bertrand Ramsay, Krishnaswamy Rengan, Stephen E. Schullery, Ronald M. Scott, John M. Sullivan, Stewart D. Work, Masanobu Yamouchi**

**Associate Professors: Michael J. Brabec, Ralph R. Powell, Robert C. Rittenhouse, Bruce D. West, Jerry R. Williamson**

**Assistant Professors: Ellene Tratas Contis, Ross S. Nord, Wade J. Tornquist**

**THE CHEMISTRY DEPARTMENT** offers professional and general curricula in chemistry, biochemistry, 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, biochemistry and chemistry 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; a mass spectrometer, a Gouy magnetic susceptibility apparatus; two ultracentrifuges; fluorimeters; a DTA-TGA thermal analysis system; two HPLC set ups. The department also has a proton/<sup>13</sup>C Varian FT-80A nuclear magnetic resonance spectrometer. 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 the student's interest and performance in CHM 131 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

Pre-Medicine, Biochemistry or Chemistry Major

**ADVISING** for students desiring to pursue a major or curriculum in chemistry is available through the undergraduate advising coordinator. These students are listed initially as "chemistry intent." To be accepted into one of the Chemistry Department programs, the student should go to the department office and pick up the form, *Faculty Advising and Student Program Identification*. Academic advising will update the student's computer record code indicating the program into which the student has been accepted. Other students needing general program advising should contact either the undergraduate advising coordinator or the specific program adviser.

### ADVISING COORDINATORS

Undergraduate advising coordinator: Stewart D. Work  
Metallurgical Chemistry: Giles C. Carter  
Biochemistry/Toxicology: Michael Brabec, Ronald M. Scott  
Pre-Dentistry (including Dental Hygiene and Dental Assisting programs): Ralph R. Powell, John M. Sullivan, Stewart D. Work  
Pre-Mortuary Science and Pre-Pharmacy: Edward L. Compere Jr.

**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 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.

	Sem hours
<b>Major in chemistry</b> .....	<b>30</b>
<b>1. Required courses</b> .....	<b>26</b>
CHM 131, 132 General Chemistry I and II .....	9
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
<b>2. Electives</b> .....	<b>4</b>
Choose four credits from 300- and 400-level courses in chemistry.	

\*Prerequisites for these courses include MTH 120 Calculus 1 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 CURRICULUM** 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 enter technical positions in industrial and government research or to undertake graduate study in chemistry. Further work on the graduate level is highly recommended for those who are capable. The program includes a group minor in mathematics and physics

in the required courses. 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.

	Sem hours
<b>Language</b> .....	<b>8-9</b>
Requirements 1, 2 and 3 (Box page 26) .....	8-9
<b>Science and mathematics</b> .....	<b>68-73</b>
<b>1. Required courses</b> .....	<b>65</b>
CHM 131, 132 General Chemistry I and II .....	9
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
<i>(Students deficient in high school preparation must take MTH 105 College Algebra before entering calculus.)</i>	
MTH 122 Elementary Linear Algebra .....	2
MTH 223 Multivariable Calculus .....	4
MTH 325 Differential Equations .....	3
PHY 223 Mechanics, Sound and Heat .....	5
PHY 224 Electricity and Light .....	5
<b>2. Electives</b> .....	<b>3-8</b>
Choose two advanced courses from the following (at least one must be in the Chemistry Department):	
<b>Chemistry</b>	
CHM 352 Biochemistry Laboratory, CHM 411, 412 Toxicology I and II, CHM 413 Toxicology Laboratory, CHM 451, 452 Biochemistry I and II, CHM 475 Introduction to Polymer Chemistry, CHM 485 Radioisotope Techniques in Chemistry and Biology, CHM 477, 478 Special Topics in Chemistry, CHM 487, 488, 489 Cooperative Education in Chemistry, CHM 498, 499 Undergraduate Research in Chemistry, CHM 553 Enzymology, CHM 555 Biochemistry, CHM 561 Advanced Physical Chemistry, 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	
<b>Mathematics and computer science</b>	
CSC 237 Computer Programming and Numeric Methods, CSC 337 Programming Languages, MTH 425 Mathematics for Scientists, other 400-level courses with department permission	
<b>Physics</b>	
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	
<b>Social sciences</b> .....	<b>9-12</b>
Requirements 1, 2 and 3 (Box page 27) .....	9-12
<b>Humanities</b> .....	<b>9</b>
Requirements 1, 2 and 3 (Box page 27) .....	9
<b>Physical education and health (Group VII)</b> .....	<b>2</b>
Physical education activity courses .....	2
(Any two courses in Military Science may be applied)	
<b>Electives</b> .....	<b>19-28</b>
<b>Total</b> .....	<b>124</b>

## Professional Biochemistry Curriculum

**THE PROFESSIONAL BIOCHEMISTRY CURRICULUM** provides preparation for students anticipating graduate study and a research career in biochemistry. The program includes a group minor of biology, mathematics and physics in the required courses. No other minor is needed to meet graduation requirements.

	Sem hours
<b>Language</b> .....	8-9
Requirements 1, 2 and 3 (Box page 26).....	8-9
<b>Science and mathematics</b> .....	77
<b>1. Required courses</b> .....	71
CHM 131, 132 General Chemistry I and II.....	9
CHM 281 Quantitative Analysis.....	4
CHM 352 Biochemistry Laboratory.....	2
CHM 371, 372 Organic Chemistry I and II.....	6
CHM 373 Organic Chemistry Laboratory.....	2
CHM 451, 452 Biochemistry I and II.....	6
CHM 461, 462 Physical Chemistry I and II.....	6
CHM 463 Physical Chemistry Laboratory.....	2
BOT 221 General Botany or ZOO 222 General Zoology.....	4
BIO 301 Genetics.....	3
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
<b>2. Electives</b> .....	6
Choose one course from the following:	
CHM 411 Toxicology I, CHM 412 Toxicology II, CHM 413 Toxicology Laboratory, CHM 433 Inorganic-Organic Synthesis Laboratory, CHM 475 Introduction to Polymer Chemistry, CHM 477, 478 Special Topics in Chemistry, CHM 481 Instrumental Analysis, CHM 485 Radioisotope Techniques in Chemistry and Biology, CHM 487, 488, 489 Cooperative Education in Chemistry, CHM 498 Undergraduate Research in Chemistry, CHM 498, 499 Undergraduate Research in Chemistry, CHM 553 Enzymology, CHM 572 Spectrometric Organic Structure Determination, CHM 573 Qualitative Organic Chemistry Laboratory	
Choose three credits from any 300-level course in biology	
<b>Social sciences</b> .....	9-12
Requirements 1, 2 and 3 (Box page 27).....	9-12
<b>Humanities</b> .....	9
Requirements 1, 2 and 3 (Box page 27).....	9
<b>Physical education and health (Group VII)</b> .....	2
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Electives</b> .....	15-19
<b>Total</b> .....	124

## 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.

A group minor is included in the required courses (biology mathematics and physics).

	Sem hours
<b>Language</b> .....	8-9
Requirements 1, 2 and 3 (Box page 26).....	8-9
<b>Science and mathematics</b> .....	55-57
<b>1. Required courses</b> .....	50-52
CHM 131, 132 General Chemistry I and II.....	9
*CHM 270 Organic Chemistry.....	4
*CHM 271 Organic Chemistry Laboratory.....	1
(*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.)	
CHM 281 Quantitative Analysis.....	4
CHM 352 Biochemistry Laboratory.....	2
CHM 361 Fundamentals of Physical Chemistry.....	3
CHM 362 Physical Chemistry Laboratory.....	2
CHM 451, 452 Biochemistry I and II.....	6
BOT 221 General Botany or ZOO 222 General Zoology.....	4
BIO 301 Genetics.....	3
MTH 120 Calculus I.....	4
PHY 221 or PHY 223 Mechanics, Sound and Heat... 4-5	
PHY 222 or PHY 224 Electricity and Light.....	4-5
<b>2. Electives</b> .....	5
Choose five credits from any 300-level courses in biology	
<b>Social sciences</b> .....	9-12
Requirements 1, 2 and 3 (Box page 27).....	9-12
<b>Humanities</b> .....	9
Requirements 1, 2 and 3 (Box page 27).....	9
<b>Physical education and health (Group VII)</b> .....	2
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Electives</b> .....	35-41
<b>Total</b> .....	124

## 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.

	Sem hours
<b>Language</b> .....	8-9
Requirements 1, 2 and 3 (Box page 26).....	8-9
<b>Science and mathematics</b> .....	72-75
<b>1. Required courses</b> .....	70-75
CHM 131, 132 (134) General Chemistry I and II.....	9
CHM 281 (282) Quantitative Analysis.....	4
CHM 352 Biochemistry Laboratory.....	2
CHM 371, 372 Organic Chemistry I and II.....	6
CHM 373 Organic Chemistry Laboratory.....	2
CHM 451, 452 Biochemistry I and II.....	6

CHM 361 Fundamentals of Physical Chemistry.....	3
CHM 362 Physical Chemistry Laboratory.....	2
CHM 411, 412 Toxicology I and II.....	4
BIO 106 Orientation to Biology.....	2
ZOO 324 Comparative Anatomy of Vertebrates or ZOO 317 Anatomy for Occupational Therapy Students... 4-5	
BIO 320 Introduction to Cell Physiology or ZOO 326 Human Physiology.....	4-3
ZOO 404 Mammalian Histology.....	3
ZOO 222 General Zoology.....	4
MTH 120 Calculus I.....	4
PHY 221 or 223 Mechanics, Sound and Heat.....	4-5
PHY 222 or 224 Electricity and Light.....	4-5
A statistics course (MTH 370 Probability and Statistics I, BIO 509 Biometry, PSY 205 Quantitative Methods).....	3
<b>2. Electives.....</b>	<b>2-4</b>
Choose one course from any 300- or 400-level course in biology or chemistry. Recommended courses are:	
CHM 381 Instrumentation for Chemical Technology, CHM 413 Toxicology Laboratory, CHM 415 Environ- mental Chemistry, CHM 481 Instrumental Analysis, CHM 487, 488, 489 Cooperative Education in Chemis- try, CHM 498, 499 Undergraduate Research in Chemistry	
BIO 301 Genetics, BIO 333 Principles of Immunology, BIO 334 Immunohematology/Urinalysis, BIO 410 Limnology, BIO 420 General Ecology	
MIC 445 Food Microbiology.....	
<b>Social sciences.....</b>	<b>9-12</b>
Requirements 1, 2 and 3 (Box page 27).....	9-12
<b>Humanities.....</b>	<b>9</b>
Requirements 1, 2 and 3 (Box page 27).....	9
<b>Physical education and health (Group VII).....</b>	<b>2</b>
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Electives.....</b>	<b>15-22</b>
<b>Total.....</b>	<b>124</b>

## Metallurgical Chemistry Curriculum

**THIS CURRICULUM** provides the necessary background for positions in chemical metallurgy or other areas of industrial chemistry involving a minimum of organic chemistry. Graduate work in chemistry or metallurgy would require additional course work.

A group minor of mathematics, physics and industrial technology is included in the listed required courses. No other minor is needed to meet graduation requirements.

Area	Sem hours
Language.....	8-9
Requirements 1, 2 and 3 (Box page 26).....	8-9
<b>Science and mathematics.....</b>	<b>68</b>
<b>1. Chemistry courses.....</b>	<b>40</b>
<b>Required chemistry courses.....</b>	<b>33-35</b>
CHM 131, 132 General Chemistry I and II.....	9
CHM 281 Quantitative Analysis.....	4
CHM 270, 271 Organic Chemistry.....	5
CHM 241 Materials Science.....	3
CHM 242 Materials Science Laboratory.....	1
CHM 341 Principles of Metallurgy.....	3
CHM 342 Experimental Metallurgy.....	1
CHM 361 Fundamentals of Physical Chemistry.....	3
CHM 362 Physical Chemistry Laboratory.....	2
CHM 381 Instrumentation for Chemical Technology or CHM 481 Instrumental Analysis.....	2-4

<b>Chemistry electives.....</b>	<b>7-5</b>
Select seven to five hours from the following:	
CHM 232 Inorganic Chemistry.....	2
CHM 340 Introduction to Industrial Chemistry.....	3
CHM 415 Environmental Chemistry <i>or</i> CHM 411 Toxicology I.....	3-2
CHM 480 Computer/Instrument Interfacing.....	2
CHM 487, 488, 489 Cooperative Education in Chemistry.....	I, 2, 3
<b>2. Required cognate courses.....</b>	<b>26</b>
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
<b>3. Electives.....</b>	<b>2</b>
Recommended electives:	
ACC 240 Principles of Accounting	
CSC 238 Topics in Computer Science	
ECO 201, 202 Principles of Economics I and II, ECO 310 Economic Statistics	
ENG 424 Technical Writing	
IT 200 Industrial Electricity, IT 203 Manufacturing Technology, IT 213 Occupational Safety and Health, IT 251 Materials Analysis and Testing	
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	
<b>Social sciences.....</b>	<b>9-12</b>
Requirements 1, 2 and 3 (Box page 27).....	9-12
<b>Humanities.....</b>	<b>9</b>
Requirements 1, 2 and 3 ((Box page 27).....	9
<b>Physical education and health (Group VII).....</b>	<b>2</b>
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Electives.....</b>	<b>25-31</b>
<b>Total.....</b>	<b>124</b>

## Minors Offered in the Department of Chemistry

### Chemistry Minor

	Sem hours
<b>Minor in chemistry.....</b>	<b>20-24</b>
<b>1. Required courses.....</b>	<b>14</b>
CHM 131, 132 General Chemistry I and II.....	9
CHM 270 Organic Chemistry (or equivalent).....	4
CHM 271 Organic Chemistry Laboratory (or equivalent).....	1
<b>2. Electives.....</b>	<b>6</b>
Choose from 200-level (or above) courses 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
<b>Minor in biochemistry</b> .....	<b>23</b>
<b>Required courses</b> .....	<b>23</b>
CHM 131, 132 General Chemistry I and II.....	9
CHM 270 Organic Chemistry.....	4
CHM 271 Organic Chemistry Laboratory.....	1
CHM 281 Quantitative Analysis.....	4
CHM 351 Introductory Biochemistry.....	3
CHM 352 Basic Biochemistry Laboratory.....	2
<i>(The CHM 451, 452 Biochemistry I and II sequence may be substituted for CHM 351 Introductory Biochemistry if a stronger background is desired.)</i>	

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.

Although it is possible to gain admission to dental school without a bachelor's degree, only a small number of outstanding students have succeeded in doing this. The majority 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 131, 132 General Chemistry I and II, CHM 371, 372 Organic Chemistry I and II, CHM 373 Organic Chemistry Laboratory  
 BIO 106 Orientation to Biology  
 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 324 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 are also 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 131, 132 General Chemistry I and II  
 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 131, 132 General Chemistry I and II  
 CHM 371, 372, 373 Organic Chemistry  
 BIO 105 Biology and the Human Species or BIO 106  
 Orientation to Biology  
 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 106 Chemistry in Art. Three sem hours**  
 Applications of chemistry to the understanding of the materials and processes used by the artist. Some of the topics covered include the chemistry of ceramics and glazes, textiles, dyes, photography and metals, as well as chemical safety. CHM 107 Chemistry in Art Laboratory may be taken concurrently to satisfy the laboratory science requirement. Does not count on major or minor.

**CHM 107 Chemistry in Art Laboratory. One sem hour**  
 Examination of the chemical properties and processes of materials used by the artist. The laboratory may be taken concurrently with CHM 106 Chemistry in Art to satisfy the laboratory science requirement. Laboratory: two hours per week.  
*Coreq: CHM 106 Chemistry in Art.*

**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 are taking neither a major nor a minor in chemistry. This course may be used to satisfy the chemistry prerequisite for CHM 131 General Chemistry I. Lecture: three hours per week. Laboratory: two hours per week.

**CHM 120 Fundamentals of Organic and Biochemistry. Four sem hours**  
 A survey of organic chemistry and biochemistry; completes the study of chemistry begun in Chemistry 119 Fundamentals of Chemistry and is a terminal course. Lecture: three hours per week. Laboratory: three hours per week.  
*Prereq: CHM 119 Fundamentals of Chemistry or one year of high school chemistry, one and one-half years of high school algebra.*

**CHM 131 General Chemistry I. Five sem hours**  
 The first semester sequence covering the general principals of chemistry for science majors and others with an interest and background in science. Lecture: four hours per week. Laboratory: three hours per week.  
*Prereq: High school chemistry or CHM 119 Fundamentals of Chemistry; one and one-half years of high school algebra.*

**CHM 132 General Chemistry II. Four sem hours**  
 A continuation of CHM 131 General Chemistry I. The sequence CHM 131 and 132 constitutes the customary year of general chemistry. Lecture: three hours per week. Laboratory: three hours per week.  
*Prereq: CHM 131 General Chemistry I.*

**CHM 134 Honors General Chemistry II. Four sem hours**  
 A continuation of CHM 131 General Chemistry for students of superior ability. The sequence of CHM 131 and 134 can constitute the customary year of general chemistry. Lecture: three hours per week. Laboratory: three hours per week.  
*Prereq: CHM 131 General Chemistry I 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 132 General Chemistry II.*

**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 131 General Chemistry I, 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 131 General Chemistry I.*

**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 Special Topics in Chemistry. One sem hour**

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 132 General Chemistry II 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 132 General Chemistry II 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. 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 132 General Chemistry II, 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 131 General Chemistry I.*

**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 352 Biochemistry Laboratory.****Two sem hours**

Emphasis on the special analytical techniques employed by biochemists such as chromatography, electrophoresis, fluorimetry, spectrophotometry. 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.*

**CHM 361 Fundamentals of Physical****Chemistry.****Three sem hours**

An introduction to some of the basic principles of physical chemistry, i.e., thermodynamics, kinetics and quantum theory. Lecture: three hours per week.

*Prereq: CHM 132 General Chemistry II, 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. 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 131 General Chemistry I, CHM 132 General Chemistry II recommended.*

**CHM 372 Organic Chemistry II. Three sem hours**

A continuation of CHM 371 Organic Chemistry, and with it constituting the customary year of foundation work in organic chemistry. Lecture: three hours per week.

*Prereq: CHM 371 Organic Chemistry I.*

**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 374 Honors Organic Chemistry I. Three sem hours**

Similar to CHM 371 Organic Chemistry but at a more advanced level and limited to those admitted to the Chemistry Honors Program. Lecture: three hours per week.

*Prereq: CHM 132 General Chemistry II or CHM 134 Honors General Chemistry II and consent of Honors Committee.*

**CHM 375 Honors Organic Chemistry II. Three sem hours**

Similar to 372 Organic Chemistry and limited to those admitted to the Chemistry Honors Program. Lecture: three hours per week.

*Prereq: CHM 374 Honors Organic Chemistry I and consent of Honors Committee. Coreq: CHM 376 Honors Organic Chemistry Laboratory.*

**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 374 Honors Organic Chemistry I. Coreq: CHM 375 Honors 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. No credit granted toward chemistry degree programs, except with department 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 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 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 132 General Chemistry II. A course in organic chemistry and/or quantitative analysis is also recommended.*

**CHM 432 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 132 General Chemistry II.*

**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 461 Physical Chemistry I. Three sem hours**

Principles of thermodynamics, kinetics and atomic and molecular structure. Lecture: three hours per week.

*Prereq: CHM 132 General Chemistry II, one year of college physics 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. Laboratory: six hours per week.

*Prereq: CHM 281 Quantitative Analysis and CHM 461 Physical Chemistry I. Coreq: CHM 463 Physical Chemistry Laboratory.*

**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 132 General Chemistry II, 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 and CHM 461 Physical Chemistry I.*

**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 131 General Chemistry I 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.

**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.*



# COMMUNICATION AND THEATRE ARTS

Office: 124 Quirk Building

**Department Head:** Dennis M. Beagen

**Professors:** Henry B. Aldridge, P. George Bird, Harry W. Bowen, Gail W. Compton, Gary L. Evans, James W. Gousseff, Katherine E. Holkeboer, Annette Martin, Sally McCracken, Mitchel R. McElya, Willie B. Morgan, Thomas J. Murray, Parker R. Zellers

**Associate Professors:** Lucy A. Liggett, Kenneth W. Stevens, William V. Swisher, Arthur J. Yahrmatter

**Assistant Professors:** Gerald Bluhm, Patricia M. Zimmer

**Instructor:** Marvin Sims

**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 a closed-circuit TV studio 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 Special

Education: Willie B. Morgan

Communication Technology Curriculum: Willie B. Morgan

Comprehensive Major and Minor in Communication and

Theatre Arts: Willie B. Morgan

Drama/Theatre for the Young Minor: Patricia Zimmer

Musical Theatre Minor: Kenneth Stevens

Telecommunications and Film Major and

Minor: Henry Aldridge

Theatre Arts Major and Minor: Parker Zellers

**GRADUATE STUDY** leads to a Master of Arts in communication; a Master of Arts in drama/theatre for the young or a Master of Fine Arts in drama/theatre for the young; and a Master of Arts in theatre 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 of 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: the Basic Studies requirements, arts management major, a management or marketing minor (see College of Business) and two internships.

	<b>Sem hours</b>
<b>Language</b> .....	<b>8-9</b>
Requirements 1, 2 and 3 (Box page 26).....	8-9
(CTA 352 Communication in Negotiations, CTA 353	
Organizational Communication in Unions, CTA 354	
Organizational Communication recommended)	
<b>Science and mathematics</b> .....	<b>10-12</b>
Requirements 1, 2 and 3 (Box page 26).....	10-12
(CSC 136 Computers for the Non-Specialist or CSC 137	
Introduction to Computer Programming recommended)	

**Social sciences**..... 12  
 Requirements I, 2 and 3 (Box page 27)..... 12  
 (ECO 201, 202 Principles of Economics I and II recommended)

**Humanities**.....12  
 Requirements I, 2 and 3 (Box page 27)..... 12  
 (PHI 112 Philosophical Bases of Contemporary Art recommended)

**Academic major in arts management**.....32-36  
**1. Required courses**..... 23  
**Arts fundamentals**  
 CTA 150 Introduction to Theatre..... 3  
 CTA 155 Play Production.....3  
 FA 107, 108 Art History Survey I and II ..... 6  
 MUS 107 Music Appreciation.....2  
 PEG 161 Modern Dance..... I  
**Media and arts management**  
 CTA 334 Radio-Television News.....3  
 CTA 452 Arts Management.....2  
 ENG 215 Journalism.....3  
**2. Restricted electives**.....8-12  
 Choose one course from each of the following areas:  
 academic dance, art, music, theatre  
**3. Recommended electives**..... 8-12  
 DAN 350 History of Dance  
 IED 121 Graphic Communication  
 A course in technical theatre  
**Minor in management or marketing**.....21  
 To be chosen in consultation with the arts management advising coordinator.

**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.

**Sem hours**

**Academic major in communication**.....36  
**1. 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

**2. Major option**..... 12-16

Choose one of three options below in consultation with the advising coordinator

**3. Electives**.....0-4

Choose from communication and theatre arts courses

**Communication Major Options**

	<b>Sem hours</b>
<b>Interpersonal communication option</b> .....	<b>12-16</b>
Choose 12-16 additional credits from the following: CTA 225 Listening Behavior, CTA 226 Non-Verbal Communication, CTA 227 Interpersonal Communication, CTA 350 Persuasion, CTA 355 Assertive Communication, CTA 357 Interviewing as Communication, CTA 359 Small Group Communication, CTA 475 Research in Speech Communication and CTA 485 Theories of Speech Communication Behavior CTA 387, 388, 389 Cooperative Education in Speech Communication CTA 487, 488, 489 Internships in Radio-Television-Film CTA 166, 266, 366, 466 Forensics	
<b>Organizational communication option</b> .....	<b>12-16</b>
Choose 12-16 additional credits from the following: CTA 225 Listening Behavior, CTA 321 Parliamentary Procedure and Meeting Management, CTA 350 Persuasion, CTA 352 Communication in Negotiation, CTA 353 Organizational Communication in Unions, CTA 354 Organizational Communication, CTA 355 Assertive Communication, CTA 357 Interviewing as Communication, CTA 358 Intercultural Communication, CTA 359 Small Group Communication, CTA 475 Research in Speech Communication, CTA 485 Theories of Speech Communication Behavior CTA 387, 388, 389 Cooperative Education in Speech Communication CTA 487, 488, 499 Internships in Radio-Television-Film CTA 166, 266, 366, 466 Forensics	
<b>Speech communication option</b> .....	<b>12-16</b>
Choose 12-16 additional credits from the following: CTA 224 Public Speaking, CTA 226 Non-Verbal Communication, CTA 227 Interpersonal Communication, CTA 321 Parliamentary Procedure and Meeting Management, CTA 350 Persuasion, CTA 356 Argumentation and Debate, CTA 357 Interviewing as Communication, CTA 359 Small Group Communication, CTA 440 Survey of Public Address, CTA 460 Theory of Speech Criticism CTA 387, 388, 389 Cooperative Education in Speech Communication CTA 487, 488, 489 Internships in Radio-Television-Film CTA 166, 266, 366, 466 Forensics	

**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..... 10****1. Required courses..... 6**

- CTA 140 Introduction to Telecommunications and Film..... 3  
CTA 141 Introduction to Radio-TV-Film Production.... 3

**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

**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

## 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****Language..... 8-9**

- Requirements 1 and 2 (Box page 26)..... 5-6  
ENG 424 Technical Writing..... 3

**Science and mathematics..... 13**

- PHY 110 Physical Science..... 4  
MTH 118, 119 Mathematical Analysis for Social Sciences I and II..... 6  
CSC 137 Introduction to Computer Programming..... 3

**Social sciences..... 12**

- PLS 112 American Government..... 3  
Requirement 2 (Box page 27)..... 3  
ECO 201, 202 Principles of Economics I and II..... 6

**Humanities..... 12**

- LIT 155 Narrative in Literature and Film..... 3  
LIT 245 Introduction to Film..... 3  
Requirement 2 (Box page 27)..... 3  
CTA 150 Introduction to Theatre ..... 3

**Practical arts (Group VI)..... 76****Academic major in communication technology..... 63****Communication theory and practice**

- CTA 227 Interpersonal Communications..... 3  
CTA 354 Organizational Communications ..... 3

**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

**Business and investment skills**

- MKT 360 Principles of Marketing..... 3  
ORI 265 Business Statistics I..... 3

**Management skills**

- ACC 240 Principles of Accounting..... 3  
MGT 202 Business Communications..... 3

**Industrial technology**

- IDT 121 Graphic Communication..... 3  
IT 231 Industrial Computer Graphics ..... 3  
IDT 387 Cooperative Education in Interdisciplinary Technology..... 3  
IDT 404 Emerging Technologies in Storage and Retrieval..... 3  
IDT 425 Communication Technology and Social Change..... 3  
IDT 470 Senior Seminar in Communication Technology..... 3

**Transmission systems**

- IT 200 Industrial Electricity ..... 3  
IDT 305 Communication Transmission Systems..... 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 one of 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	
<b>Physical education and health (Group VII)</b> .....	2
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Electives</b> .....	0-1
<b>Total</b> .....	124

## 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.

<b>Comprehensive major in communication and theatre arts</b> .....	<b>Sem hours</b> 36
<b>1. Required core courses</b> .....	2-3
CTA 121 or 124 Fundamentals of Speech.....	2-3
<b>2. Restricted electives</b> .....	15
Choose at least three credits in <i>five</i> of the six following concentrations (communication, oral interpretation, speech improvement, telecommunications and film, theatre arts, drama/theatre for the young)	
<b>Communication:</b> CTA 224 Public Speaking, CTA 227 Interpersonal Communication, CTA 350 Persuasion, CTA 356 Argumentation and Debate, CTA 359 Small Group Communication	
<b>Oral interpretation:</b> CTA 210 Interpretative Reading	
<b>Speech improvement:</b> CTA 102, 202, 302, 402 Voice Development (one credit each), CTA 205 Voice and Articulation, CTA 404 Dynamic Speaking Skills*	
<b>Telecommunications and film:</b> CTA 140 Introduction to Telecommunications and Film, 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	
* <i>Department permission required.</i>	
<b>Theatre arts:</b> CTA 150 Introduction to Theatre, CTA 151 Black Theatre: An Introduction, CTA 152 Introduction to Technical Theatre, CTA 153 Introduction to the Theatre Crafts, CTA 155 Play Production, CTA 158 Fundamentals of Acting, CTA 251 Black Theatre: Creative Problems, CTA 254 Stage Makeup, CTA 450 History of the Theatre to 1642, CTA 451 History of the Theatre: 1642 to the Present	
<b>Drama/theatre for the young:</b> CTA 222 Drama and Play in Human Experience, CTA 322 Theatre for the Young, CTA 323 Improvising and Role-Play, CTA 327 Plays for the Young, CTA 429 History and Theory of Developmental Drama/Theatre	
<b>3. Concentration</b> .....	9-15
Choose at least one concentration (above) in consultation with advising coordinator (semester hours here are in addition to the restricted electives above)	

<b>4. Department electives</b> .....	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)

<b>Academic major in telecommunications and film</b> .....	<b>Sem hours</b> 32
<b>1. Required foundation courses</b> .....	10
CTA 140 Introduction to Telecommunications and Film.....	3
CTA 141 Introduction to Radio-Television-Film Production.....	3
Choose one course from 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
<b>2. Restricted electives</b> .....	16-18
<b>Production courses</b> .....	6
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	
<b>Writing courses</b> .....	3
Choose one course from the following:	
CTA 334 Radio-Television News, CTA 344 Continuity Writing for Radio-Television-Film, CTA 360 Dramatic Composition	
<b>Theory courses</b> .....	6
Choose six credits from the following (at least three credits must be 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 advisor)	
<b>Internship or cooperative education</b> .....	1-3
CTA 487, 488, 489 Internship in Telecommunications and Film, CTA 387, 388, 389 Cooperative Education in Telecommunications and Film	



3. Electives.....4-6  
 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

	Sem hours
Academic major in theatre arts.....	30
1. Required courses.....	23
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.....	3
CTA 451 History of the Theatre: 1642 to the Present...3	
CTA 167 and either 267 or 367 or 467 Theatre Practice.....	2
2. Restricted electives.....	7-10
A minimum of five credits must be in courses beyond the 200 level. Choose at least seven credits from theatre arts courses (except CTA 106 Introduction to Performing Arts, CTA 126 The Age of Shakespeare, CTA 153 Introduction to Theatre Crafts, CTA 555 Play Production—Junior-Senior High School) or from the following department area courses:	
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.

## Minors Offered in the Department of Communication and Theatre Arts

### Communication Minor

	Sem hours
Minor in communication.....	20-21
Required courses.....	20-21
<b>Foundation level</b>	
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
<b>Intermediate level</b>	
Choose two courses from the following:	
CTA 350 Persuasion, CTA 354 Organizational Communication, CTA 356 Argumentation and Debate, CTA 359 Small Group Communication.....	6
<b>Advanced level</b>	
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.....	10
1. Required courses.....	6
CTA 140 Introduction to Telecommunications and Film.....	3
CTA 141 Introduction to Radio-TV-Film Production....	3
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	
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.

	<b>Sem hours</b>
<b>Minor in communication</b> .....	<b>20</b>
<b>1. Required courses</b> .....	<b>11-12</b>
CTA 121 or CTA 124 Fundamentals of Speech .....	2-3
Choose one course from the following:	
CTA 205 Voice and Articulation, CTA 210 Interpretive 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
<b>2. Electives</b> .....	<b>8-9</b>
Choose eight to nine credits from the above courses or from the following:	
CTA 1410 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

	<b>Sem hours</b>
<b>Comprehensive minor in communication and theatre arts</b> .....	<b>24</b>
<b>1. Required core course</b> .....	<b>2-3</b>
CTA 121 or 124 Fundamentals of Speech .....	2-3
<b>Restricted electives</b> .....	<b>12</b>
Choose at least three credits in <i>four</i> of the six areas of concentration (communication, oral interpretation, speech improvement, telecommunications and film, theatre arts, drama/theatre for the young) See courses listed in comprehensive major in communication and theatre arts, page 80.	
<b>2. Concentration</b> .....	<b>6-9</b>
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)	
<b>3. Department electives</b> .....	<b>0-4</b>
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 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.

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.

	<b>Sem hours</b>
<b>Minor in drama/theatre for the young</b> .....	<b>20</b>
<b>1. Required courses</b> .....	<b>14-15</b>
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
<b>2. Electives</b> .....	<b>5-6</b>
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 Literature 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	
CTA 497, 498, 499 Independent Study in Drama/Theatre for the Young	
ENG 297 Introduction to Children's Literature or any course in dramatic literature or any communication or theatre arts course	

### Minor in Musical Theatre

	<b>Sem hours</b>
<b>Minor in musical theatre</b> .....	<b>24</b>
<b>1. Required courses</b> .....	<b>6</b>
Choose four credits of applied music-voice and two semester hours of ensemble performance voice courses	
<b>2. Restricted electives</b> .....	<b>18</b>
Choose eight credits from the theatre arts area, four credits from the dance area, and six credits from the music area	
<b>Theatre arts:</b> 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
<b>Minor in telecommunications and film</b> .....	<b>24</b>
<b>1. Required foundation courses</b> .....	<b>10</b>
CTA 140 Introduction to Telecommunications and Film .....	3
CTA 141 Introduction to Radio-Television-Film Production .....	3
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
<b>2. Restricted electives</b> .....	<b>9</b>
Choose three credits from each of the area courses listed under the major (page 80) in production, writing and theory	
<b>3. Electives</b> .....	<b>5</b>
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
<b>Minor in theatre arts</b> .....	<b>20-24</b>
<b>1. Required courses</b> .....	<b>19</b>
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
<b>2. Electives</b> .....	<b>1-4</b>
Choose courses beyond the 100 level in theatre arts or in other departmental areas specified under the major (see page 81).	

**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 communication with emphasis on perception, meanings, attention, listening, 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 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 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 collective bargaining agreement and effective grievance handling.  
*Prereq: CTA 121 or CTA 124 Fundamentals of Speech or department 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. Emphasis is placed on the communication skills of the officers and labor union representatives.  
*Prereq: CTA 121 or CTA 124 Fundamentals of Speech or department 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 355 Assertive Communication. 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 356 Argumentation and Debate. Three sem hours**  
Emphasizes the principles of logical reasoning and oral presentation 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, functions and techniques explored from both the perspective of the interviewer and the interviewee.

*Prereq: CTA 121 or CTA 124 Fundamentals of Speech or department permission.*

**CTA 358 Intercultural Communication. 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 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 387, 388, 389 Cooperative Education in Speech 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**

**Speech 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, a 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.

**CTA 410 Oral Interpretation of Shakespeare.** **Three sem hours**  
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 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.*

### 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 205 Voice and Articulation.** **Three sem hours**  
An introductory course for improving personal speaking habits. Emphasis is placed on regular practice to develop relaxed tone support, 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-Film Announcing, CTA 158 Fundamentals of Acting or department permission.*

**CTA 307 The Teaching of Speech.** **Three sem hours**  
Emphasizes the analysis and construction of courses of study, evaluation of textbooks and teaching materials, methods of directing co-curricular speech activities and demonstrations of teaching methods. Required of students majoring in communication and theatre arts 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 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 102 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.*

## Telecommunications and Film

### CTA 130 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 140 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 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 140 Introduction to 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 140 Introduction to Telecommunications and Film and CTA 141 Introduction to Radio-TV-Film Production 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 140 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 140 Introduction to Telecommunications and Film and CTA 141 Introduction to Radio-TV-Film Production 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 auteurism. 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 basic fundamentals of preparation, production, direction and evaluation of both dramatic and non-dramatic radio programs. *Prereq: CTA 140 Introduction to Telecommunications and Film and CTA 141 Introduction to Radio-TV-Film Production or department permission.*

### CTA 332 Fundamentals of Television Production and Direction. Three sem hours

The basic fundamentals of preparation, production, direction and evaluation of both dramatic and non-dramatic television programs. Laboratory fee.

*Prereq: CTA 140 Introduction to Telecommunications and Film and CTA 141 Introduction to Radio-TV-Film Production 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 film or video projects will be required. Laboratory fees.

*Prereq: CTA 140 Introduction to Telecommunications and Film and CTA 141 Introduction to Radio-TV-Film Production 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 140 Introduction to Telecommunications and Film and CTA 141 Introduction to Radio-TV-Film Production for majors and minors, or ENG 215 Journalism for minors in journalism, 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 140 Introduction to Telecommunications and Film and CTA 141 Introduction to Radio-TV-Film Production, 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 140 Introduction to Telecommunications and Film and CTA 141 Introduction to Radio-TV-Film Production 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 140 Introduction to Telecommunications and Film and CTA 141 Introduction to Radio-TV-Film Production, or department permission. CTA 210 Interpretative 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, feature stories, narrations and short documentaries.

*Prereq: CTA 140 Introduction to Telecommunications and Film, CTA 141 Introduction to Radio-TV-Film Production, 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. An 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 and 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/LIT 245 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.*

**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 140 Introduction to Telecommunications and Film and CTA 141 Introduction to Radio-TV-Film Production 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 142.)

**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**

A performance-oriented survey of techniques, styles, history and theory of the silent performing arts of mime/pantomime and mask. Physical preparation, preparation of production materials, scripting and actual performance.

**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 Theory. Three sem hours**

A survey of the principles and practices of stage costuming from antiquity to present.

*Prereq: CTA 155 Play Production or department permission.*

**CTA 364 Stage Costume: Design and Construction. Three sem hours**

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 department permission.*

**CTA 387, 388, 389 Cooperative Education in Arts Management, Costuming and Technical Theatre. One, two, three sem hours**

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 to the Present. Three sem hours**

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 past market analysis; research and preparation of a specific market plan for an arts organization; presentation of market plan.  
*Prereq: MKT 360 Principles of Marketing.*

**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 permission of the department.*

**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 461 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 permission.*

**CTA 462 Directors on Directing.** **Two sem hours**  
Study of selected noted stage directors past and present.  
*Prereq: Nine hours of credit in theatre arts or department permission.*

**CTA 463 The American Musical Stage: 1900 to 1940.** **Two sem hours**  
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.

**CTA 323 Improvising and Role-Play.** **Three sem hours**  
Exploration of spontaneous dramatic play through intensive exercise and dramatic games meant to generate greater individual freedom and self-discipline, as well as to expand resources and techniques for teaching and directing.

**CTA 324 Oral Interpretation of Literature for the Young.** **Three sem hours**  
Selection and evaluation of literature for oral interpretation with and for young people. Focus is on the use of narrative prose and folktales.

**CTA 326 Developmental Drama/Theatre  
with the Handicapped.**

**Two sem hours**

Study of principles, theories and practices of developmental drama/theatre as related to handicapped persons. Application to educational, recreational and institutional settings stressed.

**CTA 327 Plays for the Young.**

**Three sem hours**

A study of dramatic literature for the young from developmental and artistic viewpoints in the total educational experience of children and adolescents.

**CTA 377, 378, 379 Special Topics. One, two, three sem hours**

These courses are offered on an experimental basis or for some special need.

**CTA 429 History and Theory of Developmental  
Drama/Theatre.**

**Three sem hours**

An introductory study of the history and theory of developmental drama/theatre. The current thinking of major practitioners in the field of developmental drama/theatre; current research that involves the development of new knowledge or the validation of existing knowledge relating to history and theory of developmental drama/theatre.

**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 497, 498, 499 Independent Study in Drama/Theatre  
for the Young.**

**One, two, three sem hours**

Individual projects, research or advanced reading programs in dramatic arts for children. Designed for students prepared to go beyond available course work.

*Prereq: Department permission.*

**CTA 168, 268, 368, 468 Interpretation.**

**One sem hour**

Students who participate in extracurricular 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 such activities and the credit may be earned in one activity or in several activities. Admission to the activity does not ensure credit. (Available with a focus on oral interpretation of literature for the young.)

*Prereq: CTA 210 Interpretative Reading or department permission.*

## COMPUTER SCIENCE

Office: 620 Pray-Harold

**Department Head: George E. Haynam**

**Professors: George E. Haynam, Hartmut F.W. Hoft, Kurt E. Lauckner**

**Associate Professors: Andrew C. Dempster, Alan Heezen, Mildred D. Lintner, John H. Remmers, Sushil K. Sachdev**

**Assistant Professors: Ranjan Chaudhuri, John K. Cooper, William W. McMillan, Mary K. Rhodes, Michael Zeiger**

**Instructor: Pamela A. Moore**

**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 computer science major prepares graduates for careers in computer systems analysis, software development and application programming. 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
Academic major in computer science.....	30
<b>I. Required courses</b> .....	<b>21</b>
CSC 137 Introduction to Computer Programming or CSC 237 Computer Programming and Numeric Methods.....	3
CSC 238 Topics in Computer Science.....	3
CSC 239 Assembly and Machine Language Programming.....	3
CSC 330 Discrete Mathematical Structures.....	3
CSC 334 Data Structures.....	3
CSC 337 Programming Languages.....	3
CSC 338 Computer Organization.....	3

**2. Restricted electives.....9**

Choose three courses from the following:

CSC 430 Compiler Construction, CSC 431 Systems Programming, CSC 432 Switching Theory, CSC 433 Computer Operating Systems, CSC 435 Introduction to Microprocessors, CSC 438 Computer Graphics, CSC 441 Computing Network Principles, CSC 442 Database Principles, CSC 443 Software Engineering Principles

MTH 436 Numerical Analysis

**Additional required mathematics courses.....17**

MTH 120, 121 Calculus I and II.....8

MTH 122 Elementary Linear Algebra.....2

MTH 223 Multivariable Calculus.....4

Choose one course from the following:

MTH 319 Mathematical Modeling, MTH 325 Differential Equations, MTH 370 Probability and Statistics I, MTH 411 Modern Algebra with Applications, MTH 418 Applied Linear Algebra, MTH 425 Mathematics for Scientists, MTH 436 Numerical Analysis, MTH 471 Probability and Statistics II, MTH 475 Applied Combinatorics

## Computer Science (Teaching)

**Sem hours****Teaching major in computer science.....30****1. Required courses.....27**

CSC 136 Computers for the Non-Specialist.....3

CSC 137 Introduction to Computer Programming.....3

CSC 238 Topics in Computer Science.....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

**2. 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 137 Introduction to Computer Programming or CSC 237 Computer Programming and Numeric Methods.....3

CSC 238 Topics in Computer Science.....3

CSC 239 Assembly and Machine Language Programming.....3

CSC 334 Data Structures.....3

**2. Restricted electives.....9**

Choose three courses from the following:

CSC 136 Computers for the Non-Specialist,\* CSC 330 Discrete Mathematical Structures, CSC 337 Programming Languages, CSC 338 Computer Organization, CSC 430 Compiler Construction, CSC 431 Systems Programming, CSC 432 Switching Theory, CSC 433 Computer Operating Systems, CSC 435 Introduction to Microprocessors, CSC 438 Computer Graphics, CSC 441 Computing Network Principles, CSC 442 Database Principles, CSC 443 Software Engineering Principles

MTH 436 Numerical Analysis

\*CSC 136 may be counted only if taken prior to or concurrently with CSC 137 Introduction to Computer Programming or CSC 237 Computer Programming and Numeric Methods.

## 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 137 Introduction to Computer Programming.....3

CSC 238 Topics in Computer Science.....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 137 Introduction to Computer Programming or CSC 237 Computer Programming and Numeric Methods. Not open to computer science non-teaching majors.

### CSC 137 Introduction to Computer Programming.

**Three sem hours**

An introductory course for persons wishing to learn programming and applications of computers. Appropriate for computer science majors and minors, as well as students of the physical sciences, social sciences, humanities and other areas. Using the FORTRAN

language, students develop and run programs to solve a variety of problems. Credit will be given for only one of CSC 137 Introduction to Computer Programming or CSC 237 Computer Programming and Numeric Methods.

*Prereq: One and one-half years of high school algebra.*

**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 Computer Programming and CSC 237 Computer Programming and Numeric Methods.

*Prereq or coreq: MTH 121 Calculus II.*

**CSC 238 Topics in Computer Science.**

**Three sem hours**

A second course in computer programming. Survey of selected topics in computer science, including techniques of program design and testing, data structures, sorting and searching techniques and string manipulation. Using a higher level block-structured language such as PASCAL, students will develop and run several programs. Principles of structured programming, documentation and good programming style will be emphasized.

*Prereq: CSC 137 Introduction to Computer Programming, CSC 237 Computer Programming and Numeric Methods.*

**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 Computer Programming, 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 Topics in Computer Science, 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 Topics in Computer Science 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.

*Prereq: CSC 238 Topics in Computer Science 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.

*Prereq: CSC 238 Topics in Computer Science 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, multiprocessing and real-time systems.

*Prereq: CSC 238 Topics in Computer Science 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 Group IV methods class does not count on the major or minor.

*Prereq: CSC 334 Data Structures and junior standing.*

**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 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. For CSC 488, CSC 388.*

**CSC 430 Compiler Construction.**

**Three sem hours**

Review of programming language structures, translation, loading, execution and storage allocation. Compilation of simple statements. Organization and over-all design of a compiler. Use of compiler writing languages.

*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.

*Prereq: CSC 330 Discrete Mathematical Structures and CSC 338 Computer Organization.*

**CSC 433 Computer Operating Systems.** **Three sem hours**  
Computer operating systems functions and concepts. Processor allocation: multiprogramming and scheduling algorithms. Memory tasks and data management. The deadlock problem. Virtual memory, allocation strategies and analysis of their algorithms. Design, implementation and protection of I/O files. Survey of available computer operating systems.

*Prereq: CSC 334 Data Structures and CSC 338 Computer Organization.*

**CSC 435 Introduction to Microprocessors.** **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 438 Computer Graphics.** **Three sem hours**  
Display memory, generation of points and vectors. Interactive graphics. Analog storage of images. Pattern recognition by features, syntax tables, random nets. Data structures and graphics software. Three-dimensional mathematics. Computer-aided design and instruction, and animated movies.

*Prereq: CSC 334 Data Structures, CSC 338 Computer Organization and CSC 431 Systems Programming 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.

*Prereq: CSC 334 Data Structures and CSC 338 Computer Organization. CSC 330 Discrete Mathematical Structures recommended.*

**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, computing architectures and other computer science areas will be integrated and extended to build realistic systems.

*Prereq: CSC 334 Data Structures, CSC 337 Programming Languages and CSC 338 Computer Organization.*

**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-Iob Chung

**Professors:** Young-Iob Chung, Donald W. Pearson

**Associate Professors:** John E. Anderson, John A. Edgren,  
James R. Gibbons, Raouf S. Hanna, Steven C. Hayward,  
Kemper Moreland, Michael G. Vogt, Bill M. Woodland

**Assistant Professors:** David B. Crary, David Kleykamp, Harold  
E. Simmons, Rogerio Zandamela

**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 or 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 econometrics 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

### 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: John Edgren, James Gibbons,  
Kemper Moreland, Harold Simmons  
Labor Studies: Donald W. Pearson,  
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.

	Sem hours
<b>Academic major in economics</b> .....	30
<b>1. Required courses</b> .....	15
ECO 201, 202 Principles of Economics I and II .....	6
ECO 301 Intermediate Macroeconomic Analysis .....	3
ECO 302 Intermediate Microeconomic Analysis.....	3
ECO 310 Economic Statistics or ECO 415 Introduction to Econometrics.....	3
<b>2. Restricted electives</b> .....	15
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 concen- tration in a specific career area.	
 <b>Business economics</b> relates to private enterprise, including an analysis of business from a broad social perspective, and may lead directly to employment in business. Students select- ing this concentration normally take additional courses or 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 .....

**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 Multivariable 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

**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 and/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 courses 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 185) in addition to fulfilling the 24 semester hours in economics.

**Sem hours**

**Academic major in economics.....24**  
(Non-teaching)

**1. Required courses.....9**

ECO 301 Intermediate Macroeconomic Analysis.....	3
ECO 302 Intermediate Microeconomic Analysis.....	3
*ECO 310 Economic Statistics or ECO 415 Introduction to Econometrics.....	3

\**Students also may meet the statistics requirement by taking OR1 265 Business Statistics I. If students elect OR1 265, they are not eligible to take ECO 310 Economic Statistics; ECO 415 Introduction to Econometrics is recommended in this case.*

**2. Restricted electives.....15**

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.

Student 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 also is available. Students should select courses in consultation with the director of labor studies and/or the specified advising coordinators.

**Sem hours**

**Academic major in labor studies.....30**

**1. Required courses.....12**

ECO 310 Economic Statistics.....	3
ACC 240 Principles of Accounting.....	3
ECO 320 Labor Economics.....	3
ECO 424 Seminar in Labor Issues.....	3

**2. Restricted electives.....18**

Choose six courses from the following:

ECO 321 Minority Workers in the Labor Market, ECO 322 American Labor Unions, ECO 323 Labor and Government, ECO 324 Unionism in the Public Sector, ECO 325 Collective Bargaining, ECO 328 Economics of Women, ECO 420 Comparative Labor Unionism, ECO 422 Union Leadership

CTA 352 Communication in Negotiations, CTA 353

Organizational Communication in Unions

HIS 360 United States Labor History

LAW 403 Labor Law

MGT 384 Personnel Administration

PLS 335 Labor in American Politics

PSY 351 Industrial Psychology

SOC 307 Industrial Sociology

## Minors Offered in the Department of Economics

### Economics Minor

	Sem hours
Minor in economics.....	20
1. Required courses.....	6
ECO:201, 202 Principles of Economics I and II.....	6
2. Electives.....	14
Choose 14 credits from any economics courses	

### Labor Studies Minor

	Sem hours
Minor in labor studies.....	20
Electives.....	20
Choose 20 credits from the following:	
ECO 310 Economic Statistics, ECO 320 Labor Economics,	
ECO 321 Minority Workers in the Labor Market,	
ECO 322 American Labor Union, ECO 323 Labor	
and Government, ECO 324 Unionism in the Public	
Sector, ECO 325 Collective Bargaining, ECO 328	
Economics of Women, ECO 420 Comparative Labor	
Unionism, ECO 422 Union Leadership, ECO 424	
Seminar in Labor Issues	
ACC 240 Principles of Accounting	
CTA 352 Communication in Negotiations, CTA 353	
Organizational Communication in Unions	
HIS 360 United States Labor History	
LAW 403 Labor Law	
MGT 384 Personnel Administration	
PLS 335 Labor in American Politics	
PSY 351 Industrial Psychology	
SOC 307 Industrial Sociology	

### 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.

**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.*

**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.*

**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.*

**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: MTH 119 Mathematical Analysis for Social Sciences II or MTH 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: One course in economics.*

**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: One course in economics.*

**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: One course in economics.*

**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 effects 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**

A thorough study of problems in economic theory.

*Prereq: ECO 301 Intermediate Macroeconomic Analysis and ECO 302 Intermediate Microeconomic Analysis.*

**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**

Analytical tools and methods of economic theory used in business management, focusing on production, cost, pricing and investment. Application includes demand estimation and economic forecasting.

*Prereq: ECO 302 Intermediate Microeconomic Analysis and ECO 301 Intermediate Macroeconomic Analysis or ECO 445 Economic Fluctuations and Forecasting, or equivalent.*

**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 economies. 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**

A study of labor economic theory relevant to current and prospective issues of significance to unions; consideration of future trends in unionism and collective bargaining.

*Prereq: ECO 320 Labor Economics and senior standing.*

**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: Judith A. Johnson

Professors: Nadean Bishop, Paul Bruss, Walter Brylowski, Franklin Case, Gilbert Cross, Bernard Decker, James Devers, Jeffrey Duncan, Clayton Eshleman, David Geherin, Arthur Harris, Eugene Haun, Alethea Helbig, Robert Holkeboer, Sheila Ingersoll, Jay Jernigan, Judith Johnson, Eunice Jordan, Martin Kornbluth, Robert Kraft, Russell Larson, Donald Lawniczak, George Perkins, Paul Pillsbury, Dennis Preston, James Reynolds, William Shuter, Lawrence Smith, Arie Staal, Curtis Stadtfeld, Marshall Tynn, Patrick White

Associate Professors: James Angle, Betty Ingram, Meredith Klaus, Ronald Mohl, Glenn Ruibley, Eleanor Wright

Assistant Professors: Phillip Arrington, William Hauer, Thomas Hennings, Mary Lee MacDonald, Shirley Rose, Martin Shichtman, Rachele Waksler, Margaret Webb, Richard Wright

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 and men 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  
Literature  
Written Communication

### Interdisciplinary and Group Majors:

English and American Language and Literature  
Literature and Drama/Theatre for the Young  
Literature, Language, Communications and Theatre Arts

### Minors:

Children's Literature  
English Language  
English Language and Literature  
English Linguistics  
Journalism  
Literature  
Writing

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 group 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

Sem hours

Academic major in English language.....30

### 1. Required courses in writing or journalism.....9

Choose three courses from the following:

ENG 325 Expository Writing, ENG 335 Imaginative Writing

JRN 215 Journalism, JRN 306 Feature, Interpretive and Editorial Writing, JRN 307 Copy Editing, JRN 311 Editing Procedures, JRN 314 Writing Aspects of Public Relations

### 2. Required courses in linguistics.....9

Choose three courses from the following:

ENG 301 Introduction to the English Language, ENG 401 Introduction to Linguistic Science, ENG 402 Modern English Syntax, ENG 420 Introduction to Phonology, ENG 421 The History of the English Language, ENG 426 Topics in Linguistics

### 3. Restricted electives.....12

Choose from any of the courses listed above and not counted as a required course, or any of the following:

ENG 121 English Composition, ENG 422 Writer's Workshop, ENG 424 Technical Writing  
LIT 210 Shakespeare, LIT 412 Medieval Literature, LIT 413 Poetry of Chaucer

## Major in English Linguistics

Sem hours

Academic major in English linguistics.....30

### 1. Required courses.....15

ENG 301 Introduction to the English Language.....3  
ENG 401 Introduction to Linguistic Science.....3  
ENG 402 Modern English Syntax.....3  
ENG 420 Introduction to Phonology.....3  
ENG 421 The History of the English Language.....3

### 2. Restricted electives.....15

Choose five courses from the following:

ENG 121 English Composition, ENG 426 Topics in Linguistics

LIT 210 Introduction to Shakespeare, LIT 305 Shakespeare:  
The Major Comedies and Histories, LIT 412 Medieval  
Literature, LIT 413 The Poetry of Chaucer  
PHI 381 Symbolic Logic

## Major in Literature

	Sem hours
<b>Academic major in literature.....</b>	<b>30</b>
<b>1. Required basic literature courses .....</b>	<b>9</b>
a. Choose two courses from the following: LIT 100 Reading of Literature, LIT 101 Reading of Literature: Fiction, LIT 102 Reading of Literature: Poetry, LIT 103 Reading of Literature: Drama, LIT 251 The Bible as Literature, LIT 260 Afro- American Literature	
b. LIT 210 Introduction to Shakespeare (No more than nine semester hours of 100- and 200-level literature courses may count toward this major)	
<b>2. Restricted electives .....</b>	<b>12</b>
Choose one course from each of the following groups:	
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	
b. LIT 330 The Rise of the British Novel 1720-1832, LIT 331 The Development of the British Novel 1832-1914, LIT 416 Romantic Rebellion in Great Bri- tain 1798-1832, LIT 417 Victorian and Edwardian Literature 1832-1914	
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	
d. LIT 328 The Rise of the American Novel to 1920, LIT 332 The Modern American Novel 1920 to Pre- sent, LIT 409 The Development of American Literature, LIT 410 Modern American Literature.	
<b>3. Electives .....</b>	<b>9</b>
Choose from the restricted electives or from the following: LIT 300 Narrative in Literature and Film, LIT 440 Literary Types, LIT 443 Women in Literature, LIT 450 Major Authors	

## Major in Written Communication

**STUDENTS ELECTING** this major select one of the four areas  
of concentration: technical communications, imaginative writing,  
journalism or public relations. A 2.5 GPA is required for admis-  
sion to each of the concentrations.

In the restricted electives for each concentration, students may  
take only the courses listed unless they obtain department permis-  
sion for substitutions.

No more than nine semester hours of 100- and 200-level courses  
may count toward this major.

	Sem hours
<b>Academic major in written communication.....</b>	<b>30</b>
<b>A. Concentration in technical communications</b>	
<b>1. Required courses .....</b>	<b>12</b>
ENG 325 Expository Writing .....	3
ENG 424 Technical Writing.....	3
JRN 215 Journalism.....	3
CSC 136 Computers for the Non-Specialist.....	3
<b>2. Restricted electives .....</b>	<b>18</b>
Choose six courses from the following:	
ENG 225 Intermediate English Composition, ENG 226 Report and Research Writing, ENG 335 Imaginative Writing, ENG 402 Modern English Syntax, ENG 503 Rhetoric and Advanced Composition, ENG 524 Ad- vanced Technical Writing and Research	
JRN 306 Feature, Interpretive and Editorial Writing, JRN 307 Copy Editing, JRN 314 Writing for Public Relations	
CTA 140 Introduction to Telecommunications and Film, CTA 344 Continuity Writing for Radio, TV and Film	
FA 189 Graphic Design (Studio Experience-Non-majors)	
IDT 121 Graphic Communication, IDT 204 Photographic Communication	
<b>B. Concentration in imaginative writing</b>	
<b>1. Required courses .....</b>	<b>12</b>
ENG 335 Imaginative Writing.....	3
ENG 422 Writers' Workshop.....	3
Choose two 300 or 400-level literature courses.....	6
<b>2. Restricted electives .....</b>	<b>18</b>
Choose six courses from the following:	
ENG 225 Intermediate English Composition, ENG 226 Report and Research Writing, ENG 325 Expository Writing, ENG 335 Imaginative Writing,* ENG 402 Modern English Syntax, ENG 421 The History of the English Language, ENG 422 Writer's Workshop,* ENG 503 Rhetoric and Advanced Composition	
JRN 215 Journalism, JRN 306 Feature, Interpretive and Editorial Writing	
<i>*Course may be repeated for additional credit.</i>	
<b>C. Concentration in journalism</b>	
<b>1. Required courses .....</b>	<b>12</b>
JRN 215 Journalism.....	3
JRN 306 Feature Writing.....	3
JRN 307 Copy Editing.....	3
JRN 454 Contemporary Problems in Journalism.....	3
<b>2. Restricted electives .....</b>	<b>18</b>
Choose six courses from the following:	
ENG 225 Intermediate English Composition, ENG 226 Report and Research Writing, ENG 325 Expository Writing, ENG 335 Imaginative Writing, ENG 402 Modern English Syntax, ENG 421 The History of the English Language, ENG 422 Writer's Workshop, ENG 424 Technical Writing, ENG 503 Writing and Rhetorical Theory, ENG 524 Advanced Technical Writing and Research	
JRN 311 Editing Procedures, JRN 313 History of American Journalism, JRN 314 Writing for Public Relations, JRN 387/487 Cooperative Education, JRN 453 Advanced Reporting, JRN 455 Journalism and the Law, JRN 488, 489, 490 Internship	
FA 189 Graphic Design (Studio Experience-Non-majors)	

**D. Concentration in public relations**

- 1. Required courses** ..... 12  
 JRN 215 Journalism.....3  
 JRN 306 Feature Writing.....3  
 JRN 314 Writing for Public Relations.....3  
 CTA 334 Radio-Television News.....3
- 2. Restricted electives** .....18  
 Choose six courses from the following:  
 ENG 225 Intermediate English Composition, ENG 226 Report and Research Writing, ENG 325 Expository Writing, ENG 335 Imaginative Writing, ENG 424 Technical Writing, ENG 503 Writing and Rhetorical Theory, ENG 524 Advanced Technical Writing and Research  
 JRN 307 Copy Editing, JRN 311 Editing Procedures, JRN 387/487 Cooperative Education, JRN 455 Journalism and the Law, JRN 488, 489, 490 Internship  
 CTA 140 Introduction to Telecommunications and Film  
 FA 189 Graphic Design (Studio Experience-Non-majors)  
 IDT 104 Graphic Art Processes, IDT 121 Graphic Communication, IDT 204 Photographic Communication  
 \*MKT 360 Principles of Marketing, MKT 369 Advertising, MKT 474 Promotional Strategy  
 \*If the student does not elect a marketing minor but wants to take these courses, the student must be counseled by an adviser from the College of Business. The College of Business accepts its own majors and minors first and others only as classroom space is available.

**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** .....26-27  
 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 210 Introduction to Shakespeare, LIT 251 The Bible as Literature, LIT 260 Afro-American Literature .....6  
 ENG 450 Children's Literature: Criticism and Response...3  
 LIT 207 Introduction to Children's Literature.....3  
 LIT 351 World Mythology or  
 LIT 352 Folk Literature: Ballads and Folk Tales.....3  
 CTA 121 or 124 Fundamentals of Speech.....2-3  
 CTA 222 Drama and Play in Human Experience.....3  
 CTA 323 Improvising and Role-Playing.....3  
 CTA 324 Oral Interpretation of Children's Literature.....3
- 2. Restricted electives**.....9-10  
 Choose nine to 10 credits from the following:  
 LIT 204 American Indian Myths, Tales and Legends,  
 LIT 210 Introduction to Shakespeare, LIT 251 The Bible as Literature, LIT 351 World Mythology, LIT 352 Folk Literature: Ballads and Folk Tales, LIT 401 Modern British and American Poetry 1914 to Present  
 CTA 168, 268, 468 Interpretation, CTA 210 Interpretive Reading, CTA 322 Theatre for the Young, CTA 327

- Plays for the Young, CTA 422, 423, 424 Independent Study in Drama for the Young  
 EDM 414 Literature for Young Adults, EDM 406 Story-telling

**Group Major in English and American Literature and Language**

**THIS MAJOR** is designed primarily for students preparing to teach in junior and senior high schools. It is also available for students preparing to teach in elementary schools.

Sem hours

- Group major in English and American literature and language**.....36
- 1. Required courses** .....33
- a. Basic literature courses.....9  
 1) 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.....6  
 2) LIT 210 Introduction to Shakespeare.....3
- b. Basic language courses.....6  
 Choose two courses from the following:  
 ENG 301 Introduction to English Language, ENG 401 Introduction to Linguistic Science, ENG 402 Modern English Syntax, ENG 420 Introduction to Phonology, ENG 421 The History of the English Language, ENG 426 Topics in Linguistics
- c. Advanced writing courses.....6  
 Choose two courses from the following:  
 ENG 225 Intermediate English Composition, ENG 226 Report and Research Writing, ENG 325 Expository Writing, ENG 335 Imaginative Writing, ENG 422 Writer's Workshop, ENG 424 Technical Writing  
 JRN 215 Journalism, JRN 306 Feature, Interpretive and Editorial Writing
- d. Advanced literature courses.....12  
 Choose one course from each of the following four groups:  
 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 1500-1660, LIT 415 Literature of the Neo-Classical Period 1660-1798.....3  
 LIT 330 The Rise of the British Novel 1720-1832, LIT 331 The Development of the British Novel 1832-1914, LIT 416 Romantic Rebellion in Britain 1798-1832, LIT 417 Victorian and Edwardian Literature 1832-1914.....3  
 LIT 333 Modern British and European Novel 1914 to Present, LIT 342 The Development of Modern Drama, LIT 401 Modern British and American Poetry 1914 to Present, LIT 460 Recent Trends in British and American Literature.....3  
 LIT 328 The Rise of the American Novel to 1920, LIT 332 The Modern American Novel 1920 to Present, LIT 409 The Development of American Literature, LIT 410 Modern American Literature.....3  
 (Note: LIT 450 Major Authors may be selected for an appropriate period)

- 2. Elective..... 3**  
 Choose from any course offered by the English Department in literature, composition or English language except the following:  
 ENG 118 English Fundamentals, ENG 120 English Composition Laboratory, ENG 308 High School English, LIT 207 Introduction to Children's Literature, LIT 351 World Mythology, LIT 352 Folk Literature: Ballads and Folk Tales.  
 LIT 207 may be counted on this major by students on an elementary teaching program. No more than nine semester hours of 100- and 200-level literature courses may count toward this major in other curricula.

**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 229, Department of Teacher Education, for description of the group major.

**Minors Offered in the English Department**

**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 American Indian Myths, LIT 210 Introduction to Shakespeare, LIT 251 The Bible as Literature, LIT 351 World Mythology, LIT 352 Folk Literature: Ballads and Folk Tales

**English Language Minor**

**Sem hours**

- Minor in English language..... 21-24**  
**1. Required courses in advanced writing..... 6**  
 Choose two courses from the following:  
 ENG 325 Expository Writing, ENG 335 Imaginative Writing  
 JRN 215 Journalism, JRN 306 Feature, Interpretive and Editorial Writing, JRN 307 Copy Editing  
**2. Required courses in linguistics..... 6**  
 Choose two courses from the following:  
 ENG 301 Introduction to the English Language, ENG 401 Introduction to Linguistic Science, ENG 402 Modern English Syntax, ENG 420 Introduction to Phonology, ENG 421 The History of the English Language, ENG 426 Topics in Linguistics

- 3. Restricted electives..... 9-12**  
 Choose three or four courses from the following or from any of those above not counted as required courses:  
 ENG 119 Basic Composition, Eng 121 English Composition, ENG 225 Intermediate English Composition, ENG 226 Report and Research Writing, ENG 422 Writer's Workshop, ENG 424 Technical Writing  
 JRN 311 Editing Procedures, JRN 314 Writing for Public Relations, JRN 453 Advanced Reporting  
 LIT 210 Shakespeare, 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. Required courses..... 12**  
 a) 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..... 6  
 b) LIT 210 Introduction to Shakespeare..... 3  
 c) Choose one course from the following:  
 ENG 301 An Introduction to the English Language, ENG 401 Introduction to Linguistic Science, ENG 402 Modern English Syntax, ENG 420 Introduction to Phonology, ENG 421 The History of the English Language, ENG 426 Topics in Linguistics..... 3  
**2. Restricted electives..... 6**  
 Choose one course from the following:  
 ENG 225 Intermediate English Composition, ENG 226 Report and Research Writing, ENG 325 Expository Writing, ENG 335 Imaginative Writing, ENG 422 Writer's Workshop, ENG 424 Technical Writing  
 JRN 215 Journalism, JRN 306 Feature, Interpretive and Editorial Writing, JRN 307 Copy Editing, JRN 311 Editing Procedures, JRN 314 Writing for Public Relations, JRN 453 Advanced Reporting..... 3  
 Choose one course from the following:  
 LIT 305 Shakespeare: The Major Comedies and Histories, LIT 328 The Rise of the American Novel to 1920, LIT 332 The Modern American Novel 1920 to Present, LIT 333 Modern British and European Novel 1914 to Present, LIT 340 The Rise of British Drama to 1642, LIT 342 The Development of Modern Drama, LIT 401 Modern British and American Poetry 1914 to Present, LIT 409 The Development of American Literature, LIT 410 Modern American Literature, 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 1500-1660, LIT 415 Literature of the Neo-Classical Period 1660-1798, LIT 416 Romantic Rebellion in Britain 1798-1832, LIT 417 Victorian and Edwardian Literature 1832-1914, LIT 460 Recent Trends in British and American Literature..... 3  
**3. Electives..... 3-6**  
 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 351 World Mythology, LIT 352 Folk Literature: Ballads and Folk Tales.

LIT 207 may be counted on this minor by students on an elementary curriculum. No more than nine semester hours of 100- and 200-level literature courses may count toward this minor in other curricula.

### English Linguistics Minor

	Sem hours
<b>Minor in English linguistics</b> .....	<b>21-24</b>
<b>1. Required courses</b> .....	<b>6</b>
Choose two courses from the following:	
ENG 301 Introduction to the English Language, ENG 401 Introduction to Linguistic Science, ENG 402 Modern English Syntax, ENG 420 Introduction to Phonology, ENG 421 The History of the English Language.	
<b>2. Restricted electives</b> .....	<b>15-18</b>
Choose 15-18 credits from the following:	
ENG 119 Basic Composition, ENG 121 English Composition, ENG 301 An Introduction to the English Language, ENG 401 Introduction to Linguistic Science, ENG 402 Modern English Syntax, ENG 420 Introduction to Phonology, ENG 421 The History of the English Language, ENG 426 Topics in Linguistics	
LIT 210 Introduction to Shakespeare, LIT 412 Medieval Literature, LIT 413 The Poetry of Chaucer	

### Journalism Minor

	Sem hours
<b>Minor in journalism</b> .....	<b>21-24</b>
<b>1. Required courses</b> .....	<b>15</b>
JRN 215 Journalism.....	3
JRN 306 Feature, Interpretive and Editorial Writing.....	3
JRN 307 Copy Editing.....	3
JRN 313 History of American Journalism.....	3
JRN 454 Contemporary Problems in Journalism.....	3
<b>2. Restricted electives</b> .....	<b>6-9</b>
Choose six to nine credits from the following:	
ENG 325 Expository Writing, ENG 422 Writer's Workshop, ENG 424 Technical Writing, ENG 524 Advanced Technical Writing and Research	
JRN 311 Editing Procedures, JRN 314 Writing for Public Relations, JRN 453 Advanced Reporting	
CTA 140 Introduction to Telecommunications and Film, CTA 334 Radio-Television News, CTA 344 Continuity Writing for Radio-Television-Film	
FA 179 Graphic Design (Studio Experience-Non-majors)	
IDT 121 Graphic Communication, IDT 204 Photographic Communication	
MKT 369 Advertising, MKT 474 Promotional Strategy	
<i>Non-paid internships may qualify for ENG 497 Independent Study credit (permission must be obtained from journalism instructor).</i>	

### Literature Minor

	Sem hours
<b>Minor in literature</b> .....	<b>21-24</b>
<b>1. Required courses</b> .....	<b>9</b>
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.....	6
LIT 210 Introduction to Shakespeare.....	3
<b>2. Restricted electives</b> .....	<b>6</b>

Choose one course from the following:

LIT 305 Shakespeare: The Major Comedies and Histories, LIT 330 The Rise of the British Novel 1720-1832, LIT 331 The Development of the British Novel 1832-1914, 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 1500-1660, LIT 415 Literature of the Neoclassical Period 1660-1798, LIT 416 Romantic Rebellion in Britain, LIT 417 Victorian and Edwardian Literature 1832-1914	
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Choose one course from the following:

LIT 328 The Rise of the American Novel to 1920, LIT 332 The Modern American Novel 1920 to Present, LIT 333 Modern British and European Novel 1914 to Present, LIT 342 The Development of Modern Drama, LIT 401 Modern British and American Poetry 1914 to Present, LIT 410 Modern American Literature, LIT 460 Recent Trends in British and American Literature	
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<b>3. Electives</b> .....	<b>6-9</b>
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Choose from courses in literature, except the following:

LIT 207 Introduction to Children's Literature, LIT 351 World Mythology, LIT 352 Folk Literature: Ballads and Folk Tales.	
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LIT 207 may be counted on this minor by students on an elementary curriculum. No more than nine semester hours of 100- and 200-level literature courses may count toward this minor in other curricula.

### Writing Minor

	Sem hours
<b>Minor in writing</b> .....	<b>21-24</b>
<b>1. Required courses</b> .....	<b>12</b>
ENG 121 English Composition.....	3
ENG 325 Expository Writing.....	3
ENG 335 Imaginative Writing.....	3
ENG 422 Writer's Workshop.....	3
<b>2. Restricted electives</b> .....	<b>9-12</b>
Choose nine to 12 credits from the following:	
ENG 225 Intermediate English Composition, ENG 226 Report and Research Writing, ENG 422 Writer's Workshop, ENG 424 Technical Writing, ENG 503 Writing and Rhetorical Theory	
JRN 215 Journalism, JRN 306 Feature, Interpretive and Editorial Writing	
CTA 344 Continuity Writing for Radio-Television-Film, CTA 360 Dramatic Composition, CTA 361 Dramatic Writing	
(One of the following may be counted toward this minor as a restricted elective: ENG 301 An Introduction to the English Language, ENG 402 Modern English Syntax, ENG 421 The History of the English Language)	

## Composition and English Language 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 on 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.

**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 301 An Introduction to the English Language.** **Three sem hours**  
A survey of representative areas of language study: phonetic and phonemic theory, morphology, the writing systems, the spelling conventions, dictionaries, American regional and social dialects and the English vocabulary.  
*Prereq: Sophomore standing.*

**ENG 325 Expository Writing.** **Three sem hours**  
Advanced writing 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 225 Intermediate English composition or ENG 226 Report and Research Writing 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. This course may be repeated for additional credit.  
*Prereq: Sophomore standing.*

**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. Admittance by application only. For ENG 487, senior standing.*

**ENG 401 Introduction to Linguistic Science.** **Three sem hours**  
An introduction to linguistic theory and analytical procedures. Students will apply theoretical principles to problems of phono-

logical and syntactic analysis in languages other than English.  
*Prereq: ENG 301 An Introduction to the English Language.*

**ENG 402 Modern English Syntax.** **Three sem hours**  
An introduction to the syntax of modern English: traditional grammar will be reviewed and descriptive and transformational grammar will be studied.  
*Prereq: Junior standing.*

**ENG 420 Introduction to Phonology.** **Three sem hours**  
An introduction to the basic principles of modern phonology, beginning with an account of phonetics (emphasizing articulatory, but including acoustic). Phonetic transcription; the rise and fall of the phoneme; generative and natural phonology; writing and interpreting phonological rules.  
*Prereq: ENG 401 Introduction to Linguistic Science.*

**ENG 421 The History of the English 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: ENG 301 An Introduction to the English Language or ENG 401 Introduction to Linguistic Science.*

**ENG 422 Writer's Workshop.** **Three sem hours**  
A seminar workshop for the student who wants more writing experience. The class schedule will describe each particular workshop. This course may be repeated for additional credit.  
*Prereq: ENG 325 Expository Writing or ENG 335 Imaginative Writing and 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 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: ENG 401 Introduction to Linguistic Science.*

**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.*

## Journalism Courses

**JRN 215 Journalism.** **Three sem hours**  
An introduction to the news media with a particular study of the role of the press in American democracy. Analysis of the content of the media and practice in the fundamentals of writing for mass audiences.  
*Prereq: Sophomore standing.*



**JRN 306 Feature, Interpretive and Editorial 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 Journalism.*

**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 Journalism and JRN 306 Feature, Interpretive and Editorial 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 Journalism.*

**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**

A survey of written communications directed toward influencing public opinion; the study of writing techniques used in presenting a project or product and in assessing public response.

*Prereq: JRN 215 Journalism.*

**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 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 Journalism.*

**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.****Three sem hours**

Optional, practical on-the-job work experience for recommended students electing an opportunity provided by the department or finding an appropriate 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 journalism professor.*

**Literature Courses****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 142.)

**LIT 107 Society in Crisis: 1848 and 1968.**

(See general humanities courses, page 142.)

**LIT 122 American Studies: Success and the Pursuit of Happiness in 19th Century America.**

(See general humanities courses, page 142.)

**LIT 124 The Age of Wagner.**

(See general humanities courses, page 142.)

**LIT 126 The Age of Shakespeare.**

(See general humanities courses, page 142.)

**LIT 128 Russia in the Age of Tolstoy and Dostoevsky.**

(See general humanities courses, page 142.)

**LIT 150 Humanity and Technology.**

(See general humanities courses, page 142.)

**LIT 152 From the Gay Nineties to the Crash.**

(See general humanities courses, page 142.)

**LIT 155 Narrative in Literature and Film.**

(See general humanities courses, page 142.)

**LIT 181 The Legacy of Greece.**

(See general humanities courses, page 143.)

**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 American Indian Myths, Tales and Legends.** Three sem hours  
A study of the myths, legends and tales of the Indians of the western hemisphere, emphasizing those of North America.  
*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. Does not satisfy the Basic Studies literature requirement.  
*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 form 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, Wolfe, Kafka, Camus, Golding, Fowles, Robbe-Grillet, Handke, Calvino, Grass.  
*Prereq: Two courses in literature or department permission.*

**LIT 340 The Rise of British Drama to 1642.** Three sem hours  
A study of British drama from the mystery plays, morality plays, and interludes to the revenge tragedies of Kyd, Marlowe and Webster and the comedies of Jonson and Massinger.  
*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 reading course in myths and ancient and medieval hero tales of Europe and the Near East with emphasis on those most frequently adapted in children's literature. Applies toward the minor in children's literature only, but may be taken as a free elective.  
*Prereq: Two courses in literature.*

**LIT 352 Folk Literature: Ballads and Folk Tales. Three sem hours**

A reading course in the traditional ballads and folk tales of Europe and North America with emphasis on those that appear in children's literature. Applies toward the minor in children's literature only, but may be taken as a free elective.  
*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 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 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 411 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 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, Hill, 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 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 English Department.  
*Prereq: Nine hours in the appropriate major or minor.*

## Teaching of Literature

**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

**Department Head:** Jean S. Bidwell

**Professors:** Jean S. Bidwell, William J. Cline, J. Sanford Dugan,  
James P. Holoka, John R. Hubbard, Brigitte D. Muller,  
Benjamin W. Palmer, Raymond E. Schaub, Geoffrey M. Voght

**Associate Professors:** JoAnn Aebersold, Ronald C. Cere,  
E. Catherine Day, Ana Maria McCoy, John Pisoni

**Assistant Professors:** Patrick Buckheister, Shohei Koike,  
Sharon Robertson, Reynaldo Ruiz

**THE DEPARTMENT OF FOREIGN LANGUAGES AND BILINGUAL STUDIES** offers a variety of traditional and innovative majors and minors in French, German, Spanish and English as a second language, a group minor in bilingual-bicultural teacher education leading to either elementary or secondary certification, 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:

French Language and Literature  
French for Business  
German Language and Literature  
German for Business  
Spanish  
Spanish for Business  
Language and International Trade

#### Minors:

Bilingual Bicultural 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

#### 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 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.

Inquiries regarding the placement test should be addressed to the Foreign Languages Department Office (219 Alexander) in person or by sending a self-addressed, stamped envelope to Foreign Language Placement Test, Foreign Languages and Bilingual Studies, 219 Alexander, EMU, Ypsilanti, Mich. 48197. No telephone inquiries, please.

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.

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 are that majors in a foreign language must complete at EMU 12 credit hours, consisting of the courses numbered 443 and 444 and other appropriate courses on the 300 or 400 level. Minors in foreign language must complete at EMU the courses at the 300 level or above required for the minor chosen.

**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 also can 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 Test Battery 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 a Michigan Test score between 77 and 80 or a TOEFL score between 475 and 500 must take six credit hours of English: ESL 412 Academic ESL Writing and ESL 414 Academic ESL Reading or ESL 416 Academic ESL Speaking and Listening.

Students admitted with scores of less than 77 or 475 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 starting below the 400 level must continue to enroll in ESL courses until two 400-level courses are taken. Students must repeat all ESL courses in which they receive a "C-" or below.

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 Education (Spanish): William Cline
- English as a Second Language: JoAnn Aebersold
- French: Benjamin W. Palmer
- German: Sharon Robertson
- Language and International Trade: See coordinator of appropriate language area
- Spanish: Ana McCoy

**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 Methods of Teaching Modern Language or CEN 410 Teaching English to Speakers of Other Languages.

	<b>Sem hours</b>
<b>Academic major in French</b> .....	<b>30</b>
<b>1. Required courses</b> .....	<b>18</b>
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 444 Advanced French Conversation.....	3
<b>2. Restricted electives</b> .....	<b>12</b>
Choose six credits at the 400 level; choose an additional six credits in French at any level	

**French for Business**

**STUDENTS** majoring or minoring 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 Economique" 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.

	<b>Sem hours</b>
<b>Academic major in business French</b> .....	<b>30</b>
<b>1. Required courses</b> .....	<b>24</b>
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 444 Advanced French Conversation.....	3
FRN 446, 447 Business French I and II.....	6
<b>2. Restricted electives</b> .....	<b>6</b>
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 Methods of Teaching Modern Language or CEN 410 Teaching English to Speakers of Other Languages in addition to the courses listed below.

	<b>Sem hours</b>
<b>Academic major in German language and literature</b> .....	<b>30</b>
<b>1. Required courses</b> .....	<b>18</b>
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
<b>2. Restricted electives</b> .....	<b>12</b>
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
<b>Academic major in business German</b> .....	<b>30</b>
<b>1. Required courses</b> .....	<b>24</b>
GER 341, 342 Survey of German Literature.....	6
GER 361, 362 German for International Trade I and II.....	6
GER 443 German Syntax and Advanced Composition..	3
GER 446, 447 Business German.....	6
An additional German course at the 400 level.....	3
<b>2. Restricted electives</b> .....	<b>6</b>
Choose six credits in German at any level	

## Language and International Trade

**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 and Spanish have the option of participating in a cooperative work exchange in an area of the world where French, German or Spanish is spoken. Students may take examinations leading to foreign certification in business French, German or Spanish.

<b>Group major in language and international trade</b> .....	<b>Sem hours</b>
	<b>60</b>
(Non-teaching)	

### **1. Required courses**..... **57**

#### **a. Business and economics courses**..... **30**

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 computer systems, general business and office administration, among others. Special combinations of business courses equivalent to a minor are possible in consultation with an adviser.

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 and Spanish—and must complete 18 hours in that chosen language. This 18 hour minimum must include:

FRN/GER/SPN 361 French/German/Spanish for International Trade, FRN/GER/SPN 446 and 447 Business French/German/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 or  
GEO/HIS 317 History and Geography of Spanish

America

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 Organiza-

tion, 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

## Group Major in Language, Journalism, Telecommunications and Film

<b>Group major in language, journalism, telecommunications and film</b> .....	<b>Sem hours</b>
	<b>60</b>

### **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

### **Journalism component**..... **18-21**

#### **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**..... **6-9**

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 454 Contemporary Prob-

lems in Journalism

ENG 422 Writer's Workshop, ENG 454 Technical

Writing

### **Telecommunications and film**..... **20-21**

#### **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 358 Intercultural Communications.....3

CTA 479 Special Topics: Seminar in International

Telecommunications Issues.....3

**2. Restricted electives.....5-6**

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 Methods of Teaching Modern Language or CEN 410 Teaching English to Speakers of Other Languages 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.

	<b>Sem hours</b>
<b>Academic major in Spanish.....</b>	<b>30</b>
<b>1. Required courses.....</b>	<b>12</b>
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
<b>2. Restricted electives.....</b>	<b>18</b>
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.

	<b>Sem hours</b>
<b>Academic major in business Spanish.....</b>	<b>30</b>
<b>1. Required courses.....</b>	<b>24</b>
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, 362 Spanish for International Trade I and II.....	6
SPN 446, 447 Business Spanish.....	6
<b>2. Restricted electives.....</b>	<b>6</b>
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.

<b>Group minor in bilingual bicultural education.....</b>	<b>Sem hours 24</b>
(Spanish-English)	
<b>1. Required courses.....</b>	<b>15</b>
FLA 421 History and Theory of Bilingual Education.....	3
FLA 422 Teaching Hispanic Culture and Language.....	3
CEN 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
<b>2. Restricted electives.....</b>	<b>9</b>
Choose nine credits from the following:	
ANT 233 Peoples and Cultures of Mexico	
CEN 215 Culture of the Latino Groups in the United States, CEN 223 Introduction to Language	
ENG 301 Introduction to the English Language, ENG 401 Introduction to Linguistic Science, ENG 402 Modern English Syntax	
GEO 321 Geography of Latin America	
HIS 457 History of Mexico	
PSY 340 Psychological Perspectives on Prejudice and Discrimination	
SOC 314 Racial and Cultural Minorities	
SPN 443 Advanced Spanish Composition, SPN 444 Advanced Spanish Conversation	

**English as a Foreign Language for Non-Native Speakers of English**

**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.

International students who are non-native speakers of English with TOEFL scores of 475 to 500 or Michigan Test scores of 77 to 80 will begin this minor by taking ESL 412 and ESL 414 and/or ESL 416.

<b>Minor in English as a foreign language for non-native speakers of English.....</b>	<b>Sem hours 23-24</b>
(Non-teaching)	
<b>1. Required courses.....</b>	<b>21</b>
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 121 English Composition or ENG 125 Report Writing.....	3
ENG 225 Intermediate Composition, or other approved English writing course (written permission required) ..	3
<b>2. Restricted elective.....</b>	<b>3</b>
Choose one course from the following:	
ENG 301 Introduction to the English Language, ENG 402 Modern English Syntax, or other English language or linguistic 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 (written permission required)	
Other advanced CTA (speech) courses not including theatre arts courses, with written permission	

### Minors Offered in French Language and Literature

	Sem hours
<b>Minor in French language and literature.....</b>	<b>20</b>
<b>1. Required courses.....</b>	<b>12</b>
FRN 341, 342 Survey of French Literature.....	6
FRN 343 French Composition.....	3
FRN 344 French Conversation.....	3
<b>2. Restricted electives.....</b>	<b>8</b>
Choose eight credits in French at any level	

### Language

	Sem hours
<b>Minor in French language.....</b>	<b>20</b>
<b>1. Required courses.....</b>	<b>12</b>
FRN 343 French Composition.....	3
FRN 344 French Conversation.....	3
FRN 443 Advanced French Grammar and Composition.....	3
FRN 444 Advanced French Conversation.....	3
<b>2. Restricted electives.....</b>	<b>8</b>
Choose eight credits in French at any level	

Students with a minor in French and on an elementary curriculum, see pages 226-227.

### Literature

	Sem hours
<b>Minor in French literature.....</b>	<b>20</b>
<b>1. Required courses.....</b>	<b>12</b>
FRN 341, 342 Survey of French Literature.....	6
Courses in French literature at the 400 level.....	6
<b>2. Restricted electives.....</b>	<b>8</b>
Choose eight credits in French at any level	
Students on a teaching curriculum should include FRN 343 French Composition and FRN 344 French Conversation	

### Business Language

STUDENTS MINORING in business French are eligible to take the examinations listed under the major in business French.

	Sem hours
<b>Minor in business French.....</b>	<b>20</b>
<b>1. Required courses.....</b>	<b>18</b>
FRN 343 French Composition.....	3
FRN 344 Advanced French Grammar and Composition ..	3
FRN 443 French Syntax.....	3
FRN 444 Advanced French Conversation.....	3
FRN 446, 447 Business French I and II.....	6
<b>2. Restricted electives.....</b>	<b>2</b>
Choose two credits in French at any level	

### Minors Offered in German Language and Literature

	Sem hours
<b>Minor in German language and literature.....</b>	<b>20</b>
<b>1. Required courses.....</b>	<b>12</b>
GER 343 German Composition.....	3
GER 344 German Conversation.....	3
GER 341, 342 Survey of German Literature.....	6
<b>2. Restricted electives.....</b>	<b>8</b>
Choose eight credits in German at any level	

### Language

	Sem hours
<b>Minor in German language.....</b>	<b>20</b>
<b>1. Required courses.....</b>	<b>12</b>
GER 343 German Composition.....	3
GER 344 German Conversation.....	3
GER 443 German Syntax.....	3
GER 444 Advanced German Conversation.....	3
<b>2. Restricted electives.....</b>	<b>8</b>
Choose eight credits in German at any level	

### Literature

	Sem hours
<b>Minor in German literature.....</b>	<b>20</b>
<b>1. Required courses.....</b>	<b>12</b>
GER 341, 342 Survey of German Literature.....	6
Courses in German literature at the 400 level.....	6
<b>2. Restricted electives.....</b>	<b>8</b>
Choose eight credits in German at any level	

### Business German

EXAMINATIONS listed under the major in business German also may be taken by students minoring in this subject.

	Sem hours
<b>Minor in business German.....</b>	<b>20</b>
<b>1. Required courses.....</b>	<b>15</b>
GER 341, GER 342 Survey of German Literature.....	3
GER 361, GER 362 German for International Trade....	6
GER 443 Advanced Syntax and Composition.....	3
GER 446 or GER 447 Business German.....	3
<b>2. Restricted electives.....</b>	<b>5</b>
Choose five credits in German at any level	



## Minors Offered in Spanish

### Language

	Sem hours
<b>Minor in Spanish language</b> .....	<b>20</b>
<b>1. Required courses</b> .....	<b>12</b>
SPN 343 Spanish Grammar and Composition.....	3
SPN 344 Spanish Conversation and Composition.....	3
Choose either of the following options.....	6
SPN 443 Spanish Grammar and Composition and	
SPN 444 Advanced Spanish Conversation and	
Composition	
Additional courses in Spanish at the 300 level or above	
<b>2. Restricted electives</b> .....	<b>8</b>
Choose eight credits in Spanish at any level in consultation	
with the advising coordinator	

### Literature

	Sem hours
<b>Minor in Spanish literature</b> .....	<b>20</b>
<b>1. Required courses</b> .....	<b>12</b>
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 Con-	
versation and Composition)	
<b>2. Restricted electives</b> .....	<b>8</b>
Choose eight credits in Spanish at any level in consultation	
with the advising coordinator	

### Spanish Culture

	Sem hours
<b>Minor in Spanish culture</b> .....	<b>20</b>
<b>1. Required courses</b> .....	<b>12</b>
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)	
<b>2. Restricted electives</b> .....	<b>8</b>
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. Language proficiency in both Spanish and English is required; proficiency will be determined by examination.

	Sem hours
<b>Minor in business Spanish</b> .....	<b>20</b>
<b>1. Required courses</b> .....	<b>12</b>
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, 362 Spanish for International Trade I	
and II.....	6
<b>2. Restricted electives</b> .....	<b>8</b>
Choose eight credits in Spanish at any level in consultation	
with the advising coordinator	

## French Courses

**FRN 121, 122 Beginning French.** **Five sem hours each**  
Introductory course including practice in listening, speaking, reading and writing in French. Sessions in the language laboratory are part of regular assignments.

**FRN 221, 222 Intermediate French (Reading).** **Three sem hours each**  
Rapid reading of large quantities of French. Materials include readings in literature and civilization. Students who plan to continue in French should take these courses concurrently with FRN 233, 234 Intermediate French (Grammar, Composition, Conversation). Satisfies Basic Studies literature requirement.  
*Prereq: FRN 122 Beginning French or equivalent.*

**FRN 233, 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 these courses concurrently with FRN 221, 222 Intermediate French (Reading). Does not satisfy Basic Studies literature requirement.  
*Prereq: FRN 122 Beginning French or equivalent.*

**FRN 341, 342 Survey of French Literature.** **Three sem hours each**  
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.* Students must have sufficient comprehension to follow lectures in French.  
*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**  
Advanced course for students with four semesters of college French or equivalent who elect the group major in language and international trade. Development of all language skills for use in business situations in French speaking environment. Study of French culture and civilization.  
*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**  
Review and practice of advanced syntactical patterns. Practice in composition. Taught in French.  
*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 permission.*

**FRN 457 Scientific and Technical French.** **Three sem hours**  
Study of French scientific and technical vocabulary and terminology 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 permission.*

**FRN 388, 488, 489 Internship.** **One, two, three sem hours**  
Provides 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.

*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.

**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.*

## German Courses

**GER 121, 122 Beginning German.** **Five sem hours each**  
Instruction includes pronunciation, aural-oral pattern practice, the fundamentals of grammar, written exercise, reading. Laboratory attendance is required.

**GER 221, 222 Intermediate German.** **Three sem hours**  
Rapid reading of large quantities of German prepares the student for practical use of the written language. Extensive work on vocabulary building, idiomatic construction and classroom discussion increase speaking fluency. Students who plan to continue in German should take GER 233, 234 Intermediate German Conversation concurrently with GER 221, 222.

*Prereq: GER 122 Beginning German or equivalent.*

**GER 233, 234 Intermediate German Conversation.** **Three sem hours each**  
Extensive work in simple conversation and grammar review. Intended for students who need oral proficiency. Students will spend two half-hour periods per week in the laboratory. Does not satisfy Basic Studies literature requirement.

*Prereq: GER 122 Beginning German or equivalent.*

**GER 341, 342 Survey of German****Literature.****Three sem hour each**

Covers German literary history from early Germanic times to the present, incorporating the perspectives of political, economic, social and intellectual developments as well as those of the visual arts and music. Taught in German.

*Prereq: GER 222 Intermediate German or department permission.*

**GER 343 German Composition.****Three sem hours**

Writing for a variety of purposes and a systematic grammar review. Frequent written assignments. Taught in German.

*Prereq: GER 234 Intermediate German Conversation or 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 Middle 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 443 German Syntax and Advanced****Composition.****Three sem hours**

Builds on the foundation in written expression acquired in GER 343 German Composition. Intensive vocabulary and idiom writing; treatment of the more complex structural features of German and stylistics. Frequent assignments increase the student's ability to write for a variety of purposes.

*Prereq: GER 343 German Composition and GER 344 German Conversation 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, 447 Business German.****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 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.

*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.

**JPN 211, 212 Intermediate Japanese.****Five sem hours each**

Practice in intermediate Japanese conversation, with heavy emphasis on reading and writing common ideographs in non-technical text. Laboratory attendance required.

*Prereq: JPN 121, 122 Beginning Japanese or equivalent.*

## Spanish Courses

**SPN 121, 122 Beginning Spanish.****Five sem hours each**

Basic principles of grammar. Practice in elementary conversation, pronunciation, composition and reading. One-half hour per day in the laboratory 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.

*Prereq: Native command of oral Spanish and department permission.***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. Does not satisfy the Basic Studies literature requirement.

*Prereq: SPN 122 Beginning Spanish or equivalent.***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. 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**

Extensive reading in the language. Special emphasis on vocabulary

building and idiomatic constructions. In Spanish. Satisfies the Basic Studies literature requirement.

*Prereq: SPN 202 Intermediate Spanish Conversation and Composition or department permission.***SPN 222 Intermediate Spanish Reading.****Three sem hours**

Extensive reading in the language. Special emphasis on vocabulary building and idiomatic constructions. In Spanish. Satisfies the Basic Studies literature requirement.

*Prereq: SPN 221 Intermediate Spanish or department permission.***SPN 301 The Culture of Spain.****Three sem hours**

A panoramic view of the peoples of Spain, their cultures, environment and way of life. In Spanish.

*Prereq: SPN 202 Intermediate Spanish Conversation and Composition and SPN 222 Intermediate Spanish Reading or department permission.***SPN 302 The Cultures of Spanish America.****Three sem hours**

A panoramic view of the cultures, the peoples and the environment of Spanish America. In Spanish.

*Prereq: SPN 202 Intermediate Spanish Conversation and Composition and SPN 222 Intermediate Spanish Reading or department permission.***SPN 341, 342 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.

*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**

Proficiency in commercial Spanish is increased by reading, summarizing, and reporting on foreign business publications, and by composing and translating Spanish business letters. Emphasis is on business communication in Spanish.

*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. In 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 business 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 commercial 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 substitute 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 department 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 scientific and technical contexts, including basic vocabulary for mathematics, 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 scientific and technical contexts, including basic vocabulary for computers, chemistry and biology. In-depth study of at least one scientific or technical field (e.g., data processing, nutrition). Students 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 463 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 277, 377, 477 Special Topics.****One sem hour****SPN 278, 378, 478 Special Topics.****Two sem hours****SPN 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.*

**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 388, 488, 489 Internship.****One, two, three sem hours**

Provides 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.

*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 in-

structional levels available. Students advance according to individual 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. *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 Methods of Teaching Modern Language.**

**Two 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 junior year. 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 in a bilingual classroom 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

**CLA 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.

**CLA 123, 124 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.

## Courses in English for Foreign Students

**ESL 110 Beginning ESL Grammar.**

**Three sem hours**

The basic components of the simple sentence. Special emphasis on basic verb tenses, question and negative forms.

*Prereq: Department permission or placement.*

**ESL 112 Beginning ESL Writing.**

**Three sem hours**

Grammar manipulation of simple sentences, introduction to paragraph organization and form.

*Prereq: Department permission or placement.*

**ESL 114 Beginning ESL Reading.**

**Three sem hours**

Basic vocabulary development; comprehension skills of recognizing main idea, supporting detail, exemplification and narration of materials in simplified English.

*Prereq: Department permission or placement.*

**ESL 116 Beginning ESL Speaking and Listening.**

**Three sem hours**

Production and comprehension of conversational and survival levels of communication.

*Prereq: Department permission or placement.*

**ESL 118 ESL Laboratory.**

**One sem hour**

Individual and/or group lab sessions.

*Prereq: Department permission or placement.*

**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.** **Three sem hours**  
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 skills and researching, outlining, formatting and writing a short research paper.  
*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

**CEN 104 Men of Power: Ancient and Modern.** **Three sem hours**  
(See humanities courses, page 141.)

**CEN 106 Rome and America.** **Six sem hours**  
(See humanities courses, page 142.)

**CEN 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. Applies as language area elective in Basic Studies.

**CEN 153 From the Middle Ages to the Renaissance: Sacred and Profane Love.** **Three sem hours**  
(See humanities courses, page 142.)

**CEN 181 The Legacy of Greece.** **Three sem hours**  
(See humanities courses, page 143.)

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.

**CEN 215 The Culture of the Latino Groups in the United States.** **Three sem hours**

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.

**CEN 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. Applies as language area elective in Basic Studies.

**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.

**CEN 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 ENG 301 An Introduction to the English Language or ENG 402 Modern English Syntax, or department permission.*

# GEOGRAPHY AND GEOLOGY

Office: 203 Strong Hall

**Department Head:** Elwood J.C. Kureth

**Professors:** George M. Howe, Eugene Jaworski, Elwood J.C. Kureth, Horace A. MacMahan Jr., James R. McDonald, Marshall S. McLennan, Andrew A. Nazzaro, Lawrence L. Ogden, Carl F. Ojala, C. Nicholas Raphael, Ranjit Tirtha, Robert M. Ward

**Associate Professor:** Robert B. Mancell

**Assistant Professors:** Danita S. Brandt, Allen Cichanski

**COOPERATIVE PROGRAMS** with other departments have resulted from the diversified courses developed by the Department of Geography and Geology. It participates in the majors and minors in area studies administered by the Department of History and Philosophy and has developed an urban and regional planning concentration in conjunction with the public administration program of the Department of Political Science.

In addition, the department offers field camp experiences, including an annual camp in Colorado, to meet the geology major requirements. It shares a computer lab in Strong Hall with the Department of Physics and Astronomy.

**DEGREES:** Bachelor of Science and Bachelor of Arts

## PROGRAMS OF STUDY

### Majors:

Earth Science  
Geography  
Geology  
Land Use Analysis  
Travel and Tourism

### Minors:

Cartography and Remote Sensing  
Coastal Environments  
Earth Science  
Geography  
Geology  
Land Use Analysis  
Historic Preservation

**ADVISING** assignments are made by the department head.

## ADVISING COORDINATORS:

Coastal Environments: C. Nicholas Raphael  
Earth Science: Horace MacMahan  
Geography: James R. McDonald  
Geology: Lawrence Ogden  
Historic Preservation: Marshall McLennan  
Land Use Analysis: Robert Ward  
Travel & Tourism: Robert Mancell

**GRADUATE STUDY** leads to the master's degree in either geography or historic preservation planning. A non-degree certification program of study (five courses) in historic preservation is also offered. The M.A. and M.S. degrees are described in the Graduate Catalog.

## Major in Earth Science

	Sem hours
<b>Academic major in earth science</b> .....	31
<b>1. Required courses</b> .....	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
<b>2. Restricted electives</b> .....	3-5
Choose three to five credits from the following:	
GES 114 National Parks and Monuments, GES 208 National Environmental Hazards, GES 227 Topograph- ic 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
<b>Academic major in geography</b> .....	30
<b>1. Required courses</b> .....	24-25
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 Photograph 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, GEO 360 Cultural Geography, GEO 361 Population Geography, GEO 431 Historical Geography of the U.S., GEO 438 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	
<b>2. Restricted electives</b> .....	5-6
Choose five to six credits in consultation with advising co- ordinator (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

**GEOLOGY MAJORS** who intend to enter the geological profession or enroll in graduate school also should take general chemistry and mathematics through calculus.

	<b>Sem hours</b>
<b>Academic major in geology</b> .....	<b>30</b>
<b>1. Required courses</b> .....	<b>24-28</b>
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
<b>2. Electives</b> .....	<b>2-5</b>

\*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 Analysis

**THIS INTERDISCIPLINARY MAJOR** emphasizes current land use problems including the deterioration of urban cores, lack of coordination 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 development 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, land economics, public policy and government and real estate management. Courses recommended 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, PLS 202 State and Local Government, and ENG 225 Intermediate Composition.

	<b>Sem hours</b>
<b>Academic major in land use analysis</b> .....	<b>36</b>
(Non-teaching)	

<b>1. Required courses</b> .....	<b>16</b>
BIO 224 Principles of Conservation.....	4
ECO 338 Land Economics.....	3
GES 315 Land Use Planning.....	3
RES 210 Real Estate Principles and Practices.....	3
GES 495 Environmental Impact Assessment.....	3
<b>2. Techniques courses</b> .....	<b>9</b>
Choose three courses from the following:	
GEO 300 Location and Site Analysis, GEO 303 Field Methods, GES 305 Aerial Photograph Interpretation, GES 401 Cartography;	
one course from: 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	

<b>3. Restricted electives</b> .....	<b>11</b>
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, GES 423 Principles of City and Regional Planning, GEO 438 Industrial Location and Development, GEO 441 Transportation Geography and Planning, GEO 448 The Subsurface Water Resource	
ACC 246 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 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 curriculum 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 Bachelor of Arts 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. Basic Studies courses (34 credit hours, not including six credit hours of Group III geography courses already part of the curriculum) complete the necessary requirements (except for free electives) for graduation.

	<b>Sem hours</b>
<b>Major in travel and tourism</b> .....	<b>75-76</b>
<b>Required courses</b> .....	<b>42</b>
GEO 110 World Regions.....	3
GEO 112 Careers in Travel and Tourism.....	3
GEO 212 Geography of Travel and Tourism.....	3
GEO 312 Travel Business Applications.....	3
GEO 320 Geography of the U.S. and Canada.....	3
GEO 441 Transportation Geography.....	3
GEO 445 Cultural Heritage and Tourism.....	3
ACC 240 Principles of Accounting.....	3
MGT 382 Introduction to Management.....	3
MGT 202 Business Communications.....	3

MKT 261 Contemporary Selling.....	3
MKT 360 Principles of Marketing.....	3
MKT 365 Buyer Behavior.....	3
MKT 369 Advertising.....	3
<b>Elective courses.....</b>	<b>15-16</b>
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 313 Geography of Michigan.....	2
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
ANT 236 Peoples of Africa.....	3
or	
GEO 322 Geography of Africa.....	3
ANT 248 Peoples and Cultures of the Pacific.....	3
or	
GEO 323 Geography of Australia and Pacific Islands.....	2
GEO 114 National Parks and Monuments.....	2
GEO 115 Observing the Human Landscape.....	2
GEO 333 Settlement Geography.....	3
GEO 344 Recreation Geography.....	3
GEO 345 Geography of Resorts.....	2
GEO 360 Cultural Geography.....	3
GEO 387 and/or GEO 487 Co-op Education.....	3
GEO 435 Urban Form and Function.....	3
GEO 436 Tourism and Socio-Economic Development.....	3
GEO 478 Special Topics:	
Hospitality Skills.....	3
Community Interpretation and Tourism.....	3
GEO 488 Internship.....	4
FA 429 History of American Architecture.....	3
MGT 386 Organization Theory and Development.....	3
MGT 402 Business Report Writing.....	3
LAW 293 Legal Environment of Business.....	3
LAW 393 Law of Business Enterprises.....	3
MKT 368 Marketing Strategy.....	3
MKT 460 International Marketing.....	3
MKT 473 Marketing Environment.....	3
MKT 474 Promotional Strategy.....	3
<b>Concentrations.....</b>	<b>18</b>
Choose either Option A: General or Option B: Foreign Language and Area Studies	
<b>Option A: General</b>	
Required:	
JRN 215 Journalism.....	3
CTA 358 Intercultural Communication.....	3
Choose two of the following:	
JRN 306 Feature, Interpretive and Editorial Writing.....	3
JRN 314 Writing Aspects of Public Relations.....	3
ENG 424 Technical Writing.....	3
Choose two of the following:	
CTA 224 Public Speaking.....	3
CTA 227 Interpersonal Communication.....	3
CTA 351 Interviewing as Communication.....	3
<b>Option B: Foreign Language and Area Studies</b>	
Before choosing Option B, students must have completed FRN/GER/SPN 121, 122; 221, 222; and 233, 234 or equivalencies with Foreign Languages and Bilingual Studies Department approval.	

GEO/HIS 316 History and Geography of Modern Europe.....	6
or	
GEO/HIS 317 History and Geography of Spanish America.....	6
FRN/GER/SPN 343 and 344 Composition and Conversation.....	6
FRN/GER/SPN 341 and 342 Survey of Literature.....	6
or	
FRN/GER/SPN 361 and 362 Language for International Trade.....	6

## Minors Offered in the Department of Geography and Geology

### Cartography and Remote Sensing

**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 are 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.

	<b>Sem hours</b>
<b>Minor in cartography and remote sensing.....</b>	<b>20</b>
<b>1. Required courses.....</b>	<b>15</b>
GES 305 Aerial Photograph Interpretation.....	3
GES 401 Cartography.....	3
GES 402 Advanced Cartography.....	3
GES 475 Computer Mapping.....	3
GES 485 Introduction to Remote Sensing.....	3
<b>2. Restricted electives.....</b>	<b>5</b>
Choose five credits from the following:	
GES 227 Topographic Maps, GLG 255 Field Geology I, GES 387/487 Cooperative Education in Earth Science, GES 488, 489, 490 Internship	
MTH 105 College Algebra, MTH 107 Plane Trigonometry	
FA 301 Graphic Design	
IDT 121 Graphic Communication	
IT 206 Surveying, IT 231 Industrial Computer Graphics, IT 400 Site Planning and Development	
ORI 215 Computers in Business or CSC 137 Introduction to Computer Programming, ORI 417 Development of Management Information Systems	

## Geography

	Sem hours
<b>Minor in geography</b> .....	<b>20</b>
<b>1. Required courses</b> .....	<b>7</b>
GES 108 Earth Science.....	4
GEO 110 World Regions.....	3
<b>2. Restricted electives</b> .....	<b>13</b>
Choose 13 credits in consultation with the advising coordinator (Students on the later elementary curriculum who elect this minor should choose at least five semester hours from the following: GEO 313 Geography of Michigan, GEO 314 Geography of 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, GEO 328 Geography of Canada)	

## Geology

	Sem hours
<b>Minor in geology</b> .....	<b>21</b>
<b>1. Required courses</b> .....	<b>17</b>
GLG 160 Physical Geology.....	4
GLG 228 Mineralogy.....	3
GLG 161 Historical Geology.....	4
GLG 326 Structural Geology.....	3
GLG 329 Petrology.....	3
<b>2. Restricted electives</b> .....	<b>4</b>
Choose four credits in consultation with an advising coordinator	

## Historic Preservation

	Sem hours
<b>Minor in historic preservation</b> .....	<b>24-26</b>
<b>1. Required courses</b> .....	<b>20</b>
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	
<b>2. Restricted electives</b> .....	<b>4-6</b>
Choose two courses from the following:	
ANT 135 Cultural Anthropology, ANT 150 Introductory Archeology	
ECO 338 Land Economics	
GEO 235 Economic Geography, GEO 300 Location and Site Analysis, GES 401 Cartography, GES 303 Field Methods, GEO 313 Geography of Michigan, GES 315 Land Use Planning, GEO 360 Cultural Geography, GEO 344 Recreation Geography, GEO 423 Principles of City and Regional Planning, GHP 436, 437 Historic Preservation Project	
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	
<i>(The suggested electives are not intended to be all inclusive; students may choose some elective courses not listed in consultation with the advising coordinator. For example, seniors with a 2.5 or higher GPA may take 500 numbered graduate courses in the historic preservation master's degree program for undergraduate credit in the minor.)</i>	

## Land Use Analysis

	Sem hours
<b>Minor in land use analysis</b> .....	<b>24</b>
(Non-teaching)	
<b>1. Required courses</b> .....	<b>6</b>
GES 315 Land Use Planning.....	3
GES 495 Environmental Impact Assessment.....	3
<b>2. Techniques courses</b> .....	<b>6</b>
Choose two courses from the following:	
GEO 300 Location and Site Analysis, GES 401 Cartography, GES 303 Field Methods, GES 305 Aerial Photograph Interpretation	
<b>3. Restricted electives</b> .....	<b>12</b>
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	
BIO 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

	Sem hours
<b>Minor in coastal environments</b> .....	<b>22</b>
(Non-teaching)	
<b>1. Required courses</b> .....	<b>16</b>
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
<b>2. Restricted electives</b> .....	<b>6</b>
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

*The following courses meet Group II Science Basic Studies requirements.*

**GES 108 Earth Science.** Four sem hours  
Selected topics and concepts from geology, physical geography, meteorology, oceanography and astronomy 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. *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 curriculums 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 catastrophies, 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 sea-floor 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 and Climate.** Three sem hours  
Introduction to the properties and processes of the earth-atmosphere system that create weather and climate; deals summarily with observation, in depth with interpreting and understanding weather phenomena from commonplace to devastating; analytic

description of climatic regions.

*Prereq: GES 108 Earth Science or one course in physics, chemistry or biology.*

**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 analysis 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. Two sem hours**

Techniques by which climates at all scales can be analyzed and evaluated, applying the results to regional classification and to solutions of numerous problems in which there is impact of climate on human activities, such as urban living, transportation, architecture, agriculture, etc.

*Prereq: GES 324 Weather and Climate.*

**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 one present scene and organic 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, relationship 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: GLG 228 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 326 Structural Geology, GLG 329 Petrology and 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 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. Admittance by application only. Graded on credit/no credit basis. For GLG 487: 387.*

## Geography Courses in Social Science

*The following courses meet Group III Social Science Basic Studies requirements.*

**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; tests of aquifers; well drilling and installation; ground water 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.*

**GEO 100 Future Worlds.** **Three sem hours**  
Introduces the student to reasons for studying the future from a geographical perspective, methods used in futuristics, 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 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 112 Careers in 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 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 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 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 socio-economic 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. Two sem hours**

A study of the regional organization and variation of sports activities; the origin and diffusion of sports and athletes; the effect of sport on the landscape and national character.

**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 GES 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. Admittance 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 contexts, 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 trip 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 Heritage and Tourism.** Three sem hours  
Study of relationships between tourism and cultural heritage such as visitation to museums, archeological 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, 398, 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 Education

The following courses count in Group IV (Education).

### GES 347 Teaching Earth Science and Physical Geography. Three sem hours

The techniques of teaching laboratory-centered earth science and physical geography courses, emphasizing inquiry teaching and questioning techniques. Practical experience is obtained by teaching actual earth science and physical geography classes. A requirement for teacher certification in earth science, geology and geography. Not open to students on academic probation.

*Prereq: GES 108 Earth Science or equivalent and junior standing or department permission.*

### GEO 348 Teaching Social Studies in Elementary Schools. Three sem hours

Survey of the social studies and evaluation of methods commonly used in the teaching of social studies in the elementary grades, with special emphasis on inquiry. Types of activities most effective in the presentation of materials and the use of visual aids are featured. A study of maps and globes, controversial issues, social values, environmental education, consumer education, global education and ethnic groups is included. Not open to students on academic probation.

*Prereq: One course in geography.*

## Geography Courses in Historic Preservation

### GHP 335 Historic Preservation. Three sem hours

Introduction of the general concepts and goals of historic preservation. The built environment as a cultural heritage resource; objectives of cultural surveys and inventories; methods of preservation, conservation, planning and interpretations.

*Prereq: GEO 115 Observing the Human Landscape recommended.*

### GHP 377 Special Topics in Historic Preservation. Two sem hours

Treats subjects not provided for in the regular department offerings.

*Prereq: Department permission.*

### GHP 387 Cooperative Education in Cultural Resource Management. 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 University attendance. A written report is required at the end of each employment period.

*Prereq: Completion of sophomore year, historic preservation or selected minor. Admittance by application only. Graded on credit/no credit basis.*

### GHP 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

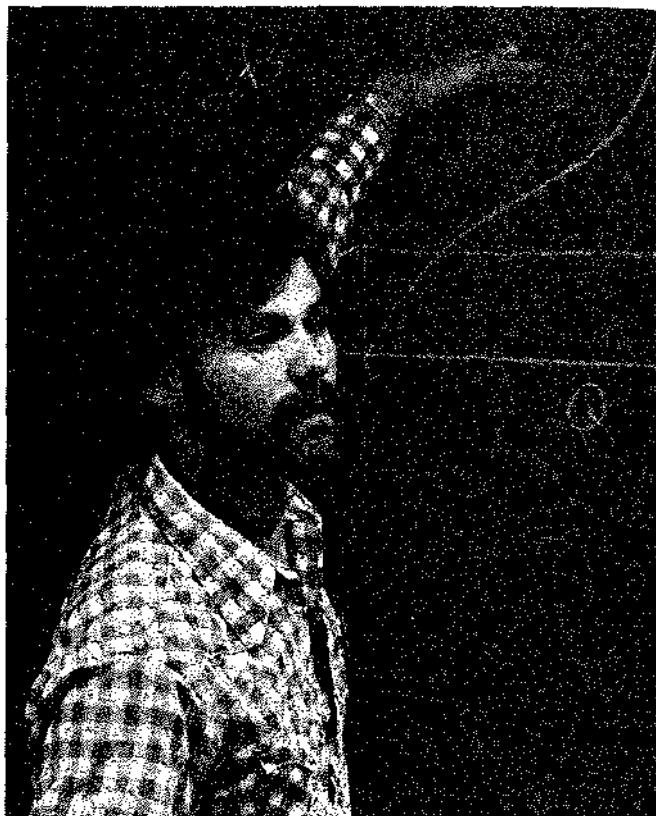
Supervised internship in some aspect of historic preservation, historic administration or heritage interpretation that is of mutual interest to the qualified student and the place the student will work. This experience is designed to integrate academic training with practical application. May be taken 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 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

Professors: Richard H. Abbott, Frederick M. Anderson, Lee R. Boyer, W. Donald Briggs, Michael T. Carlsen-Jones, George H. Cassar, Emanuel G. Fenz, Della M. Flusche, Thomas H. Franks, Sidney Gendin, Louis B. Gimelli, Richard D. Goff, Daryl M. Hafter, J. Theodore Hefley, Michael W. Homel, Howard F. Kamler, H. Roger King, Walter G. Moss, Lester B. Scherer, Janice J. Terry, Jiu-Hwa L. Upshur, James C. Waltz, Ira M. Wheatley, Reinhard Wittke

Associate Professor: William A. Miller

**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 post-graduate 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 humanities courses, programs in public law and government, public administration, language and international trade, Afro-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

**Curriculum:** Pre-Religious Careers

**Minor:** Religious Studies

**ADVISING** is coordinated by faculty assigned to the major, minor and curriculum areas. Students may consult these advisers in person or by telephone during their regular office hours. They will assist in course selection, Basic Studies options and degree requirements. See the department head for course substitutions and evaluation of transfer courses.

## ADVISING COORDINATORS:

Area Studies majors and minors: Richard D. Goff

History majors and minors: Richard D. Goff

Philosophy majors and minors: William A. Miller

Pre-Religious Careers/Religious Studies: Lester B. Scherer

Social Science majors: Richard D. Goff

**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 background. 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. The major has the following minor requirements.

1. **Africa** (minor in one of the following: anthropology, economics, geography, history, political science or sociology).
2. **Asia-Far East** (minor in one of the following: anthropology, economics, geography, history, political science or sociology).
3. **Latin America** (minor in one of the following: Spanish culture, Spanish language, Spanish literature, anthropology, economics, geography, history, political science, or sociology).
4. **Middle East and North Africa** (minor in one of the following: anthropology, economics, geography, history, political science or sociology).
5. **Soviet Union** (minor in one of the following: economics, geography, history, political science or sociology).

**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.

## Major in Area Studies: AFRICA

(Non-teaching)

**Sem hours**

<b>Area studies major: Africa</b> .....	<b>30</b>
<b>1. Required basic courses</b> .....	<b>9</b>
ECO 201, 202 Principles of Economics I and II .....	6
GEO 110 World Regions.....	3
(HIS 102 History of Western Civilization and HIS 103 History of Non-Western Civilization, and PLS 112 American Government should be taken to fulfill the social sciences requirements in Basic Studies.)	
<b>2. Required area courses</b> .....	<b>15</b>
ANT 236 Peoples of Africa.....	3
ECO 385 Economic Development.....	3
GEO 322 Geography of Africa.....	3
HIS 347 History of Sub-Saharan Africa.....	3
PLS 372 Government and Politics of Sub-Saharan Africa.....	3
<b>3. Area electives</b> .....	<b>6</b>

Choose six credits from the following:

ANT 135 Cultural Anthropology, ANT 336 Social and Cultural Change, ANT 339 Economic Anthropology  
ECO 366 Economics of Transportation, ECO 370 Comparative Economic Systems  
FA 222 African and Afro-American Art  
GEO 518 Problems of Sub-Saharan Africa  
HIS 342 North Africa, 1798 to Present, HIS 348 Twentieth Century Africa

### Major in Area Studies: ASIA-FAR EAST

(Non-teaching)

	Sem hours
<b>Area studies major: Asia-Far East</b> .....	<b>30</b>
<b>1. Required basic courses</b> .....	<b>9</b>
ECO 201, 202 Principles of Economics I and II.....	6
GEO 110 World Regions.....	3
(HIS 102 History of Western Civilization and HIS 103 History of Non-Western Civilization, and PLS 112 American Government should be taken to fulfill the social sciences requirements in Basic Studies.)	
<b>2. Required area courses</b> .....	<b>11</b>
GEO 318 Geography of Asia.....	3
*HIS 441 Far East to 1800 or *HIS 442 History of Modern China.....	3
HIS 555 Studies in Far Eastern History.....	2
PLS 374 Asian Political Systems.....	3
<b>3. Area electives</b> .....	<b>10</b>
Choose 10 credits from the following:	
ANT 135 Cultural Anthropology, ANT 238 Ethnographic Survey, ANT 336 Social and Cultural Change ECO 385 Economic Development FA 421 History of Oriental Art HIS 301 The Religions of South and East Asia, HIS 441* History of the Far East to 1800 or HIS 442* History of Modern China	
<i>*One of these courses must be taken to fulfill area requirements. The other may be taken as an area elective.</i>	

### Major in Area Studies: LATIN AMERICA

**STUDENTS ELECTING** the Latin American area studies major are strongly urged to minor in Spanish language, literature or culture.

	Sem hours
<b>Area studies major: Latin America</b> .....	<b>30</b>
<b>1. Required basic courses</b> .....	<b>9</b>
ECO 201, 202 Principles of Economics I and II.....	6
GEO 110 World Regions.....	3
(HIS 101 History of Western Civilization and HIS 102 History of Western Civilization, and PLS 112 American Government should be taken to fulfill the social sciences requirements in Basic Studies.)	
<b>2. Required area courses</b> .....	<b>15</b>
Choose five courses from the following list, one from each discipline: economics, geography, history, political science, sociology/anthropology ANT 233 Peoples and Cultures of Mexico, ANT 234 Peoples and Cultures of Latin America, ANT 238 Ethnographic Survey (Latin America) ECO 385 Economic Development	

GEO 321 Geography of Latin America  
HIS 355 Latin America: Colonial Period, HIS 356 Latin America: National Period, HIS 457 History of Mexico  
PLS 367 Contemporary Political Systems of Latin America

- 3. Area electives**.....**6**  
Choose six additional credits from the required area course disciplines above or from the following list:  
ANT 135 Cultural Anthropology, ANT 335 The Study of Non-Primitive Societies, ANT/SOC 336 Social and Cultural Change  
ECO 370 Comparative Economic Systems  
GEO 512 Middle America and the Caribbean World, GEO 513 South American Lands  
HIS 560 Studies in Latin American History  
SPN 302 Cultures of Spanish America, SPN 351 or SPN 352 Survey of Latin American Literature, SPN 445 Spanish-American Prose, SPN 450 Spanish-American Theatre, SPN 454 Modernism in Spanish America

### Major in Area Studies: MIDDLE EAST AND NORTH AFRICA

(Non-teaching)

	Sem hours
<b>Area studies major: Middle East and North Africa</b> .....	<b>30</b>
<b>1. Required basic courses</b> .....	<b>9</b>
ECO 201, 201 Principles of Economics I and II.....	6
GEO 110 World Regions.....	3
(HIS 102 History of Western Civilization and HIS 103 History of Non-Western Civilization, and PLS 112 American Government should be taken to fulfill the social sciences requirements in Basic Studies)	
<b>2. Required area courses</b> .....	<b>9</b>
ECO 385 Economic Development.....	3
*HIS 341 Middle Eastern History 1798 to Present or *HIS 342 North Africa, 1798 to Present.....	3
PLS 371 Government and Politics of the Middle East...3	
<b>3. Area electives</b> .....	<b>12</b>
Choose 12 credits from the following:	
ANT 135 Cultural Anthropology, ANT 236 Peoples of Africa, ANT 336 Social and Cultural Change ECO 585 Economic Growth and Development GEO 322 Geography of Africa HIS 100 The Comparative Study of Religion, HIS 302 Near Eastern and Western Religions, HIS 341 Middle Eastern History, 1798 to Present*, HIS 342 North Africa, 1798 to Present*, HIS 543 Nationalism and Modernization in the Middle East and North Africa LIT 351 Folk Literature: Gods and Heroes MUS 536 World Music I	
<i>*One of these courses must be taken to fulfill area requirements. The other may be taken as an area elective.</i>	

**Major in Area Studies: SOVIET UNION**

(Non-teaching)

	Sem hours
<b>Area studies major: Soviet Union</b> .....	<b>30</b>
<b>1. Required basic courses</b> .....	<b>9</b>
ECO 201, 202 Principles of Economics I and II.....	6
GEO 110 World Regions.....	3
(HIS 101 History of Western Civilization and HIS 102 History of Western Civilization, and PLS 112 American Government should be taken to fulfill the social sciences requirements in Basic Studies)	
<b>2. Required area courses</b> .....	<b>15</b>
ECO 472 The Soviet Economy.....	3
GEO 314 Geography of the U.S.S.R.....	3
HIS 344 Russia Since 1855.....	3
HIS 547 Nineteenth Century Ideological Background to the Russian Revolution.....	3
PLS 361 Government and Politics of the U.S.S.R.....	3
<b>3. Area electives</b> .....	<b>6</b>
Choose six credits from the following:	
ECO 370 Comparative Economic Systems	
GEO 516 Problems in Soviet Geography	
HIS 332 Modern Europe 1815-1919, HIS 333 Europe Since 1919, HIS 343 History of Russia to 1885, HIS 550 Twentieth-Century Russia	
PLS 462 Foreign Relations of the Soviet Union	

**Major in History**

STUDENTS majoring in history may elect no more than *three* 100-level courses for credit toward the major. HIS 100 The Comparative Study of Religion may **not** be used as credit on this major. No more than *two* of the three United States history survey courses (HIS 123 Major Trends in United States History, HIS 223 History of the United States to 1877, HIS 224 History of the United States, 1877 to the Present) may be used for credit on the history major.

	Sem hours
<b>History major</b> .....	<b>30</b>
<b>1. Required courses</b> .....	<b>12</b>
HIS 101 or 102 History of Western Civilization.....	3
HIS 223 History of the United States to 1877 or HIS 224 History of the United States, 1877 to the Present, or HIS 123 Major Trends in U.S. History, and any other U.S. history course.....	6
HIS 333 Europe Since 1919.....	3
<b>2. Restricted electives</b> .....	<b>3</b>
Choose one course from the following:	
HIS 301 The Religions of South and East Asia, HIS 302 Near Eastern and Western Religions, HIS 341 Middle Eastern History, 1798 to Present, HIS 342 North Africa, 1798 to Present, HIS 347 History of Sub-Saharan Africa, HIS 348 Twentieth Century Africa, HIS 355 Latin America: Colonial Period, HIS 356 Latin America: National Period, HIS 441 History of the Far East to 1800, HIS 442 History of Modern China, HIS 457 History of Mexico.....	3
<b>3. Electives</b> .....	<b>15</b>
<i>Students majoring in history on a Secondary Provisional Certificate program also will take HIS 481 Teaching of Social Studies.</i>	

**Major in Social Science**

THE SOCIAL SCIENCE MAJOR may be elected either with or without the teaching credential. Students who wish to teach at the

level of ninth grade or above should take a minor in one of the five social sciences. The minor field will then be excluded from the social science major, thus releasing six-12 semester hours to be distributed among the other four social sciences. Students who plan to teach in middle schools or junior high schools (through eighth grade) may wish to consider other minors, such as those offered in the Department of English Language and Literature.

HIS 100 Comparative Study of Religion may **not** be used for credit on the social science major.

	Sem hours
<b>Social science major</b> .....	<b>36</b>
<b>1. Required courses</b> .....	<b>21</b>
HIS 101 or 102 History of Western Civilization.....	3
HIS 123 Major Trends in United States History.....	3
HIS 103 History of Non-Western Civilization or HIS 105 The World in the Twentieth Century.....	3
ECO 200 The American Economy or ECO 201 Principles of Economics I.....	3
GEO 110 World Regions.....	3
PLS 112 American Government or PLS 202 State and Local Government.....	3
SOC 105 Introductory Sociology.....	3
<b>2. Electives</b> .....	<b>15</b>
Choose one 300-level course in each of the five following disciplines: history, economics, geography, political science, sociology. The geography course must be a social science course. <i>Students majoring in social science on a Secondary Provisional Certificate program also will take HIS 481 Teaching of Social Studies. Students in the elementary or special education curricula should refer to page 229 for an elementary social science group major or minor.</i>	

**Minors Offered in the Department of History and Philosophy**

**Minors in Area Studies**  
(Non-teaching)

	Sem hours
<b>Area studies minor: Africa</b> .....	<b>20</b>
1. Required area courses (as listed for the major).....	15
2. Area electives (as listed for the major).....	5
	<b>Sem hours</b>
<b>Area studies minor: Asia-Far East</b> .....	<b>20</b>
1. Required area courses (as listed for the major).....	11
2. Area electives (as listed for the major).....	9
	<b>Sem hours</b>
<b>Area studies minor: Latin America</b> .....	<b>20</b>
1. Required area courses (as listed for the major).....	15
2. Area electives (as listed for the major).....	5
	<b>Sem hours</b>
<b>Area studies minor: Middle East and North Africa</b> .....	<b>20</b>
1. Required area courses (as listed for the major).....	11
2. Area electives (as listed for the major).....	9
	<b>Sem hours</b>
<b>Area studies minor: Soviet Union</b> .....	<b>20</b>
1. Required area courses (as listed for the major).....	15
2. Area electives (as listed for the major).....	5

## Minor in History

STUDENTS interested in preparing to teach social studies in middle or junior high schools are advised to elect the social science major and a history minor, with HIS 313 Michigan History as an elective on the history minor.

No more than two 100-level courses may be taken for credit toward the history minor. Neither HIS 100 The Comparative Study of Religion nor HIS 481 Teaching of Social Studies may be used for credit on the history minor. No more than two of the three United States history survey courses (HIS 123, HIS 223, HIS 224) may be used for credit on the history minor.

	Sem hours
<b>Minor in history</b> .....	<b>20</b>
<b>1. Required courses</b> .....	<b>6</b>
HIS 101 or HIS 102 History of Western Civilization ....	3
Choose one course from the following:	
HIS 123 Major Trends in United States History or HIS 223 History of the United States to 1877 or HIS 224 History of the United States, 1877 to the Present .....	3
<b>2. Restricted electives</b> .....	<b>3</b>
Choose one course from the following:	
HIS 301 The Religions of South and East Asia, HIS 302 Near Eastern and Western Religions, HIS 341 Middle Eastern History 1798 to Present, HIS 342 North Africa, 1798 to Present, HIS 347 History of Sub-Saharan Africa, HIS 348 Twentieth Century Africa, HIS 355 Latin America: Colonial Period, HIS 356 Latin America: National Period, HIS 441 History of the Far East to 1800, HIS 442 History of Modern China, HIS 457 History of Mexico	
<b>3. Electives</b> .....	<b>11</b>

## 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 the 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 History of Western Civilization. Three sem hours**

A topical survey of western civilization from its Greco-Roman origins to the 18th century. Cultural development and institutional growth. Greco-Roman contributions, the Judeo-Christian heritage, Byzantine and Islamic cultures, European expansion and militarism, the Renaissance, technology and scientific development.

#### **HIS 102 History of Western Civilization. Three sem hours**

A topical survey of western civilization from the 18th century to the present. The Enlightenment, political and industrial revolutions, nationalism, imperialism, totalitarianism and relations with emerging nations.

#### **HIS 103 History of Non-Western Civilization. Three sem hours**

The civilizations of the Moslem world, Africa, India and East Asia

in historical perspective. Philosophical outlook, cultural development and technological advances; social and economic changes in the period since 1500.

#### **HIS 105 The World in the 20th Century. Three sem hours**

An examination of major national and international developments in the present century, focusing on such matters as colonialism, global warfare and emerging nations, along with changes in business and industry, technology and the arts.

#### **HIS 277, 278, 279 Special Topics in History. One, two, three sem hours**

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. 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 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.

*Prereq: HIS 100 The Comparative Study of Religion or HIS 103 History of Non-Western Civilization.*

#### **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.

*Prereq: HIS 100 The Comparative Study of Religion or HIS 101 History of Western Civilization.*

#### **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. 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.*

### Ancient and Medieval History

**HIS 104 Quest for Power:  
Famous Figures in History.** Three sem hours  
(See humanities courses, page 141.)

**HIS 323 Greek History.** Three sem hours  
The Greeks' achievements from the Bronze Age to the Roman conquest, focusing on the period after 800 B.C. Political, social and economic developments; literary, intellectual and artistic accomplishments.

**HIS 324 Roman History.** Three sem hours  
The Romans' achievements from earliest times to the German conquest, focusing on the period 500 B.C.-A.D. 500. Political, social and economic developments; literary, intellectual and artistic accomplishments.

**HIS 327 Europe in the Making, 500-1300.** Three sem hours  
The combination of classical, Christian and barbarian elements to form a dynamic civilization in a previously underdeveloped area; the political, social and economic developments and the literary, intellectual and artistic accomplishments within that period.

### European History

**HIS 127 The Splendid Centuries of Austria.** Three sem hours  
(See humanities courses, page 142.)

**HIS 128 Russia in the Age of Tolstoy  
and Dostoevsky.** Three sem hours  
(See humanities courses, page 142.)

**HIS 151 Reason and Revolution.** Three sem hours  
(See humanities courses, page 142.)

**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. Cultural, social, economic, intellectual and political trends. 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 History of Western Civilization, HIS 102 History of Western Civilization or HIS 105 The World in the 20th Century.*

**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. 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  
Unification and Empire, World War I, the Weimar Republic, the rise of National Socialism, World War II and post-war Germany.  
*Prereq: Junior or department permission.*

**HIS 343 History of 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 History of 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. 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. 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 142. Student must take LIT 107 Society in Crisis: 1848 and 1968 concurrently.)

**HIS 123 Major Trends in United States  
History.** **Three sem hours**  
A selective treatment of United States history from colonial times to the present, especially those aspects with significant impact on contemporary life in the United States.

**HIS 152 From the Gay Nineties to the Crash.** **Three sem hours**  
(See humanities courses, page 142.)

**HIS 223 History of the United States  
to 1877.** **Three sem hours**  
A study of United States history from the period of exploration through the Reconstruction of the South following the Civil War.

**HIS 224 History of 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 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 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. 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. Similarities and differences within and between nations; 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 History of Western Civilization HIS 102 History of Western Civilization or HIS 105 The World in the 20th Century.*

**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. 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**  
The history of Spanish America and Portuguese America from the conquest to the independence era; political, social and economic aspects.  
*Prereq: Junior standing or department permission.*

**HIS 356 Latin America: National Period.** **Three sem hours**  
The history of Latin America from the independence era to the present. 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. Urban economic activities, boss and reform politics, immigrant and racial minorities and city and suburban expansion.  
*Prereq: Junior standing or HIS 223 History of the United States to 1877 or HIS 224 History of 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 Major Trends in United States History or HIS 223 History of 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 223 History of 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. 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. 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 123 Major Trends in United States History or HIS 224 History of 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 123 Major Trends in United States History or HIS 224 History of 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. 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 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 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. Working-class life and culture, labor unions, government-labor relations and the impact of economic change.  
*Prereq: One course in history.*

**HIS 464 History of 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 Major Trends in United States History or HIS 223 History of the United States to 1877 or HIS 224 History of the United States, 1877 to the Present or department permission.*

**HIS 466 History of Indians in the United States.** **Three sem hours**  
A history of Indian tribes of the United States from pre-colonial times to the present.

**HIS 468 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 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 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 Major Trends in United States History or HIS 223 History of the United States to 1877 or equivalent.*

**HIS 486 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 223 History of the United States to 1877 or HIS 224 History of the United States, 1877 to the Present or equivalent.*

### Non-Western History

**HIS 121 Islam: The Golden Age.** **Three sem hours**  
(See humanities courses, page 142.)

**HIS 182 The Legacy of China.** **Three sem hours**  
(See humanities courses, page 143.)

**HIS 341 Middle Eastern History, 1798 to Present.** **Three sem hours**  
A survey of the political, economic and social history of the Middle East including Turkey and Iran with emphasis on the growth of independence movements within the area.

**HIS 342 North Africa, 1798 to Present.** **Three sem hours**  
A survey of the political, economic and social history of North Africa, Egypt and the Sudan, with emphasis on the internal movements for independence from colonial powers.

**HIS 347 History of Sub-Saharan Africa. Three sem hours**

The historical evolution of Africa's civilizations; their origins, interrelations in ancient times, responses to Europe's colonization and current roles in the modern world.

*Prereq: Junior standing or department permission.*

**HIS 348 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 441 History of the Far East to 1800. Three sem hours**

A study of the history of China, Korea and Japan from ancient times to the beginning of the 19th century. Political, cultural and social developments; the dominant role of China.

*Prereq: Junior standing or department permission.*

**HIS 442 History of 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. 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
<b>Philosophy major</b> .....	30
<b>1. Required courses</b> .....	11
PHI 130 Introduction to Logic.....	3
PHI 230 History of Philosophy: Ancient and Medieval .....	3
PHI 231 History of Philosophy: Modern.....	3
PHI 400 Philosophy Seminar Topics .....	2
<b>2. Restricted electives</b> .....	9
Choose two courses from the following: PHI 425 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 480 Metaphysics	
Choose one course from the following: PHI 212 Philosophy of Art, PHI 220 Ethics, PHI 225 Philosophical Foundations of Political Thought, PHI 310 Aesthetics, PHI 355 Philosophy of Law	
<b>3. Electives</b> .....	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 425 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 480 Metaphysics.

## Philosophy Minor

**THE PHILOSOPHY MINOR** is both a teaching and non-teaching program.

	Sem hours
<b>Minor in philosophy</b> .....	20
<b>1. Required courses</b> .....	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
<b>2. Electives</b> .....	8
Choose eight credits from other philosophy courses	

## Pre-Religious Careers Curriculum

A **COMPREHENSIVE FOUR-YEAR BACCALAUREATE** education is recommended as preparation for professional religious leadership careers. In addition, such careers will require a minimum of two to four years of specialized studies in a graduate and/or professional school of religion.

Eastern Michigan University's curriculum for the Bachelor of Arts or Bachelor of Science degree is designed to provide the undergraduate, pre-professional preparation requisite for religious careers. Generally, a major should be selected in the humanities or social sciences and the undergraduate program should include selected courses in religion. Recommended as electives are courses in history, literature, philosophy, psychology, sociology, contemporary issues, fine arts and music.

A minor in religion may be chosen but is not required for admission to most graduate or professional programs.

**Graduate-level degree programs** in religion are differentiated in terms of four alternate study tracks:

1. **Programs primarily related to ordination**  
 M.Div. (B.A./B.S. + three or four years)  
 Th.M. or S.T.M. (M.Div. + one year)  
 D.Min. (M.Div. + one year minimum)
2. **Programs in religious education**  
 M.A. or M.R.E. (B.A./B.S. + two years)  
 Ed.D. (M.A. or M.R.E. + two years minimum)
3. **Programs primarily in academic theology**  
 M.A., M.A.R. or M.T.S. (B.A./B.S. + two years)  
 Th.D., S.T.D., D.H.L. and Ph.D. (B.A./B.S. + four years minimum)
4. **Programs in sacred music**  
 M.S.M. or M.C.M. (B.A./B.S. + two years minimum)  
 S.M.D., D.C.M. or D.M.A. (M.S.M. or M.C.M. + two years minimum)

Students contemplating graduate studies in religion should, at the very earliest opportunity, apprise themselves of the exact requirements for the specific program and school they expect to enter.

### Minor in Religious Studies

(Non-teaching)

**RELIGION**, as a major aspect of human culture, is an object of study for many disciplines, both in the humanities and the social sciences. The religion minor provides students the opportunity to examine religion within the framework of a liberal education. The objective of the program is not to foster any particular doctrine or faith, but to broaden and deepen the student's knowledge and understanding of religion as a human activity.

	Sem hours
Minor in religion.....	20-21
1. <b>Required course</b> .....	3
HIS 100 The Comparative Study of Religion.....	3
2. <b>Restricted electives</b> .....	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

### 2. Electives\* ..... 6

Choose two additional courses from the restricted electives list or from the following:

- PHI 260 Existentialism
- ANT 135 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 Folk Literature: Gods and Heroes, 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 graduate courses may be taken under these electives by students who meet department requirements and who have the approval of the advising coordinator of religious studies.

## 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 techniques of analyzing and clarifying arguments and of distinguishing good reasoning from bad. The course includes a study of classical and modern deductive techniques, induction and common fallacies.

### 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 225 Philosophical Foundations of Political Thought.****Three sem hours**

The philosophical bases of political ideology and theory. An 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 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. 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 man's nature, the nature of the world he confronts and man's 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**

A continuation of PHI 230 History of Philosophy: Ancient and Medieval. A study of important philosophical developments in Europe from the Renaissance to the early 19th century. Covers such figures as Descartes, Spinoza, Leibnitz, Hobbes, Locke, Berkeley, Hume and Kant.

*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. 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. 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 142.)

**PHI 124 The Age of Wagner.****Three sem hours**

(See humanities courses, page 142.)

**PHI 150 Humanity and Technology.****Three sem hours**

(See humanities courses, page 142.)

**PHI 151 Reason and Revolution.****Three sem hours**

(See humanities courses, page 142.)

**PHI 155 Narrative in Literature and Film.****Three sem hours**

(See humanities courses, page 142.)

**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 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 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 425 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: Two courses in philosophy.*

**PHI 442 Philosophy of Mind.** **Three sem hours**  
A philosophical study of the nature of mind. The logical relations among mental concepts such as consciousness, choice, intention, emotion, feeling, the unconscious. 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 480 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 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: Ira M. Wheatley**

**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 25.)

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

**CEN 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.*

**CEN 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. 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.*

**HIS 107/LIT 107 Society in Crisis:  
1848 and 1968.** Three 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 examination 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.*

**PHI 122/LIT 122 American Studies: Success and the Pursuit  
of Happiness in 19th-Century America.** 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.*

**HIS 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.*

**HIS 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.*

**CEN 153/FA 153 From the Middle Ages to the Renaissance:  
Sacred and Profane Love.** Three sem hours  
A study of the transition from the Middle Ages to the Renaissance with special emphasis on the themes of sacred and profane love as treated in literature and art, focusing on the role of the patron and analyzing the allegorical method as developed in classical times and modified through the Middle Ages and Renaissance. Team taught by members of the Art and Foreign Languages departments. *This course satisfies one literature or one art 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.

**CEN 181/FA 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 a member of the English Department or the Art Department. *This course satisfies one literature or one art 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, Paul E. Howard, K.G. Janardan, Don R. Lick, Richard W.**

**Marshall, James H. Northey, Joanne S. Rankin, Nelly S. Ullman**

**Associate Professors: Timothy Carroll, Bob L. Goosey,**

**Christopher E. Hee, David C. Johnson, Mohammad Rafiq**

**Assistant Professors: Gisela Ahlbrandt, Mahmoud Al-Khafaji,**

**Rita Chattopadhyay, Shenghui Chu, Christopher Gardiner,**

**Walter Parry, Kim Rescorla, Martin Sade, Ken Shiskowski,**

**James R. Walter, Bette Warren**

**Instructors: Lora Durham, Mary F. 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 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." 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 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-Iob 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

**IT IS EXPECTED** that all mathematics majors other than teaching majors and double majors will normally exceed the 30 semester hour minimum required in mathematics courses.

Students interested in lucrative careers in business and industry are advised to take the Actuarial Examinations, Part I after completing MTH 223 Multivariable 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 hours
<b>Academic major in mathematics</b> .....	<b>30</b>
<b>1. Required courses (teaching and non-teaching)</b> .....	<b>18</b>
MTH 120, 121 Calculus I and II.....	8
MTH 122 Elementary Linear Algebra.....	2
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.

- |  |            |
|--|------------|
| <b>2. Required courses for teaching majors</b> .....   | <b>5-6</b> |
| MTH 341 College Geometry or MTH 342 Elementary<br>Space-Time Geometry.....   | 2-3        |
| CSC 137 Introduction to Computer Programming or<br>CSC 237 Computer Programming and Numeric<br>Methods.....  | 3          |
| <b>3. Restricted electives</b> .....   | <b>6-7</b> |
| Choose six to seven credits from the following:  |            |
| MTH 319 Mathematical Modeling, MTH 325 Differen-<br>tial Equations, MTH 341 College Geometry or<br>MTH 342 Elementary Space-Time Geometry, MTH<br>400 History of Mathematics, MTH 411 Modern Alge-<br>bra with Applications, MTH 416 Linear Algebra,<br>MTH 418 Applied Linear Algebra, MTH 420 Intro-<br>duction to Analysis, MTH 425 Mathematics for<br>Scientists, MTH 436 Numerical Analysis, MTH 471<br>Probability and Statistics II, MTH 475 Applied<br>Combinatorics |            |

#### Non-teaching Major

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, and MTH 420 Introduction to Analysis are strongly recommended for double majors and those preparing for graduate work.

Non-teaching majors also must take CSC 137 Introduction to Computer Programming or CSC 237 Computer Programming and Numeric Methods, or demonstrate equivalent knowledge of one of these courses in addition to the 30 semester hour non-teaching major.

- |   |           |
|---|-----------|
| <b>2. Required courses for non-teaching majors</b> .....  | <b>12</b> |
| Choose 12 credits from the following:   |           |
| MTH 319 Mathematical Modeling, MTH 325 Differential<br>Equations, MTH 341 College Geometry or MTH 342 El- |           |

ementary Space-Time Geometry, MTH 411 Modern Algebra with Applications, MTH 416 Linear Algebra, MTH 418 Applied Linear Algebra, MTH 420 Introduction to Analysis, MTH 425 Mathematics for Scientists, MTH 436 Numerical Analysis, MTH 471 Probability and Statistics II, MTH 475 Applied Combinatorics

#### 3. Recommended courses for double majors

- Biology: MTH 418 Applied Linear Algebra, MTH 471 Probability and Statistics II
- Business: MTH 325 Differential Equations, MTH 418 Applied Linear Algebra, MTH 436 Numerical Analysis, MTH 471 Probability and Statistics II
- Chemistry: MTH 325 Differential Equations, MTH 418 Applied Linear Algebra, MTH 425 Mathematics for Scientists, MTH 436 Numerical Analysis
- Economics: MTH 325 Differential Equations, MTH 418 Applied Linear Algebra
- Physics: MTH 325 Differential Equations, MTH 416 Linear Algebra, MTH 418 Applied Linear Algebra, MTH 425 Mathematics for Scientists, MTH 436 Numerical Analysis
- Psychology: MTH 418 Applied Linear Algebra, MTH 471 Probability and Statistics II

### 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.

Academic major in mathematics for the	Sem hours
<b>Elementary Teaching Certificate</b> .....	<b>30</b>
<b>1. Required courses</b> .....	<b>19</b>
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
<b>2. Restricted electives</b> .....	<b>11</b>
Choose 11 credits from the following:	
MTH 105 College Algebra, MTH 107 Plane Trigon- ometry, 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 Calcu- lus, 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

This program combines rigorous mathematical study with a broad background in economics. Its goal is to prepare students to obtain entry level positions as actuarial trainees. It is anticipated that these students will enjoy lucrative careers in this highly respected profession.

No other minor is needed to satisfy graduation requirements.

	Sem hours
<b>Major in actuarial science and economics.....</b>	<b>59</b>
<b>1. Required courses .....</b>	<b>52</b>
<b>a. Basic studies.....</b>	<b>9</b>
CSC 137 Introduction to Computer Programming or CSC 237 Computer Programming and Numeric Methods ..	3
ECO 201, 202 Principles of Economics I and II .....	6
<b>b. Mathematics.....</b>	<b>28</b>
MTH 120, 121 Calculus I and II.....	8
MTH 122 Linear Algebra .....	2
MTH 223 Multivariable Calculus .....	4
MTH 370, 471 Probability and Statistics I and II .....	8
MTH 436 Numerical Analysis .....	3
MTH 372, 472 Problems in Actuarial Studies I and II ....	4
<b>c. Economics.....</b>	<b>15</b>
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
<b>2. Restricted electives.....</b>	<b>7</b>
Choose electives from courses at the 300 level and above in mathematics, computer science or economics	

## Minors Offered in the Department of Mathematics

### Mathematics Minors

(Teaching and Non-teaching)

	Sem hours
<b>Minor in mathematics.....</b>	<b>20</b>
<b>1. Required courses (teaching and non-teaching).....</b>	<b>13</b>
MTH 120, 121 Calculus I and II.....	8
MTH 122 Elementary Linear Algebra .....	2
CSC 137 Introduction to Computer Programming or CSC 237 Computer Programming and Numeric Methods ..	3
<b>Teaching Minor</b>	
<b>2. Restricted electives.....</b>	<b>7</b>
Choose one course from the following:	
MTH 341 College Geometry or MTH 342 Elementary Space-Time Geometry	
Choose four to five 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 319 Mathematical Modeling, MTH 325 Differential Equations, MTH 341 College Geometry or 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 425 Mathematics for Scientists, MTH 436 Numerical Analysis, MTH 471 Probability and Statistics II, MTH 475 Applied Combinatorics	

### Non-teaching Minor

- 2. Restricted electives.....7**  
 Choose seven 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 319 Mathematical Modeling, MTH 325 Differential Equations, MTH 341 College Geometry, MTH 342 Elementary Space-Time Geometry, MTH 370 Probability and Statistics I, MTH 411 Modern Algebra with Applications, MTH 416 Linear Algebra, MTH 418 Applied Linear Algebra, MTH 420 Introduction to Analysis, MTH 425 Mathematics for Scientists, MTH 436 Numerical Analysis, MTH 471 Probability and Statistics II, MTH 475 Applied Combinatorics

### 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
<b>Minor in mathematics for the Elementary Teaching Certificate.....</b>	<b>20</b>
<b>1. Required courses.....</b>	<b>12</b>
MTH 108, 109 Functional Mathematics I and II.....	6
MTH 240 Geometry for Elementary Teachers .....	3
MTH 301 Advanced Topics in Elementary Mathematics .....	3
<b>2. Restricted electives.....</b>	<b>8</b>
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. Students who have completed more than one year of high school algebra should elect MTH 105 College Algebra or MTH 120 Calculus I.*
- 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 to two years 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. Not intended to provide a direct preparation for MTH 104 Intermediate Algebra.

**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 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 having a "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 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.** **Two 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 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 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 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 319 Mathematical Modeling. Three sem hours**

An introduction to modeling and solutions of realistic problems, such as the modeling of biological populations or the modeling of epidemics.

*Prereq: MTH 120 Calculus I and MTH 122 Elementary Linear Algebra.*

**MTH 325 Differential Equations. Three sem hours**

Differential equations of first degree and first order, linear differential equations, solutions in power series, applications.

*Prereq: MTH 121 Calculus II and MTH 122 Elementary Linear Algebra.*

**MTH 341 College Geometry. Three sem hours**

An introduction to several geometries such as affine, projective, space-time, and non-Euclidean.

*Prereq: 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 120 Calculus I.*

**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 121 Calculus II.*

**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 problem 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.*

**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 108 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 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 and MTH 122 Elementary Linear Algebra.*

**MTH 416 Linear Algebra. Three sem hours**

Vector spaces, linear transformations, eigenvalues, inner product spaces, principal axis theorem, applications.

*Prereq: MTH 121 Calculus II and MTH 122 Elementary Linear Algebra.*

**MTH 418 Applied Linear Algebra. Three sem hours**

Discussion of mathematical algorithms that make wide use of linear algebra methods; their implementation in computer systems and their 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 department permission.*

**MTH 420 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 223 Multivariable Calculus.*

**MTH 425 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 436 Numerical Analysis. Three sem hours**

Introduces 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 department permission.*

**MTH 471 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 department permission.*

**MTH 472 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.*

**MTH 475 Applied Combinatorics.** Three sem hours  
An introduction to general counting methods, generating functions, recurrence relations, principle of inclusion-exclusion, Polya's enumeration 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 individual project of a difficult nature. The work will be done independently 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, Carter J. Eggers, Joseph Gurt, James B. Hause, Oscar M. Henry, Rodney L. Hill, Anthony Iannaccone, Elaine R. Jacobson, Sylvan S. Kalib, Maurice I. Laney, Emily B. Lowe, Dady Mehta, Arthur Parris, Alfio V. Pignotti, Max E. Plank, Russell D. Reed, Edward J. Szabo, Mary D. Teal, Mary Ida Yost**

**Associate Professors: C. Nelson Amos, O. Blaine Ballard, Rachel B. Harley, Glenda E. Kirkland, J. Whitney Prince, Leonard L. Riccinto**

**Assistant Professors: Ernest M. Brandon, Anne B. Gajda, Michael G. McGuire, John R. Smith, Willard D. Zirk**

**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 and 65 practice rooms.

The Music Department is a member of the National Association 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 coordinator 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 1987-88 academic year:

<b>Fall semester</b>	<b>Winter semester</b>	<b>Spring session</b>
October 20, 1987	January 22, 1988	June 10, 1988
November 17, 1987	February 19, 1988	
	March 17, 1988	
	April 15, 1988	

**MUSIC FEES** for students accepted for private music lessons are assessed according to the following applied music fee schedule:

**Music majors:** \$60.00 per semester for all instruction.  
**Other University students:** \$60.00 per semester for one-hour lesson.  
**Students from public schools and the community, EMU staff and families:** \$30.00 per semester for half-hour lesson, \$90.00 per semester for one-hour lesson, \$45.00 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 performed 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's degree in music. For description of graduate courses, see the Graduate Catalog.

### Curriculum for Teachers of Instrumental Music

**THIS CURRICULUM** leads to a Bachelor of Music Education degree and the Secondary Provisional Certificate. Elementary teaching candidates should consult the director of Academic Records and Certification regarding special requirements.

All students must complete all courses specified under education (Group IV) and fine arts (Group V) listed below.

<b>Area</b>	<b>Sem hours</b>
Language.....	8-9
Requirements 1, 2 and 3 (Box page 26).....	8-9
Science and mathematics.....	10-11
PHY 210 Musical Acoustics.....	4
Requirement 2 (Box page 26).....	3-4
PSY 101 General Psychology.....	3

<b>Social sciences</b> .....	9-12
Requirements 1, 2 and 3 (Box page 27).....	9-12
<b>Humanities</b> .....	9
Requirements 1 and 2 (Box page 27).....	6
One course in art, music or theatre arts (automatically met by Group V courses below).....	3
<b>Education (Group IV)</b> .....	24
EDP 322 Human Development and Learning.....	4
CUR 305 Curriculum and Methods-Secondary.....	3
CUR 311 Teaching Secondary Reading.....	3
MUS 332 Instrumental Music in Public Schools.....	3
MUS 333 Orchestral Methods or MUS 334 Band Methods.....	3
EDU 492 Student Teaching.....	8
<b>Fine arts (Group V)</b> .....	69
<b>1. Required basic courses</b> .....	33
MUS 101, 102 Music Theory-Literature I and II.....	8
MUS 201, 202 Music Theory-Literature III and IV.....	8
MUS 232 Voice Class.....	1
MUS 301, 302 History of Music.....	6
MUS 413 Orchestration.....	2
MUS 414 Band Arranging.....	2
<b>2. Instrumental courses</b> .....	6
MUS 211 Basic Brass Class (trumpet, trombone).....	1
MUS 241 Percussion.....	1
MUS 261 Basic String Class: Violin.....	1
MUS 281 Basic Woodwind Class.....	1
Choose 2 credits from the following:	
MUS 212 Brass Class, MUS 262 String Class: Viola, MUS 263 String Class: Cello and Double Bass, MUS 282 Woodwind Class or MUS 283 Woodwind Class	
<b>3. Performance courses</b> .....	32
<b>Applied music</b> .....	20
MUS 251, MUS 252, MUS 253, MUS 254 Functional Piano.....	4
AMU 100-300 Applied Music (principal instrument)....	16
<b>Conducting</b> .....	4
MUS 326 Conducting.....	2
MUS 327 Instrumental Conducting.....	2
<b>Ensembles*</b> .....	8
<b>4. Electives</b> .....	4
<b>Physical education and health (Group VII)</b> .....	2
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Total</b> .....	131-136

*\*Three semesters of Marching Band required.*

### 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 their principal instrument. In addition to private lessons, students must meet with their instructor for a weekly class session.

The vocal music education curriculum includes all courses needed to award a Secondary Provisional Certificate. If an Elementary Provisional Certificate is desired, students must consult the director of Academic Records and Certification regarding special requirements.

All courses specified below in education (Group IV) and fine arts (Group V) must be completed.

Area	Sem hours
<b>Language</b> .....	8-9
Requirements 1, 2 and 3 (Box page 26).....	8-9
<b>Science and mathematics</b> .....	10-11
PHY 210 Musical Acoustics.....	4
Requirement 2 (Box page 26).....	3-4
PSY 101 General Psychology.....	3
<b>Social sciences</b> .....	9-12
Requirements 1, 2 and 3 (Box page 27).....	9-12
<b>Humanities</b> .....	9
Requirements 1 and 2 (Box page 27).....	6
One course in art, music or theatre arts (automatically met by Group V courses below).....	3
<b>Education (Group IV)</b> .....	24
EDP 322 Human Development and Learning.....	4
CUR 305 Curriculum and Methods-Secondary.....	3
CUR 311 Teaching Secondary Reading.....	3
MUS 330 Music Education in the Elementary School.....	3
MUS 331 Music Education in the Secondary School.....	3
EDU 492 Student Teaching.....	8
<b>Fine arts (Group V)</b> .....	64
<b>1. Required basic courses</b> .....	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
<b>2. Instrumental courses</b> .....	4
MUS 274 Functional Guitar.....	2
Choose two courses from the following.....	2
MUS 221 Brass Class, MUS 241 Percussion, MUS 261 Basic String Class: Violin, MUS 281 Basic Woodwind Class.....	
<b>3. Performance courses</b> .....	34
<b>Applied music</b> .....	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
<b>Conducting</b> .....	4
MUS 326 Conducting.....	2
MUS 328 Choral Conducting.....	2
<b>Ensembles</b> .....	8
<b>Physical education and health (Group VII)</b> .....	2
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Total</b> .....	124-129

### Curriculum for Music Performance

**THIS BACHELOR OF MUSIC DEGREE** curriculum is available to voice, keyboard and orchestral instruments. Students must complete all courses specified below and will have satisfied all Basic Studies, major and minor requirements for the degree. (Complete pattern sheet may be obtained from the department.)

Area	Sem hours
<b>Language</b> .....	8-9
Requirements 1, 2 and 3 (Box page 26).....	8-9
<b>Science and mathematics</b> .....	10-11
Requirements 1, 2 and 3 (Box page 26).....	10-11
<b>Social sciences</b> .....	9
Requirements 1 and 2 (Box page 27).....	6
A second course in history.....	3

<b>Humanities</b> .....	9
Requirements 1 and 2 (Box page 27).....	6
One course in art, music or theatre arts (automatically met by Group V courses below).....	3
<b>Fine arts (Group V)</b> .....	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
MUS 101 Music Theory-Literature I, MUS 102 Music Theory-Literature II, MUS 201 Music Theory-Literature III, MUS 202 Music Theory-Literature IV, MUS 301 History of Music, MUS 302 History of Music, MUS 401 Music Theory-Literature V, MUS 402 Music Theory-Literature VI.....	
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)	
<b>Physical education and health (Group VII)</b> .....	2
Physical education activity courses.....	2
(Any two courses in Military Science or two semesters of Marching Band may be applied)	
<b>Total</b> .....	124

### 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 (Group IV) and fine arts (Group V).

#### Without Teacher Certification

Area	Sem hours
<b>Language</b> .....	8-9
Requirements 1 and 2 (Box page 26).....	5-6
Choose one course from the following:	
CTA 225 Listening Behavior, CTA 226 Non-Verbal Communication, CTA 227 Interpersonal Communication.....	3
<b>Science and mathematics</b> .....	14-17
BIO 105 Biology and the Human Species.....	4
ZOO 326 Human Physiology.....	3
(ZOO 201 Human Anatomy and Physiology I may be taken as a Group VII course in which case PSY 102 General Psychology must be taken as the second laboratory science course to fulfill science and mathematics requirements)	
PSY 101 or PSY 102 General Psychology.....	3-4
PSY 360 Abnormal Psychology.....	3
Choose one course from the following:	
PSY 321 Child Psychology, PSY 322 Psychology of Adolescence, PSY 352 Psychological Testing and Evaluation, PSY 361 Psychotherapy, PSY 365 Methods and Principles of Applied Behavior Analysis.....	3

**Social sciences** .....12  
 Requirements 1 and 2 (Box page 27).....6  
 SOC 105 Introductory Sociology.....3  
 Choose one course from the following:  
 SOC 204 Marriage and Family, SOC 309 Culture and Personality, SOC 311 Social Gerontology, SOC 312 Medical Sociology, SOC 402 Group Dynamics ..... 3  
**Humanities**.....9  
 Requirements 1 and 2 (Box page 27).....6  
 One course in art, music or theatre arts (automatically met in Group V courses below)..... 3  
**Education (Group IV)**.....2  
 SGN 251 Education of Exceptional Children.....2  
**Fine arts (Group VI)**.....80  
 Music theory-literature and history courses.....24  
 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  
 MUS 326 Conducting .....2  
 Ensembles ..... 4  
 AMU 100-300 Applied Music (principal instrument).... 14  
 Minimal performance skills as recommended by the National Association for Music Therapy ..... 14  
 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:  
 Voice: Voice Class 232 and 101-A01-1 ..... 2  
 Piano: Functional Piano 251-254 and 305 Keyboard Skills ..... 6  
 Guitar: MUS 274 Functional Guitar ..... 2  
 Secondary instrument classes .....4  
 MUS 211 Basic Brass Class, MUS 241 Percussion, MUS 261 Basic String Class: Violin, MUS 281 Basic Woodwind Class  
 MUS 103 Introduction to Music Therapy .....2  
 MUS 221 Methods and Materials in Music Therapy .....2  
 MUS 222 Pre-clinical Training Practicum I.....1  
 MUS 223 Pre-clinical Training Practicum II.....1  
 MUS 303 Music Therapy Principles I .....4  
 MUS 304 Music Therapy Principles II .....4  
 MUS 404 Psychology of Music I.....2  
 MUS 405 Psychology of Music II .....2  
 MUS 424 Pre-clinical Training Practicum III .....1  
 MUS 425 Pre-clinical Training Practicum IV.....1  
 MUS 488 Clinical Training .....2  
**Physical education and health (Group VII)**.....2-7  
 Choose two activity courses from the following:  
 PEG 103 Couple, Square, and Ballroom Dancing, PEG 155 Jazz I, PEG 158 Folk Dancing, PEG 161 Modern Dance, PEG 255 Jazz II, PEG 258 Intermediate Folk Dancing, PEG 261 Intermediate Modern Dance, PED 200 Anatomy and Physiology (if not taken in science and mathematics)  
**Total**.....129-132

**With Certification in Music Education**

**STUDENTS** must complete the following specific courses in the groups indicated:  
**Science and mathematics (Group II)**.....4  
 PHY 210 Musical Acoustics.....4  
**Education (Group IV)**.....24  
 EDP 322 Human Development and Learning.....4

CUR 305 Curriculum and Methods—Secondary.....3  
 CUR 311 Teaching Secondary Reading ..... 3  
 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.....6  
 EDU 492 Student Teaching.....8  
**Fine arts (Group V)**.....14-16  
 Applied music courses (principal instrument).....2  
 MUS 327 Instrumental Conducting or MUS 328 Choral Conducting.....2  
 Additional ensembles.....4  
**Vocal music education**  
 Applied music (secondary instrument) ..... 2-4  
**Instrumental music education**  
 MUS 414 Band Arranging.....2  
 Additional secondary instrument classes .....2

**Music Major**  
 (Non-teaching)

**STUDENTS** will 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 semester hours. In completing either of these, the student does not earn a teaching certificate.

**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

**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**

**Minor in general music (non-teaching)**..... 20 sem hours

**Elementary Music Education Minor**

**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.

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 sight-singing 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 142.)

**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.*

**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 periods.  
*Prereq: MUS 301 History of Music.*

**MUS 317 Music Composition.** **Two sem hours**  
Original writing and analysis of music, beginning with the smallest 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 history; continued study and analysis of music from all periods; original, creative composition with special emphasis on contemporary 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 composition; 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 and 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 literature. 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 220 Functional Skills on Classroom Instruments.** **Two sem hours**  
Group instruction in developing functional skills on classroom instruments such as the recorder, guitar, ukelele, autoharp, Orff instruments, etc. A survey of instructional materials.  
*Prereq: MUS 104 Elements of Music or equivalent.*



**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 approach. 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.

*Prereq: MUS 261 Basic String Class: Violin.*

**MUS 263 String Class: Cello and Double Bass.** **One sem hour**  
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.** **One sem hour**  
The teaching and playing of clarinet. Majors and minors only.

**MUS 282 Woodwind Class.** **One sem hour**  
The teaching and playing of flute and saxophone. Majors and minors only.

**MUS 283 Woodwind Class.** **One sem hour**  
The teaching and playing of oboe and bassoon. Majors and minors only.

**MUS 320 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 322 Music Literature for Children.** **Two sem hours**  
A study of those types, forms and styles of vocal and instrumental music of various periods that are especially appropriate for use with children; effective materials and techniques for directing children's listening.

*Prereq: MUS 104 Elements of Music or equivalent.*

**MUS 330 Music Education in the Elementary School.** **Three sem hours**

Organization, planning and teaching of elementary music. Examination, evaluation and preparation of materials. Music curriculum based on child growth and development principles. Concurrent placement in schools for observation and pre-student teaching experience. Open to music education majors and minors only.

*Prereq: Junior standing. Completion of MUS 254 Functional Piano/A22 Voice or A04 Voice/B22 Piano; MUS 202 Music Theory-Literature IV; satisfactory academic record and department permission. Coreq: MUS 326 Conducting.*

**MUS 331 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 332 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 333 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 334 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 13).*

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. Prior study with a private teacher must be confirmed by a statement from that teacher to be presented at the 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:

Voice	Harp	Saxophone
Piano	Guitar*	Trumpet
Organ	Percussion	Cornet
Violin	Flute	Trombone
Viola	Oboe	Euphonium
Cello	Bassoon	French Horn
String Bass	Clarinet	Tuba

\*Guitar does not qualify as a principal instrument in the Bachelor of Music Education curriculum. Acceptable for Bachelor of Arts or Bachelor of Science 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 01-62** ..... **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 accom-

paniment 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.  
*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.  
*Prereq: MUS 252 Functional Piano.*

**MUS 254 Functional Piano.** **One sem hour**  
Continuation of MUS 253 Functional Piano. Additional accompaniment experience, keyboard harmony, improvisation, piano literature and techniques. Any break in the continuity of Functional Piano courses will require an audition before resumption of study.  
*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.  
*Prereq: MUS 102 Music Theory-Literature II, MUS 254 Functional Piano.*

**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

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. Open to non-majors only.

*Prereq: Department permission.***MUS 246 String Ensemble.** One sem hour

Chamber music for strings. Open to non-majors only.

*Prereq: Department permission.***MUS 247 Woodwind Ensemble.** One sem hour

Chamber music for woodwinds. Open to non-majors only.

*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**

Office: 303 Strong Hall

**Department Head: Elwood Kureth****Department Coordinator: Dan Trochet****Professors: James M. Barnes, A. Paul Loeber, Robert Silver, Jon K. Wooley****Associate Professors: James C. Porter, Richard F. Roth, Dan Trochet****Assistant Professors: Diane A. Jacobs, Natthi Sharma, Marshall Thomsen**

**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.

The department shares a computer laboratory facility in Strong Hall with the Department of Geography and Geology.

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 course work 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: James Barnes

Astronomy minor: Jon Wooley

Engineering Physics concentration: James Barnes

Physics major: Dan Trochet

General Science major/minor: Dan Trochet

Geophysics: A. Paul Loeber

Physics-Business concentration: A. Paul Loeber

Physics-Research major: Richard Roth

Physical Science major/minor: Dan Trochet

**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.

	Sem hours
Language.....	8-9
Requirements 1, 2 and 3 (Box page 26).....	8-9
<b>Science and mathematics.....</b>	<b>69-71</b>
<b>1. Required courses.....</b>	<b>51</b>
<b>Chemistry courses.....</b>	<b>16</b>
CHM 131, 132 General Chemistry I and II.....	9
CHM 241 Materials Science.....	3
CHM 281 Quantitative Analysis.....	4
<b>Mathematics and computer science courses.....</b>	<b>17</b>
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
<b>Physics courses.....</b>	<b>18</b>
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
<b>2. Restricted electives.....</b>	<b>18-20</b>
Choose 18-20 credits from one of the following groups to complete the major: chemistry, mathematics or physics	
<b>Chemistry:</b> 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	
<b>Mathematics:</b> MTH 325 Differential Equations, MTH 425 Mathematics for Scientists, and electives chosen in consultation with advising coordinator in applied science	
<b>Physics:</b> 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	
<b>Social sciences.....</b>	<b>9-12</b>
Requirements 1, 2 and 3 (Box page 27).....	9-12
<b>Humanities.....</b>	<b>11-12</b>
Requirements 1, 2 and 3 (Box page 27).....	11-12
<b>Practical arts (Group VI).....</b>	<b>6</b>
IT 122 Technical Drawing.....	3
IT 223 Descriptive Geometry.....	3
<b>Physical education and health (Group VII).....</b>	<b>2</b>
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Electives.....</b>	<b>10-17</b>
<b>Total.....</b>	<b>124</b>

## Group Major/Minor in General Science

**THIS 56 SEMESTER HOUR** major and minor combination encompasses six areas of study: biology, chemistry, earth science, geology, mathematics and physics. Students follow regular department requirements to complete a 20 semester hour cognate minor in one of the areas and a 36 hour group major composed of courses from the other five 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. In seeking continuing certification, students may elect to work toward a master's degree in either general science or the field of their minor.

	Sem hours
<b>Group major/minor in general science.....</b>	<b>56</b>
<b>1. Required courses.....</b>	<b>36</b>
AST 205 Principles of Astronomy.....	4
BIO 105 Biology and the Human Species.....	4
<i>(Students exempted from BIO 105 will take either BOT 221 General Botany or ZOO 222 General Zoology)</i>	
BIO 224 Principles of Conservation.....	4
CHM 131 General Chemistry I.....	5
<i>(CHM 119 Fundamentals of Chemistry and CHM 120 Fundamentals of Organic and Biochemistry may be substituted for CHM 131 if the student did not take chemistry in high school)</i>	
GES 108 Earth Science.....	4
GES 324 Weather and Climate.....	3
MTH 105 College Algebra.....	3
MTH 107 Plane Trigonometry.....	2
<i>(Students exempted from either mathematics course will elect instead an equivalent amount of more advanced mathematics)</i>	
PHY 221 Mechanics, Sound and Heat.....	4
PHY 222 Electricity and Light.....	4
<b>2. Required cognate minor.....</b>	<b>20</b>
Choose 20 credits of approved courses from one of the following areas: biology, chemistry, earth science, geology, mathematics or physics.	

## 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.

	Sem hours
<b>Group major/minor in physical science.....</b>	<b>56</b>
<b>1. Required courses.....</b>	<b>34</b>
GES 108 Earth Science.....	4
GES 324 Weather and Climate.....	3
PHY 221 Mechanics, Sound and Heat.....	4
PHY 222 Electricity and Light.....	4

(Students may elect PHY 223 Mechanics, Sound and Heat and PHY 224 Electricity and Light instead of PHY 221 and 222)  
 PHY 370 Introduction to Modern Physics..... 3  
 AST 205 Principles of Astronomy.....4  
 CHM 119 Fundamentals of Chemistry ..... 4  
 CHM 120 Fundamentals of Organic and Biochemistry..4  
 (Students wishing to minor in chemistry must elect CHM 131 and 132 General Chemistry I and II instead of CHM 119 and 120)  
 MTH 120 Calculus I.....4

**2. Restricted electives..... 3-4**

Choose three to four credits from the following mathematics or computer science courses:

- CSC 137 Introduction to Computer Programming
- MTH 121 Calculus II

**3. Electives\* ..... 16-21**

Choose five credits from physics and astronomy courses to complete 20 semester hours, including at least one advanced laboratory course.....5

Additional courses from chemistry, earth science or mathematics to complete a regular minor.....10-12

Additional courses in science or mathematics to make up a total of 56 semester hours..... 1-4

\*All electives must be selected in consultation with the advising coordinator for physical science.

### 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.

**Sem hours**

**Required physics and geology courses.....58-60**

- PHY 223 Mechanics, Sound and Heat.....5
  - PHY 224 Electricity and Light..... 5
  - PHY 229 Strength of 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 (math minor).....20**

- MTH 120 Calculus I..... 4
- MTH 121 Calculus II.....4
- MTH 122 Elementary Linear Algebra.....2

- CSC 237 Computer Programming and Numeric Methods.....3
  - MTH 223 Multivariable Calculus.....4
  - MTH 325 Differential Equations..... 3
- Required chemistry courses.....8**
- CHM 131 General Chemistry I.....4
  - CHM 132 General Chemistry II.....4

### 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 for those capable of doing it.

**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 I.....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..... 2-11**

**4. Required mathematics courses..... 14**

- MTH 120, 121 Calculus I and II.....8
- MTH 122 Elementary Linear Algebra.....2
- 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

In order to satisfy the requirements for a mathematics minor, either CSC 137 Introduction to Computer Programming or CSC 237 Computer Programming and Numeric Methods must be completed.

### 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.

	Sem hours
<b>Academic major in physics</b> .....	<b>30</b>
<b>1. Required physics courses</b> .....	<b>16</b>
*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
<i>*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.</i>	
<b>2. Restricted physics electives</b> .....	<b>3-12</b>
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	
<b>3. General electives in physics and astronomy</b> .....	<b>2-11</b>
<b>4. Required mathematics courses</b> .....	<b>10</b>
MTH 120, 121 Calculus I and II.....	8
MTH 122 Elementary Linear Algebra.....	2
<b>5. Select one of the following</b> .....	<b>3-4</b>
MTH 223 Multivariable Calculus.....	4
CSC 237 Computer Programming and Numeric Methods.....	3

### Engineering Physics Concentration

**THE ENGINEERING-ORIENTED CONCENTRATION**, at a professional level, 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
<b>Concentration in physics-engineering</b> .....	<b>56</b>
<b>1. Required physics courses</b> .....	<b>28</b>
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
<b>2. Physics electives chosen from:</b> .....	<b>8</b>
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

<b>3. Required engineering mechanics courses</b> .....	<b>11</b>
PHY 229 Strength and Elasticity of Materials.....	4
PHY 230 Engineering Dynamics.....	4
PHY 335 Fluid Dynamics.....	3
<b>4. Required chemistry courses</b> .....	<b>9</b>
CHM 131 General Chemistry I.....	5
CHM 241 Materials Science.....	3
CHM 242 Materials Science Laboratory.....	1
<b>5. Required mathematics courses (minor)</b> .....	<b>20</b>
MTH 120 Calculus I.....	4
MTH 121 Calculus II.....	4
MTH 122 Elementary Linear Algebra.....	2
MTH 223 Multivariable Calculus.....	4
CSC 237 Computer Programming and Numeric Methods.....	3
MTH 325 Differential Equations.....	3
<b>6. Suggested electives</b> .....	<b>18</b>
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 Master of Business Administration degree in the fifth year of an academic career.

	Sem hours
<b>Concentration in physics-business</b> .....	<b>86</b>
<b>1. Required business mathematics courses</b> .....	<b>14</b>
MTH 120, 121 Calculus I and II.....	8
MTH 122 Elementary Linear Algebra.....	2
MTH 223 Multivariable Calculus.....	4
<b>2. Required physics courses</b> .....	<b>36</b>
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 370 Introduction to Modern Physics.....	3
PHY 372 Modern Physics Laboratory.....	1
PHY 440 Optics.....	3
PHY 442 Optics Laboratory.....	1
PHY 450 Electricity and Magnetism.....	4
PHY 456 Electronics for Scientists.....	4
PHY 460 Heat and Thermodynamics.....	3
<b>3. Required business courses</b> .....	<b>36</b>
ACC 240, 241 Principles of Accounting.....	6
ECO 201, 202 Principles of Economics I and II.....	6
FIN 350 Principles of Finance.....	3
MGT 202 Business Communications.....	3
MGT 386 Organization Theory and Development.....	3
MKT 360 Principles of Marketing.....	3
LAW 293 Legal Environment of Business.....	3
ORI 215 Introduction to Business Information Systems.....	3
ORI 265 Business Statistics I.....	3
ORI 374 Production/Operations Management.....	3

## 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.

	Sem hours
<b>Group minor in astronomy</b> .....	<b>24</b>
<b>1. Required courses</b> .....	<b>11</b>
AST 204 Astronomical Investigations.....	1
AST 205 Principles of Astronomy.....	4
AST 315 Applied Astronomy.....	3
AST 370 Astronomical Concepts.....	3
<b>2. Restricted electives</b> .....	<b>13</b>
Choose 13 credits from approved courses in physics, astronomy, mathematics or chemistry in consultation with the advising coordinator for astronomy	

### Group Minor in General Science

**A GROUP MINOR** in general science must be combined with an academic major in biology, chemistry, earth science, geology, mathematics or physics. A student completes the specific requirements of the academic major (30 semester hours) and includes five of the six required courses below, omitting the course in their major field, and adding a sufficient number of approved electives to complete the 24 semester hour minor.

	Sem hours
<b>Group minor in general science</b> .....	<b>24</b>
<b>1. Required courses</b> .....	<b>19-20</b>
Choose five courses from the following, omitting the course in the major:	
AST 205 Principles of Astronomy.....	4
BIO 105 Biology and the Human Species.....	4
CHM 119 Fundamentals of Chemistry.....	4
GES 108 Earth Science.....	4
MTH 105 College Algebra.....	3
PHY 110 Physical Science I.....	4
<b>2. Restricted electives</b> .....	<b>4-5</b>
Choose four to five credits from the following:	
BIO 205 Field Biology, BIO 207 Elements of Ecology, BIO 224 Principles of Conservation	
CHM 120 Fundamentals of Organic and Biochemistry	
CSC 137 Introduction to Computer Programming	
GES 226 The Oceans, GES 327 Soil Science	
MTH 107 Plane Trigonometry	

### Physics Minor

	Sem hours
<b>Minor in physics</b> .....	<b>20</b>
<b>1. Required courses</b> .....	<b>13</b>
*PHY 223 Mechanics, Sound and Heat.....	5
PHY 224 Electricity and Light.....	5
PHY 370 Introduction to Modern Physics.....	3

### 2. Restricted electives.....1-4

Choose one of the following laboratory courses:  
PHY 332 Mechanic Laboratory, PHY 372 Modern Physics Laboratory, PHY 442 Optics Laboratory, PHY 452 Electrical Measurements, PHY 454 The Micro-computer in the Science Laboratory, PHY 456 Electronics for Scientists, PHY 471 Nuclear Physics

### 3. Electives in physics.....3-6

*\*Required prerequisites for PHY 223 Mechanics, Sound and Heat are MTH 120, 121 Calculus I and II (eight credits). A student changing to a physics minor 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 required is not reduced by this substitution.*

## Physics Courses

**PHY 100 Science for Elementary Teachers.** **Three sem hours**  
Designed to stimulate interest in science by the use of simple 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, 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 optics 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 the 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 production 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 elementary 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. Laboratory: 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 mechanics, 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, elasticity, stress and strain, generalized 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. Friction, 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; visit 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 or department permission.*

**PHY 330 Intermediate Mechanics I.****Three sem hours**

The statics and dynamics of a particle, projectiles with air resistance, central forces, dynamics of a system of particles, vibrational motion and pendulums.

*Prereq: PHY 224 Electricity and Light, MTH 121 Calculus II, MTH 122 Elementary Linear Algebra.*

**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 335 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 387, 487 Cooperative Education in Physics.** Three sem hours each  
Four or six months of full-time employment at an industrial firm specially chosen for imparting a practical educational experience in physics. The program consists of two work experiences alternated with full-time attendance at the University. Use on physics major or minor subject to department permission.  
*Prereq: Junior standing. Admittance by application only. For PHY 487, 387. Offered on graded credit/no credit basis.*

**PHY 390, 391 Physics Project.** Two sem hours  
A suitable project in physics is to be done on an individual basis. Arrangements must be made with a physics staff member before the beginning of the semester.  
*Prereq: Department permission.*

**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.  
*Prereq: PHY 330 Intermediate Mechanics I, MTH 223 Multivariable Calculus.*

**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 121 Calculus II.*

**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 223 Multivariable Calculus.*

**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 and semi-conductor 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: PHY 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 Schrodinger and Heisenberg equations to elementary systems, Pauli's theory of electron spin.  
*Prereq: PHY 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.  
*Prereq: MTH 325 Differential Equations and PHY 330 Intermediate Mechanics I.*

**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 astrometry 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-Harroll

Department Head: James D. Johnson

Professors: Robert C. Grady, Benjamin T. Hourani, James D. Johnson, James S. Magee, Charles M. Monsma, Barnabas A. Racz, M. Hisham Sabki, Leonas Sabaliunas

Associate Professors: David W. Hortin, Karen E. Lindenberg, Joseph F. Ohren, James W. Pfister, Raymond A. Rosenfeld

Assistant Professors: Ronald E. Brown, F. Elaine Martin, Laura A. Reese

**POLITICAL SCIENCE** is the study of 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.

	Sem hours
<b>Academic major in political science</b> .....	30
<b>1. Required course</b> .....	3
PLS 112 American Government or PLS 113 American Government Honors .....	3
<b>2. Required core courses</b> .....	9
Choose three courses from the following:	
PLS 210 Introduction to Political Analysis .....	3
PLS 211 Introduction to Comparative Government .....	3
PLS 212 Introduction to International Relations .....	3
PLS 213 Introduction to Political Thought .....	3
<b>3. Area of concentration</b> .....	9
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.	
<b>Group I — American politics, public law and administration</b>	
<b>Subgroup A: Group I area concentration</b>	
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
<b>Subgroup B: Group I other electives</b>	
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
PLS 480 Field Seminar in Political Science/Public Administration .....	3

PLS 486 Internship in Political Science/Public Administration ..... 3

PLS 487 Cooperative Education in Political Science.....3

PLS 488 Internship in Political Science/Public Administration ..... 6

PLS 489 Internship in Political Science/Public Administration..... 9

**Group II — Comparative politics and international relations**

PLS 341 International Law ..... 3

PLS 342 International Organization.....3

PLS 354 Government and Politics of Canada.....3

PLS 361 Government and Politics of U.S.S.R.....3

PLS 367 Contemporary Political Systems of Latin America.....3

PLS 371 Government and Politics of the Middle East.....3

PLS 372 Government and Politics of Sub-Sahara Africa.....3

PLS 374 Asian Political Systems.....3

PLS 412 Comparative Legal Systems.....3

PLS 462 Foreign Relations of the Soviet Union.....3

PLS 470 Seminar in Political Science.....3

**Group III — Political theory and methods**

PLS 308 Political Violence and Revolution ..... 3

PLS 310 Methods of Political Research.....3

PLS 382 Politics and the 21st Century.....3

PLS 410 Political Science in Fiction.....3

PLS 418 Twentieth Century Political Theory.....3

PLS 420 Advanced Political Thought ..... 3

PLS 422 American Political Theory.....3

PLS 470 Seminar in Political Science.....3

**4. Restricted electives.....9**

At least two of these elective courses (six semester hours) must be in one of the two groups not selected for concentration. The other elective (three semester hours) may be chosen from any of the courses offered by the Political Science Department, including independent studies, special topics, internship/cooperative education, and courses listed under Subgroup B in Group I.

**Major in Public Administration**

**PUBLIC ADMINISTRATION** focuses on the administrative aspects of government including the 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.

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

**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 and the judicial process, judicial administration and consumer law. 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.

	<b>Sem hours</b>
<b>Academic major in public law and government.....</b>	<b>36</b>
<b>1. Required courses.....</b>	<b>9</b>
PLS 301 American Legal System .....	3
PLS 312 American Constitutional Law I or PLS 313 American Constitutional Law II.....	3
PLS 341 International Law or PLS 412 Comparative Legal Systems.....	3
<b>2. Restricted electives.....</b>	<b>9</b>
Choose one course in each of the following three groups:	
<b>Group I - American politics and administration</b>	
PLS 202 State and Local Government, PLS 216 Municipal Government, PLS 270 Public Admin- istration, PLS 280 The American Presidency, PLS 327 American Foreign Policy Process, PLS 330 Urban Politics, PLS 332 Intergovernmental Rela- tions and Federalism, PLS 334 Personnel Adminis- tration in Government, PLS 335 Labor in American Politics, PLS 352 Politics of Government Budgeting, PLS 358 Parties, Elections and Interest Groups, PLS 359 Public Opinion and Propagan- da, PLS 364 Legislative Process, PLS 365 Women and Politics, PLS 381 Public Policy Analysis, PLS 431 Theories of Public Organization	
<b>Group II - Comparative politics and international relations</b>	
PLS 211 Introduction to Comparative Government, PLS 212 Introduction to International Relations, PLS 342 International Organization, PLS 354 Government and Politics of Canada, PLS 361 Government and Politics of the U.S.S.R., PLS 367 Contemporary Political Systems of Latin America, PLS 371 Government and Politics of the Middle East, PLS 372 Government and Politics of Sub- Sahara Africa, PLS 374 Asian Political Systems, PLS 462 Foreign Relations of the Soviet Union	
<b>Group III - Political theory and methods</b>	
PLS 210 Introduction to Political Analysis, PLS 213 Introduction to Political Thought, PLS 308 Political Violence and Revolution, PLS 310 Methods of Political Research, PLS 382 Politics and the 21st Century, PLS 410 Political Science in Fiction, PLS 418 20th Century Political Theory, PLS 420 Ad- vanced Political Thought, PLS 422 American Political Theory	
<b>3. Electives.....</b>	<b>12</b>
Choose four courses from the following:	
PLS 312 American Constitutional Law I, PLS 313 American Constitutional Law II, PLS 315 Consumer Law and Politics, PLS 341 International Law, PLS 385 Judicial Process and Behavior, PLS 387 Cooperative Education in Political Science, PLS 412 Comparative Legal Systems, PLS 456 Criminal Law I, PLS 470 Seminar in Political Science, PLS 480 Field Seminar in Political Science/Public Administration, PLS 486 Internship in Political Science/Public Administration, PLS 487 Co- operative Education in Political Science, PLS 488 Intern- ship in Political Science/Public Administration, PLS 489 Internship in Political Science/Public Administration, PLS 497 Independent Study in Political Science, PLS 498 Independent Study in Political Science, PLS 499 Inde- pendent Study in Political Science	
<b>4. Cognate electives.....</b>	<b>6</b>
Choose one course from each of the following two categories:	
a. HIS 465 United States Constitutional History, PHI 355 Philosophy of Law	
b. SOC 412 Law and Society, SOC 460 Criminal Law II	

## 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 or internship/cooperative education may be applied to the 21 semester hours required for the minor.

### Political Science

	<b>Sem hours</b>
<b>Minor in political science.....</b>	<b>21</b>
<b>1. Required course.....</b>	<b>3</b>
PLS 112 American Government or PLS 113 American Government Honors.....	3
<b>2. Required core courses.....</b>	<b>6</b>
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	
<b>3. Area of concentration.....</b>	<b>6</b>
Choose two courses from one of the three areas of concentration (Groups I, II and III) listed under the political science major	
<b>4. Other electives.....</b>	<b>6</b>
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

	<b>Sem hours</b>
<b>Minor in public administration.....</b>	<b>24</b>
<b>1. Required course.....</b>	<b>3</b>
PLS 270 Public Administration .....	3
<b>2. Restricted electives.....</b>	<b>12</b>
Choose four of the following courses:	
PLS 334 Personnel Administration in Government, PLS 352 Politics of Government Budgeting, PLS 381 Public Policy Analysis, PLS 431 Theories of Public Organization	
ACC 246 Accounting for Public Administrators ECO 350 Government Finance	
<b>3. Electives.....</b>	<b>9</b>
Choose three courses from the remaining required or elective courses in the public administration major. 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 Eastern Michigan University 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.

	<b>Sem hours</b>
<b>Minor in public law and government</b> .....	<b>24</b>
1. <b>Required courses</b> .....	<b>6</b>
PLS 301 American Legal System .....	3
Choose one course from the following:	
PLS 312 American Constitutional Law I, PLS 313	
American Constitutional Law II, PLS 341 Internation-	
al Law, PLS 412 Comparative Legal Systems.....	3
2. <b>Restricted electives</b> .....	<b>6</b>
Choose one course from two of the three groups (I, II and	
III) under restricted electives in the public law and govern-	
ment major	
3. <b>Cognate electives</b> .....	<b>3</b>
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 requirements 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. 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**  
Comparative study of the structure and 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. 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. Distinctions in types of political violence, ideological arguments on violence and revolution, 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**  
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**

**PLS 313 American Constitutional Law II.** **Three sem hours**  
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 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 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.** **Three sem hours**  
A study of intergovernmental relations in the United States focusing on recent trends in the federal system. 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.** **Three sem hours**  
An examination of the basic personnel management practices of public bureaucracies. 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.** **Three sem hours**  
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.  
*Prereq: PLS 112 American Government or PLS 202 State and Local Government.*

**PLS 341 International Law.** **Three sem hours**  
An introduction to the principles and practices of public international law. The origin and development, the nature and sources of international law. 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.** **Three sem hours**  
The structure and functions of international organizations. Collective security, disarmament and the pacific settlement of disputes. 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.** **Three sem hours**  
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.** **Three sem hours**  
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.** **Three sem hours**  
The organization, operation and function of American political parties and their impact on the American political system. The impact of interest groups and elections.  
*Prereq: PLS 112 American Government.*

**PLS 359 Public Opinion and Propaganda.** **Three sem hours**  
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.** **Three sem hours**  
A study of Soviet political institutions including constitutional developments, structure and operation of the government. The role of the Communist Party.  
*Prereq: PLS 112 American Government or PLS 202 State and Local Government.*

**PLS 364 The Legislative Process.** **Three sem hours**  
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.** **Three sem hours**  
A study of the role of women in American politics as voters, activists and candidates. How the political behavior of women relates to their economic, social and religious roles. Comparisons 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.** **Three sem hours**  
A study of the governmental structure and the nature of political activity in selected Latin-American nations; 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.** **Three sem hours**  
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.** **Three sem hours**  
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. 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. Department recommendation required. For PLS 487, PLS 387.*

**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 course work 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.  
*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.*

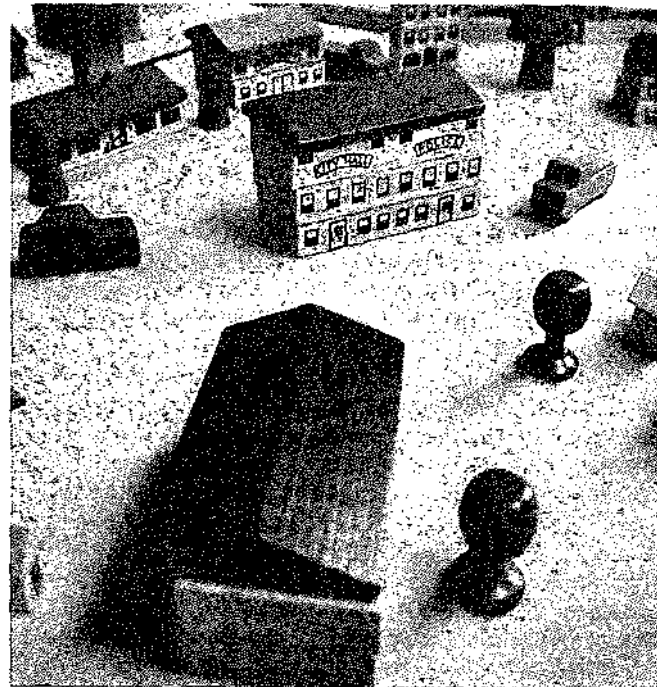
**PLS 480 Field Seminar in Political Science/ Public Administration.** Three sem hours  
Designed to help students relate their field experience to some aspect of political science or public administration.  
*Prereq: Department permission.*

**PLS 486 Internship in Political Science/ Public Administration.** Three sem hours  
Extends classroom learning through practical experience with legislative, administrative and other public sector agencies at all levels of government. Open to majors and minors in political science and public administration, and to other students.  
*Prereq: Department permission.*

**PLS 488 Internship in Political Science/ Public Administration.** Six sem hours

**PLS 489 Internship in Political Science/ Public Administration.** Nine sem hours

**PLS 497, 498, 499 Independent Study in Political Science.** One, two, three sem hours  
Advanced study on an individual basis in areas in which the department does not offer formal courses. Normally restricted to political science majors.  
*Prereq: Senior standing and department permission.*



# PSYCHOLOGY

Office: 537 Mark Jefferson

Department Head: Barry Fish

Professors: Francis M. Canter, Jeffrey Dansky, Dennis J. Delprato, Barry Fish, Monroe Friedman, Norman Gordon, Peter A. Holmes, Donald E. Jackson, Stuart A. Karabenick, John Knapp, Murray Meisels, Jerry O'Dell, James Roff, Alida S. Westman, Zakhour I. Youssef

Associate Professors: Barbara E. Brackney, Kenneth Rusiniak

Assistant Professors: John McManus

**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

**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:** Barry Fish

**GRADUATE STUDY** leads to a master's degree in psychology with programs in general psychology, clinical psychology and behavioral services. 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.

	Sem hours
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

**3. 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 behavioral self-analysis and self-management. Student-initiated self-improvement projects encouraged.

*Prereq: PSY 101 General Psychology or PSY 102 General Psychology.*

**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 Psychology 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 Psychology.*

**PSY 225 Psychology of Religion.** **Three sem hours**  
The application of psychological theory, principles and method to the study of religious behavior. The relationships between religion and personality, health-pathology, social behavior and intense emotional experience.  
*Prereq: PSY 101 General Psychology or PSY 102 General Psychology.*

**PSY 240 Psychology of Sex.** **Three sem hours**  
Survey of the psychological research concerned with human sexuality from a psychological point of view with an emphasis on research findings.  
*Prereq: PSY 101 General Psychology or PSY 102 General Psychology.*

**PSY 242 Psychology of Women.** **Three sem hours**  
Theories and empirical research concerning personality development in females. Examination of the origins of the behavior of women.  
*Prereq: PSY 101 General Psychology or PSY 102 General Psychology.*

**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: SOC 105 Introductory Sociology and 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 on early elementary 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 func-

tioning, 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 ab-

normal 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 two 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

Office: 712 Pray-Harrold

**Department Head:** Jay Weinstein

**Professors:** Patrick Easto, Allen S. Ehrlich, Werner Einstadter, Lawrence K. Kersten, Gordon E. Moss, Marie Richmond-Abbott, Patricia Ryan, Karen P. Sinclair, Marcello Truzzi, Bruce L. Warren, Ira M. Wasserman, Ronald M. Westrum

**Associate Professor:** Joseph Rankin

**Assistant Professor:** Nancy N. Thalhoffer

**THE SOCIOLOGY DEPARTMENT** offers majors and minors in the disciplines of anthropology, criminology and criminal justice, and sociology 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 identify the appropriate adviser as soon as they make their selection. Students not majoring in the department's programs may seek information about the curricula from either an area advising coordinator or any faculty member during regularly scheduled office hours.

### ADVISING COORDINATORS:

Anthropology: Allen Ehrlich

Criminology and Criminal Justice: Werner Einstadter

Sociology: Ron Westrum

**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 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 the advising coordinator in criminology and criminal justice.

Students completing the curriculum will have satisfied all major and minor requirements for graduation. No additional minor is required. Specific courses required to complete the designated 124 hours leading to a degree in criminology and criminal justice are indicated by an asterisk (\*).

	Sem hours
<b>Language</b> .....	8-9
Requirements 1, 2 and 3 (Box page 26) .....	8-9
<b>Science and mathematics</b> .....	13-14
Requirements 1 and 2 (Box page 26).....	7
PSY 101 or 102 General Psychology .....	3-4
PSY 207 Psychology of Adjustment or PSY 360 Abnormal Psychology.....	3
<b>Social sciences</b> .....	57
Requirement 2 (Box page 27).....	3
Political science courses .....	9
PLS 112 American Government or PLS 202 State and Local Government .....	3
PLS 301 The American Legal System.....	3
PLS 456 Criminal Law I.....	3
Sociology courses.....	33
*SOC 105 Introductory Sociology .....	3
*SOC 250 Elementary Social Statistics or SOC 341 Quantitative Methods of Social Research I.....	3
*SOC 304 Methods of Sociological Research or SOC 342 Quantitative Methods of Social Research II .....	3
*SOC 314 Racial and Cultural Minorities.....	3
*SOC 354 Juvenile Delinquency.....	3
*SOC 371 Criminology .....	3
*SOC 372 Criminal Justice in Contemporary Society.....	3
*SOC 412 Law and Society.....	3
*SOC 447 Advanced Criminology .....	3
*SOC 460 Criminal Law II.....	3
*SOC 462 Complex Organizations.....	3
Choose one of the following:	
SOC 202 Social Problems, 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 .....	3
Social work courses.....	6
SWK 120 Introduction to Social Work Services and Professional Roles.....	3
SWK 463 Social Work Practice with Legal Offenders.....	3
<b>Humanities</b> .....	11-12
Requirements 1, 2 and 3 (Box page 27).....	11-12
<b>Physical education and health (Group VII)</b> .....	2
Physical education activity courses.....	2
(Any two Military Science courses may be applied)	
<b>Electives</b> .....	24-27
Electives pertinent to the field of criminology and criminal justice are:	
SOC 379, 479 Current Issues in Sociology of Crime, Law and Justice, SOC 488, 489 Internship, SOC 499 Independent Study	
<b>Total</b> .....	124



## Major in Anthropology

**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  
(Non-teaching)

- 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:
  - ENG 419 Introduction to Linguistic Science
  - 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 any of 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

**Sem hours**

Minor in anthropology.....20  
(Non-teaching)

- 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  
(Non-teaching)

- 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
<b>Minor in sociology</b> .....	<b>20-21</b>
<b>1. Required courses</b> .....	<b>14-15</b>
SOC 105 Introductory Sociology.....	3
ANT 135 Introduction to Cultural Anthropology.....	3
Sociology courses at 300 level or above .....	8-9
<b>2. Electives</b> .....	<b>6</b>
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.

Minor in socio-cultural perspectives on the family	Sem hours
.....	21
<b>1. Required courses</b> .....	<b>18</b>
SOC 105 Introduction to Sociology.....	3
ANT 135 Introduction to Cultural Anthropology.....	3
SOC 204 Marriage and Family.....	3
ANT 309 Culture and Personality.....	3
ANT 378 Current Topics in Anthropology: Cross Cultural Study of Family.....	3
SOC 450 The Family.....	3
<b>2. Restricted electives</b> .....	<b>3</b>
Choose one of the following:	
SOC 303 Sociology of Childhood and Youth, SOC 444 Sociology of Sex Roles	

## 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.

<b>Minor in health and illness studies</b> .....	<b>21</b>
<b>Required courses</b> .....	<b>21</b>
SOC 105 Introduction to Sociology .....	3
ANT 135 Introduction to Cultural Anthropology .....	3
SOC 311 Social Gerontology .....	3
SOC 312 Medical Sociology .....	3
ANT 329 Cross Cultural Study of Illness and Curing.....	3
ANT 378 Current Topics in Anthropology.....	3
1. Cross Cultural Studies of Alcohol and Drug Use	
2. Cross Cultural Studies of Aging and Death	
3. Women/Men and Health	
SOC 378 Current Topics in Sociology.....	3
1. Social Stress and Health	
2. Social Epidemiology	

## 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 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 278, 378, 478 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 308 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 314 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 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**

The nature, incidence and prevalent explanations of crime and delinquency. Not open to freshmen.

*Prereq: SOC 105 Introductory Sociology or junior standing.*

**SOC 372 Criminal Justice in Contemporary Society. Three sem hours**

A critical view of the entire spectrum of criminal justice. The police, courts and corrections studied as interrelated institutions in the process of defining criminals. Not open to freshmen.

*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.*

**SOC 379, 479 Current Topics in the Sociology of Crime. Three sem hours**

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.*

**SOC 387, 487 Cooperative Education I, II. Three sem hours each**

Practical experience in industrial, business or government settings to provide job skills.

*Prereq. for SOC 387: Twelve hours of sociology, six of which must be at the 300 level or above.*

*Prereq. for SOC 487: SOC 387.*

**SOC 402 Group Dynamics. Three sem hours**

Structure and interaction processes of small groups. Cohesiveness, group standards, conformity and deviance, leadership, group emotion, communication, group roles and sociometrics.

*Prereq: SOC 105 Introductory Sociology or PSY 101 General Psychology.*

**SOC 403 Modern Sociological Theory. Three sem hours**

The rise and development of sociological thought from Comte to the present. The works of various European and American schools analyzed and critically appraised in terms of their value in empirical research. Normally offered during winter term only.

*Prereq: Three courses in sociology and junior standing.*

**SOC 405 Honors Seminar. Three sem hours**

An undergraduate honors seminar examining selected topics in theory, research and applied sociology.

*Prereq: Senior status, a 3.0 grade point average, 12 hours of social science courses or department permission.*

**SOC 412 Law and Society. Three sem hours**

Law as a social and cultural product; the interrelationships between law and social institutions.

*Prereq: SOC 105 Introductory Sociology.*

**SOC 444 Sociology of Sex Roles. Three sem hours**

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.*

**SOC 447 Advanced Criminology. Three sem hours**

An intensive analysis of selected problems in criminology; the application of criminology to policies and programs of crime prevention and control.

*Prereq: 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.*

**SOC 448 Collective Behavior. Three sem hours**

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.*

**SOC 450 The Family. Three sem hours**

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.*

**SOC 451 Sociology of Work and Occupations. Three sem hours**

Social aspects of work. Recruitment, career patterns, professionalization, sociology of the workplace and labor force.

*Prereq: SOC 105 Introductory Sociology.*

**SOC 460 Criminal Law II. Three sem hours**

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.*

**SOC 462 Complex Organizations. Three sem hours**

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.*

**SOC 488 Field Internship in Criminology and Criminal Justice. Three sem hours**

Students are assigned to 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.*

**SOC 497, 498, 499 Independent Study.** **One, two, three sem hours**  
Independent study, under the supervision of a department member, in areas in which the department does not offer a course.  
*Prereq: Department permission.*

## 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 archeological 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 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 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 314 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 329 Cross-Cultural Study of Illness and Curing.** **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 and sophomore standing. ENG 320 Introduction to Linguistic Science recommended.*

**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.*

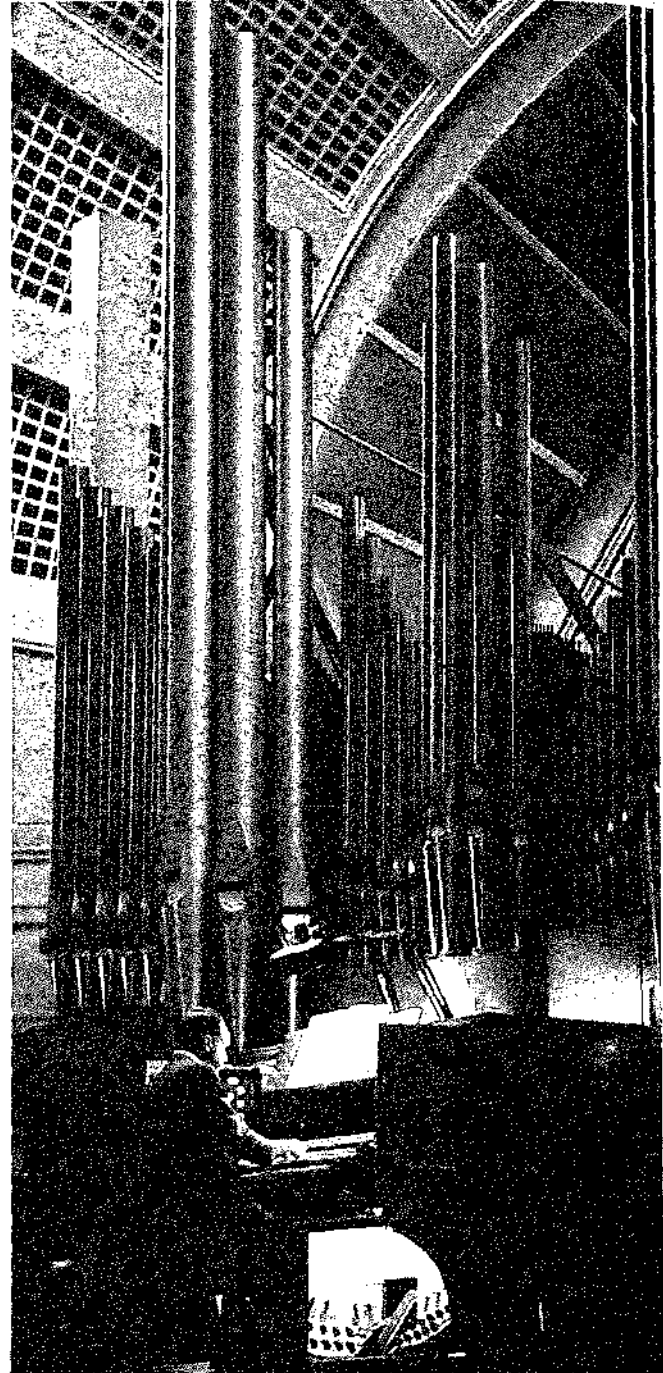
**ANT 437 Kinship and Social Structure.** Three sem hours  
The comparative study of kinship and social structure traced from primitive through complex societies.  
*Prereq: Three courses in anthropology and junior standing.*

**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: 701-R Pray-Harrold

**Coordinator:** Betty L. Barber

**Assistant Coordinator:** Karen Sinclair

**Professors:** Nadean Bishop, Daryl Hafter, Judy Loeb, Sally McCracken, Calvin Michael, Brigitte Muller, Marie Richmond-Abbott, Mary Robek

**Associate Professors:** Barbara Brackney, Ellen Schwartz, Karen Sinclair, Mary Vielhaber, Claudia Wasik, Myrna Yeakle

**Assistant Professor:** Betty L. Barber

**THE WOMEN'S STUDIES PROGRAM** offers an interdisciplinary academic minor to provide intellectual perspective and life-enriching skills for women and men students. Professors from many disciplines have designed courses that document the contributions of women in history, literature, the labor force and the entire culture. 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:** Betty L. Barber (487-1218 or 487-1177)

## Minor in Women's Studies

A **MINOR** in women's studies may be earned by taking 21 semester hours.

	Sem hours
Minor in women's studies.....	21
(Non-teaching)	
<b>1. Required courses</b> .....	<b>12</b>
WMS 200 Introduction to Women's Studies.....	3
Choose three courses from the following four:	
PSY 242 Psychology of Women.....	3
HIS 335 History of Women in Europe.....	3
LIT 443 Women in Literature.....	3
SOC 444 Sociology of Sex Roles.....	3
(The course not taken above may be included as one of the restricted electives)	
<b>2. Restricted electives</b> .....	<b>9</b>
Choose nine credits from the following:	
BE 205 Women in Business, HEC 322 Family Financial Management, ECO 328 Economics of Women, HIS 336 History of Women in the United States and Great Britain, ANT 355 Anthropology of Women, PLS 365 Women and Politics, SFD 402 Sexism and Education, PED 405 Women in Sport, IDT 420 Women in Technology, FA 436 Women in Art	

# 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 and Finance**

**Management**

**Marketing**

**Operations Research and Information Systems**

# COLLEGE OF BUSINESS

**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 rather than abstract ideas.

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, to faculty and to 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. General Business
2. Accounting
3. Accounting Information Systems
4. Business Computer Systems
5. Economics\*
6. Finance
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.

**GRADUATE PROGRAMS** lead to the Master of Business Administration and Master of Science degrees in accounting, in computer-based information systems and in organizational behavior and 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 accorded by the American Assembly of Collegiate Schools of Business.

**ADMISSION** to the College of Business is open to student 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 return their applications to the College of Business Undergraduate Business Program Office by the deadlines listed below:

Fall semester:	July 1
Winter semester:	November 1
Spring and summer sessions:	March 1

Applications received after the deadline for each semester must be accompanied by a photocopy of the 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  
515-P Pray-Harrold  
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 55 semester hours with a minimum cumulative grade point average of 2.25 in fall 1986 and thereafter. 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* (55 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 55 semester hours, as well as completion of appropriate prerequisites for intended coursework. An unofficial transcript from the student's parent institution is recommended.

**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 515-P Pray-Harrod) 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 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 language, science and mathematics, social sciences, and humanities is indicated, but it is the courses that must be completed, not a specific number of Basic Studies credits in each group. 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.

### Sem hours

Language.....	8-9
Requirements 1, 2 and 3 (Box page 26) .....	8-9
<b>Science and mathematics.....</b>	<b>11-14</b>
One laboratory science course from the Biology, Chemistry Geography or Physics department .....	4-5
PSY 101 or 102 General Psychology .....	3-4
*Mathematics .....	6
Students must complete one of the following options (or approved substitutes)	

**Option I	
MTH 118 Mathematical Analysis for Social Sciences I .....	3
MTH 119 Mathematical Analysis for Social Sciences II .....	3
***Option II	
MTH 120 Calculus I .....	4
MTH 122 Elementary Linear Algebra.....	2
<b>Social sciences .....</b>	<b>12</b>
Requirements 1 and 2 (Box page 27).....	6
ECO 201 and 202 Principles of Economics I and II.....	6
<b>Humanities.....</b>	<b>11-12</b>
Requirements 1, 2 and 3 (Box page 27).....	11-12
Logic or ethics strongly recommended	
<b>Practical arts (Group VI) .....</b>	<b>56-60</b>
<b>Business administration core.....</b>	<b>33</b>
(All 200-level core courses must be completed prior to admission to the College of Business)	
ORI 215 Introduction to Business Information Systems.....	3
ORI 265 Business Statistics I.....	3
ACC 240, 241 Principles of Accounting .....	6
MGT 202 Business Communication .....	3
LAW 293 Legal Environment of Business.....	3
(All 300-level core courses must be completed by the end of the junior year)	
FIN 350 Principles of Finance.....	3
MKT 360 Principles of Marketing .....	3
MGT 386 Organization Theory and Development .....	3
ORI 374 Production/Operations Management .....	3
MGT 490 Business Policy.....	3
<b>Academic major.....</b>	<b>23-27</b>
Choose one of the following: accounting, accounting infor- mation systems, business computer systems, economics, finance, general business, management, marketing, production/operations management, real estate	
<b>Physical education and health (Group VII).....</b>	<b>2</b>
Physical education activity courses.....	2
(Any two Military Science courses may be applied)	
<b>Electives.....</b>	<b>15-24</b>
Students planning to continue study in a graduate school of business are urged to complete the following courses as electives:	
ECO 301 Intermediate Macroeconomic Analysis	
ECO 302 Intermediate Microeconomic Analysis	
ORI 465 Business Statistics II	
<b>Total.....</b>	<b>124</b>

*\*Students planning to complete the mathematics requirement at another four-year college or university, or at a two-year community college, must select courses that include linear algebra, differentiation and integration.*

*\*\*Students having a "B" average in high school mathematics courses through trigonometry should not elect Option I.*

*\*\*\*Students planning to pursue graduate study in business administration are encouraged to select Option II. An alternative advanced mathematics sequence may be approved for students who have completed three or more years of high school mathematics with high achievement.*



## ACCOUNTING AND FINANCE

Office: 516 Pray-Harrold

Department Head: Keith W. Lantz

Professors: S. Thomas A. Cianciolo, E.A. Devine, Ramesh C. Garg, Keith W. Lantz, Stephen Larabee, Mohsen Sharifi

Associate Professors: George S. Clark, Donald J. Houtakker, Ronald E. Hutchins, Robert R. Irish, John W. Keros, Chandra P. Pathak, Andrew Snyir, C. Wayne Weeks

Assistant Professors: Alahassane Diallo, Geraldine M. Kruse, Patricia A. Libby, Asrat Tessema, Larry D. Vansyckle, J. Christopher Westland

Instructors: Rolland Cooper, Dale Even, Gary B. McCombs

### THE DEPARTMENT OF ACCOUNTING AND FINANCE

prepares students for professional careers related to the fields of accounting, accounting information systems, finance, and real estate. Within each of these major areas, students can develop their expertise in a variety of areas including taxes, financial accounting, budgeting, banking, investments, managerial accounting, appraisal, governmental accounting 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. Also recommended is ORI 465 Advanced Business Statistics.

### PROGRAMS OF STUDY

#### Majors:

Accounting  
Accounting Information Systems  
Finance  
Real Estate

#### Minors:

Accounting  
Finance  
Real Estate

**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:** Keith W. Lantz

**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 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 reports on 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) or obtain the Certificate in Management Accounting (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 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
<b>Practical arts (Group VI)</b> .....	56-60
Requirements (business administration core, page 185)	
<b>Academic major in accounting</b> .....	24
ACC 340 Intermediate Accounting.....	3
ACC 341 Intermediate Accounting.....	3
ACC 342 Managerial Cost Accounting.....	3
ACC 344 Tax Accounting.....	3
ACC 445 Auditing.....	3
<b>Restricted electives</b> .....	9
Choose three courses from the following:	
ACC 346 Governmental Accounting, ACC 440 Advanced Accounting, ACC 442 Advanced Cost Accounting, ACC 444 Advanced Tax Accounting, ACC 446 Financial Information Systems, ACC 447 Contemporary CPA Problems, ACC 448 EDP Auditing and Controls, ACC 479 Special Topics in Accounting, ACC 499 Directed Studies	
LAW 393 Law of Business Enterprises	
<b>Note:</b> 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.

	Sem hours
<b>Practical arts (Group VI)</b> .....	56-60
Requirements (business administration core, page 185)	
<b>Academic major in accounting information systems</b> .....	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 445 Auditing.....	3
ACC 446 Financial Information Systems.....	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
<b>Restricted electives</b> .....	0
Students may elect courses in other areas of interest. <b>Note:</b> Students planning on sitting for the CPA examination in Michigan should elect ACC 346 Governmental Accounting or ACC 440 Advanced Accounting.	

## Major in Finance

**STUDENTS MAJORING IN FINANCE** may choose between the two concentrations described below. Students interested in a specialization can elect additional hours in accounting and other areas.

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
<b>Practical arts (Group VI)</b> .....	56-60
Requirements (business administration core, page 183)	
<b>Academic major in finance</b> .....	24
<b>A. Financial management concentration</b> involves the planning and management of assets and the acquisition of funds for investment by corporations, non-profit organizations, governmental units and financial institutions.	
<b>1. Required courses</b> .....	12
FIN 357 Financial Markets.....	3
FIN 358 Analysis of Financial Statements.....	3
FIN 359 Intermediate Financial Theory.....	3
FIN 450 Problems in Financial Management.....	3
<b>2. Restricted electives</b> .....	12
Choose four courses from the following: FIN 354 Investments, FIN 451 Portfolio Management, FIN 453 Commercial Banking ACC 342 Managerial Cost Accounting, ACC 444 Advanced Tax Accounting ECO 445 Economic Fluctuations and Forecasting ORI 465 Business Statistics II RES 310 Real Estate Finance	

**B. Investment analysis concentration** is designed for students interested in analyzing and managing stocks, bonds and other investments. Studies include available investment alternatives, behavior and operation of investment markets, and the determination and forecasting of investment value.

<b>1. Required courses</b> .....	12
FIN 354 Investments.....	3
FIN 358 Analysis of Financial Statements.....	3
FIN 359 Intermediate Financial Theory.....	3
FIN 451 Portfolio Management.....	3
<b>2. Restricted electives</b> .....	12
Choose four courses from the following: FIN 357 Financial Markets, FIN 450 Problems in Finan- cial Management, FIN 453 Commercial Banking ACC 344 Tax Accounting ORI 465 Business Statistics II RES 310 Real Estate Finance	

## Major in Real Estate

**THE REAL ESTATE MAJOR** is designed for students interested in the financing, sale, appraisal and development of commercial and residential real property. The program includes studies in land use, taxation and property management.

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
<b>Practical arts (Group VI)</b> .....	56-60
Requirements (business administration core, page 185)	
<b>Academic major in real estate</b> .....	24
<b>1. Required courses</b> .....	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
<b>2. Restricted electives</b> .....	6
Choose two courses from the following: RES 420 Real Estate Brokerage, RES 430 Real Estate Property Management, RES 450 Property Develop- ment and Management LAW 455 Real Estate Law	
<b>3. Restricted cognate electives</b> .....	6
Choose two courses from the following: ACC 342 Managerial Cost Accounting, ACC 344 Tax Accounting GES 315 Land Use Planning MGT 481 Small Business Management MKT 261 Contemporary Selling ORI 219 COBOL Programming	

## Minors Offered in Accounting and Finance

### Accounting Minor

	Sem hours
<b>Minor in accounting (for non-business majors)</b> .....	21
(Non-teaching)	
<b>1. Required courses</b> .....	12
ACC 240, 241 Principles of Accounting.....	6
ACC 340, 341 Intermediate Accounting.....	6
<b>2. Restricted electives</b> .....	9
Choose three courses from the following: ACC 342 Managerial Cost Accounting, ACC 344 Tax Accounting, ACC 346 Governmental Accounting, ACC 440 Advanced Accounting, ACC 442 Advanced Cost Accounting, ACC 444 Advanced Tax Accounting, ACC 446 Financial Information Systems	

**Finance Minor**

	Sem hours
<b>Minor in finance (for non-business majors)</b> .....	<b>21</b>
<b>1. Required courses</b> .....	<b>12</b>
ACC 240, 241 Principles of Accounting.....	6
FIN 350 Principles of Finance.....	3
FIN 359 Intermediate Financial Theory.....	3
<b>2. Restricted electives</b> .....	<b>9</b>
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
<b>Minor in real estate (for non-business majors)</b> .....	<b>21</b>
<b>1. Required courses</b> .....	<b>12</b>
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
<b>2. Restricted electives</b> .....	<b>9</b>
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	

**Accounting Courses**

**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 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.*

**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.*

**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 340 Intermediate Accounting or FIN 358 Analysis of Financial Statements*

**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 440 Advanced Accounting.** **Three sem hours**  
Partnership organization, change and liquidation; consolidation accounting; 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: ACC 341 Intermediate Accounting and 18 semester hours of accounting.*

**ACC 446 Financial 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: ORI 215 Introduction to Business Information Systems and ACC 342 Managerial Cost Accounting or department permission.*

**ACC 447 Contemporary CPA Problems.** **Three sem hours**  
 Analysis of current accounting problems faced by the CPA profession. Audit, legal liability, ethics, theory and practice.  
*Prereq: ACC 440 Advanced Accounting.*

**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 445 Auditing, ACC 446 Financial Information Systems and ORI 419 Data Base Management Systems or department permission.*

**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 446 Financial Information Systems and ORI 419 Data Base Management Systems, or department permission.*

**ACC 479 Special Topics in Accounting.** **Three sem hours**  
 Specialized accounting topics in relation to changes in the practice of accounting and its regulation by government agencies.  
*Prereq: ACC 341 Intermediate Accounting.*

**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.** **Three sem hours**  
 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 and finance not otherwise treated in departmental courses.  
*Prereq: Department permission.*

## Finance Courses

**FIN 350 Principles of Finance.** **Three sem hours**  
 Financing and organizing business enterprises, interpreting financial 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 their 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 municipal obligation.  
*Prereq: FIN 350 Principles of Finance.*

**FIN 357 Financial Markets.** **Three sem hours**  
 The operation and behavior of capital markets and financial intermediaries 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. Term 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**  
 The theory of financial management, internal financial management and control, and institutional relationships.  
*Prereq: FIN 350 Principles of Finance.*

**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 not permitted. Offered on a graded credit/no credit basis. Admittance by application only.  
*Prereq: ACC 240 Principles of Accounting and department permission. For FIN 387, completion of FIN 287.*

**FIN 450 Problems in Financial Management.** **Three sem hours**  
 Contemporary developments in financial theory and practical applications.  
*Prereq: FIN 359 Intermediate Financial Theory.*

**FIN 451 Portfolio Management.** **Three sem hours**  
 An advanced course for professional investment managers covering 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 management 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 law, finance, appraising, brokerage and investments, including ownership interests, contracts and open housing laws.

### RES 310 Real Estate Finance. Three sem hours

Methods of financing various types of real estate including sources of funds, analysis of lenders' risks, types of loans, government influences and participation, and the secondary market.

*Prereq: RES 210 Real Estate Principles and Practices and FIN 350 Principles of Finance or department permission.*

### RES 320 Real Estate Appraisal. Three sem hours

Fundamentals of real estate appraisal including factors that affect values. Evaluation of land, improvements and special classes of property. Appraisal practice, depreciation, obsolescence and the mathematics of appraising.

*Prereq: RES 210 Real Estate Principles and Practices or department permission.*

### RES 340 Real Estate Investments. Three sem hours

Quantitative and qualitative standards in evaluating the feasibility of real estate investments. Community and investor interest, site productivity, the distinguishing characteristics of alternative real estate investments as they relate to effective land utilization.

*Prereq: FIN 350 Principles of Finance 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. Admission by application only.

*Prereq: Completion of six hours in real estate. For RES 487, completion of RES 387.*

### RES 420 Real Estate Brokerage. Three sem hours

Contract form selling techniques, office location and design, civic leadership, laws of agency, listing dialogue, effective advertising, overcoming buyers' and sellers' objections, closing statements.

*Prereq: RES 210 Real Estate Principles and Practices or department permission.*

### 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: 504 Pray-Harrold

**Department Head:** Floyd A. Patrick

**Professors:** James H. Conley, Charles Hoitash, Floyd A. Patrick  
Stewart L. Tubbs

**Associate Professors:** Fraya Andrews, P. Nick Blanchard,  
Richard Camp, Pradeep Chowdry, Robert P. Crowner, Jagdish  
Danak, Gaston DesHarnais, Lorraine Hendrickson, Gregory  
Huszczko, Jean McEnery, Mary E. Vielhaber, John L. Waitman

**Assistant Professors:** Nicholas Beltsos, Douglas D. Cantrell,  
Jack Nightingale, David A. Victor

**Instructor:** Jean Bush-Bacelis

**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

#### **Minors:**

General Business  
Management

#### **General Business Concentrations:**

Supervisory Management  
Entrepreneurship

#### **Management Concentrations:**

Human Resource Management  
Management Strategy and Control

**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:** Floyd A. Patrick

**GRADUATE STUDY** leads to the Master of Science degree in Organizational Behavior and Development (M.S.O.D.). The M.S.O.D. degree program and courses are described in the Graduate Catalog.

### Major in General Business

**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.

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.

	<b>Sem hours</b>
Practical arts (Group VI).....	56-60
Requirements (business administration core, page 185)	
Academic major in general business.....	24
1. Required business courses.....	9
ACC 342 Managerial Cost Accounting.....	3
MKT 368 Marketing Strategy.....	3
MGT 384 Personnel Administration.....	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):	
Accounting and Finance	
Management	
Marketing	
Operations Research and Information Systems	

### Major in Management

STUDENTS MAJORING IN MANAGEMENT are provided career concentration choices in management strategy and control and human resource management. Options are also available in supervisory management and in entrepreneurship.

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.

The supervisory management program is oriented toward providing the student with a functional background appropriate to first-level supervision. The entrepreneurship program is designed to develop an integrated set of skills that will provide a foundation upon which a new business venture can be started, managed and developed.

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.

	<b>Sem hours</b>
Practical arts (Group VI).....	56-60
Requirements (business administration core, page 185)	
A. Management strategy and control option.....	24
1. Required business courses.....	12
MGT 390 Introduction to Strategic Management.....	3
MGT 384 Personnel Administration.....	3
MGT 480 Social Responsibility.....	3
MGT 495 Comparative Management Systems.....	3
2. Restricted electives.....	12
Choose four courses from the following:	
MGT 403 Report Writing or MGT 403 Managerial Communication, MGT 481 Small Business Management, MGT 486 Strategies for 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 Personnel Administration.....	3
MGT 480 Management Responsibility in Society.....	3
MGT 486 Strategies for Organizational Development..	3
MGT 496 Current Issues in Personnel.....	3
2. Restricted electives.....	12
Choose four courses from the following:	
MGT 281 Basic Supervision, MGT 402 Business Report Writing or MGT 403 Managerial Communication, MGT 482 Wage and Salary Administration, MGT 483 Staffing Organizations, MGT 484 Management-Union Relations or LAW 403 Labor Law, MGT 485 The Training Function in Organizations	
C. Supervisory management option.....	24
1. Required business courses.....	12
MGT 281 Basic Supervision.....	3
MGT 384 Personnel Administration.....	3
MGT 402 Business Report Writing or MGT 403 Managerial Communication.....	3
MGT 480 Management Responsibility in Society.....	3
2. Restricted electives.....	12
Choose 12 credits from the following:	
MGT 390 Introduction to Strategic Management, MGT 482 Wage and Salary Administration, MGT 483 Staffing Organizations, MGT 484 Management-Union Relations, MGT 485 Training Functions, MGT 486 Strategies for 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)	
<i>Accounting and finance — Government and non-profit sectors:</i>	
ACC 246 Accounting for Public Administrators,	
ACC 346 Governmental Accounting	
<i>Accounting and finance — Banking:</i>	
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	
<i>Marketing and law:</i>	
MKT 261 Contemporary Selling, MKT 363 Retailing	
LAW 403 Labor Law	
<i>Business education:</i>	
BE 395 Office Administration, BE 396 Records Administration	
<i>Operations research and information systems:</i>	
ORI 219 COBOL Programming, ORI 390 Management Systems	
D. Entrepreneurship option.....	24
1. Required courses.....	15
MGT 388 Introduction to Entrepreneurship.....	3
ACC 342 Managerial Cost Accounting.....	3
FIN 352 Financial Management for Entrepreneurs.....	3
MKT 473 Marketing and Product Innovation.....	3
ORI 474 Productivity Management.....	3
2. Restricted electives.....	9
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.	

## Minors Offered in the Department of Management

### General Business Minor

General business minor (for non-business majors).....	Sem hours
(Non-teaching)	21
<b>1. Required courses.....9</b>	
ACC 240, 241 Principles of Accounting.....	6
LAW 293 Legal Environment of Business.....	3
<b>2. Restricted electives..... 12</b>	
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 Organization Theory and Development, 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	

### Management Minor

Management minor (for non-business majors).....	Sem hours
(Non-teaching)	21
<b>1. Required courses.....9</b>	
ACC 240 Principles of Accounting.....	3
MKT 360 Principles of Marketing.....	3
MGT 386 Organization Theory and Development.....	3
<b>2. Restricted electives..... 12</b>	
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 480 Management Responsibility, MGT 481 Small Business Management, MGT 482 Wage and Salary 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 Systems, MGT 496 Current Issues in Personnel	
ORI 215 Introduction to Business Information Systems, ORI 374 Production/Operations Management, ORI 390 Management Systems	

### 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: Sophomore standing or department permission.*

**MGT 281 Basic Supervision.** **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 384 Personnel Administration.** **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 Organization Theory and Development.** **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 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 Wage and Salary 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 administration for both industrial and non-industrial organizations.

*Prereq: MGT 384 Personnel Administration and MGT 386 Organization Theory and Development or department permission.*

**MGT 485 The Training Function in Organizations. Three sem hours**

Determination of training needs; development of training objectives; selection and development of resources for appropriate training experiences; implementation of training program evaluation.

*Prereq: MGT 384 Personnel Administration or department permission.*

**MGT 486 Strategies for Organizational Development. Three sem hours**

A practical approach to organizational renewal, or the strategies used to effect 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 management and the transfer of managerial philosophy and practices to other countries.

*Prereq: MGT 386 Organization Theory and Development and senior standing or department permission.*

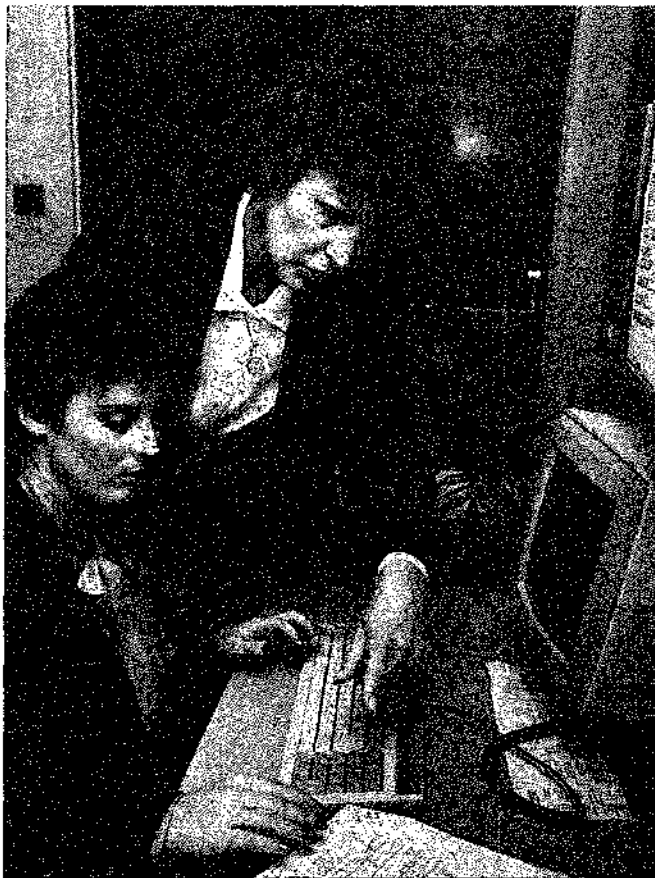
**MGT 496 Current Issues in Personnel. Three sem hours**  
A practical application of personnel management techniques to actual current business issues; specially designed workshop-type sessions for prospective managers, supervisors and personnel specialists.

*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: 512 Pray-Harrod

**Department Head:** Robert J. Williams

**Professors:** Joseph L. Braden, Thomas M. Johnson, Joe Kent Kerby, Hugh B. McSurely, Colin F. Neuhaus, Roger A. Peterson, A. Edward Spitz, Robert J. Williams

**Associate Professors:** Albert W. Belskus, Mary A. Higby, R. Rodman Ludlow, Patricia B. Weber

**Assistant Professors:** Sam D. Fullerton, G. Russell Merz, Daryl L. Negendank, Gary M. Victor, Joel S. Welher

**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

Logistics

Marketing Research

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:** Robert J. Williams

**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, logistics, marketing research, 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.

	Sem hours
<b>Practical arts (Group VI)</b> .....	56-60
Requirements (business administration core, page 185)	
<b>Academic major in marketing</b> .....	24
<b>1. Required courses</b> .....	15
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.

ENG 215 Journalism or ENG 325 Expository Writing or FA 179 Studio Experience-Graphic Design.....	3
MKT 369 Advertising.....	3
MKT 474 Promotional Strategy.....	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.

GEO 235 Economic Geography or ECO 480 International Economics.....	3
MKT 375 International Transportation Operations.....	3
MKT 460 International Marketing.....	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 Forecasting.....	3
Elective (approved by an adviser).....	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 Industrial 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 Industrial Marketing.....	3
MKT 461 Sales Management.....	3
MGT 384 Personnel Administration.....	3

## Marketing Minor

STUDENTS who are not majors in the College of Business may elect to minor in marketing.

	Sem hours
<b>Minor in marketing (for non-business majors)..... 21</b> (Non-teaching)	
1. <b>Required courses.....9</b>	
ACC 240 Principles of Accounting.....3	
MKT 360 Principles of Marketing.....3	
MGT 386 Organization Theory and Development ..... 3	
2. <b>Restricted electives.....12</b>	
Choose 12 credits from marketing courses.	

## 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 Industrial Marketing and Purchasing. Three sem hours**  
Marketing problems of manufacturers of industrial goods (machinery and equipment, raw and semi-fabricated materials, industrial supplies and component parts). Market analysis, industrial buyer behavior, purchasing procedures, pricing and negotiation, industrial selling and industrial 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.  
*Prereq: None for MKT 287; three hours of marketing for MKT 387 and 487.*

**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 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 497, 498, 499 Independent Study.** One, two, 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 313 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.*

**LAW 403 Labor Law.** Three sem hours  
The legal framework within which the business (or public) manager must make personnel and labor relations decisions; labor relations, showing historical development of government policies and outlining major problem areas.  
*Prereq: LAW 293 Legal Environment of Business.*

**LAW 435 Law and Marketing.** Three sem hours  
The influence of law on decision making in marketing; antitrust and consumer protection issues.  
*Prereq: MKT 360 Principles of Marketing and LAW 293 Legal Environment of Business.*

**LAW 455 Real Estate Law.** Three sem hours  
Legal principles involved in real estate. Evidence of title, deeds, financing, legal position of brokers, leases, zoning, real estate taxes.  
*Prereq: LAW 293 Legal Environment of Business or RES 210 Real Estate Principles and Practices.*

**LAW 479 Special Topics in Business.** Three sem hours  
Selected business law issues and topics.  
*Prereq: LAW 293 Legal Environment of Business.*

**LAW 497, 498, 499 Independent Study.** One, two, three sem hours  
Directed study of a problem in business law not otherwise treated in department courses.  
*Prereq: Senior standing and department permission.*

## OPERATIONS RESEARCH AND INFORMATION SYSTEMS

Office: 511 Pray-Harold

**Department Head: V.M. Rao Tummala**  
**Professors: Imtiaz S. Ahmad, Assad S. Khailany, Fathi Sokkar, V.M. Rao Tummala, Nesa L. Wu**  
**Associate Professors: Sergio Antiochia, Wayne C. Ellis, Badie Farah, Roger Gledhill, Hassen Mirshah, Pedro Sanchez, Charles S. Saxon, Linda Woodland, Kenneth C. Young**  
**Assistant Professors: Morrey Kramer, Stevan Mrdalj, Terry Truax**  
**Instructor: Soheila Taheri**  
**Visiting Professor: Slobodan Kvecinac**  
**Visiting Assistant Professor: P.G. Krishnan**

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

**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 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
<b>Practical arts (Group VI).....</b>	<b>56-60</b>
Requirements (business administration core, page 185)	
<b>Academic major in business computer systems.....</b>	<b>27</b>
<b>1. Required courses.....</b>	<b>24</b>
ORI 217 Software Design and Programming	
Techniques.....	3
ORI 219 COBOL Programming.....	3
ORI 315 Applied Data Structures.....	3
ORI 417 Systems Organization and Analysis.....	3
ORI 418 Operations Research.....	3
ORI 419 Data Base Management Systems.....	3
ORI 420 Data Communications and Networks.....	3
ORI 449 Information Systems Design and 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

2. **Restricted electives**.....3  
 Choose one course from the following:  
 ORI 315 Applied Data Structures, ORI 416 Computer Operating Systems, ORI 419 Data Base Management Systems, ORI 420 Data Communications and Networks, ORI 426 Advanced Structured COBOL Programming  
 ACC 446 Financial Information Systems

**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.

	<b>Sem hours</b>
<b>Practical arts (Group IV)</b> .....	<b>56-60</b>
Requirements (business administration core, page 185).	
<b>Academic major in production/operations management</b> .....	<b>24</b>
1. <b>Required courses</b> .....	<b>9</b>
ORI 219 COBOL Programming.....	3
ORI 417 Systems Organization and Analysis.....	3
ORI 418 Operations Research.....	3
2. <b>Required production/operations management courses</b> ..	<b>9</b>
ACC 342 Managerial Cost Accounting.....	3
ORI 474 Productivity Management.....	3
ORI 475 Production and Material Management.....	3
3. <b>Restricted electives</b> .....	<b>6</b>
Choose two courses from the following:	
ORI 317 System Simulation, ORI 428 Linear Programming, ORI 465 Business Statistics II	
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	

<b>Production/Operations Management Minor</b>	
<b>Minor in production/operations management (for non-business majors)</b> .....	<b>Sem hours 21</b>
(Non-teaching)	
1. <b>Required courses</b> .....	<b>15</b>
ACC 342 Managerial Cost Accounting.....	3
ORI 374 Production/Operations Management.....	3
MGT 386 Organization Theory and Development.....	3
ORI 474 Productivity Management.....	3
ORI 475 Production and Material Management.....	3
2. <b>Restricted electives</b> .....	<b>6</b>
Choose two courses from the following:	
ORI 219 COBOL Programming, ORI 417 Systems Organization and Analysis	
ACC 446 Financial Information Systems	
MGT 384 Personnel Administration	
PSY 351 Industrial Psychology	

**ORIS Courses**

**ORI 215 Introduction to Business Information Systems. Three sem hours**  
 Basic elements of business information systems including hardware, software and programming. Students will develop and execute a number of programs using a high level language. Students must complete this course by the end of their sophomore year.  
*Prereq: MTH 118 Mathematical Analysis for Social Sciences I.*

**ORI 217 Software Design and Programming Techniques. Three sem hours**  
 Structural design of software and principles of modular programming. Syntax and semantics of modern computer languages and the applications of these languages to business programming needs. The elementary concepts of data structures. Basics of information storage and retrieval techniques.  
*Prereq: ORI 215 Introduction to Business Information Systems.*

**ORI 219 COBOL Programming. Three sem hours**  
 A detailed study of the COBOL programming language, data file organization, table handling, sequential and random access methods, and other techniques typically encountered in computer-based information systems.  
*Prereq: ORI 215 Introduction to Business Information Systems.*

**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.  
*Prereq: MTH 118 Mathematical Analysis for Social Sciences I, MTH 119 Mathematical Analysis for Social Sciences II.*

**Minors Offered in the Department of Operations Research and Information Systems**

**Business Computer Systems Minor**

<b>Minor in business computer systems (for non-business majors)</b> .....	<b>Sem hours 21</b>
(Non-teaching)	
I. <b>Required courses</b> .....	<b>18</b>
ORI 215 Introduction to Business Information Systems.....	3
ORI 217 Software Design and Programming Techniques.....	3
ORI 219 COBOL Programming.....	3
ORI 417 Systems Organization and Analysis.....	3
ORI 418 Operations Research.....	3
MGT 386 Organization Theory and Development.....	3

**ORI 315 Applied Data Structures.** Three sem hours  
Design and implementation of data structures, file handling and search techniques applicable to business information systems; sorting and merging techniques. The business application of data structures including list processing, and practical experience with external files in a complete computer system environment.  
*Prereq: ORI 217 Software Design and Programming Techniques and ORI 219 COBOL Programming.*

**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.  
*Prereq: ORI 215 Introduction to Business Information Systems and ORI 265 Business Statistics I.*

**ORI 367 Computer Augmented Statistics.** Three sem hours  
Introductory statistics in the social science area. Statistical analysis including graphic techniques, averages, measures of dispersion, hypothesis testing, regression and non-parametrics.  
*Prereq: Junior standing and Math 118 Mathematical Analysis for Social Sciences 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 265 Business Statistics I and FIN 350 Principles of Finance.*

**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 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, communications and related software.  
*Prereq: ORI 219 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, executive and presentation portions of the systems; large and small operating systems to be considered for the business environment.  
*Prereq: ORI 315 Applied Data Structures.*

**ORI 417 Systems Organization and Analysis.** Three sem hours  
The role of information systems in organizations and their relationship to organizational objectives and structure. Basic techniques for representing systems structure and basic strategies for developing information systems applications.  
*Prereq: ORI 219 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.  
*Prereq: ORI 215 Introduction to Business Information Systems and ORI 265 Business Statistics I.*

**ORI 419 Data Base Management Systems.** Three sem hours  
Data base concepts for large scale information systems. Logical and physical designs for data element usage; data base management systems.  
*Prereq: ORI 315 Applied Data Structures.*

**ORI 420 Data Communications and Networks.** Three sem hours  
A broad introduction to data communications. The impact of communications technology on information systems. Communication concepts, network architectures, data processing versus data communication controversies, data communications software and hardware, distributed information systems and communication services. Cases in information systems design in a data communication environment.  
*Prereq: ORI 315 Applied Data Structures and ORI 265 Business Statistics I.*

**ORI 426 Advanced Structured COBOL Programming.** Three sem hours  
Students work in teams developing integrated information systems in structured COBOL. Searches, reporting, subprograms, random files, indexed sequential files, various sorting routines, debugging techniques, programming style, optimization techniques, structured and modular programming concepts, transferability and portability strategies, documentation, including writing program specifications and users' manuals.  
*Prereq: ORI 219 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.  
*Prereq: ORI 215 Introduction to Business Information Systems or equivalent.*

**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, sub-programs and advanced I/O 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, sub-routines, 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 Introduction to Business Information Systems or equivalent.*

**ORI 449 Information Systems Design and Projects.** Three sem hours  
A capstone course designed to fit together all the concepts from previous courses regarding information system development. Experience in analyzing, designing, implementing and evaluating information systems.  
*Prereq: ORI 417 Systems Organization and Analysis and ORI 419 Data Base Management Systems.*

**ORI 465 Business Statistics II.** Three sem hours  
Statistical methodology with an emphasis on business applications. Reviews of descriptive measures, probability, sampling and sampling distributions; properties of parametric point estimators, classical techniques in interval estimation of parameters and testing of hypotheses, and introduction to nonparametric techniques, simple and multiple linear correlation and regression, and analysis of variance.  
*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**

# COLLEGE OF 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 14 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 (Group IV) is based on the following:

1. A minimum EMU grade point average of at least 2.50 and at least 2.5 in the teaching major (secondary) or three minors (elementary).
2. 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 and successful completion of Basic Studies requirements;
  - c. written expression as determined by successful completion of all Basic Studies requirements and a review of each

student's autobiography submitted as a part of the College of Education admission process;

- d. mathematical computation as determined by EMU admissions policies and completion of Basic Studies requirements (science and mathematics).
3. Satisfactory health status.
4. 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.
5. 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 Group IV professional education course. This includes all Group IV methods classes listed by cross reference in departments, even though the courses also are listed by and taught in departments outside of the College of Education.

*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 their decision about choosing teaching as a career. It also enables students to better understand how the professional education courses in human development and learning, social aspects of teaching, and curriculum and methods relate to the classroom.

A minimum of 100 hours of pre-student teaching experiences are required of all candidates for a teaching certificate. *At least 50 percent of the experience must be in a classroom situation with the 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:

1. describe some of the major issues confronting the school in society;
2. describe the organization and operation of a public school;
3. explain some classroom management skills;
4. understand how students in the public schools behave and learn;
5. describe some teaching methods and teaching behaviors;
6. make a valid decision concerning teaching as a career.

Students may and should elect the pre-school teaching experience early in their college career.

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 four semester hours of student teaching with non-impaired children and an additional four to eight 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
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 speech, written English and mathematics as defined and measured by the appropriate academic departments.
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 second semester junior with the majority of major courses completed to apply for student teaching.
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 a 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 granted guest student status 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:

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.
6. Elementary program: CUR 314 Teaching Reading in the Elementary School and MTH 381 The Teaching of Mathematics K-6

**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). 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, Mary A. Green, Marvin J. Johnson, 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, Michael H. Jones, Valerie T. Moffett, Michael J. Paciorek, Robert C. Parks, Aggie Rainwater, Ronald J. Saunders, Matilda Y. Sayegh, Claudia B. Wasik, Winifred Witten

**Assistant Professors:** Douglas W. Briggs, Russell L. Bush, Jean E. Folkert, Allan P. Freund, Robbie A. Johnson, Joann McNamara, Gloria D. Neve, Ronald E. Oestrike, Dominic A. Taddonio, Ronald M. Venis, Wayne Williams, Charlotte K. Wixom

**Instructors:** Linda Hemmelgarn, Harriet Payne, Gary Strickland

**ALL UNIVERSITY STUDENTS** take courses in the Department of Health, Physical Education, Recreation and Dance as part of their general degree preparation. Health and activity courses enhance students' personal development and their use of leisure.

In addition, the department provides career education in the 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 combative 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 new 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, and the National and Michigan Recreation and Park Associations. 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  
Therapeutic Recreation  
Sports Medicine

### Minors:

Athletic Coaching  
Dance  
Health  
Secondary Physical Education  
Physical Education for Special Education  
Recreation and Park Management

**Concentrations:** Students may utilize the electives in their major program, both academic and activity courses, to emphasize a special area of interest in their professional preparation.

**AN ADVISER** for all declared majors in the department is assigned by the advising coordinator, who directs students to individual faculty members. The list of officially assigned advisees is posted in room 235 of Warner Physical Education Building. If a student is not on the list or wishes to become a declared major, he/she should initiate the necessary paper work in the department office, 235 Warner.

It is recommended that students seek out their adviser as soon as possible to establish a course of study leading to the degree sought.

**ADVISING COORDINATORS:** Faculty in each of the professional programs are assigned advising responsibilities for those who declare their majors in one of the four disciplines. Coordinators are:

### Curricula:

Teachers of Dance: Linda Hemmelgarn  
Teachers of Physical Education: Michael Paciorek  
Recreation and Park Management: Agnes Rainwater  
Therapeutic Recreation: Agnes Rainwater  
Sports Medicine: John E. Sheard

### Minors:

Coaching: Patric Cavanaugh  
Dance: Linda Hemmelgarn  
Health: John E. Sheard  
Physical Education: Michael Paciorek  
Physical Education Minor for Special Education: Michael Paciorek  
Recreation and Park Management: Agnes Rainwater

**ADMISSION** to the department is required prior to acceptance in a major or minor program. To initiate this process, students must submit an application for program admission to the department head. Applications may be obtained in the department office, 235 Warner Physical Education Building.

Information regarding admission to the College of Education can be found on page 202.

**FIELD WORK** is a criteria of individual professional programs. Extracurricular assignments enhance the practical application of knowledge learned in the classroom.

**CERTIFICATION** is dependent upon the professional program a student selects. Each of the major and minor programs allows students to fulfill professional preparation for different careers.

**GRADUATE STUDY** leads to the master's degree in physical education. For descriptions of graduate courses and programs, consult the Graduate Catalog.

## Curriculum for Teachers of Dance

**THE DANCE CURRICULUM** emphasizes dance education but is designed with flexibility to give students broad based experience as a foundation for other dance careers as performers, dance therapists and arts council staff members. Performance criteria, built into the program, allow all students to practice knowledge gained in the studio and classroom. The curriculum leads to the

Bachelor of Science degree and, if desired, the Elementary or Secondary Provisional Certificate in teaching.

Students electing teacher certification must complete as a minimum the major requirements in dance and one minor of 20 semester hours or a group minor of 24 semester hours in a subject field in which the student expects to teach. Elementary Provisional Certificate candidates must consult with the director of Academic Records and Certification or the director of the Academic Advising Center regarding special requirements.

Students selecting other than a teaching emphasis are advised to seek a minor to enhance the dance major requirements such as drama, music, history, journalism, business or psychology. 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. A technical assessment in modern dance and classical ballet;
3. A course of study planned with a dance adviser.

All students must meet the Basic Studies requirements and the other courses specified below.

	<b>Sem hours</b>
<b>Language</b> .....	<b>8-9</b>
Requirements 1, 2 and 3 (Box page 26).....	8-9
<b>Science and mathematics</b> .....	<b>10-12</b>
BIO 105 Biology and the Human Species.....	4
*Requirement 2 (Box page 26).....	3-5
PSY 101 General Psychology.....	3
* <i>MTH 108 Functional Mathematics I is recommended for those seeking elementary certification</i>	
<b>Social sciences</b> .....	<b>12</b>
Requirements 1, 2 and 3 (Box page 27).....	12
<b>Humanities</b> .....	<b>12</b>
Requirements 1 and 2 (Box page 27).....	9
DAN 106 Introduction to the Performing Arts.....	3
<b>Education (Group IV)</b> .....	<b>25</b>
(Courses in this group are optional; required only if desiring a teaching certificate)	
CUR 311 Teaching of Reading.....	3
EDP 322 Human Development and Learning.....	4
SFD 328 Social Aspects of Teaching.....	3
DAN 354 Methods and Materials in the Teaching of Dance.....	3
PED 440 Tests and Measurements in Physical Education.....	2
EDU 495 and 496 Student Teaching.....	8
Elective: Computer Applications.....	2
<b>Physical education and health-dance (Group VII)</b> .....	<b>45</b>
DAN 107 Rhythmic Analysis and Dance Accompaniment.....	3
PED 200 Anatomy and Physiology.....	5
DAN 245 Elements of Dance Composition.....	3
DAN 255 Dance Production.....	3
DAN 350 Dance History.....	3
DAN 450 Advanced Dance Composition.....	4
DAN 455 Seminar in Dance.....	2
Electives.....	7
Choose seven credits in related areas, in consultation with advising coordinator for dance.	
Required studio courses.....	15
PEP 108 Classical Ballet Technique I.....	1
PEP 109 Classical Ballet Technique II.....	1
PEP 116 Modern Dance Technique I.....	1
PEP 120 Modern Dance Technique II.....	1
PEP 132 Modern Dance Technique III.....	2
PEP 150 Modern Dance Technique IV.....	2

PEP 208 Classical Ballet Technique III.....	2
PEP 209 Classical Ballet Technique IV.....	2
PEP 231 Service Teaching.....	1
PEP 233 Service Teaching.....	1
PEP 255 Jazz Dance II.....	1

**Studio electives may be chosen from the following:**

PEG 103 Couple, Square and Ballroom Dance.....	1
PEG 155 Jazz Dance I.....	1
PEG 158 Folk Dance.....	1
PEG 159 Tap Dance.....	1
PEG 224 Folk Dance Methods.....	1

<b>Electives</b> .....	<b>9-12</b>
<b>Total</b> .....	<b>124</b>

## 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 HPER&D Department and the Special Education Department 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.

	<b>Sem hours</b>
<b>Language</b> .....	<b>8-9</b>
Requirements 1, 2 and 3 (Box page 26).....	8-9
<b>Science and mathematics</b> .....	<b>10-12</b>
Requirements 1, 2 and 3 (Box page 26).....	10-12
<b>Social sciences</b> .....	<b>12</b>
Requirements 1, 2 and 3 (Box page 27)	12
<b>Humanities</b> .....	<b>12</b>
Requirements 1, 2 and 3 (Box page 27).....	12
<b>Education (Group IV)</b> .....	<b>25</b>
EDP 322 Human Development and Learning.....	4
SFD 328 Social Aspects of Teaching.....	3
CUR 311 Teaching of Reading.....	3
PED 367 Methods and Materials in Physical Education.....	2
PED 440 Tests and Measurements in Physical Education.....	2
EDU 495 and 496 Student Teaching.....	8
Elective: Computer Applications.....	2
<b>Physical education and health (Group VII)</b> .....	<b>45</b>
PED 200 Anatomy and Physiology.....	5
PED 204 Kinesiology.....	2
PED 240 History and Philosophy of Physical Education.....	2
PED 300 Physiology of Exercise.....	3
PED 312 Athletic Training and Physio-Therapy or HED 210 Standard American Red Cross First Aid....	2
PED 334 Adapted Physical Education.....	2

Electives..... 14  
 Choose 14 crédits in area-related physical education courses  
 in consultation with advising coordinator.  
 Physical Education major activity courses..... 15  
 (See sports skill courses below)  
**Minor requirements**..... 20-24  
**Total**.....132-139

**Sports Skills Courses  
 for the Physical Education Major**

**SPORTS SKILL COURSES** required for the physical education major are designed to provide the student with a general background in the skills area and the opportunity to specialize in a specific interest area. The courses are divided into six different groups and must be selected from each group as specified. In addition, one hour may be elected from any skills course not listed in each of the groups.

**Sem hours**  
**Physical education major activity courses**..... 15 minimum

**Group A—Team sports**.....2

Choose two courses from the following (one at intermediate level):

- PEG 108 Basketball or PEP 237 Intermediate Basketball
- PEG 111 Volleyball or PEP 236 Intermediate Volleyball
- PEG 235 Softball
- PEG 239 Soccer

\*Additional courses approved as electives:

- PEG 152 Track and Field
- PEG 234 Field Hockey
- PEG 139 Flag Football and Speed-a-way
- PEG 238 International and Ethnic Games

**Group B—Individual sports**.....2-3

Choose one course from the following:

- PEG 101 Weight Control and Fitness
- PEG 126 Conditioning Activities
- PEG 152 Track and Field
- PEG 224 Jogging

Choose one course from the following:

- PEG 148 Tennis or PEG 248 Intermediate Tennis
- PEG 149 Badminton or PEG 228 Intermediate Badminton

\*Additional courses approved as electives:

- PEG 123 Wrestling
- PEG 143 Fencing
- PEG 147 Archery
- PEG 150 Golf
- PEG 151 Bowling
- PEG 221 Cycling
- PEG 225 Intermediate Golf
- PEG 243 Intermediate Fencing

**Group C—Gymnastics**..... 2

Choose two courses from the following:

- PEG 119 Women's Gymnastics
- PEG 122 Men's Gymnastics I
- PEG 216 Teaching Women's Gymnastics
- PEG 219 Women's Intermediate Apparatus
- PEG 222 Men's Gymnastics II
- PEG 316 Intermediate Tumbling and Floor Exercise for Women
- PEG 315 Teaching Gymnastics
- PEG 415 Judging and Coaching Men's Gymnastics

**Group D—Aquatics**.....1-2

Choose one course from the following:

- PEG 153 Beginning Swimming
- PEG 253 Intermediate Swimming
- PEP 129 Aquatics
- PEG 117 Synchronized Swimming
- PEG 254 Diving and Competitive Swimming
- PEG 353 Lifesaving
- PEG 453 Water Safety Instructors Course
- PEG 348 Scuba Diving

\*Electives include service teaching courses

**Group E—Dance**.....1

Choose one course from the following:

- PEG 103 Couple, Square, and Ballroom Dancing
- PEG 132 Beginning Modern Dance Methods
- PEG 116 Beginning Modern Dance Techniques
- PEG 120 Intermediate Modern Dance Techniques
- PEG 150 Advanced Techniques and Composition of Modern Dance
- PEG 155 Jazz I
- PEG 159 Tap Dancing
- PEG 161 Modern Dance
- PEG 158 Folk Dance
- PEG 224 Folk Dance Methods
- PEG 255 Jazz II
- PEG 160 Ballet
- PEG 260 Intermediate Ballet
- PEG 258 Intermediate Folk Dance

**Group F—Elementary**.....2-3

PEG 300 Activities for the Elementary Grades

(required of all majors).....2

Students seeking K-12 endorsement must take one of the following courses to fulfill the three semester hour requirement:

- PEG 301 Early Elementary Physical Education
- PEG 302 Later Elementary Physical Education

Elective:

- PEG 110 Fundamentals of Movement

\*Service teaching courses (PEG 231, 233, 331 and 333) may be used as electives in fulfilling the requirement with a limit of one per group up to a maximum of two courses. Permission must be granted from the instructor with whom service teaching will be completed.

**Curriculum for Recreation and  
 Park Management**

**THE RECREATION AND PARK MANAGEMENT** curriculum is designed to prepare students for a broad range of professional career options, including municipal and regional recreation, state and federal park agencies, college intramurals and student unions, commercial and private recreation, outdoor adventure programs, industrial recreation, armed forces recreation, resorts and tourism.

The curriculum is multidisciplinary, including coursework in management and the social sciences with a required core of recreation leadership, programming, administration and management courses. Students are counseled in selecting electives from recreation and related subject areas that will further prepare them for careers in their chosen areas of interest. Experiences in the field are provided through a requirement of 250 volunteer and/or paid hours. A GPA of 2.50 overall and 2.75 in the major is required. A 15-consecutive-week, full-time, 600-hour practicum is required after completion of coursework.

The program leads to a Bachelor of Science degree. This is an extended major, which requires no minor, although an outside minor is strongly recommended. A minor in recreation and park management is offered to majors in other fields. Both the major and the minor are non-teaching programs.

	Sem hours
<b>Language (Group I)</b> .....	8-9
ENG 121 English Composition.....	3
ENG 226 Report and Research Writing.....	3
CTA 121 or 124 Fundamentals of Speech.....	2-3
<b>Science and mathematics (Group II)</b> .....	13-14
BIO 105 Biology and the Human Species <i>or</i>	
GES 108 Earth Science.....	4
MTH 104 Intermediate Algebra or higher level	
math course.....	3
PSY 101 or 102 General Psychology.....	3-4
CSC 136 Computers for the Non-specialist.....	3
<b>Social sciences (Group III)</b> .....	12
PLS 112 or 113 American Government <i>or</i>	
PLS 202 State and Local Government.....	3
One history course.....	3
SOC 105 Introductory Sociology and one other sociology	
course or a two-course sequence in geography.....	6
<b>Humanities</b> .....	11
Two literature courses.....	6
One course in philosophy or religion.....	3
MUS 224 Recreational Music.....	2
<b>Recreation and park management major</b> .....	55
<b>Required courses</b> .....	43
REC 100 Introduction to Recreation/Leisure	
Services.....	3
REC 200 Introduction to Therapeutic Recreation...3	
REC 250 Field Work.....	1
REC 260 Recreation Leadership.....	3
REC 310 Leisure and the Older Adult.....	3
REC 320 Leisure Education.....	3
REC 360 Recreation Program Planning.....	3
REC 390 Outdoor Recreation.....	3
REC 450 Park Planning and Design.....	3
REC 451 Park Maintenance and Management.....	2
REC 460 Park and Recreation Administration.....	3
REC 489 Practicum.....	8
MGT 202 Business Communications.....	3
HED 210 Red Cross First Aid.....	2
<b>Restricted electives</b> .....	6
Choose six hours from the following:	
REC 251, 252, 253 Field Work, REC 280 Camping,	
REC 370 Youth Organizations, REC 477, 478, 479	
Special Topics, REC 481 Adapted Aquatics	
PED 421 Legal Aspects of Sport, Physical Education	
and Recreation	
IE 152 Arts and Crafts	
BIO 224 Principles of Conservation, BIO 232 Nature	
Interpretation	
GES 114 National Parks and Monuments, GES 315	
Land Use Planning	
GEO 112 Careers in Travel and Tourism, GEO 344	
Recreation Geography	
PSL 431 Theory of Public Administration	
ACC 246 Accounting for Public Administration	
CTA 352 Communication Negotiations, CTA 355	
Assertive Communication	

<b>Activity courses</b> .....	6
Required: swimming (any level).....	1
Choose five of the following.....	5
PEG 101 Weight Control and Fitness or PEG 126	
Conditioning.....	1-2
PEG 102 Aerobics.....	1
PEG 103 Square/Ballroom Dance or PEG 158	
Folk Dance.....	1
PEG 121 Orienteering.....	1
PEG 142 Racquetball.....	1
PEG 144 Trap and Skeet.....	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 Sailing.....	1
PEG 156 Canoeing.....	1
PEG 244 Recreational Shooting and Hunting	
Safety.....	1
PEG 321 Backpacking.....	1
<b>Electives</b> .....	23-25
<b>Total</b> .....	124

No minor is required but one is strongly recommended.

### Therapeutic Recreation Curriculum

**THE THERAPEUTIC RECREATION** curriculum leads to a Bachelor of Science degree in therapeutic recreation. Graduates of this program may apply for national certification as certified therapeutic recreation specialists.

The curriculum consists of Basic Studies, the therapeutic recreation major, general electives and 250 hours of volunteer and/or paid recreation experience before taking a full-time 15-week practicum.

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. Autobiographic sketch.
3. Statement of professional goals.

#### Criteria for therapeutic recreation candidate status:

1. Completed application for therapeutic recreation candidate status.
2. A minimum of 30 credit hours at EMU, including REC 100 Introduction to Recreation/Leisure Services, REC 200 Introduction to Therapeutic Recreation and REC 250 Field Work in Recreation/Therapeutic Recreation.
3. A minimum grade point average of 2.75 overall and 3.0 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.

	Sem hours
<b>Language</b> .....	8-9
ENG 121 English Composition.....	3
ENG 226 Report and Research Writing.....	3
CTA 121 or 124 Fundamentals of Speech.....	2-3
<b>Science and mathematics</b> .....	16-17
MTH 104 Intermediate Algebra or MTH 105 College Algebra.....	3
CSC 136 Computers for the Non-Specialist.....	3
BIO 105 Biology and the Human Species.....	4
PSY 101 or 102 General Psychology.....	3-4
PSY 365 Behavior Modification.....	3
<b>Social sciences</b> .....	12
PLS 112 or 113 American Government or PLS 202 State and Local Government.....	3
One history course.....	3
SOC 105 Introductory Sociology and one other sociology course.....	6
<b>Humanities</b> .....	11
Two literature courses.....	6
A philosophy or religion course.....	3
MUS 224 Recreational Music.....	2
<b>Therapeutic recreation major</b> .....	68
<b>1. Required courses</b> .....	52
REC 100 Introduction to Recreation and Leisure Services.....	3
REC 180 Recreational Activities Analysis.....	2
REC 200 Introduction to Therapeutic Recreation.....	3
REC 250 Field Work.....	1
REC 260 Recreation Leadership.....	3
REC 300 Therapeutic Recreation for Special Populations.....	3
REC 310 Leisure and the Older Adult.....	3
REC 320 Leisure Education.....	3
REC 340 Techniques in Therapeutic Recreation.....	3
REC 360 Recreation Program Planning.....	3
REC 365 Professional Preparation.....	1
REC 400 Therapeutic Recreation Processes and Services..	3
REC 449 Therapeutic Recreation Practicum.....	8
REC 460 Park and Recreation Administration.....	3
RED 465 Recreation Management.....	3
PED 200 Anatomy and Physiology.....	5
HED 210 Red Cross First Aid.....	2
<b>2. Restricted electives</b> .....	12
Choose 12 credits from the following:	
REC 251, 252, 253 Field Work, REC 330 Therapeutic Recreation for the Substance Abuser, REC/PED 281 Adapted Aquatics, REC 390 Outdoor Recreation, REC 450 Park Planning and Design, REC 477, 478, 479 Current Topics	
PED 204 Kinesiology, PED 344 Adapted Physical Edu- cation, PED 384 Physical Education for the Visually and Hearing Impaired, PED 385 Special Olympics, PED 386 Physical Education for the Mentally Im- paired, PED 421 Legal Aspects of Sport, Physical Education and Recreation	
IE 152 Arts and Crafts	
SGN 251 Education of Exceptional Children	
CTA 226 Non-Verbal Communication, CTA 227 Inter- personal Communication, CTA 326 Developmental Drama/Theatre with Handicapped Persons	
MUS 103 Music Therapy	
Courses in psychology, sociology, gerontology, drug abuse or social deviance	

<b>Activities courses</b> .....	4
Required: swimming (any level).....	1
Choose three of the following.....	3
PEG 102 Aerobics.....	1
PEG 103 Square/Ballroom Dance.....	1
PEG 121 Orienteering.....	1
PEG 146 Archery.....	1
PEG 148 Tennis.....	1
PEG 149 Badminton.....	1
PEG 150 Golf.....	1
PEG 151 Bowling.....	1
PEG 156 Canoeing.....	1
PEG 158 Folk Dance.....	1
PEG 321 Backpacking.....	1
<b>General electives</b> .....	7-9
<b>Total</b> .....	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 42 semester hours in basic studies, a minimum of 56 semester hours in sports medicine related courses and 26 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 as "intents" and cannot be considered for candidacy until the following criteria are met:

1. Declare major intent with the Academic Advising Center.
2. Overall grade point average at Eastern Michigan University of 2.5 (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.
6. Biographical sketch.

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.

<b>Language</b> .....	8-9
Requirements 1 and 2 (box, page 26).....	5-6
ENG 225 Intermediate English Composition.....	3
<b>Science and mathematics</b> .....	15
BIO 105 Biology and Human Species.....	4
CHM 120 Fundamentals of Organic and Biochemistry....	4
PHY 221 Mechanics, Heat and Sound.....	4
PSY 101 General Psychology.....	3

<b>Social sciences</b> .....	<b>9</b>
Requirements 1, 2 and 3 (box, page 27).....	9
<b>Humanities</b> .....	<b>12</b>
Requirements 1 and 2 (box, page 27).....	9
DAN 106 Introduction to Performing Arts.....	3
<b>Sports medicine - athletic training option</b> .....	<b>56</b>
ATH 119 Orientation to Athletic Training.....	1
ATH 220 Remedial Exercises and Therapeutic Modalities.....	2
ATH 225 Practicum I.....	2
ATH 315 Psychology of Sports Competition.....	2
ATH 320 Recognition and Assessment of Athletic Injuries.....	2
ATH 325 Practicum II.....	2
ATH 390 Pre-Internship.....	2
ATH 419 Medical Aspects of Athletic Training.....	2
ATH 490 Internship.....	8
HEC 202 Human Nutrition.....	3
HED 310 Advanced First Aid and Emergency Care.....	3
HED 390 Drug Use and Abuse.....	3
NUR 270 Pharmacology.....	2
PED 200 Anatomy and Physiology.....	5
PED 204 Kinesiology.....	2
PED 209 Bio-Fitness.....	2
PED 300 Physiology of Exercise.....	3
PED 305 Practical Concepts of Conditioning.....	2
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.....	2
<b>Sports medicine - Exercise science option</b> .....	<b>53</b>
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 200 Anatomy and Physiology.....	5
PED 204 Kinesiology.....	2
PED 209 Bio-Fitness.....	2
PED 300 Physiology of Exercise.....	3
PED 305 Practical Concepts of Conditioning.....	2
PED 310 Physiology of Human Performance.....	2
PED 425 Practicum.....	2
PED 410 Techniques of Human Performance Analysis..	3
PED 421 Legal Aspects of Sports.....	2
PED 490 Internship.....	8
ZOO 318 Anatomy Lab for Sports Medicine Students..	2
Physical education activity courses.....	4
(swimming, jogging, conditioning activities, aerobic dance, cycling, weight training)	
<b>Free electives</b> .....	<b>23-26</b>
<b>Total</b> .....	<b>124</b>

	<b>Sem hours</b>
<b>Minor in coaching</b> .....	<b>20</b>
(Non-teaching)	
<b>1. Required courses</b> .....	<b>11</b>
PED 200 Anatomy and Physiology.....	5
PED 204 Kinesiology.....	2
PED 312 Athletic Training and Physiotherapy.....	2
ATH 316 Foundations of Coaching.....	2
<b>2. Restricted electives</b> .....	<b>8-10</b>
<b>Group A</b> .....	<b>2-3</b>
Choose two or three credits from the following:	
PED 300 Physiology of Exercise or PED 310 Physiology of Human Performance	
<b>Group B</b> .....	<b>2</b>
Choose two credits from the following:	
ATH 315 Psychology of Coaching or PED 305 Practical Concepts of Conditioning	
<b>Group C</b> .....	<b>4-5</b>
Choose four or five credits from the following:	
ATH 261 Techniques of Officiating Men's Sports, ATH 263 Theory of Football, ATH 265 Theory of Baseball, ATH 267 Theory of Basketball, ATH 269 Theory of Track and Field, ATH 317 Theory of Coaching Individual Women's Sports, ATH 318 Theory of Coaching and Teaching Women's Team Sports, ATH 513 Coaching Women's Gymnastics, ATH 514 Judging Women's Gymnastics PEP 233 or PEP 331 Service Teaching PED electives from Group A and Group B	

**Dance Minor**

**STUDENTS** planning admission to the dance minor must complete the following:

1. An application at 223 Warner Physical Education Building;
2. A technical assessment in modern dance and ballet;
3. A course of study planned with a dance adviser.

	<b>Sem hours</b>
<b>Minor in dance</b> .....	<b>28-32</b>
<b>Theory courses</b>	
<b>1. Required courses</b> .....	<b>12</b>
DAN 106 Introduction to the Performing Arts.....	3
DAN 107 Rhythmic Analysis and Dance Accompaniment.....	3
DAN 245 Elements of Dance Composition.....	3
DAN 350 Dance History.....	3
<b>2. Restricted electives</b> .....	<b>5-7</b>
Choose two courses from the following:	
DAN 255 Dance Production, DAN 450 Advanced Dance Composition (with approval of advisor), DAN 455 Seminar in Dance	
<b>3. Elective(s)</b> to be chosen from dance or related areas, with approval of adviser.....	<b>1-3</b>
<b>Studio courses</b>	
<b>1. Restricted electives</b> .....	<b>5-7</b>
Choose three courses from the following:	
PEP 116 Modern Dance Technique I, PEP 120 Modern Dance Technique II, PEP 132 Modern Dance Tech- nique 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	
<b>2. Electives</b> to be chosen from other dance studio courses.....	<b>5</b>

**Minors Offered in the Department of  
Health, Physical Education, Recreation and Dance**

**Coaching Minor**

**DESIGNED** for those students intending to pursue coaching as a full- or part-time activity, the minor, however, is not to be considered a teaching minor. It is not recognized as a Michigan Department of Education certified minor.

### 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
<b>Minor in health</b> .....	<b>24</b>
<b>1. Required courses</b> .....	<b>21</b>
HED 210 Red Cross First Aid .....	2
HED 302 Communicable Diseases .....	1
HED 303 Elements of Nutrition Fitness .....	1
HED 304 Chronic Degenerative Diseases .....	1
HED 305 Mental Health .....	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 400 Health Education Curriculums .....	3
<b>2. Restricted electives</b> .....	<b>3</b>
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
<b>Minor in physical education</b> .....	<b>24</b>
<b>1. Required courses</b> .....	<b>18-19</b>
PED 200 Anatomy and Physiology .....	5
PED 204 Kinesiology .....	2
PED 300 Physiology of Exercise or PED 310 Physiology of Human Performance .....	2-3
HED 210 Standard American 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 .....	2
An elective .....	2
<b>2. Restricted electives</b> .....	<b>5-6</b>
Choose five or six credits professional physical education activity courses in consultation with advising coordinator	

### Physical Education Minor for Special Education Majors

	Sem hours
<b>Minor in physical education for special education majors</b> .....	<b>20</b>
<b>1. Required courses</b> .....	<b>12-17</b>
*PED 200 Anatomy and Physiology .....	5
PED 204 Kinesiology .....	2
PED 257 Physical Education for the Classroom Teacher .....	2
PED 281 Motor Development .....	3
PED 334 Adapted Physical Education .....	2
PED 282 Perceptual-Motor Training .....	1
PED 384 Physical Education for the Visually and Hearing Impaired .....	1
PED 386 Physical Education for the Mentally Impaired .....	1

<b>2. Electives</b> .....	<b>3-4</b>
Choose three to eight credits from the following:	
PED 240 History and Philosophy of Physical Education, PED 300 Physiology of Exercise, PED 310 Physiology of Human Performance, PED 367 Methods and Materials in Physical Education and Recreation, PED 385 Special Olympics, PED 481 Adapted Aquatics	
PEP 301 Early Elementary Physical Education, PEP 302 Later Elementary Physical Education	
REC 200 Introduction to Therapeutic Recreation, REC 300 Recreation for Special Populations	
DAN 456 Creative Dance for Children	
HED 210 Standard American Red Cross First Aid	
<b>NOTE:</b> Students seeking adapted physical education approval must take PED 490 Field Experience in Adapted Physical Education in addition to the above requirements.	
<i>*P.O.H.I. majors are exempt from PED 200 Anatomy and Physiology and will take five semester hours of electives in physical education courses.</i>	

### Recreation and Park Management Minor

	Sem hours
<b>Minor in recreation and park management</b> .....	<b>24</b>
<b>1. Required courses</b> .....	<b>15</b>
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
<b>2. Electives</b> .....	<b>5</b>
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	
IE 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 pages 28-29 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, Briggs 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 I.....	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 I.....	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
PEG 234 Varsity Gymnastics.....	1
PEG 235 Varsity Wrestling.....	1
PEG 236 Varsity Track.....	1
PEG 237 Varsity Baseball.....	1
PEG 238 Varsity Golf.....	1
PEG 239 Varsity Tennis.....	1
PEG 240 Varsity Volleyball .....	1
PEG 241 Varsity Field Hockey.....	1
PEG 242 Varsity Softball .....	1
PEG 245 Precision Drill Team .....	1
PEG 309 Jishukan Jujitsu — Sankyu Brown Belt .....	1
PEG 321 Backpacking.....	1
PEG 324 Long Distance Running.....	1
PEG 348 Basic Scuba Diving.....	2
PEG 353 Lifesaving.....	2
PEG 453 Water Safety Instructor — ARC .....	2

**Athletic Courses**

**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 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 Men's Sports. Two sem hours**  
A study of the rules and techniques of officiating several interscholastic sports.

**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 inter-school 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.*

## 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 efficient and 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.** One 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 intended 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 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.

**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 used and 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 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 200 Anatomy and Physiology.**

**Five sem hours**  
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.

**PED 204 Kinesiology (Mechanics of Movement).**

**Two sem hours**  
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.*

**PED 209 Bio-Fitness.**

**Two sem hours**  
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.

**PED 240 History and Philosophy of Physical Education.**

**Two sem hours**  
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.

**PED 257 Physical Education for the Classroom Teacher.**

**Two sem hours**  
A methods and materials course in which the prospective classroom teacher gains knowledge in organizing and implementing a physical education program.

**PED 281 Motor Development.**

**Three sem hours**  
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.

**PED 282 Perceptual Motor Training.**

**One sem hour**  
Planning and effecting gross motor activity programs for students with neurological dysfunction. Assessment procedures and activity sequences. Supervised field experiences required.

**PED 300 Physiology of Exercise.**

**Three sem hours**  
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.*

**PED 305 Practical Concepts of Conditioning.**

**Two sem hours**  
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.

**PED 310 Physiology of Human Performance.**

**Two sem hours**  
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.

**PED 312 Athletic Training and Physiotherapy.** Two sem hours  
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.*

**PED 316 Foundations of Coaching.** Two sem hours  
Practical and scientific information necessary for the implementation of a successful coaching program.

**PED 334 Adapted Physical Education.** Two sem hours  
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.

**PED 367 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 384 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 385 Special Olympics.** Three sem hours  
Planning and effecting Special Olympics participation for mentally impaired students. Task analysis, organization, instructional techniques and program content. Supervised field experiences required.  
*Prereq: PED 386 Physical Education for the Mentally Impaired and either PED 281 Motor Development or PED 334 Adapted Physical Education.*

**PED 386 Physical Education for the Mentally Impaired.** One sem hour  
Planning and effecting physical education programs for trainable and severely mentally impaired students. Assessment procedures, teaching strategies and activity sequences. Supervised field experiences required.  
*Prereq: PED 281 Motor Development or PED 334 Adapted Physical Education.*

**PED 405 Women in Sports.** Three sem hours  
Patterns, problems and conditions associated with women's sports involvement in selected world cultures; the sportswoman 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 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 425 Sports Medicine Practicum—Exercise Science.** Two sem hours  
Experience in measurement and establishing exercise programs based upon those measurements for the young, healthy adult; 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 440 Tests and Measurements in Physical Education.** Two sem hours  
The discriminating selection, administration, interpretation and use of standardized tests and measurements in physical education.

**PED 441 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 gymnasiums, swimming pools, athletic fields and various facilities.  
*Prereq: Junior or senior standing.*

**PED 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.

**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 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**

The concept of leisure; the professional field of recreation and parks, its history, philosophy and principles; economics and future development in the field.

**REC 180 Recreational Activities Analysis. Two sem hours**  
Recreational activities analysis relative to youth groups, senior citizens, ethnic groups and the disabled in a variety of environments.

### REC 200 Introduction to Therapeutic Recreation.

**Three sem hours**

An overview of therapeutic recreation involving physically disabled, mentally impaired, emotionally impaired, socially deviant, the aged and substance abusers within clinical, agency and community settings. Lectures, discussion, films, 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 recreational leadership within a community or clinical setting. Students spend 60 hours on-site for one credit hour, 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 applications of various leadership methods and procedures in a cross section of leisure service settings (including parliamentary procedure). Lectures, discussions and experiential learning.

*Prereq: REC 100 Introduction to Recreation/Leisure Services.*

### REC 280 Camping.

**Two sem hours**

Various kinds of camp situations. Methods of planning and managing camps, how to choose a camp site, kinds of camp shelters, sanitation, survival techniques, safety provisions, leadership and woodcraft.

### REC 281 Social Crafts for the Disabled.

**Two sem hours**

Presents essential information on planning, developing and programming recreational crafts for special populations. Emphasizes social interaction within recreational settings as well as use of scrap materials to minimize costs and to maximize creative expression.

### REC 300 Therapeutic Recreation for Special Populations.

**Three sem hours**

Leadership techniques in adaptation of activities and programming to meet the leisure needs of special groups in today's society. Task analysis, several facilitation techniques, leisure counseling, programming and adaptation of specific techniques. Lectures, activity participation and 30 hours of community field work.

*Prereq: REC 200 Introduction to Therapeutic Recreation.*

### REC 310 Leisure and the Older Adult.

**Three sem hours**

An interdisciplinary approach for working with older persons in the community through all aspects of health, physical activities and fitness, recreation and dance. Lectures, speakers, active participation and practical experiences with older persons.

### 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 user and a provider of leisure services. Lectures, 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 substance abuse. Skill development in areas of leisure education, group dynamics, facilitation techniques, communication, value clarification, decision-making, games and sports, new games, socialization and outdoor/nature techniques. Lectures, discussions and experiential learning.

### REC 340 Techniques in Therapeutic Recreation. Three sem hours

A basic introduction to specific techniques utilized in therapeutic recreation, including lifts and transfers, behavior management, group techniques, overview of basic therapies and leadership techniques for a variety of special populations. Lecture, demonstration and outside assignments.

### REC 360 Recreation Program Planning.

**Three sem hours**

Concepts, purposes and strategies of recreation program planning; program areas, facilities and equipment. Program evaluation methods.

*Prereq: REC 100 Introduction to Recreation/Leisure Services.*

### REC 370 Youth Organizations.

**Two sem hours**

History, aims and objectives of recreation programs sponsored by various organizations serving youth on local and national levels. The need for trained leadership of youth and youth-serving organizations.

### REC 390 Outdoor Recreation.

**Three sem hours**

Issues, problems and needs of an outdoor recreation system responsive to all segments of populations while protecting valuable recreational resources.

### REC 400 Therapeutic Recreation Processes and Services.

**Three sem hours**

The philosophical and theoretical premises on which program design is developed; sequential development of 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, development of specific programs, on-site visitations and 20 hours of field work in TR administration.  
*Prereq: REC 200 Introduction to Therapeutic Recreation, REC 300 Recreation for Special Populations, or permission of the instructor.*

### REC 449 Therapeutic Recreation Practicum. Eight sem hours

A full-time, 15-week, 600-hour experience in an approved clinic, hospital or community setting under the direction of a certified Therapeutic Recreation Specialist and the TRS 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 Recreation for Special Populations, REC 360 Recreation Program Planning, REC 400 Therapeutic Recreation Processes and Services and REC 460 Parks and Recreation Administration. Completion of 250 hours of field work. Grade point average of 2.75 overall and 3.0 in all therapeutic recreation major classes.*

**REC 450 Park Planning and Design.** **Three sem hours**  
Integration of systems, master and site planning with practical design applications; elements of data collection, analysis and synthesis; site surveying and environmental impact assessment; citizen participation; grantsmanship; drafting techniques.  
*Prereq: REC 100 Introduction to Recreation/Leisure Services.*

**REC 451 Park Maintenance and Management.** **Two sem hours**  
Practical problems of park maintenance including grounds care and maintenance of courts, ball diamonds, pools and other athletic areas; training and supervising park maintenance staff; repair work, supplies, tools and equipment; record keeping and inventory.

**REC 460 Park and Recreation Administration.** **Three sem hours**  
Principles and practices of park and recreation agencies, facility planning, funding, staff qualifications and policy making.  
*Prereq: REC 100 Introduction to Recreation/Leisure Services, REC 260 Recreation Leadership, REC 360 Recreation Program Planning.*

**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 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.

**REC 489 Recreation Practicum.** **Eight sem hours**  
A directed, full-time 15-week, 600-hour experience in a department-approved recreation agency under the direction of an agency supervisor and the University supervisor.  
*Prereq: REC 100 Introduction to Recreation/Leisure Services, REC 260 Recreation Leadership, REC 360 Recreation Program Planning and REC 460 Parks and Recreation Administration. Completion of 250 hours of field work. Overall grade point average of 2.5 and GPA of 2.75 in recreation major courses.*

**REC 497, 498, 499 Directed Study.** **One, two, three sem hours**  
An opportunity for 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.

## LEADERSHIP AND COUNSELING

**Department Head: Jack D. Minzey**  
**Professors: Francis M. Daly, Kenneth Grinstead, William F. Kromer, Jack D. Minzey, Paul A. Nau, John G. Pappas, Donna M. Schmitt, Louis C. Thayer, Benjamin W. Van Riper, John W. Waidley**  
**Associate Professor: Irene Ametrano**

### 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 and specialist's 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.

### ADVISING COORDINATORS:

Educational Leadership: Jack D. Minzey  
Guidance and Counseling: Benjamin 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; 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 405 Basic Guidance Concepts and Processes.****Two sem hours**

Basic concepts of helping relationships; training in human relations skills; experiential activities that focus on learning and guidance processes. Open to juniors and seniors; recommended to be taken prior to student teaching.

*Prereq: CUR 303 or CUR 326; non-education majors by permission of adviser.*

**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: Norman J. Niesen**

**Professors: Angelo A. Angelocci, C. Wayne Fulton, Henry L. Gottwald, Marylyn E. Lake, Nora Martin, Sandra McClennen, Gary B. Navarre, Norman J. Niesen, James R. Palasek, Dale L. Rice**

**Associate Professors: George J. Barach, Michael Beebe, Joe E. Coyner, Carl E. Garber, Lawrence F. Geffen, Joseph Gonzalez, Kathleen S. Quinn, Marvin L. Skore, Beth VanVoorhees**

**Assistant Professors: Roberta Anderson, Lawrence M. Bemish, Marjorie K. Chamberlain, Gayle Nash, Jody Smith**

**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 emotionally impaired and speech and language impaired program areas must have their registration forms signed by their advisers prior to registration. Area advisers are:

- Emotionally Impaired: Joe Coyner, Marvin Skore, Jody Smith, Beth Van Voorhees
- Hearing Impaired: Garl Garber, Gayle Nash, Kathleen Quinn
- Mentally Impaired: Marylyn Lake, Nora Martin, Sandra McClennen
- Physically and Otherwise Health Impaired: Roberta Anderson
- Speech and Language Impaired: Joe Gonzalez, Marjorie Chamberlain, James Palasek
- Visually Impaired: George Barach, Lawrence Geffen
- Undeclared Majors, Transfers and Foreign Students: Lawrence Bemish, Norman Niesen

**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. By program area of study these introductory courses are:
  - a. Emotionally Impaired: SEI 301 Emotionally Impaired Children.
  - b. Hearing Impaired: (see statement under section titled certification).
  - c. Mentally Impaired: SMI 350 Introduction to Mental Retardation.

- d. Physically and Otherwise Health Impaired: SPI 310 Developmental Aspects of Teaching Physically Impaired Children.
  - e. Speech and Language Impaired: SLI 334 Applied Phonetics, SLI 335 Communication Disorders, SLI 316 Speech Science and SLI 337 Language Acquisition.
  - 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 202.) 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 of Educators 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.

**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
- 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

The special education curricula listed below are in the process of being changed to meet new Michigan Department of Education requirements for special education teaching endorsements. All students planning to graduate after July 1, 1990 must satisfy the new requirements.

**SPECIAL EDUCATION STUDENTS** must complete a major of at least 36 hours. A major consists of those courses listed under the heading of Major Concentration in one of the department's six

programs, plus starred (\*) courses in both the specific program area and those listed for elementary certification. Grade point averages for a student's major will be computed using these courses. 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 desiring elementary certification** must complete the following required courses:

	<b>Sem hours</b>
<b>Language</b> .....	<b>11-12</b>
Requirements 1 and 2 (Box page 26).....	8-9
LIT 207 Introduction to Children's Literature.....	3
<b>Science and mathematics</b> .....	<b>8</b>
*PSY 101 General Psychology.....	3
*EDP 206 Mental Hygiene.....	2
*PSY 360 Abnormal Psychology.....	3
<b>Social sciences</b> .....	<b>12</b>
Requirements 1 and 2 (Box page 27).....	6
SOC 105 Introductory Sociology.....	3
*SOC 202 Social Problems.....	3
<b>Humanities</b> .....	<b>9</b>
Requirements 1, 2 and 3 (Box page 27).....	9
<b>Education (Group IV)</b> .....	<b>22</b>
*SGN 251 Education of Exceptional Children.....	2
CUR 304 Curriculum and Methods - Elementary.....	3
CUR 314 Teaching Reading in Elementary School.....	6
EDP 322 Human Development and Learning.....	4
*SGN 390 Measurement and Diagnosis in Special Education.....	3
EDU 495 Student Teaching.....	4
<b>Fine arts (Group V)</b> .....	<b>5</b>
FA 101 Introduction to Art.....	3
MUS 104 Elements of Music.....	2
<b>Physical education and health (Group VII)</b> .....	<b>4</b>
PED 257 Physical Education for the Classroom.....	2
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Academic major</b> (chosen from the following).....	<b>17-26</b>
<b>Appropriate teaching subject minor</b> .....	<b>20-24</b>
<b>Electives</b> .....	<b>2-16</b>
<b>Total</b> .....	<b>124</b>

## Academic Majors

### Emotionally Impaired

#### Additional Basic Studies requirements

- One elective course in English language, foreign language, speech or educational media.....2-3
- MTH 108 Functional Mathematics I.....3
- One laboratory science course.....4

#### Required courses

- EDM 345 Media for the Classroom Teacher.....1
- MTH 381 The Teaching of Mathematics K-6.....3
- EDU 492 Student Teaching.....8
- IE 253 Industrial Technology and the Elementary  
    Teacher.....3
- IE 354 Experiences in Technology for Children.....2
- HED 320 Health Education in the Elementary  
    Grades.....2

**Major concentration**

SEI 240 Pre-Clinical Experiences in Special Education .....	2
SLI 241 Introduction to Speech Pathology .....	2
SEI 301 Emotionally Impaired Children .....	4
SFD 354 Juvenile Delinquency (or approved substitute).....	3
SEI 401 Methods and Curriculum for the Emotionally Impaired.....	2
SEI 402 Programs for Emotionally Impaired Children.....	2
SEI 448 Seminar in Emotionally Impaired.....	2

**Hearing Impaired**

**PROSPECTIVE MAJORS** should be aware that the basic philosophy of the program is oral communication; however, students are exposed to manual communication during their course of study.

All students are considered provisional majors until such time as they successfully complete SHI 391 Language for the Hearing Impaired and pass a language proficiency examination consisting of two sections: grammar and essay.

**Additional Basic Studies requirements**

CEN 223 Introduction to Language or ENG 402 Modern English Syntax.....	3
MTH 108 Functional Mathematics I.....	3

**Required courses**

MTH 381 The Teaching of Mathematics K-6.....	3
PHY 210 Musical Acoustics.....	4
HED 320 Health Education in the Elementary Grades..	2
EDU 492 Student Teaching.....	8
IE 253 Industrial Technology and the Elementary Teacher.....	3
IE 354 Experiences in Technology for Children .....	2

**Major concentration**

SHI 228 Survey of Education and Guidance of the Hearing Impaired.....	2
SHI 229 Directed Observation in Hearing Impairment.....	1
SLI 336 Anatomy and Physiology of the Speech and Hearing Mechanisms.....	3
SHI 387 Introductory Practicum with the Hearing Impaired I.....	1
SHI 391 Language for the Hearing Impaired.....	4
SHI 392 Introduction to Audiology.....	2
SHI 394 Auditory Training and Speechreading.....	3
SHI 395 Speech for the Hearing Impaired I.....	2
SHI 436 Speech for the Hearing Impaired II.....	2
SHI 437 Adaptive Curriculum for the Hearing Impaired.....	4
SHI 442 Seminar in Hearing Impaired.....	2
SHI 487 Introductory Practicum with the Hearing Impaired II.....	1

**Mentally Impaired****Additional Basic Studies requirements**

One elective course in English language, foreign language, speech or educational media .....	2-3
MTH 108 Functional Mathematics I.....	3
One laboratory science course .....	4

**Required courses**

EDM 345 Media for the Classroom Teacher.....	1
MTH 381 The Teaching of Mathematics K-6.....	3
EDU 492 Student Teaching.....	8
IE 253 Industrial Technology and the Elementary Teacher.....	3
IE 354 Experiences in Technology for Children .....	2
HED 320 Health Education in the Elementary Grades.....	2

**Major concentration**

SMI 240 Pre-Clinical Experiences in Special Education.....	2
SLI 241 Introduction to Speech Pathology.....	2
SMI 350 Introduction to Mental Retardation .....	3
Choose two courses from the following: SMI 426 Educating Students with Moderate or Severe Retardation, SMI 427 Educating the Elementary Student with Mild Retardation or SMI 428 Educating the Secondary Student with Retardation.....	4-5
SMI 429 Classroom Management and Educational Programming.....	4
SMI 444 Seminar in Mentally Impaired.....	2
SLD 468 Education of Children with Learning Disabilities.....	2

**Physically and Otherwise Health Impaired****Additional Basic Studies requirements**

One elective course in English language, foreign language, speech or educational media .....	2-3
MTH 108 Functional Mathematics I.....	3
BIO 105 Biology and the Human Species .....	4

**Required courses**

EDM 345 Media for the Classroom Teacher.....	1
MTH 381 The Teaching of Mathematics K-6.....	3
EDU 492 Student Teaching.....	8
IE 253 Industrial Technology and the Elementary Teacher.....	3
IE 354 Experiences in Technology for Children .....	2
HED 320 Health Education in the Elementary Grades..	2

**Major concentration**

SPI 240 Pre-Clinical Experiences in Special Education.....	2
SLI 241 Introduction to Speech Pathology.....	2
SPI 310 Developmental Aspects of Teaching Physically Impaired Children .....	5
SPI 412 Applied Aspects of Teaching Physically Impaired.....	2
SPI 414 Educational Strategies for Teachers of Physically and Otherwise Health Impaired .....	4
SMI 350 Introduction to Mental Retardation .....	3
SPI 446 Seminar in Physically Impaired.....	2
SLD 468 Education of Children with Learning Disabilities.....	2

### Speech and Language Impaired

**THE PROGRAM** in speech and language impaired is a five-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.

#### Additional Basic Studies requirements

- CEN 223 Introduction to Language or ENG 402 Modern English Syntax.....3

#### Required courses

- PHY 210 Musical Acoustics.....4
- EDM 345 Media for the Classroom Teacher.....1

#### Major concentration

- SLI 316 Speech Science.....5
- 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 in Speech Pathology.....1
- 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
- SHI 392 Introduction to Audiology.....2
- SHI 394 Auditory Training and Speechreading.....3
- SLI 452 Voice.....3
- SLI 454 Stuttering.....3
- SLI 345 Clinical Practice in Speech Pathology III.....2 (not required)

### Master of Arts 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
<b>1. Required courses</b> .....	<b>21</b>
SGN 591 Neuroanatomy and Physiology for Speech Pathologists.....	2
SLI 508 Variant English.....	3
SLI 578 Audiometric Testing.....	3
SLI 607 Colloquium in Speech Pathology.....	2
SLI 610 Cleft Palate.....	2
SLI 612 Motor Speech Disorders.....	2
SLI 614 Aphasia.....	3
SLI 624 Neurogenic Communication Disorders.....	2
*SLI 694 Seminar in Speech Pathology.....	2
(taken concurrently with SLI 689)	
<b>2. Required clinical practica</b> .....	<b>9</b>
SLI 568 Diagnostic Methods in Speech Pathology.....	3
(must have completed clinical requirements to enroll)	
SLI 687 Clinical Internship.....	2
(prereqs: SLI 568 Diagnostic Methods in Speech Pathology, SLI 614 Aphasia, SLI 689 Public School Internship)	

*SLI 689 Public School Internship.....	4
(prereq: SLI 568 Diagnostic Methods in Speech Pathology)	
<b>3. Restricted electives</b> .....	<b>2</b>
Choose two credits from speech pathology/audiology	
<b>4. Cognates</b> .....	<b>4</b>
EDP 677 Research Techniques.....	2
Electives outside speech pathology/audiology.....	2
<b>Total</b> .....	<b>36</b>
*Not required for non-teacher training track students.	

### Visually Impaired

#### Additional Basic Studies requirements

- One elective course in English language, foreign language, speech or educational media.....2-3
- MTH 108 Functional Mathematics I.....3
- One laboratory science course.....4

#### Required courses

- EDM 345 Media for the Classroom Teacher.....1
- MTH 381 The Teaching of Mathematics K-6.....3
- EDU 492 Student Teaching.....8
- IE 253 Industrial Technology and the Elementary Teacher.....3
- IE 354 Experiences in Technology for Children.....2
- HED 320 Health Education in the Elementary Grades..2

#### Major concentration

- SLI 241 Introduction to Speech Pathology.....2
- SVI 365 Braille.....3
- SVI 366 Hygiene and Anatomy of the Eye.....2
- SVI 368 Mobility Training for the Visually Impaired.....2
- SVI 369 Community Considerations for the Visually Impaired.....2
- SVI 450 Seminar in Visually Impaired.....2
- SVI 464 Methods of Teaching the Blind.....3
- SVI 465 Braille II: Nemeth Code.....3
- SVI 467 Education of Children with Impaired Vision.....2

### Courses

#### General Special Education

##### SGN 251 Education of Exceptional Children.

**Two sem hours**

Problems in the education of the non-typical child: visually impaired, deaf, crippled, speech defective, mentally impaired, gifted, socially maladjusted and educationally disadvantaged. Principles and methods of meeting the educational needs of the handicapped child.

##### SGN 300 Exceptional Children in the Regular Classroom.

**One sem hour**

Characteristics of the exceptional learner including impairments of hearing, vision, speech, intelligence, behavior and physical abilities. Considerations and implications of the educational, social and psychological experience for the exceptional learner in the regular classroom.

##### SGN 387, 487 Cooperative Education in Programs for the Handicapped.

**Three sem hours each**

Employment in agencies, institutions, clinics or schools providing services and programs for the handicapped. Work experience

related to students' program objectives. Performance supervised and evaluated. A written performance report required at the end of each employment period for graded credit/no credit. Elective credit only. Adviser may permit this course to partially meet pre-clinical experience requirements.

*Prereq: SGN 251 Education of Exceptional Children and department recommendation.*

**SGN 390 Measurement and Diagnosis in Special Education.**

**Three sem hours**

Psychological evaluation and assessment, the role of tests in the assessment of intellectual capacity, educability, emotional adjustment, visual and auditory limitations.

*Prereq: SGN 251 Education of Exceptional Children and junior or senior standing.*

**SGN 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.

**SGN 497, 498, 499 Independent Study in Special Education.**

**One, two, three sem hours**

Advanced study on an individual basis in areas in which the department does not offer a formal course.

*Prereq: 3.0 grade point average, senior standing, department permission.*

### Emotionally Impaired

**SEI 240 Pre-Clinical Experiences in Special Education.**

**Two sem hours**

Opportunities to work with impaired children, helping students to understand these children and enabling them to evaluate their own personal qualifications for working with children in their chosen field. Evaluations of the student's performance by supervisor. Majors in emotionally impaired will complete 150 hours of experience before the end of their junior year, 10 hours of which should be completed as a freshman.

**SEI 301 Emotionally Impaired Children.**

**Four sem hours**

Dynamics of individual growth and behavior, theories of emotional disturbance in children, illustrated by case materials.

*Prereq: PSY 360 Abnormal Psychology.*

**SEI 401 Methods and Curriculum for the Emotionally Impaired.**

**Two sem hours**

Curriculum materials, methods and techniques for educating the emotionally impaired child.

*Prereq: SEI 301 Emotionally Impaired Children and senior standing.*

**SEI 402 Programs for Emotionally Impaired Children.**

**Two sem hours**

Program variations and their adaptations for the education of emotionally disturbed children. Theoretical and philosophical foundations of programs; behavior management techniques, teaching role and professional relationships within given programs.

*Prereq: SEI 301 Emotionally Impaired Children and senior standing.*

**SEI 448 Seminar in Emotionally Impaired.**

**Two sem hours**

### Hearing Impaired

**SHI 228 Survey of Education and Guidance of the Hearing Impaired.**

**Two sem hours**

An overview of current educational programming. History of education of the deaf, parent counseling, social/psychological adjustment and vocational education.

*Coreq: SHI 229 Directed Observation in Hearing Impairment.*

**SHI 229 Directed Observation in Hearing Impairment.**

**One sem hour**

Observation and discussion of various aspects of education of the hearing impaired: early diagnosis and intervention programs, curriculum, philosophical approaches, psycho-social aspects, vocational education and parent education programs. Observation in classes for hearing impaired.

*Coreq: SHI 228 Survey of Education and Guidance of the Hearing Impaired.*

**SHI 387 Introductory Practicum With the Hearing Impaired I.**

**One sem hour**

Thirty clock hours supervised observation and work with hearing impaired students designed to permit the student and University to examine the student's qualifications for teaching the hearing impaired.

*Coreqs: SHI 391 Language for the Hearing Impaired and SHI 395 Speech for the Hearing Impaired I.*

**SHI 391 Language for the Hearing Impaired.**

**Four sem hours**

The effects of hearing loss on language development, the structure of English and principles of grammar, techniques of developing language in the young hearing impaired child and methods of teaching language to the school-aged hearing impaired student.

*Coreqs: SHI 387 Introductory Practicum With the Hearing Impaired I and SHI 395 Speech for the Hearing Impaired I.*

**SHI 392 Introduction to Audiology.**

**Two sem hours**

The acoustic characteristics of speech. Medical and surgical treatment of pathologies of the ear. Hearing screening tests, basic audiometric testing procedures and audiometric interpretation.

*Prereq: PHY 210 Musical Acoustics.*

**SHI 394 Auditory Training and Speech-reading.**

**Three sem hours**

A study of the avenues of receptive language available to hearing-impaired children and adults. Emphasis on early intervention. Training residual hearing; developing speechreading skills and care and use of amplification systems.

*Prereq: SHI 392 Introduction to Audiology.*

**SHI 395 Speech for the Hearing Impaired I.**

**Two sem hours**

Speech development and improvement in hearing impaired persons. Analysis of speech as a motor skill, presentation of typical problems of speech of the hearing impaired.

*Prereq: SHI 392 Introduction to Audiology.*

*Coreqs: SHI 387 Introductory Practicum With the Hearing Impaired I and SHI 391 Language for the Hearing Impaired.*

**SHI 436 Speech for the Hearing Impaired II.**

**Two sem hours**

A continuing analysis of speech as a psycho-acoustic-motor skill, intensive analysis of methods of developing speech and of achieving intelligible, connected speech.

*Prereq: SHI 395 Speech for the Hearing Impaired I.*

*Coreqs: SHI 437 Adaptive Curriculum for the Hearing Impaired and SHI 487 Introductory Practicum With the Hearing Impaired II.*

**SHI 437 Adaptive Curriculum for the Hearing Impaired. Four sem hours**

Principles and methods of teaching reading and school subjects to the hearing impaired. Classroom procedures and materials especially designed for the hearing impaired as well as the adaptation of regular curricula and materials.

*Prereq: SHI 391 Language for the Hearing Impaired.*

*Coreqs: SHI 436 Speech for the Hearing Impaired II and SHI 487 Introductory Practicum With the Hearing Impaired II.*

**SHI 442 Seminar in Hearing Impaired. Two sem hours**

Discussion of public school student teaching experiences. Current topics of relevance to teachers of the hearing impaired.

*Coreq: EDU 492 Student Teaching.*

**SHI 487 Introductory Practicum With the Hearing Impaired II. One sem hour**

Thirty clock hours supervised individual or small group speech/language therapy with hearing-impaired students. Both SHI 387 and 487 must be completed prior to student teaching with the hearing impaired.

*Coreqs: SHI 436 Speech for the Hearing Impaired II and SHI 437 Adaptive Curriculum for the Hearing Impaired.*

### Learning Disabled

**SLD 468 Education of Children With Learning Disabilities. Two sem hours**

A study of the educational and psychological problems of children with neurological and perceptual defects. Preparation and evaluation of materials.

*Prereq: SGN 251 Education of Exceptional Children and senior standing.*

### Mentally Impaired

**SPI 240 Pre-Clinical Experiences in Special Education. Two sem hours**

An opportunity to work with impaired children, helping students to understand these children and enabling them to evaluate their own personal qualifications for working with children in their chosen field. Evaluations of the student's performance by supervisor. Majors in mentally impaired will complete 120 hours of experience before the end of their junior year, 10 hours of which should be completed as a freshman.

**SMI 350 Introduction to Mental Retardation. Three sem hours**

A study of the etiology and incidence of mental deficiency, historical and current philosophy, preventive measures and educational facilities. Opportunities provided for observation and clinical studies.

*Prereq: PSY 101 General Psychology and SGN 251 Education of Exceptional Children.*

**SMI 426 Educating Students With Moderate or Severe Retardation. Three sem hours**

Philosophy, curriculum, assessment, teaching methods and classroom management techniques. Course work plus a three hour/week field placement in a school. Relevant legislation, vocational education, ancillary services, working with aides and adult living arrangements.

*Prereq: SMI 350 Introduction to Mental Retardation.*

**SMI 427 Educating the Elementary Student With Mild Retardation. Two sem hours**

The development of programs, materials and instructional techniques appropriate to the needs of the educable mentally retarded child from birth to age 12.

*Prereq: SMI 350 Introduction to Mental Retardation.*

**SMI 428 Educating the Secondary Student With Retardation. Two sem hours**

The development of programs, materials and instructional techniques to help mentally retarded students, ages 12-25 years, recognize their personal worth, become competent employees and develop into contributing, responsible citizens.

*Prereq: SMI 350 Introduction to Mental Retardation.*

**SMI 429 Classroom Management and Educational Programming. Four sem hours**

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. The development of appropriate educational program goals and the selection of materials, methods and techniques useful in meeting these goals. Various behavioral management approaches as they relate to overall educational goals and programming.

*Prereq: SMI 426 Educating Students With Moderate or Severe Retardation, SMI 427 Educating the Elementary Student With Mild Retardation, or SMI 428 Educating the Secondary Student With Retardation.*

**SMI 444 Seminar in Mentally Impaired. Two sem hours**

### Physically and Otherwise Health Impaired

**SPI 240 Pre-Clinical Experiences in Special Education. Two sem hours**

An opportunity to work with impaired children, helping students to understand these children and also enabling them to evaluate their own personal qualifications for working with children in their chosen field. Evaluations of the student's performance by supervisor. Majors in physically impaired will complete 120 hours of experience before the end of their junior year, 10 hours of which should be completed as a freshman.

**SPI 310 Developmental Aspects of Teaching Physically Impaired Children. Five sem hours**

The basic concepts of anatomy, physiology and pathology as related to the types of disability found in an orthopedic classroom. Two one-hour laboratory periods per week required. Case studies of physically impaired children.

*Prereq: SGN 251 Education of Exceptional Children and SPI 240 Pre-Clinical Experiences in Special Education.*

**SPI 412 Applied Aspects of Teaching Physically Impaired Children. Two sem hours**

Educational and psychological needs of physically impaired children; various teaching techniques to meet these needs. A study of the various therapies and services necessary for the rehabilitation of physically impaired children. Laboratory required.

*Prereq: SPI 310 Developmental Aspects of Teaching Physically Impaired Children.*

**SPI 414 Educational Strategies for Teachers of Physically and Otherwise Health Impaired. Four sem hours**

Strategies and techniques appropriate for POHI students. Development of skills in planning, implementing and evaluating individualization and appropriateness of curriculum.

*Prereq: CUR 314 Teaching Reading in the Elementary School, SPI 310 Developmental Aspects of Teaching Physically Impaired Children.*

**SPI 446 Seminar in Physically Impaired. Two sem hours****Speech and Language Impaired****SLI 241 Introduction to Speech Pathology. Two sem hours**

An introductory course providing background preparation in speech and simple phonetics. A study of various types of speech defects. Designed to help classroom teachers and special education teachers understand and correct minor speech defects.

**SLI 316 Speech Science. Five sem hours**

Anatomy and physiology of normal speech production, consideration 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 336 Anatomy and Physiology of the Speech and Hearing Mechanisms. Three sem hours**

The anatomy and physiology of normal speech production and auditory reception. The physical processes of speaking and listening as dynamic, interdependent processes. Not for SLI majors.

**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 in 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.

*Prereq: SLI 335 Communication Disorders and SLI 334 Applied Phonetics. Coreq: SLI 342 Management of Language Disorders.*

**SLI 341 Directed Observation in Speech Pathology. One sem hour**

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 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. 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.*

## Visually Impaired

**SVI 365 Braille.** **Three sem hours**  
Developing proficiency in reading and writing error-free braille. Nemeth Code and the reading of music braille.  
*Prereq or Coreq: SGN 251 Education of Exceptional Children.*

**SVI 366 Hygiene and Anatomy of the Eye.** **Two sem hours**  
Anatomy, physiology and pathology of the organs of vision, refractive errors and principles of correction. Educational implications of visual handicaps in children rather than strictly medical achievements. Interpretation of medical reports to parents, students and other teachers.  
*Prereq: SGN 251 Education of Exceptional Children.*

**SVI 368 Mobility Training for the Visually Impaired.** **Two sem hours**  
Sensory training, study and development of cane techniques as they apply to mobility for the blind. Introduction to leader dog program. Practicum included. Offered on the junior, senior and graduate level.

**SVI 369 Community Considerations for the Visually Impaired.** **Three sem hours**  
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 450 Seminar in Visually Impaired.** **Two sem hours**  
History, nature and structure of the Michigan public school system. Problems related to integration of the functional units within the system. Organization of special services as they relate to these units. Discussion of students' public school internship experiences. Several times during the semester there will be large meetings of all students enrolled in the several sections for the purpose of discussing common topics. Must be taken concurrently with Special Student Teaching. Offered on graded credit/no credit basis.

**SVI 464 Methods of Teaching the Blind.** **Three sem hours**  
A study of the various methods used in educating blind children. The adaptation of these methods to the teaching of elementary and secondary 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**  
The Nemeth Code, competence in transcription skills.  
*Prereq: SVI 365 Braille.*

**SVI 467 Education of Children With Impaired Vision.** **Two sem hours**  
Organization and administration of various plans for educating partially sighted children. Adaptation of the various teaching methods and materials to partially sighted children. A comparison of various vision testing methods and devices. Visits to classes for visually impaired children.  
*Prereq: SGN 251 Education of Exceptional Children.*

## TEACHER EDUCATION

Office: 234 Boone Hall

**Department Head: Marvin Pasch**

**Professors: Leah D. Adams, Irene A. Allen, Ranjit S. Bajwa, John Blair, Marie Dellas, Robert J. Fisher, Bert I. Greene, Thomas M. Gwaltney, Eugene E. Haddan, Martha W. Irwin, Louise F. Jernigan, Wallace D. LaBenne, Judith McKee, Calvin B. Michael, Marvin Pasch, Quirico S. Samonte, Kishor N. Wahi, Jerome A. Weiser, W. Scott Westerman, Warren S. Williams, Israel Woronoff**  
**Associate Professors: Gordon A. Belt, Mary G. Bigler, J. Thomas Bushey, Edward Lederman, Leon E. Neeb, Robert S. Robinson**  
**Assistant Professors: Arthur L. Carpenter, Eileen M. Carr, Barbara Diamond, Trevor G. Gardner, Sara Huyvaert, Perry Marker, Michael Martin, Georgea Sparks, Alane Starko**

**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 descriptions at the beginning of each section.

**DEGREES:** Bachelor of Science or Bachelor of Arts

### PROGRAMS OF STUDY

#### Curricula:

Early Childhood Education  
Elementary Education  
Secondary Education  
Driver Education Program  
Educational Media (Library Science courses available but program discontinued in 1982-83)

#### Group majors and minors:

Arts  
Bilingual Bicultural Education (minor only; see Department of Foreign Languages and Bilingual Studies)  
Elementary Science  
Literature, Language, Communication and Theatre Arts (major only)

Social Science for Elementary Education

#### Interdisciplinary Major:

Literature and Drama/Theatre for the Young (see Department of Communication and Theatre Arts)

#### Minors:

Content and Methods  
Foreign Language (French, German or Spanish)  
Elementary Minor in Industrial Education

**ADVISING** is required for all students once a year so that each can pursue both personal and professional goals in a timely and satisfying manner.

**Early childhood and 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**

Early Childhood Education: Leah Adams  
 Elementary Education: Ranjit Bajwa, John Blair,  
 Thomas Bushey  
 Secondary/Specialized Education: see major adviser; for  
 education (Group IV) requirements, see Marvin Pasch  
 Driver Education: Leon Neeb

**FIELD WORK** 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 and educational technology. For descriptions of graduate courses and programs, consult the Graduate Catalog.

**Curriculum for Early Childhood Education**

**EARLY CHILDHOOD EDUCATION** is an alternative to the elementary program and includes course work, pre-student teaching and student teaching experiences involving both preschool and elementary school children. Graduates of the program receive elementary certification plus nursery school preparation and are qualified to work in preschools and day care centers as well as teach at the elementary level.

Students join the program their freshman or sophomore year by enrolling in ECE 101 Introduction to Early Childhood Education for two semester hours of credit.

**Unique to this program** are large blocks of time allocated to professional courses instead of a number of independent courses. For example, the methods courses and audio-visual instruction are incorporated into one seven-credit hour block called ECE 301 Methods: Math-Science-Arts for Early Childhood, which is taken the second semester of the junior year.

In addition to meeting Basic Studies course requirements, all students on this curriculum must complete all other courses specified. (Note: this program is currently being revised. See adviser for changes.)

	Sem hours
<b>Language</b> .....	14-15
Requirements 1, 2 and 3 (Box page 26).....	9
LIT 207 Introduction to Children's Literature.....	3
CTA 222 Drama and Play in Human Experience.....	3
<b>Science and mathematics</b> .....	10-11
Requirement 1 (Box page 26).....	4
MTH 108 Functional Mathematics I.....	3
PSY 101 or 102 General Psychology.....	3-4
<b>Social sciences</b> .....	12
Requirements 1 and 2 (Box page 27).....	6
SOC 105 Introductory Sociology.....	3
Choose one course from the following:	
SOC 204 Marriage and Family, SOC 306 The Urban Community, SOC 308 Social Psychology, SOC 314 Racial and Cultural Minorities.....	3

<b>Humanities</b> .....	9
Requirements 1, 2 and 3 (Box page 27).....	9
(arts course requirement automatically met in Group V below)	
<b>Education (Group IV)</b> .....	36
<b>Freshman Year</b>	
ECE 101 Introduction to Early Childhood Education.....	2
<b>Sophomore Year</b>	
EDP 200 Early Childhood/Human Growth and Development.....	5
<b>Junior Year</b>	
ECE 300 The Young Child in School and Society.....	8
ECE 301 Methods: Math-Science-Arts for Early Childhood.....	7
CUR 314 Teaching Reading in the Elementary School.....	6
<b>Senior Year</b>	
Student Teaching Early Childhood Education.....	8
Directed student teaching: a) Four hours student teaching at the preschool level. b) Four hours student teaching at the kindergarten level or primary level. During each four-hour block of directed teaching, one hour of released time each week will be provided for a seminar contact with University supervisor. Students must complete appropriate majors and minors. See especially those listed on pages 227-230.	
<b>Fine arts (Group V)</b> .....	2-3
Choose one course from the following:	
FA 101 Introduction to Art, FA 300 Creative Arts MUS 104 Elements of Music, MUS 322 Music Literature for Children	
<b>Physical education and health (Group VII)</b> .....	4
PED 257 Physical Education for the Classroom Teacher.....	2
Physical education activity courses.....	2
One course in dance (required) (Any one course in Military Science may be applied)	
<b>Electives (including major requirements)</b> .....	34-37
<b>Total</b> .....	124

**Curriculum for Elementary Education**

**A BACHELOR OF SCIENCE DEGREE AND THE STATE ELEMENTARY PROVISIONAL CERTIFICATE** for teaching in kindergarten through grade 8 is awarded upon successful completion of the elementary program and upon fulfillment of the requirements for majors and minors chosen from the list following the curricula.

In addition to meeting Basic Studies course requirements, students in each curriculum must complete the other courses specified.

	Sem hours
<b>Language</b> .....	11-12
Requirements 1, 2 and 3 (Box page 26).....	9
LIT 207 Introduction to Children's Literature.....	3
<b>Science and mathematics</b> .....	18
MTH 108 Functional Mathematics I.....	3
PSY 101 or 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 the Elementary Teachers (Biology ESC).....3

\*Starred courses include preparation in methods of teaching. Courses numbered 100, 101, 202 and 303 should be taken in sequence.

†Social sciences .....9-12  
Requirements 1, 2 and 3 (Box page 27).....9-12

†Humanities.....9  
Requirements 1, 2 and 3 (Box page 27).....9  
(art or music course automatically met in Group V below)

Note: At least one social science or humanities course must be selected from the following list:

HIS 103 History of Non-Western Civilization,  
HIS 301 The Religion of South and East Asia, HIS 302 Near Eastern and Western Religion, HIS 315 History of Black Americans, HIS 336 History of Women in the U.S. and Great Britain, HIS 446 History of Indians in the U.S., HIS 355 Latin America: Colonial Period, HIS 356 Latin America: National Period, any non-western history course

LIT 204 American Indian Myths, Tales and Legends,  
LIT 260 Afro-American Literature, LIT 444 Women in Literature, FA 222 African and Afro-American Art, FA 421 History of Oriental Art, FA 422 Chinese and Japanese Art History

**Education (Group IV).....32**

EDT 300 Introduction to Computer Applications in Education.....1

SGN 300 Exceptional Children in the Regular Classroom.....1

CUR 304 Curriculum and Methods - Elementary.....3

CUR 314 Teaching Reading in the Elementary School..6

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

MTH 381 The Teaching of Mathematics K-6.....3

EDU 492 Student Teaching.....8

**Fine arts (Group V).....8**

FA 300 Art for the Elementary Teacher.....4

MUS 104 Elements of Music.....2

MUS 320 Elementary Music Education.....2

**Practical arts (Group VI).....3**

IE 253 Industrial Technology and the Elementary Teacher.....3

**Physical education and health (Group VII).....6**

HED 320 Health Education in Elementary Grades.....2

PED 257 Physical Education for the Classroom Teacher.....2

Physical education activity courses.....2  
(Any two courses in Military Science may be applied)

**Additional required courses for the elementary education major**

GEO 110 World Regions.....3

**Electives.....24-28**

**Total.....124**

**Major and Minor Requirements for Elementary Education**

STUDENTS in elementary education must complete one of the following options in addition to the above requirements:

1. **A major** of at least 30 semester hours or a group major of 36 semester hours, and a planned program of 20 semester hours in other substantive fields deemed appropriate to elementary education (which may consist of courses required on the curriculum for teachers in the elementary grades), or
2. **Three minors** of at least 20 semester hours each, two of which shall be in substantive fields and may include a group minor of 24 semester hours, and one of which may be a planned program of 20 semester hours in a combination of methods and content appropriate to elementary education (which may consist of courses required on the curriculum for teachers in the elementary grades). When this content and methods minor is used as one of the three minors, an arts group minor is not recommended as one of the minors in substantive fields, since all required Group V and VI courses are already applied to the content and methods minor.

**Majors and minors may be chosen** from the following list where available and appropriate (see program requirements for details): Art; Arts Group; Astronomy; Bilingual Bicultural Education (Spanish-English); Biology; Communication and Theatre Arts; Computer Science; Conservation and Resource Use; Dance; Drama/Theatre for the Young; Earth Science; Elementary Science Group; English Language and Literature; English Literature; French; General Science; Geography; Geology; German; Health; History; Home Economics; Industrial Education; Literature, Language, Communication and Theatre Arts Group; Mathematics; Music Education; Occupational Therapy; Physical Education; Political Science; Recreation; Science Group; Social Science Group; Spanish; Theatre Arts.

A person who fulfills the curriculum requirements for an elementary provisional certificate will have automatically completed the minimum requirements for a planned program minor of 20 semester hours. In cooperation with an academic adviser, the student will select appropriate electives to strengthen this program.

Specific curricular patterns by semester are provided for each student by the College of Education upon enrollment. The normal academic load per semester is 15 to 16 semester hours, until student teaching is undertaken in the senior year.

**Group Majors and Minors for Elementary and Early Childhood Teachers**

**AVAILABLE OPTIONS** for satisfying major and minor subject requirements of the elementary teaching curricula are stated above. Students may select any of the following group majors and minors to fulfill these requirements or select from among major and minor sequences appearing under department headings listed above.

Group minors listed herein also are acceptable on the special education curriculum. Majors and minors below are **not** available to students on other curricula.

	<b>Sem hours</b>
<b>Arts group major</b> .....	<b>36</b>
<b>I. Required courses</b> .....	<b>19</b>
FA 101 Introduction to Art.....	3
MUS 104 Elements of Music.....	2

CTA 222 Drama and Play in Human Experience.....	3
IE 253 Industrial Technology and the Elementary Teacher.....	3
FA 300 Creative Arts.....	4
MUS 320 Early Elementary Music Education.....	2
IE 354 Experiences in Technology for Children.....	2
<b>2. Electives.....</b>	<b>17</b>
Choose 17 credits from fine arts, industrial education, music, drama/theatre for the young or theatre arts courses.	

<b>Arts group minor.....</b>	<b>24</b>
<b>1. Required courses.....</b>	<b>16</b>
FA 101 Introduction to Art.....	3
MUS 104 Elements of Music.....	2
IE 253 Industrial Technology and the Elementary Teacher.....	3
FA 300 Creative Arts.....	4
MUS 320 Early Elementary Music Education.....	2
IE 354 Experiences in Technology for Children.....	2
<b>2. Restricted electives.....</b>	<b>8</b>
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, 108, or 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 Recreational Music; and AMU 101-300 Applied Music Lessons.

**Theatre Arts, Drama/Theatre for the Young, Oral Interpretation:** CTA 106 Introduction to the Performing Arts; CTA 150 Introduction to Theatre; CTA 151 Black Theatre: An Introduction; CTA 153 Introduction to Theatre Crafts; CTA 168, 268, 368, 468 Oral Interpretation; CTA 210 Interpretative 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.

<b>Bilingual bicultural education (Spanish-English) group minor.....</b>	<b>Sem hours 24</b>
See Department of Foreign Languages and Bilingual Studies	

<b>Elementary science group major.....</b>	<b>Sem hours 36</b>
<b>1. Required courses.....</b>	<b>15-16</b>
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.....	3-4
<b>2. Restricted electives.....</b>	<b>20-21</b>
Choose 20-21 credits from the biology, chemistry, geography and geology, and physics and astronomy courses below.	

<b>Elementary science group minor.....</b>	<b>Sem hours 24</b>
<b>1. Required courses.....</b>	<b>15-16</b>
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
BIO 303 Science for the Elementary Teacher (Biology ESC).....	3
PSY 101 or 102 General Psychology.....	3-4
<b>2. Restricted electives.....</b>	<b>8-9</b>
Choose eight or nine credits from biology, chemistry, geography 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 Principles of Conservation; BIO 232 Nature Interpretation; BIO 413 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 Contemporary Materials; or CHM 119 Fundamentals of Chemistry; CHM 120 Fundamentals of Organic and Biochemistry; CHM 131 General Chemistry I.

**Geography and Geology:** GES 114 National Parks and Monuments; GES 200 The Oceans; GES 227 Topographic Maps; GES 303 Field Geography; GES 309 Plate Tectonics; GES 324 Weather and Climate; GES 401 Cartography; GLG 161 Historical Geology; GLG Rocks of Michigan; GLG 325 Geomorphology.

**Physics and Astronomy:** PHY 110 Physical Science; PHY 112 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 theatre arts group major**.....36

**Sem hours**

- Literature\***  
**1. Required courses**.....6  
 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 102 The Reading of Literature: Poetry, LIT 251 The Bible as Literature, LIT 260 Afro-American Literature

- Language**  
**1. Required courses**.....6  
 ENG 121 or 119 English Composition\*\* .....3  
 ENG 325 Expository Writing or ENG 335 Imaginative Writing.....3

- 2. Electives**.....6  
 Choose two courses from the following:  
 ENG 301 An Introduction to the English Language; ENG 402 Modern English Syntax; ENG 419 Introduction to Linguistic Science; ENG 421 The History of the English Language

**Communication and theatre arts\*\***.....8-9

- 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 literature and drama/theatre for the young, see the Department of Communication and Theatre Arts.

**Social science group major for elementary education**.....36

**Sem hours**

Choose at least 12 credits, but no more than 18 credits, from one of the following five areas: economics, geography (social sciences\*), history, political science, sociology.

*\*Geography and geology applicable in the science and mathematics group and philosophy courses do not count on this major or minor.*

Choose three credits in each of the remaining four social science areas.

**Social science group minor for elementary education**.....24

**Sem hours**

- 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 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)  
 ECE 301 Methods: Math-Science-Arts for Early Childhood  
 EDM 345 Media for the Classroom Teacher  
 EDT 300 Introduction to Computer Applications in Education  
 EDP 340 Introduction to Measurement and Evaluation  
 SGN Exceptional Children in the Regular Classroom  
 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)  
 HED 320 Health Education in the Elementary Grades  
 IE 253 Industrial Technology and the Elementary Teacher, IE 354 Experiences in Technology for Children  
 LIT 207 Introduction to Children's Literature  
 MTH 108 Functional Mathematics I  
 PHY 100 Science for Elementary Teachers (Physics)

**Elementary minor in industrial education**.....20

This minor may be selected by any student on an early childhood, elementary or special education curriculum and is also permitted for special education majors obtaining secondary certification. It is not available to students on other programs.

**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.....2

**Restricted electives**.....9

- IE 105 History of Industrial Technology, IE 350 Curriculum in Industrial Education, IE 452 Principles of Vocational-Technical Education, IE 497 Directed Study  
 IT 103 Introduction to Modern Industry  
 IDT 121 Graphic Communication, IDT 204 Photographic Communication

**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 teachers 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, consumer home economics education, industrial 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.

*\*B.A. degree requires completion of 75 hours in Groups I, II and III and one year of college credit in foreign language.*

	<b>Sem hours</b>
<b>Language</b> .....	<b>8-9</b>
Requirements I, 2 and 3 (Box page 26).....	9
<b>Science and mathematics</b> .....	<b>10-12</b>
Requirements I and 2 (Box page 26).....	6-7
PSY 101 or 102 General Psychology.....	3
<b>*Social sciences</b> .....	<b>9-12</b>
Requirements I, 2 and 3 (Box page 27).....	9
<b>*Humanities</b> .....	<b>11-12</b>
Requirements I, 2 and 3 (Box page 27).....	11-12

**\*Note:** At least one social science or humanities course must be selected from the following list:

- HIS 103 History of Non-Western Civilization, HIS 301 The Religion of South and East Asia, HIS 302 Near Eastern and Western Religion, HIS 315 History of Black Americans; HIS 336 History of Women in the U.S. and Great Britain, HIS 446 History of Indians in the U.S., HIS 355 Latin American: Colonial Period, HIS 356 Latin America: National Period, any non-western history course
- LIT 204 American Indian Myths, Tales and Legends, LIT 260 Afro-American Literature, LIT 444 Women in Literature
- FA 222 African and Afro-American Art, FA 421 History of Oriental Art, FA 422 Chinese and Japanese Art History

**Education (Group IV)**.....28-30

EDT 300 Introduction to Computer Applications in Education.....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

Methods course/s (see teaching subject area).....2-4

EDU 492 Student Teaching.....8

**Physical education and health (Group VII)**.....2

Physical education activity courses.....2  
 (Any two courses in Military Science may be applied)

**Electives**.....47-56

**Total**.....124

**Specific curricular patterns** by semester are provided for each student by the department in which the student is majoring. Students are assigned to a faculty adviser who is a member of the department that offers the major.

The normal academic load per semester is 15-16 hours until student teaching is undertaken in the senior year.

**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 experience.

**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 language and literature (Group I— see page 26):

	<b>Sem hours</b>
EDM 101 Use of Books and Libraries.....	2
EDM 314 Literature for Young Adults.....	3
EDM 402 General Reference.....	3
EDM 406 Storytelling.....	2

## 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, ECE for courses in early childhood education, EDP for courses in educational psychology, EDM for courses in educational media, EDT 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 in Group IV 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 professional education.

Courses marked with an asterisk (\*) are given by other departments.

### **ECE 101 Introduction to Early Childhood Education.**

**Two sem hours**

A general overview of the education profession covering opportunities and trends in education and providing early orientation to the field to help students make decisions regarding their personal career goals. Group observations of children are required in settings ranging from preschools and day care centers through secondary schools.

### **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 Human Growth and Development.**

**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 and ECE 101 Introduction to Early Childhood Education.*

### **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.)

### **ECE 300 The Young Child in School and Society.**

**Eight sem-hours**

An overview of contemporary social forces and trends in early childhood education using pre-school and primary curricular models. Current issues in education: educational change, classroom climate and the interrelationships between society, community, family and the classroom; utilization of community resource persons in the school. Required field experiences in day care centers, model city programs and/or public and private school facilities.  
*Prereq: EDP 200 Early Childhood Human Growth and Development, ECE 101 Introduction to Early Childhood Education or equivalent.*

### **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.*

### **ECE 301 Methods: Math-Science-Arts for Early Childhood.**

**Seven sem hours**

Curriculum development and evaluation. Integration of content, methods and materials for social studies, science and the creative arts, and skill development in language arts and mathematics with emphasis on developing children's positive learning attitudes and helping them learn *how* to learn. Students will create learning materials, procedure, techniques and measures for use in children's programs and then will test their ideas in directed field experiences.  
*Prereq: ECE 300 The Young Child in School and Society.*

### **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 planned practicum experience in public schools in addition to the regularly scheduled hours.

*Prereq: Admission to the College of Education prior to registration. Must be taken concurrently with EDP 340 Introduction to Measurement and Evaluation and SFD 328 Social Aspects of Teaching.*

### **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 instruction 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. Must be taken concurrently with EDP 340 Introduction to Measurement and Evaluation and SFD 328 Social Aspects of Teaching.*

**\*MTH 306 Teaching of High School Mathematics.** **Three sem hours**  
(For description, see Department of Mathematics.)

**\*CTA 307 The Teaching of Speech.** **Three sem hours**  
(For description, see Department of Communication and Theatre Arts.)

**\*ENG 308 High School English.** **Three sem hours**  
(For description, see Department of English Language and Literature.)

**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. Must be taken concurrently with EDP 322 Human Development and Learning.*

**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. Must be taken concurrently with EDP 322 Human Development and Learning.*

**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. All teacher education students must have been admitted into the College of Education prior to registration in EDP 322. Must be taken concurrently with CUR 314 Teaching Reading in the Elementary School or CUR 311 Teaching Reading in the Secondary School.*

**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: Must be taken concurrently with CUR 304 Curriculum and Methods - Elementary or CUR 305 Curriculum and Methods - Secondary and EDP 340 Introduction to Measurement and Evaluation.*

**\*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: Must be taken concurrently with CUR 304 Curriculum and Methods - Elementary or CUR 305 Curriculum and Methods - Secondary and SFD 328 Social Aspects of Teaching.*

**EDP 341 Measurement and Assessment of Young Children.** **Three 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, ECE 101 Introduction to Early Childhood Education and EDP 200 Early Childhood Human Growth and Development.*

**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: Must be taken concurrently with CUR 304 Curriculum and Methods - Elementary or CUR 305 Curriculum and Methods - Secondary or with student teaching.*

**\*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.)
- \*HEC 371 Resources in Teaching Consumer Home Economics Education.** **Two sem hours**  
(For description, see Department of Human, Environmental and Consumer Resources.)
- \*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.)
- 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.*
- 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 406 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.)
- EDM 414 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 adolescents' 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 417 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 techniques 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 beginning 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 Education.)
- \*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 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. For eight semester hours of student teaching, student teachers are required to spend a minimum of 26 clock hours per week in the student teaching center.

*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 EDP 340 Introduction to Measurement and Evaluation; completion of MTH 381 Teaching of Mathematics K-6 and ESC (BIO) 303 Science for the Elementary School Teacher. EDT 300 Introduction to Computer Applications in Education and EDM 345 Media for the Classroom Teacher may be taken concurrently with student teaching.*

*Secondary—Completion of EDP 322 Human Development and Learning, CUR 311 Teaching Reading in the Secondary School, CUR 305 Curriculum and Methods - Secondary, SFD 328 Social Aspects of Teaching and EDP 340 Introduction to Measurement and Evaluation; completion of the special methods course in the major or minor. EDT 300 Introduction to Computer Applications and EDM 345 Media for the Classroom Teacher may be taken concurrently with student teaching. Specialized field students should consult with their academic advisers to determine the courses required prior to student teaching.*

**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 a minor in gerontology.

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  
Ann Arbor Veterans Administration Medical Center,  
Ann Arbor

Annapolis Hospital, Wayne

Battle Creek Public Schools, Battle Creek

Susan Bay Interiors, Inc., Ann Arbor

Beaumont Hospital, Royal Oak

Beyer Memorial Hospital, Ypsilanti

Bixby Hospital, Adrian

Borgess Hospital, Kalamazoo

Robert B. Brigham Hospital, Boston, MA

Chelsea Community Hospital, Chelsea

Children's Hospital, Detroit

Cincinnati General Hospital, Cincinnati, OH

Cooperative Extension Service, Ann Arbor  
Cottage Hospital, Grosse Pointe Farms  
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  
Flint Osteopathic Hospital, Flint  
Garden City Hospital, Garden City  
Glacier Hills 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  
Jewish Home for the Aged, Detroit  
Klenczar Linda Korbesoja, ASID, Ypsilanti  
Lafayette Clinic, Detroit  
Life Skills Center, Howell  
Livonia Public Schools, Livonia  
McLaren Hospital, Flint  
Metropolitan West Health Maintenance Organization,  
Westland  
University of Michigan Hospitals, Ann Arbor  
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, Lapeer  
Pontiac General Hospital, Pontiac  
Port Huron Hospital, Port Huron  
Providence Hospital, Southfield  
Rehabilitation Institute, Inc., Detroit  
Rehabilitation Institute of Chicago, Chicago, IL  
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  
Sinai Hospital of Detroit, Detroit  
Suburban Industrial Medical Clinic, Livonia  
Synod House, Ypsilanti  
Therapeutic Day Clinic, Inkster  
Tri County Home Health Care, Southfield  
Washtenaw County Community Mental Health Program,  
Ann Arbor  
Washtenaw County Health Department, Ann Arbor  
Washtenaw County Health Department, Ypsilanti  
Washtenaw County League for Planned Parenthood,  
Ann Arbor  
Wayne County General Hospital, Eloise  
Whitmore Lake Convalescent Center, Whitmore Lake  
Willow Run Community Schools, Ypsilanti  
Wyandotte General Hospital, Wyandotte  
Ypsilanti Public Schools, Ypsilanti  
Ypsilanti Regional Hospital, Ypsilanti

# ASSOCIATED HEALTH PROFESSIONS

Office: 328 King Hall  
Department Head: Stephen A. Sonstein

THE DEPARTMENT OF ASSOCIATED HEALTH PROFESSIONS offers courses relating to the health services and the health care specialty. Specific programs are offered that lead to the baccalaureate degree in Clinical Laboratory Sciences, Health Administration and Occupational Therapy.

## CLINICAL LABORATORY SCIENCES PROGRAM

Office: 328 King Hall

Program Coordinator: Jeanne M. Clerc  
Associate Professor: Clifford Renk  
Assistant Professors: Jeanne M. Clerc, Edna Jackson-Gray,  
Gary Hammerberg

DEGREE: Bachelor of Science

### PROGRAMS OF STUDY

#### Curriculum:

Clinical Laboratory Sciences  
(Clinical Certification Track, Professional Track)

THE CLINICAL LABORATORY SCIENCES PROGRAM offers two tracks, the clinical certification track and the professional track, each leading to the Bachelor of Science degree. 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. Graduates will receive a baccalaureate degree and will be eligible to sit for the national registry examination administered by either the American Society for Clinical Pathology or the National Certifying Agency. 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 the 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 four areas of Basic Studies (see pages 25-28 under Basic Studies Requirements). 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 (see page 28 under Degree Requirements).

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 first semester of the junior year.

The application packet can be obtained from the Department of Associated Health Professions office. Completed applications must be in the office by Jan. 10 in order to be considered for acceptance for the spring 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 of the tracks. It is likely that 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:

Borgess Hospital, Kalamazoo  
 Detroit Receiving Hospital and University Health Center, Detroit  
 Garden City Osteopathic, Garden City  
 Hutzel Hospital, Detroit  
 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, but 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 education 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 and allow students to qualify for the national certification examination for medical technology.

	Sem hours
<b>Language</b> .....	9
One course in English composition or, if eligible, a foreign language course.	
One course in fundamentals of speech.	
One elective course in English language, foreign language, speech or educational media.	
<b>Science and mathematics</b> .....	84-91
<b>Biology courses</b> .....	20-22
BIO 105 Biology and the Human Species or BIO 106 Orientation to Biology.....	2-4
ZOO 222 General Zoology.....	4
ZOO 326 Human Physiology.....	3
MIC 329 General Microbiology.....	5
BIO 301 Genetics.....	3
ZOO 462 Parasitology.....	3
<b>Chemistry courses</b> .....	23-27
CHM 119 Fundamentals of Chemistry (if no high school chemistry).....	4
CHM 131, 132 General Chemistry I & II.....	9
CHM 270 Organic Chemistry.....	4
CHM 271 Organic Chemistry Lab.....	1
CHM 281 Quantitative Analysis.....	4
CHM 351 Introductory Biochemistry.....	3
CHM 352 Biochemistry Laboratory.....	2
<b>Mathematics courses</b> .....	6-7
MTH 105 College Algebra <i>or</i>	
MTH 120 Calculus I.....	3-4
MTH 270 Elementary Statistics.....	3
PHY 278 Physics for the Life Sciences.....	4
<b>Clinical laboratory sciences courses</b> .....	37-49
CLS 101 Introduction to Clinical Laboratory Sciences.....	1
CLS 200 Clinical Laboratory Techniques.....	2
CLS 307 Introduction to Hematology.....	3
CLS 310 Urinalysis/Body Fluids.....	2
CLS 334 Introduction to Immunohematology.....	2
CLS 335 Clinical Immunology.....	4
CLS 400 Pathophysiology.....	3
CLS 401 Laboratory Management/Education.....	3
CLS 407 Advanced Hematology.....	3
CLS 408 Clinical Data Analysis and Quality Assurance.....	2
CLS 432 Clinical Microbiology.....	4
CLS 434 Advanced Immunohematology.....	3
BOT 446 Medical Mycology (professional track only)...	4
*CLS 450 Hematology/Coagulation Practicum.....	5
*CLS 452 Clinical Immunology/Immunohematology Practicum.....	5
*CLS 454 Clinical Chemistry Practicum.....	5
*CLS 456 Clinical Microbiology Practicum.....	5
*CLS 457 Clinical Methods Practicum.....	1
*CLS 459 Clinical Mycology Practicum.....	1
Electives (professional track only).....	3
<b>Social sciences</b> .....	9-12
One course in American government.	
One course in history.	
A second course in history or a two-semester sequence in economics or geography.	

\*Required for clinical track only.

Humanities.....	12
Two courses in English literature or two intermediate foreign language courses or two advanced foreign language courses.	
Philosophy or religion.	
FA 101 Introduction to Art or equivalent.....	2
Physical education and health (Group VII).....	2
Physical education activity courses..... 2 (Any two courses in Military Science may be applied)	
Total - Clinical track.....	141-147
Total - Professional track.....	125-136

## Clinical Laboratory Sciences Courses

### CLS 101 Introduction to Clinical Laboratory Sciences.

One sem hour

An overview of the profession including the fundamentals of hospital function and professional relationships, information on wage and salary benefits and legal issues pertinent to the profession.

### 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.

*Prereq: CLS 101 Introduction to Clinical Laboratory Sciences or 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. Theory and principles of routine medical laboratory hematology techniques. Not open to those with credit in BIO 307 Introduction to Hematology.

### 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 Chemistry Laboratory, CHM 281 Quantitative Analysis, ZOO 222 General Zoology and ZOO 326 Human Physiology 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 General Microbiology or permission of instructor.*

### CLS 387 Cooperative Education in Clinical Laboratory Sciences.

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 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, permission of program director.*

### CLS 400 Pathophysiology.

Three sem hours

A comprehensive study of disease, beginning at the cellular level and following through each organ system in the body. Pathological processes identified and related to the chemical and biological testing performed daily in the clinical laboratory.

*Prereq: ZOO 201 and 202 Human Anatomy and Physiology I and II or ZOO 326 Human Physiology, CHM 131 and 132 General Chemistry I and II, MIC 329 General Microbiology (or taken concurrently) or permission of instructor.*

### CLS 401 Laboratory Management/Education.

Three sem hours

Basic management skills for laboratory personnel and an introduction to educational theory. Personnel, equipment and reagent purchase, and laboratory records. Objective writing, test construction and clinical evaluation.

### CLS 402 Applications of Clinical Chemistry to

#### Pathophysiology.

Three sem hours

The relationship of clinical chemistry to diagnosis, prognosis and treatment of disease. Focus will be on testing procedures, instrumentation, and controlling these 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, CLS 400 Pathophysiology, CHM 351 Introductory Biochemistry, CHM 352 Biochemistry Laboratory.*

### CLS 407 Advanced Hematology.

Three sem hours

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 408 Clinical Data Analysis and Quality

#### Assurance.

Two sem hours

Laboratory statistics, quality assurance, reference values, evaluation of clinical laboratory methods and computer applications.

*Prereq: MTH 270 Elementary Statistics.*

### CLS 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 MIC 432 Clinical Microbiology.

*Prereq: MIC 329 General Microbiology or permission of the instructor.*

### CLS 434 Advanced Immunoematology.

Three sem hours

Principles and procedures used in the blood bank. Laboratory designed to simulate problem situations in the clinical laboratory. Not open to those with credit in BIO 434 Advanced Immunoematology.

*Prereq: CLS 307 Introduction to Hematology and CLS 335 Clinical Immunology.*

### CLS 450 Hematology/Coagulation Practicum.

Five sem hours

An intensive hands-on clinical experience in routine hematology, coagulation and special techniques at an advanced level.

*Prereq: Acceptance into clinical track.*

### CLS 452 Clinical Immunology/Immunoematology

#### Practicum.

Five sem hours

An intensive hands-on clinical experience at an advanced level of instruction in blood banking, immunology and serology.

*Prereq: Acceptance into clinical track.*

**CLS 454 Clinical Chemistry Practicum.** **Five sem hours**  
 An intensive hands-on clinical experience at an advanced level of instruction in automated chemistry, radioimmunoassay, electrophoresis and toxicology.  
*Prereq: Acceptance into clinical track.*

**CLS 456 Clinical Microbiology Practicum.** **Five sem hours**  
 An intensive hands-on clinical experience at an advanced level of instruction in clinical microbiology.  
*Prereq: Acceptance into clinical track.*

**CLS 457 Clinical Methods Practicum.** **One sem hour**  
 This one-week intensive course includes an orientation to hospitals training students, a one-day experience at the American Red Cross and a combined urinalysis/phlebotomy experience at the hospital affiliates.  
*Prereq: Acceptance into clinical track.*

**CLS 459 Clinical Mycology Practicum.** **One sem hour**  
 An intensive introductory lecture and laboratory course highlighting medically important fungi. Disease states and laboratory methods of isolation and identification.  
*Prereq: Acceptance into clinical track.*

**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, 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 sciences program faculty member or clinical associate faculty member.  
*Prereq: Permission of the instructor.*

## HEALTH ADMINISTRATION PROGRAM

Office: 328 King Hall

**Program Director: Vacant**  
**Assistant Professor: Donald C. Kraushaar**

**DEGREE:** Bachelor of Science

### PROGRAM OF STUDY

**Curriculum:** Health Administration

**ADVISING** is available through the faculty in the health administration program office.

**ADVISING COORDINATOR:** Steven Sonstein

### Health Administration Curriculum

**THE PROGRAM IN HEALTH ADMINISTRATION** is one of only 18 undergraduate programs in the United States with full membership in the Association of University Programs in Health Administration (AUPHA).

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 in 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 head due to a previous experience. Courses denoted with an asterisk (\*) complete the major and minor requirements for a degree. No outside minor is needed.

Area	Sem hours
<b>Language</b> .....	<b>8-9</b>
Requirements 1, 2 and 3 (Box page 26).....	8-9
(CTA 225 Listening Behavior recommended for Requirement 3)	
<b>Science and mathematics</b> .....	<b>16-17</b>
MTH 104 Intermediate Algebra (if needed).....	3
MTH 118, 119 Mathematical Analysis for Social Sciences I and II.....	6
PSY 101 or 102 General Psychology.....	3-4
One laboratory science (unless PSY 102 is taken).....	4
<b>Social sciences</b> .....	<b>21</b>
Requirements 1 and 2 (Box page 27).....	6
ECO 201, 202 Principles of Economics I and II.....	6
*ECO 436 Health Economics.....	3
SOC 105 Introductory Sociology.....	3
*SOC 312 Medical Sociology.....	3
<b>Humanities</b> .....	<b>11-12</b>
Requirements 1, 2 and 3 (Box page 27).....	11-12
(PHI 130 Introduction to Logic recommended for Requirement 2)	
<b>Practical arts (Group VI)</b> .....	<b>51-57</b>
<b>Health administration courses</b>	
*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 Administration.....	3-9
<b>Business courses</b>	
*ACC 240, 241 Principles of Accounting.....	6
*LAW 293 Legal Environment of Business or PLS 301 American Legal System .....	3
*FIN 350 Principles of Finance.....	3
*MGT 384 Personnel Administration.....	3
*MGT 386 Organizational Theory and Development.....	3
*MKT 360 Principles of Marketing.....	3
*ORI 215 Computers in Business.....	3
*ORI 265 Business Statistics I or ECO 310 Economic Statistics.....	3
<b>Physical education and health (Group VII).....</b>	<b>2</b>
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Electives.....</b>	<b>6-15</b>
The following courses are suggested as possible electives:	
ACC 342 Managerial Cost Accounting	
ECO 322 American Labor Unions	
LAW 403 Labor Law	
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 362 Complex Organizations	
For permissible College of Business courses (maximum 30 credit hours), see a program adviser	
<b>Total.....</b>	<b>124</b>

## 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 300 Health Care Issues. Two 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.
- HAD 301 Health Care Issues Seminar. One sem hour**  
 Seminar required for majors; must be taken concurrently with HAD 300 Health Care Issues.

**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 300 Health Care Issues.*

**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, FIN 350 Principles of Finance and ORI 215 Computers in Business.*

**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 and 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, senior standing, 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, senior standing and 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:** Ruth A. Hansen

**Associate Professor:** Ruth A. Hansen, Yvonne Teske

**Assistant Professors:** Normajeane Bennett, Marie Immekus,

Sherry Sayles-Folks

**Instructor:** Ben Atchison, William Lofton, 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 by mail.

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: abnormal psychology, a basic design studio art course, human growth and development or child psychology or psychology of development. 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 another 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 must be maintained.
- b. A grade of "D" (including "D+" and "D-") and/or "F" in two courses in the occupational therapy major may, upon recommendation by the Review Committee, result in dismissal from the occupational therapy 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 placement is arranged and approved by the department and is by recommendation of the occupational therapy faculty. OT 488 and 489 Fieldwork are full-time placements of a minimum of three months each.

**CERTIFICATION** by the American Occupational Therapy Association (AOTA) requires successful completion of all academic requirements, fieldwork experiences and the recommendation of the faculty 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.

**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 field work 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 to 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.



Area	Sem hours
Language .....	8-11
Requirements 1, 2 and 3 (Box page 26) .....	8-11
Science and mathematics .....	34-35
PSY 101 General Psychology .....	3
BIO 105 Biology and the Human Species .....	4
CHM 105 Survey of Chemistry or CHM 119 Fundamentals of Chemistry .....	5-4
*ZOO 317 Anatomy for Occupational Therapy Students .....	5
*ZOO 326 Human Physiology .....	3
*ZOO 417 Neuroanatomy .....	3
PSY 360 Abnormal Psychology .....	3
*OT 303 Conditions of Early Childhood .....	3
*OT 403 Conditions of Childhood and Adolescence .....	3
*OT 413 Conditions of Adulthood and Aging .....	3
Social sciences .....	12
Requirements 1 and 2 (Box page 27) .....	6
SOC 105 Introductory Sociology or ANT 135 Introduction to Cultural Anthropology .....	3
An advanced sociology or anthropology course .....	3
Humanities .....	12
Requirements 1 and 2 (Box page 27) .....	9
FA 101 Introduction to Art or equivalent .....	3
Education (Group IV) .....	4
EDP 325 Life Span Human Growth and Development (in designated section for occupational therapy and nursing students) .....	4
Practical arts (Group VI) .....	44
PED 200 Anatomy and Physiology .....	5
*HAD 300 Health Care Issues .....	2
*IE 358 Tools and Materials .....	3
*OT 300 Introduction to Occupational Therapy .....	2
*OT 301 Practicum in Occupational Therapy .....	1
*OT 302 Developmental Activities I .....	2
*OT 304 Developmental Activities II .....	2
*OT 308 Programming for Early Childhood .....	6
*OT 400 Seminar in Health Issues .....	1
*OT 418 Programming for Childhood and Adolescence .....	5
*OT 419 Programming for Adulthood and Aging .....	5
*OT 420 Fieldwork (part-time) .....	2
*OT 421 Fieldwork (part-time) .....	2
*OT 488 Fieldwork (full-time) .....	3
*OT 489 Fieldwork (full-time) .....	3
Physical education and health (Group VII) .....	2
Physical education activity courses .....	2
(Any two courses in Military Science may be applied)	
Electives .....	4-8
Total .....	124

## Occupational Therapy Courses

### 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 387, OT 287.*

**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 301 Practicum, and with or after ZOO 317 Anatomy for Occupational Therapy Students 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 Anatomy for Occupational Therapy Students 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 403 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. Bornemeier, Robert DelCampo, Mary M. Krieger, Duane M. Laws, Ruby L. Meis**  
**Associate Professors: R. Elaine Found, Richard B. Leinbach, Marilyn P. Nagy, Judith C. Williston**  
**Assistant Professors: Betty L. Barber, Polly W. Buchanan, Deborah L. deLaski-Smith, Sarah E. Moore, Virginia A. North, N. Annette Peel, Gwendolyn M. Reichbach, Phyllis A. Young**  
**Instructors: B. Joy Hansen, Deborah A. Silverman**

**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 department is the first state institution in Michigan to attain full accreditation of its curricular offerings by its national organization, the American Home Economics Association. The dietetics curriculum is accredited by the American Dietetic Association.

**DEGREE:** Bachelor of Science

### PROGRAMS OF STUDY

#### Curricula:

Consumer Home Economics Education  
Dietetics  
Consumer Affairs  
Family and Child Development  
Fashion Merchandising  
Food Systems Management  
Interior Design  
General Home Economics

#### Minors:

Child Development  
Clothing and Textiles  
Family Life  
General Home Economics  
Nutrition

**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

#### Majors

Consumer Affairs: Marilyn Nagy, Gwendolyn Reichbach  
Consumer Home Economics Education (Vocational endorsement): Mary Krieger, Ruby Meis  
Dietetics: Polly Buchanan, Annette Peel, Deborah Silverman

- Family and Child Development: Betty Barber, Robert DelCampo
- Fashion Merchandising: Joy Hansen, Sarah Moore
- Food Systems Management: Polly Buchanan
- General Home Economics: Betty Barber, Mary Krieger
- Interior Design: Virginia North
- Minors**
- Clothing and Textiles: Mary Krieger
- Child Development: Judy Williston, Phyllis Young
- Family Life: Betty L. Barber
- General Home Economics: Betty Barber, Mary Krieger
- Nutrition: Elaine Found

**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, housing and interiors, 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 endorsement is available in child care and guidance services. Selection of the child development minor gives the students the background to develop this occupational area in their teaching situation.

In addition to meeting Basic Studies requirements, all students on this curriculum must complete all other courses specified. The particular curricular, major or minor requirements specify both courses and the number of hours to be completed. Students on this curriculum must choose a minor of 20-24 semester hours. Recommended are minors in clothing and textiles, child development, family life or nutrition.

Area	Sem hours
<b>Language</b> .....	<b>8-9</b>
Requirements 1, 2 and 3 (Box page 26).....	8-9
<b>Science and mathematics</b> .....	<b>12</b>
CHM 105 Survey of Chemistry.....	5
PHY 115 Physics in the Modern Home.....	4
PSY 101 General Psychology.....	3
<b>Social sciences</b> .....	<b>9-12</b>
Requirements 1, 2 and 3 (Box page 27).....	9-12
<b>Humanities</b> .....	<b>12</b>
Requirements 1 and 2 (Box page 27).....	9
HEC 105 Integrated Arts.....	3

<b>Education (Group IV)</b> .....	<b>26</b>
EDT 300 Introduction to Computer Applications.....	1
CUR 311 Teaching Reading in the Secondary School....	3
EDP 322 Human Development and Learning.....	4
SFD 328 Social Aspects of Teaching.....	3
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
<b>Practical arts (Group VI)</b> .....	<b>43</b>
<b>Foundation courses</b> .....	<b>4</b>
HEC 200 The Family as Environment.....	2
HEC 400 The Family in Environment.....	2
<b>Application courses</b> .....	<b>39</b>
<b>Clothing and textiles</b>	
*HEC 118 Clothing Principles.....	3
*HEC 235 Textiles for Consumers.....	3
<b>Consumer affairs</b>	
*HEC 112 Introduction to Consumer Affairs.....	3
*HEC 271 Household Equipment.....	3
*HEC 285 Resource Management: Individual and Family.....	3
*HEC 322 Family Financial Management.....	3
<b>Family and child development</b>	
*HEC 209 Marriage and Interpersonal Competence.....	3
*HEC 214 The Developing Child.....	3
*HEC 215 Child Development Lab I: Preschool Child.....	1
<b>Foods and nutrition</b>	
*HEC 113 Family Health Care.....	2
*HEC 116 Foods for Consumers.....	3
*HEC 201 Nutrition for Consumers.....	3
<b>Interior design</b>	
*HEC 208 Basic Interior Design.....	3
*HEC 269 Housing for Consumers.....	3
<b>Physical education and health (Group VII)</b> .....	<b>2</b>
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Electives</b> .....	<b>20-24</b>
<b>Total</b> .....	<b>132-140</b>

*\*Indicates courses that meet minimum requirements for vocational endorsement in consumer home economics education.*

## Curriculum for Dietetics

**THIS SPECIALIZED EDUCATIONAL PROGRAM** integrates academic study with clinical 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 are eligible to take the registration examination for Registered Dietitian status. Career opportunities for the dietitian are available in hospitals; in administrative, therapeutic or clinical situations; in industrial food service programs; in college dormitories; 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 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; BIO 105 Biology and the Human Species; CHM 131 General Chemistry I, CHM 270 Organic Chemistry, CHM 271 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 that ranks eight parameters 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.

Since September 1978, 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 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 practical arts (Group VI) 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 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.

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
<b>Language</b> .....	8-9
Requirements 1, 2, and 3 (Box page 26).....	8-9
<b>Science and mathematics</b> .....	28
PSY 101 General Psychology.....	3
BIO 105 Biology and the Human Species.....	4
CHM 131 General Chemistry I.....	5
ZOO 326 Human Physiology.....	3
CHM 270 Organic Chemistry.....	4
CHM 271 Organic Chemistry Laboratory.....	1
MIC 328 Introductory Microbiology.....	3
CHM 351 Introductory Biochemistry.....	3
CHM 352 Biochemistry Laboratory.....	2

<b>Social sciences</b> .....	15
Requirements 1 and 2 (Box page 27).....	6
ECO 210 Principles of Economics I.....	3
Two semester sequence in sociology.....	6
<b>Humanities</b> .....	11-12
Requirements 1 and 2 (Box page 27).....	9
A course in art, music, theatre arts or HEC 105 Integrated Arts.....	2-3
<b>Practical arts (Group VI)</b> .....	52
<b>Foundation courses</b> .....	4
HEC 200 The Family as Environment.....	2
HEC 400 The Family in Environment.....	2
<b>Specialization courses</b> .....	48
HEC 116 Foods for Consumers.....	3
HEC 202 Human Nutrition.....	3
HEC 211 Food Science.....	3
HEC 301 Orientation to Dietetics.....	2
HEC 312 Community Nutrition.....	3
HEC 384 Clinical Nutrition I.....	3
HEC 394 Food Systems Management I.....	3
HEC 402 Nutrient Metabolism.....	3
HEC 435 Foods and Nutrition Seminar.....	2
HEC 484 Clinical Nutrition II.....	4
HEC 485 Clinical Nutrition III.....	5
HEC 494 Food Systems Management II.....	3
HEC 495 Food Systems Management III.....	5
MGT 384 Personnel Administration.....	3
MGT 386 Organization Theory and Development.....	3
<b>Physical education and health (Group VII)</b> .....	2
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Electives</b> .....	6-9
<b>Total</b> .....	124

## Application Courses

**IN EACH OF THE FOLLOWING CURRICULA** students must complete at least one course in each of the application areas outside the area of specialization. Requirements for the specialized area are indicated in the practical arts (Group VI) under each curriculum.

### Clothing and textiles

HEC 114 Consumer and Economic Aspects of Clothing.....	3
HEC 118 Clothing Principles.....	3
HEC 235 Textiles for Consumers.....	3

### Consumer affairs

HEC 112 Introduction to Consumer Affairs.....	3
HEC 271 Household Equipment.....	3
HEC 285 Resource Management: Individual and Family.....	3

### Family life and child development

HEC 109 Interpersonal Relations in the Family.....	3
HEC 209 Marriage and Interpersonal Competence.....	3
HEC 214 The Developing Child and HEC 215 Child Development Lab I: Preschool Child.....	4

### Foods and nutrition

HEC 107 Food for Man.....	2
HEC 116 Foods for Consumers.....	3
HEC 201 Nutrition for Consumers.....	3

**Interior design**

HEC 208 Basic Interior Design.....	3
HEC 269 Housing for Consumers.....	3
HEC 350 History of Interiors: Ancient-1800.....	2
HEC 352 History of Interiors: 1800-Present.....	2

**Curriculum for Consumer Affairs**

**CONSUMER AFFAIRS** prepares students for consumer and community affairs positions in business, government and community agencies. A core of courses is required of all students. Each student then selects courses to complete the program according to their career goal: consumer affairs, family financial advising or community consumer services.

Area	Sem hours
<b>Language</b> .....	8-9
Requirements 1 and 2 (Box page 26).....	5-6
JRN 215 Journalism or JRN 424 Technical Writing.....	3
<b>Science and mathematics</b> .....	10-12
Requirement 1 (Box page 26).....	4-6
CSC 136 Computers for the Non-Specialist.....	3
PSY 101 General Psychology.....	3
<b>Social sciences</b> .....	12
Requirements 1 and 2 (Box page 27).....	6
ECO 201, 202 Principles of Economics I and II.....	6
<b>Humanities</b> .....	12
Requirements 1 and 2 (Box page 27).....	9
HEC 105 Integrated Arts.....	3
<b>Practical arts (Group VI)</b> .....	51-58
<b>Foundation courses</b> .....	4
HEC 200 The Family as Environment.....	2
HEC 400 The Family in Environment.....	2
<b>Application courses</b> .....	9-13
Choose one course from each application area (see pages 246-247)	
<b>Specialization courses</b> .....	38
<b>1. Required courses</b> .....	23
HEC 112 Introduction to Consumer Affairs... 3	
HEC 271 Household Equipment..... 3	
HEC 285 Resource Management: Individual and Family..... 3	
HEC 322 Family Financial Management..... 3	
HEC 472 Consumer Economic Issues..... 3	
HEC 473 Consumer Economic Problems..... 3	
HEC 474 Seminar in Consumer Affairs..... 2	
MKT 360 Principles of Marketing..... 3	
<b>2. Restricted electives</b> .....	15
Choose 15 credits from the following:	
HEC 114 Consumer and Economic Aspects of Clothing, HEC 116 Foods for Consumers, HEC 201 Nutrition for Consumers, HEC 235 Textiles for Consumers, HEC 269 Housing for Consumers, HEC 390 Demon- stration Methods, HEC 419 Consumer Resource Management: Health Care, HEC 487 Field Experience, HEC 497, 498, 499 Directed Study	
ACC 240 Principles of Accounting, ACC 244 Personal Tax Accounting	
CTA 140 Introduction to Telecommunication and Film, CTA 350 Persuasion	
LAW 293 Legal Environment of Business	
MGT 386 Organization Theory and Development, MGT 202 Business Communication	

MKT 263 Retailing, MKT 365 Buyer Behavior	
PSY 445 Consumer Psychology	
RES 210 Real Estate Principles and Practices	
SOC 105 Introductory Sociology	
<b>Physical education and health (Group VII)</b> .....	2
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Electives</b> .....	21-31
<b>Total</b> .....	124

**Curriculum for Family and Child Development**

**THE FAMILY AND CHILD DEVELOPMENT CURRICULUM** provides opportunities for the student to develop competence in understanding family interaction. Students who wish to teach family and child development must declare their teaching intent and take 28 hours in education as specified in the education (Group IV) area of this curriculum. Students must select a teaching minor of 20-24 semester hours to complete requirements for graduation.

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.

Area	Sem hours
<b>Language</b> .....	8-9
Requirements 1, 2 and 3 (Box page 26).....	8-9
<b>Science and mathematics</b> .....	12-13
PSY 101 or 102 General Psychology.....	3-4
CHM 105 Survey of Chemistry.....	5
PHY 115 Physics in the Modern Home.....	4
<b>Social sciences</b> .....	12
Requirements 1 and 2 (Box page 27).....	6
SOC 105 Introductory Sociology and one of the following: SOC 222 Social Problems, SOC 306 The Urban Communi- ty, SOC 308 Social Psychology or SOC 314 Racial and Cultural Minorities.....	6
<b>Humanities</b> .....	12
Requirements 1 and 2 (Box page 27).....	9
HEC 105 Integrated Arts.....	3
<b>Education (Group IV)</b> .....	28
(Required for those wishing to meet the requirements for a Secondary Provisional Certificate in teaching)	
EDT 300 Introduction to Computer Applications in Education.....	1
SGN 300 Exceptional Children in the Regular Classroom.....	1
CUR 311 Teaching Reading in the Secondary School... 3	
EDP 322 Human Development and Learning.....	4
EDP 340 Introduction to Measurement and Evaluation.....	2
SFD 328 Social Aspects of Teaching.....	3
EDM 345 Media for the Classroom Teacher.....	1
HEC 370 Methods and Materials in Consumer Home Economics Education.....	3
HEC 375 Resources in Teaching Family Life Education.....	2
EDU 492 Student Teaching.....	8
<b>Practical arts (Group VI)</b> .....	39-41
<b>Foundation courses</b> .....	4
HEC 200 The Family as Environment.....	2
HEC 400 The Family in Environment.....	2
<b>Application courses</b> .....	10-12
Choose one course from each application area (see pages 246-247)	

<b>Specialization courses</b> .....	26
HEC 109 Interpersonal Relations in the Family.....	3
HEC 209 Marriage and Interpersonal Competence.....	3
HEC 214 The Developing Child and HEC 215 Child Development Lab I: Preschool Child.....	4
HEC 306 Parenting.....	3
HEC 314 The Developing Infant and HEC 315 Child Development Lab II: Infancy.....	4
HEC 361 Issues in Family and Child Development.....	3
HEC 461 Family Interaction.....	3
HEC 487 Field Experience (Family Life).....	3
<b>Physical education and health (Group VII)</b> .....	2
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Electives</b> .....	9-13
Recommended electives:	
HEC 305 Family Development: Middle Childhood, HEC 322 Family Financial Management	
<b>Total</b> .....	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. Students on this curriculum must complete a minor of 20-24 semester hours to meet graduation requirements. A marketing or management minor is recommended.

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.

Area	Sem hours
<b>Language</b> .....	8-9
Requirements I, 2 and 3 (Box page 26).....	8-9
<b>Science and mathematics</b> .....	10-12
Requirements I and 2 (Box page 26).....	7-9
PSY 101 General Psychology.....	3
<b>Social sciences</b> .....	9-12
Requirements I, 2 and 3 (Box page 27).....	9
<b>Humanities</b> .....	12
Requirements I and 2 (Box page 27).....	9
HEC 105 Integrated Arts.....	3
<b>Practical arts (Group VI)</b> .....	43-47
<b>Foundation courses</b> .....	4
HEC 200 The Family as Environment.....	2
HEC 400 The Family in Environment.....	2
<b>Application courses</b> .....	10-13
Choose one course from each application area (see pages 246-247)	
<b>Specialization courses</b> .....	30
<b>1. Required courses</b> .....	21
HEC 114 Consumer and Economic Aspects of Clothing.....	3
HEC 118 Clothing Principles.....	3
HEC 235 Textiles for Consumers.....	3
HEC 245 Fashion Merchandising I.....	3

HEC 303 Interdisciplinary Study of Clothing.....	3
HEC 345 Fashion Merchandising II.....	3
HEC 437 Professional Seminar.....	3
<b>2. Restricted electives</b> .....	9
Choose nine credits from the following: HEC 119 Early American Textiles, HEC 302 Experimental Clothing, HEC 380 Fashion of the Haute Couture, HEC 390 Demonstration Methods, HEC 392 Pattern Design, HEC 404 Textile Testing, HEC 439 Fashion Markets, HEC 443 Merchandising of Home Furnishings, HEC 460 Tailoring, HEC 487 Field Experience	
<b>Physical education and health (Group VII)</b> .....	2
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Electives</b> .....	30-40
<b>Total</b> .....	124

## Curriculum for Food Systems 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 (Group VI).

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.

Area	Sem hours
<b>Language</b> .....	8-9
Requirements I and 2 (Box page 26).....	5-6
ENG 215 Journalism or ENG 325 Expository Writing or ENG 424 Technical Writing.....	3
<b>Science and mathematics</b> .....	18-20
BIO 105 Biology and the Human Species.....	4
CHM 119 Fundamentals of Chemistry and CHM 120 Fundamentals of Organic and Biochemistry or CHM 131 General Chemistry I, CHM 270 Organic Chemistry and CHM 271 Organic Chemistry Laboratory.....	8-10
MIC 328 Introductory Microbiology.....	3
PSY 101 General Psychology.....	3
<b>Social sciences</b> .....	12
Requirements I and 2 (Box page 27).....	6
ECO 201, 202 Principles of Economics I and II.....	6
<b>Humanities</b> .....	12
Requirements I and 2 (Box page 27).....	9
HEC 105 Integrated Arts.....	3
<b>Practical arts (Group VI)</b> .....	47-50
<b>Foundation courses</b> .....	4
HEC 200 The Family as Environment.....	2
HEC 400 The Family in Environment.....	2
<b>Application courses</b> .....	9-12
Choose one course from each application area (see pages 246-247)	
<b>Specialization courses</b> .....	34
<b>1. Required courses</b> .....	34
HEC 116 Foods for Consumers.....	3

HEC 201 Nutrition for Consumers.....	3
HEC 211 Food Science.....	3
HEC 394 Food Systems Management I.....	3
HEC 435 Foods and Nutrition Seminar.....	3
HEC 493 Food Service Cost Controls.....	3
HEC 494 Food Systems Management II.....	3
HEC 495 Food Systems Management III.....	5
HEC 496 Professional Food Purchasing and Production.....	3
MGT 384 Personnel Administration.....	3
MGT 386 Organizational Theory and Development.....	3
<b>2. Recommended electives</b>	
HEC 251 Managing Contemporary Meals, HEC 271 Household Equipment, HEC 412 Nutrition of the Life Cycle, HEC 416 Contemporary Issues in Nutrition	
CSC 136 Computers for the Non-Specialist	
MIC 445 Food Microbiology	
PSY 351 Industrial Psychology	
<b>Physical education and health (Group VII).....</b>	<b>2</b>
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Electives.....</b>	<b>19-25</b>
<b>Total.....</b>	<b>124</b>

## Curriculum for Interior Design

**THE INTERIOR DESIGN CURRICULUM** is interdisciplinary in nature. It emphasizes creative problem-solving in the area of human environment relationships and aims to prepare students to become professional designers.

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 number of hours to be completed for a degree. A minor in fine arts, general business, historic preservation, industrial technology or marketing is recommended.

Area	Sem hours
<b>Language.....</b>	<b>8-9</b>
Requirements 1, 2 and 3 (Box page 26).....	8-9
(CTA 227 Interpersonal Communication or CTA 359 Small Group Communication recommended for Requirement 3)	
<b>Science and mathematics.....</b>	<b>10-12</b>
Requirements 1, 2 and 3 (Box page 26).....	10-12
(PHY 115 Physics in the Modern Home recommended for Requirement 1; PSY 102 General Psychology recommend- ed for Requirement 2; and PSY 350 Environmental Psychology or CSC 136 Computers for the Non-Specialist recommended for Requirement 3)	
<b>Social sciences.....</b>	<b>9-12</b>
Requirements 1 and 2 (Box page 27).....	6
A second course in history or one of the following:	
<b>Sociology</b>	
SOC 105 Introductory Sociology and one of the following:	
ANT 135 Introduction to Cultural Anthropology	
SOC 306 The Urban Community	
SOC 308 Social Psychology	
SOC 309 Culture and Personality	
<b>Economics</b>	
ECO 201 and 202 Principles of Economics I and II	
<b>Geography</b>	
GEO 115 Observing the Human Landscape and GEO 335 Historic Preservation	

<b>Humanities.....</b>	<b>12</b>
Requirements 1 and 2 (Box page 27).....	9
HEC 105 Integrated Arts.....	3
<b>Practical arts (Group VI).....</b>	<b>61-64</b>
<b>Foundation courses.....</b>	<b>4</b>
HEC 200 The Family as Environment.....	2
HEC 400 The Family in Environment.....	2
<b>Application courses.....</b>	<b>10-13</b>
Choose one course from each application area (see pages 246-247)	
<b>Specialization courses.....</b>	<b>47</b>
<b>1. Required courses.....</b>	<b>44</b>
HEC 175 Interior Design Visualization	
Techniques I.....	4
HEC 208 Basic Interior Design.....	3
HEC 235 Textiles for Consumers.....	3
HEC 269 Housing for Consumers.....	3
HEC 275 Interior Design Visualization	
Techniques II.....	4
HEC 290 Lighting for Interiors.....	3
HEC 308 Environmental Systems for Interiors.....	3
HEC 309 Residential Design.....	3
HEC 310 Contract Design.....	3
HEC 350 History of Interiors: Ancient-1800.....	2
HEC 351 History of Interiors Laboratory:	
Ancient-1800.....	1
HEC 352 History of Interiors: 1800-Present.....	2
HEC 353 History of Interiors Laboratory	
1800-Present.....	1
HEC 369 Human Factors and Environmental	
Design.....	3
HEC 445 Advanced Residential Design.....	3
HEC 447 Advanced Contract Design.....	3
<b>2. Restricted elective.....</b>	<b>3</b>
HEC 487 Field Experience.....	3
<b>Physical education and health (Group VII).....</b>	<b>2</b>
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Electives.....</b>	<b>13-22</b>
<b>Total.....</b>	<b>124</b>

## Curriculum in General Home Economics

**GENERAL HOME ECONOMICS** is designed to give a broad general background in all aspects of home economics with a minor and electives in a field of the student's special interest. Students who wish to teach home economics should refer to the curriculum for consumer home economics education (see page 245).

After meeting the Basic Studies requirements, all students on this curriculum must complete all other courses specified below. These particular curricular, major or minor requirements specify both courses and the number of hours to be completed for a degree. Students on this curriculum should select their minor from child development, family life or nutrition.

Area	Sem hours
<b>Language.....</b>	<b>8-9</b>
Requirements 1, 2 and 3 (Box page 26).....	8-9
<b>Science and mathematics.....</b>	<b>12</b>
CHM 105 Survey of Chemistry.....	5
PHY 115 Physics in the Modern Home.....	4

PSY 101 General Psychology .....	3
<b>Social sciences</b> .....	<b>9-12</b>
Requirements 1, 2 and 3 (Box page 27).....	9-12
<b>Humanities</b> .....	<b>12</b>
Requirements 1 and 2 (Box page 27).....	9
HEC 105 Integrated Arts.....	3
<b>Practical arts (Group VI)</b> .....	<b>36</b>
<b>Foundation courses</b> .....	<b>4</b>
HEC 200 The Family as Environment.....	2
HEC 400 The Family in Environment.....	2
<b>Application courses</b> .....	<b>32</b>
Choose at least two courses from each application area below:	
<b>Clothing and textiles</b>	
HEC 114 Consumer and Economic Aspects of Clothing.....	3
HEC 118 Clothing Principles .....	3
HEC 235 Textiles for Consumers.....	3
HEC 302 Experimental Clothing.....	3
HEC 303 Interdisciplinary Study of Clothing.....	3
HEC 392 Pattern Design.....	3
<b>Consumer affairs</b>	
HEC 112 Introduction to Consumer Affairs .....	3
HEC 271 Household Equipment.....	3
HEC 285 Resource Management: Individual and Family.....	3
HEC 322 Family Financial Management.....	3
HEC 472 Consumer Economic Issues .....	3
<b>Family and child development</b>	
HEC 109 Interpersonal Relations in the Family.....	2
HEC 209 Marriage and Interpersonal Competence.....	3
HEC 214 The Developing Child and HEC 215 Child Development Lab I: Preschool Child.....	4
HEC 306 Parenting.....	3
HEC 361 Issues in Family and Child Development.....	3
<b>Foods and nutrition</b>	
HEC 113 Family Health Care.....	2
HEC 116 Foods for Consumers.....	3
HEC 201 Nutrition for Consumers.....	3
HEC 251 Managing Contemporary Meals.....	3
HEC 412 Nutrition of the Life Cycle.....	3
<b>Interior design</b>	
HEC 208 Basic Interior Design.....	3
HEC 269 Housing for Consumers.....	3
HEC 350 History of Interiors: Ancient-1800.....	2
HEC 352 History of Interiors: 1800-Present.....	2
<b>Physical education and health (Group VII)</b> .....	<b>2</b>
Physical education activity courses .....	2
(Any two courses in Military Science may be applied)	
<b>Electives</b> .....	<b>37-41</b>
<b>Total</b> .....	<b>124</b>

### Minors Offered in the Department of Human, Environmental and Consumer Resources

#### Child Development Minor

**THIS MINOR** is appropriate for students majoring in psychology, sociology, special education, the health professions and any child-related major. Students who qualify for the Secondary Provisional Certificate in teaching may choose this minor to earn the endorse-

ment in occupational child care and guidance services. An additional 2,000 hours of relevant supervised experience with young children is required.

<b>Minor in child development</b> .....	<b>Sem hours</b> <b>24</b>
<b>1. Required courses</b> .....	<b>21</b>
HEC 214 The Developing Child.....	3
HEC 215 Child Development Lab I: Preschool Child ..	1
HEC 314 The Developing Infant.....	3
HEC 315 Child Development Lab II: Infancy.....	1
HEC 372 Methods and Resources in Child Development Centers.....	3
HEC 373 Child Development Lab III: Methods and Resources.....	1
HEC 407 Administration and Supervision in Child Development Centers.....	3
HEC 413 Experiences with Children.....	4
HEC 422 Seminar in Child Development.....	3
<b>2. Restricted electives</b> .....	<b>3</b>
Choose three credits from the following: HEC 109 Interpersonal Relations in the Family, HEC 201 Nutrition for Consumers, HEC 209 Marriage and Interpersonal Competence	
SGN 251 Education of the Exceptional Child or elective approved by the child development adviser	

#### Clothing and Textiles Minor

**THIS IS A NON-TEACHING MINOR** except as a part of the curriculum for teachers of consumer home economics education.

<b>Minor in clothing and textiles</b> .....	<b>Sem hours</b> <b>24</b>
<b>1. Required courses</b> .....	<b>12</b>
HEC 114 Consumer and Economic Aspects of Clothing.....	3
HEC 118 Clothing Principles .....	3
HEC 235 Textiles for Consumers.....	3
HEC 245 Fashion Merchandising I.....	3
<b>2. Restricted electives</b> .....	<b>12</b>
Choose one course from each of the following areas:	
<b>Construction skills</b>	
HEC 302 Experimental Clothing.....	3
HEC 392 Pattern Design.....	3
HEC 460 Tailoring.....	3
<b>Methodology</b>	
HEC 390 Demonstration Methods.....	3
HEC 499 Directed Study.....	3
<b>Social-psychological-historical</b>	
HEC 303 Interdisciplinary Study of Clothing.....	3
HEC 380 Fashion of the Haute Couture .....	3
<b>Textiles application</b>	
HEC 119 Early American Textiles.....	3
HEC 404 Textile Testing .....	3
HEC 443 Merchandising of Home Furnishings.....	3

#### 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 28 semester hours.

	Sem hours
<b>Minor in family life</b> .....	<b>23-28</b>
<b>1. Required courses</b> .....	<b>20</b>
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 I: Preschool Child... 1	3
HEC 314 The Developing Infant.....	3
HEC 315 Child Development Lab 11: Infancy.....	1
HEC 361 Issues in Family and Child Development.....	3
HEC 461 Family Interaction.....	3
<b>2. Restricted elective</b> .....	<b>3</b>
Choose one course from the following:	
HEC 305 Family Development: Middle Childhood,	
HEC 306 Parenting	

**General Home Economics Minor**

STUDENTS WITH A MAJOR in another area of secondary teaching who want home economics as a second teaching area will include HEC 370 Methods and Materials in Teaching Consumer Home Economics Education and HEC 371 Resources in Teaching Consumer Home Economics Education for a total of 26 semester hours. Family life education majors with a general home economics minor will include HEC 371 Resources in Teaching Consumer Home Economics Education for a total of 23 semester hours.

	Sem hours
<b>Minor in general home economics</b> .....	<b>20-26</b>
<b>1. Required course</b> .....	<b>2</b>
HEC 200 The Family as Environment.....	2
<b>2. Restricted electives</b> .....	<b>18</b>
Choose at least one course from each of the following:	
<b>Clothing and textiles</b>	
HEC 118 Clothing Principles.....	3
HEC 235 Textiles for Consumers.....	3
HEC 302 Experimental Clothing.....	3
<b>Consumer affairs</b>	
HEC 112 Introduction to Consumer Affairs.....	3
HEC 271 Household Equipment.....	3
HEC 285 Resource Management: Individual and Family.....	3
<b>Family and child development</b>	
HEC 209 Marriage and Interpersonal Competence.....	3
HEC 214 The Developing Child and HEC 215 Child Development Lab I: Preschool Child.....	4
<b>Foods and nutrition</b>	
HEC 116 Foods for Consumers.....	3
HEC 201 Nutrition for Consumers.....	3
<b>Interior Design</b>	
HEC 208 Basic Interior Design.....	3
HEC 269 Housing for Consumers.....	3

**Nutrition Minor**

THIS IS A NON-TEACHING MINOR except as part of the curriculum for teachers of consumer home economics education.

	Sem hours
<b>Minor in nutrition</b> .....	<b>20</b>
<b>1. Required courses</b> .....	<b>17</b>
HEC 107 Food for Man.....	2
HEC 116 Foods for Consumers.....	3
HEC 201 Nutrition for Consumers or HEC 202 Human Nutrition.....	3
HEC 251 Managing Contemporary Meals.....	3
HEC 412 Nutrition of the Life Cycle.....	3
HEC 416 Contemporary Issues in Nutrition.....	3
<b>2. Restricted electives</b> .....	<b>3</b>
HEC 113 Family Health Care, HEC 402 Nutrient Metabolism, HEC 478 Special Topics, HEC 487 Field Experience	

**Human, Environmental and Consumer Resources Courses**

**HEC 101 Nutrition for Health.** **Two sem hours**  
 Survey of current dietary practices, emphasizing applications recommended for a life-style of optimal health. Not open to home economics majors for application course purposes.

**HEC 105 Integrated Arts.** **Three sem hours**  
 The application of design elements and principles to human and contemporary environmental needs. Laboratory required.

**HEC 107 Food for Man.** **Two sem hours**  
 An interdisciplinary study of the relationships between food habits and social, psychological, religious and cultural factors.

**HEC 109 Interpersonal Relations in the Family.** **Three sem hours**  
 The skills and attitudes essential for developing interpersonal competence in the family and other social networks. Insight into the behavior of oneself and others will be emphasized to help the student achieve competence in various types of interpersonal relationships.

**HEC 112 Introduction to Consumer Affairs.** **Three sem hours**  
 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.** **Two sem hours**  
 Survey of current health problems and community resources available to families.

**HEC 114 Consumer and Economic Aspects of Clothing.** **Three sem hours**  
 Management of personal and family clothing resources with emphasis on economic implications for consumers.

**HEC 116 Foods for Consumers.** **Three sem hours**  
 Basic study of foods for consumers, including principles of food selection, preparation and preservation. Laboratory required.

**HEC 118 Clothing Principles.** **Three sem hours**  
 Application of clothing principles, standards and techniques through construction of a garment. No previous sewing experience necessary.

**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 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 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 nursing and dietetics students. Not open to students who take HEC 201 Nutrition for Consumers.  
*Prereq: CHM 120 Fundamentals of Organic and Biochemistry or CHM 131 General Chemistry I.*

**HEC 208 Basic Interior 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. Laboratory included.  
*Prereq: HEC 105 Integrated Arts (waived for art majors); interior design majors should have HEC 175 Interior Design Visualization Techniques I.*

**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 I required.  
*Prereq: Sophomore standing.*

**HEC 215 Child Development Lab. I: Preschool Child.** **One sem hour**  
Observation of child growth and development; participation with children 2½ to 5 years of age at the Child Development Laboratory. Concurrent registration in HEC 214 Living with Young Children required.

**HEC 235 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 245 Fashion Merchandising I.** **Three sem hours**  
The fundamentals of fashion; the basic principles that influence and govern all fashion movement; the history, development, production and merchandising activities of the industry from concept to consumer. Field trip required.

**HEC 251 Managing Contemporary Meals.** **Three sem hours**  
Application of the principles of management of economic, human and time resources in planning and preparing meals for contemporary life styles. Inclusion of meals controlled in sodium, carbohydrate and fat content.  
*Prereq: HEC 116 Foods for Consumers and HEC 201 Nutrition for Consumers or HEC 202 Human Nutrition.*

**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.** **Three sem hours**  
Study of appliances, basic principles of operation, performance, care and comparative values for consumer selection.  
*Prereq: Sophomore standing.*

**HEC 275 Interior Design Visualization Techniques II.** **Four sem hours**  
Advanced two-dimensional and three-dimensional graphic techniques, color renditions, model construction and the development of a personal graphic style. Advanced problems in visual presentation for residential and contract interior designs.  
*Prereq: HEC 175 Interior Design Visualization Techniques I.*

**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 301 Orientation to Dietetics.** **Two sem hours**  
 Different facets and specializations of dietetics profession. Interdisciplinary approach to total health care. Supervised clinical experiences in health care facilities. Open only to dietetics students.  
*Prereq: HEC 202 Human Nutrition and HEC 211 Food Science.*

**HEC 302 Experimental Clothing.** **Three sem hours**  
 Experiences in clothing construction with emphasis on processes and techniques relative to varied fabrics and designs. Student should know basic sewing skills such as use of a commercial pattern, use of a machine and be knowledgeable in types of fabrics.  
*Prereq: HEC 235 Textiles for Consumers and HEC 118 Clothing Principles.*

**HEC 303 Interdisciplinary Study of Clothing.** **Three sem hours**  
 A study of man and his clothing with social, psychological and cultural emphasis.  
*Prereq: PSY 101 or 102 General Psychology, or equivalent.*

**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 as they relate to the 5-12-year-old in both the family environment and society.  
*Prereq: EDP 320 Human Growth and Development or equivalent.*

**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 at the Child Development Laboratory. 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 to aid 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.  
*Prereq: HEC 208 Basic Interior Design, HEC 235 Textiles for Consumers, HEC 275 Interior Design Visualization Techniques II.*

**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 309 Residential Design.*

**HEC 312 Community Nutrition.** **Three sem hours**  
 Environmental, cultural and economic influences on food consumption patterns of groups. Nutrition programs of federal, state and local agencies. Planning, assessing, implementing and evaluating nutrition programs in supervised clinical experiences. 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 2½ years) with particular emphasis on the dynamics of the parent-child relationship. Concurrent registration in HEC 315 Child Development Lab II required.  
*Prereq: HEC 214 The Developing Child or department permission.*

**HEC 315 Child Development Lab II: Infancy.** **One sem hour**  
 Observation of infant growth and development; participation with children under 2½ years at the Child Development Laboratory. Taken concurrently with HEC 314 The Developing Infant.

**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 Fashion Merchandising II.** **Three sem hours**  
 The merchandising functions of fashion buying with emphasis on the various forms used to plan, execute and evaluate merchandise profit. Basic practical problems.  
*Prereq: HEC 235 Textiles for Consumers, HEC 245 Fashion Merchandising I.*

**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 elements with selected interior design problems.  
*Prereq: HEC 275 Interior Design Visualization Techniques II.*

**HEC 352 History of Interiors: 1800-Present.** **Two sem hours**  
 Study of the evolution of the dominant influences and characteristics 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 275 Interior Design Visualization Techniques II.*

**HEC 361 Issues in Family and Child Development.****Three sem hours**

Analysis of the impact of crisis situations that are significant in their effects on family members. Resources for resolving critical problems with emphasis on preservation of stability, security and constructive approaches.

*Prereq: HEC 209 Marriage and Interpersonal Competence; junior or senior standing.*

**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 the total school and community. Not open to graduate students for graduate credit.

*Prereq: EDP 322 Human Development and Learning; or coreq: CUR 305 Curriculum and Methods-Secondary 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 III required.

*Prereq: HEC 214 The Developing Child and HEC 314 The Developing Infant.*

**HEC 373 Child Development Lab III: Methods and Resources.****One sem hour**

Planning and carrying out learning activities with young children at the Child Development Laboratory. To be taken concurrently with HEC 372 Methods and Resources in Child Development Centers.

**HEC 374 Methods in Teaching Occupational Foods.****Two sem hours**

Responsibilities of occupational home economics related 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 Resources in Teaching Family Life Education.****Two sem hours**

Students will identify and use a wide variety of educational resources, formulate a personal philosophy of family life education and develop competence in program planning. Communication skills needed to facilitate learning, to design and implement

instructional plans and to plan the use of evaluation processes as a vital part of the teaching/learning environment.

*Prereq: EDP 320 Human Growth and Development or coreq: CUR 326 School and Society and HEC 370 Methods and Materials in Consumer Home Economics Education.*

**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.

*Prereq: HEC 245 Fashion Merchandising I and HEC 303 Interdisciplinary Study of Clothing.*

**HEC 384 Clinical Nutrition I.****Three sem hours**

Nutritional status assessment, medical record interpretation and patient information systems. Consultation with patients on routine diets in health care facilities. Supervised clinical experiences. Open only to dietetics students.

*Prereq: HEC 301 Orientation to Dietetics and HEC 312 Community Nutrition.*

**HEC 390 Demonstration Methods.****Three sem hours**

Principles and procedures for demonstrations to be used in teaching and in the business areas. Actual experience through laboratory participation.

**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 394 Food Systems Management I.****Three sem hours**

Introduction to food systems management with emphasis on sanitation, safety, equipment selection and operation, food purchasing, receiving and storage, and personnel management. Supervised clinical experience.

*Prereq or coreq: HEC 211 Food Science, MGT 386 Organization Theory and Development.*

**HEC 402 Nutrient Metabolism.****Three sem hours**

The biochemical functions of essential nutrients and their relationship to health. Methods of evaluating nutritional status.

*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/child care programs. Applications of philosophy and management skills to preschool programs. Supervision, safety, licensing and other regulations. Can be taken concurrently with HEC 372 Methods and Resources in Child Development Centers.

*Prereq: HEC 314 The Developing Child.*

**HEC 412 Nutrition of the Life Cycle.** Three sem hours  
Factors determining nutrient requirements 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.** Four 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: HEC 372 Methods and Resources in Child Development Centers.*

**HEC 415 Diet and Disease.** Three sem hours  
Diet in the treatment of abnormal metabolic and disease states.  
*Prereq: HEC 402 Nutrient Metabolism, CHM 351 Introductory Biochemistry, ZOO 326 Human Physiology.*

**HEC 416 Contemporary Issues in Nutrition.** Three sem hours  
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 for implementation in child development centers.  
*Prereq: HEC 214 The Developing Child.*

**HEC 435 Foods and Nutrition Seminar.** Two sem hours  
Current topics of foods and nutrition. Supervised clinical experience.  
*Prereq: Senior standing in dietetics or food systems management.*

**HEC 437 Professional Seminar.** Three sem hours  
The professional aspects of fashion merchandising, with interpretation and implementation. Presentation of a fashion-related enterprise.  
*Prereq: HEC 345 Fashion Merchandising II.*

**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 443 Merchandising of Home Furnishings.** Three sem hours  
Application of principles of fashion merchandising to the buying and merchandising of home furnishings.  
*Prereq: HEC 345 Fashion Merchandising II.*

**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 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 Clothing Principles or equivalent.*

**HEC 461 Family Interaction.** Three sem hours  
The intricate and complex nature of family interaction. The family as a system, development of a conceptual framework for intervention through education or counseling.  
*Prereq: Nine hours in family and child development.*

**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  
Analysis and evaluation of current vital issues for consumers and consumer affairs professionals. Topics vary from term to term.  
*Prereq: Junior or senior standing.*

**HEC 477, 478, 479 Special Topics.** One, two, three sem hours  
An experimental course designed to investigate specific topics of concern in specialization areas of home economics.  
*Prereq: Department permission.*

**HEC 484 Clinical Nutrition II.** Four sem hours  
Development, implementation and evaluation of nutritional care plans for individuals requiring modified diets. Supervised clinical experiences. Open only to dietetics students.  
*Prereq: HEC 384 Clinical Nutrition I.*

**HEC 485 Clinical Nutrition III.** **Five sem hours**  
Formulation, implementation and evaluation of nutritional care plans for individuals with abnormal nutrient metabolism. Supervised clinical 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 and 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.  
*Prereq: Department permission.*

**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 493 Foodservice Cost Controls.** **Three sem hours**  
Techniques used by foodservice managers to control food, equipment, labor and operating costs. Purchasing, labor and pilferage controls and applied merchandising techniques as they affect total operating costs of foodservice establishments.  
*Prereq: HEC 494 Food Systems Management II.*

**HEC 494 Food Systems Management II.** **Three sem hours**  
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: HEC 394 Food Systems Management I, MGT 384 Personnel Administration, and MIC 328 Introductory Microbiology.*

**HEC 495 Food Systems Management III.** **Five sem hours**  
Administrative functions of food service departments such as assessing, planning, decision making, evaluating and training. Communication, stress control and behavior management.  
*Prereq: HEC 494 Food Systems Management II.*

**HEC 496 Professional Food Purchasing and Production.** **Three sem hours**  
Scientific principles and techniques applicable to quantity food purchasing, preparation, production and service. Selection and specification requirements for major food groups purchased by food services, on-site food preparation, quantity recipe development, sensory and objective assessments of food quality and factors affecting specialized institutional foodservice production and service.  
*Prereq: HEC 494 Food Systems Management II.*

**HEC 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: Janet Boyd

Professors: Janet Boyd, Virginia A. Skurski

Associate Professors: Betty Beard, Leola Hogan, John Nikkari

Assistant Professors: Lynne Clarke, Virginia Ghant,

Kathleen Hillegas, Suzanne Ivey, Sharon Jackonen,

Charleen McPherson, Bonnie Neuman, Nancy Prince,

M. Gaie Rubenfeld, Barbara Scheffer, Susan Valentine,

Katherine Watson

Instructors: Debra Fifield, Lula Lester

**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, 214 Pierce Hall, early in their freshman year. The application will specify exact requirements, deadline dates and expected notification times. Applications are due February 1 for admission to the subsequent fall semester and October 1 for registered nurse students for winter semester.

**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 Composition 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 baccalaureate 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 elsewhere; however, the department does not accept any nursing credits as equivalents of EMU nursing courses.

**All generic students must achieve** a minimum letter grade of "C-" in all nursing courses (NUR 204, 250, 251, 270, 304, 305, 320, 350, 351, 370, 404, 405, 450, 451). Registered nurse students must achieve a minimum letter grade of "C-" in nursing courses (NUR 270, 310, 320, 340, 341, 370, 380, 410, 411, 450 and 451). 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 the student receives a letter grade of "D" ("D+," "D," "D-") in a nursing course, 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 are allowed to repeat any practical arts (Group VI) course only once. A maximum of two courses in nursing may be repeated.

A letter grade of "D" ("D+," "D," "D-") in required science courses such as ZOO 201, 202, PSY 101, CHEM 120, MIC 328, EDP 325, and HEC 202 automatically warns the student of difficulty and need for academic counseling. A second "D" in any other required course in science and mathematics or education (Group IV) will result in automatic dismissal from the nursing program. Opportunity to continue in the nursing program is contingent upon retaking at least one of these courses and receiving a final grade of at least "C-" and upon readmission to the nursing program.

A letter grade of "E" in a nursing course or other required science course will result in automatic dismissal from the nursing program.

**Since it is necessary** for students to make computations in carrying out nursing procedures, they must demonstrate a basic knowledge of mathematics.

After meeting both Basic Studies and curriculum requirements, students must then complete enough electives to total at least the minimum 124 semester hours required for graduation.

**FIELD WORK** 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.

Area	Sem hours
<b>Language</b> .....	8-9
Requirements 1, 2, and 3 (Box page 26).....	8-9
<b>Science and mathematics</b> .....	18
ZOO 201, 202 Anatomy and Physiology .....	6
PSY 101 General Psychology .....	3
CHM 120 Fundamentals of Chemistry.....	4
NUR 320 Pathology.....	2
MIC 328 Introductory Microbiology.....	3
<b>Social sciences</b> .....	12
Requirements 1 and 2 (Box page 27).....	6
SOC 105 Introductory Sociology or ANT 135 Cultural Anthropology.....	3
An advanced sociology or anthropology course .....	3
<b>Humanities</b> .....	11-12
Requirements 1, 2 and 3 (Box page 27).....	11-12
<b>Education (Group IV)</b> .....	4
EDP 325 Life Span Human Growth and Development..	4
<b>Practical arts (Group VI) for generic students</b> .....	48
HEC 202 Human Nutrition.....	3
NUR 204 Framework for Nursing.....	6
NUR 250 Nursing Science I.....	3
NUR 251 Nursing Science I Clinical Laboratory.....	3
NUR 270 Pharmacology.....	2
NUR 304 Nursing Science II.....	3
NUR 305 Nursing Science II Clinical Laboratory.....	3
NUR 350 Nursing Science III.....	3
NUR 351 Nursing Science III Clinical Laboratory.....	4
NUR 370 Health Assessment.....	3
NUR 404 Nursing Science IV.....	3
NUR 405 Nursing Science IV Clinical Laboratory.....	5
NUR 450 Nursing Science V.....	3
NUR 451 Nursing Science V Clinical Laboratory.....	4
<b>Practical arts (Group VI) for registered nurse students</b> .....	48
HEC 202 Human Nutrition.....	3
NUR 270 Pharmacology.....	2
NUR 310 Concepts of Professional Practice I.....	2
NUR 340 Concepts of Professional Practice II.....	3
NUR 341 Concepts of Professional Practice II Clinical Laboratory.....	3
NUR 370 Health Assessment.....	3
NUR 390 Seminar: Theories of Nursing.....	2
NUR 410 Concepts of Nursing Practice III.....	3
NUR 411 Concepts of Nursing Practice III Clinical Laboratory.....	2
NUR 450 Nursing Science V.....	3
NUR 451 Nursing Science V Clinical Laboratory.....	4
ACT-PEP Nursing Credit.....	up to 18
<b>Physical education and health (Group VII)</b> .....	2
Physical education activity courses .....	2
(Any two courses in Military Science may be applied)	
<b>Electives</b> .....	19-21
<b>Total</b> .....	124

## 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. Basic data collection skills are learned through the use of the auto-tutorial laboratory, field studies and supervised clinical observations. Lecture: two hours per week. Recitation: two hours per week. Laboratory: four hours per week.  
*Prereq: Thirty academic credit hours and department permission.*

**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**  
Study of the promotion of family health including teaching-learning theories. Health teaching needs of families: prenatal care, well-child supervision and health maintenance for selected kinds of ambulatory care patients. Lecture: three hours per week.  
*Prereq: NUR 204 Framework for Nursing, ZOO 201 and 202 Human Anatomy and Physiology I and II.*

**NUR 251 Nursing Science I Clinical Laboratory.** **Three sem hours**  
Clinical nursing practice in community clinics with emphasis on the use of the nursing process in the promotion of family health. Home visits to selected families for health teaching purposes. Laboratory: six hours per week.  
*Prereq: NUR 204 Framework for Nursing, ZOO 201 and 202 Human Anatomy and Physiology I and II.*

**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 excreted.  
*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, ZOO 201 and 202 Human Anatomy and Physiology I and II, NUR 320 Pathology and HEC 202 Human Nutrition.*

**NUR 305 Nursing Science II Clinical Laboratory.** **Three sem hours**  
Clinical learning experiences in community hospitals. Home visits to families with health problems. Laboratory: six hours per week.  
*Prereq: NUR 250 Nursing Science I, NUR 251 Nursing Science I Clinical Laboratory, ZOO 201 and 202 Human Anatomy and Physiology I and II, NUR 320 Pathology and HEC 202 Human Nutrition.*

**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 along with their related theories. Social, economic and political bases of health care access and delivery. Lecture: Two hours per week.  
*Prereq: Admission to nursing program.*



**NUR 320 Pathology.**

The dysfunctions created by major physical illnesses, theories of causation and signs and symptoms of the more usual syndromes.  
*Prereq: Department permission.*

**Two sem hours****NUR 340 Concepts of Professional Practice II.**

Theory underlying the reasoning process used by the professional nurse in practice: problem-solving, decision-making and the nursing process. Primary and tertiary phases of health care. Lecture: three hours per week.

**Three sem hours**

*Prereq: NUR 310 Concepts of Professional Practice I, NUR 320 Pathology and NUR 370 Health Assessment.*

**NUR 341 Concepts of Professional Practice II Clinical Laboratory.**

Clinical nursing practice in community clinics and settings with emphasis on the use of the nursing process in the promotion of family and community health. Home visits to selected families, practice in local school systems and extended care facilities. Laboratory: Six hours per week.

**Three sem hours**

*Prereq: NUR 310 Concepts of Professional Practice I, NUR 320 Pathology, NUR 340 Concepts of Professional Practice II and NUR 370 Health Assessment.*

**NUR 350 Nursing Science III.**

Chronic illness problems in children, adults and the elderly. Lecture: two hours per week. Recitation: one hour per week.

**Three sem hours**

*Prereq: NUR 304 Nursing Science II, NUR 305 Nursing Science II Clinical Laboratory, MIC 328 Introductory Microbiology and NUR 270 Pharmacology.*

**NUR 351 Nursing Science III Clinical Laboratory.**

Clinical practice in local school systems, extended care facilities and community mental health agencies. Home visits to families with health problems. Laboratory: eight hours per week.

**Four sem hours**

*Prereq: NUR 270 Pharmacology, NUR 304 Nursing Science II, NUR 305 Nursing Science II Clinical Laboratory and MIC 328 Introductory Microbiology.*

**NUR 360 Gerontological Nursing.**

Basic knowledge underlying nursing care of the elderly in the community setting (including nursing homes).

**Two sem hours**

*Prereq: Junior standing in nursing.*

**NUR 361 Oncology Nursing.**

An overview of nursing care of the adult and pediatric cancer patient with emphasis on nursing assessment and management of common patient problems.

**Two sem hours**

*Prereq: NUR 304 Nursing Science II or registered nurse.*

**NUR 370 Health Assessment.**

Familiarizes students with normal physical examination findings. Laboratory sessions provide opportunities for doing physical examinations under the guidance of the nursing faculty. Lecture: two hours per week. Laboratory: two hours per week.

**Three sem hours**

*Prereq: ZOO 201 and 202 Human Anatomy and Physiology I and II, NUR 320 Pathology.*

**NUR 380 Health and Illness Problems****Throughout the Life Span.**

An overview of common health problems and an orientation to terminology and concepts related to health care delivery. Etiologies, preventions and treatments for selected illnesses and the biopsychological impact of these illnesses for the individual, family and community. For non-nursing students.

**Two sem hours**

*Prereq: Department permission.*

**NUR 390 Seminar: Theories of Nursing.**

Theory and its relationship to the advancement of the nursing 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.

**Two sem hours**

*Prereq: NUR 310 Concepts of Professional Practice I. Junior or senior standing in the generic program.*

**NUR 404 Nursing Science IV.**

The nurse's role in assisting hospitalized patients with serious health problems. Usual treatment modalities and concomitant nursing care responsibilities. Lecture: two hours per week. Recitation: one hour per week.

**Three sem hours**

*Prereq: NUR 350 Nursing Science III, NUR 351 Nursing Science III Clinical Laboratory and NUR 370 Health Assessment.*

**NUR 405 Nursing Science IV Clinical Laboratory.**

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. Home visits to families with health problems. Laboratory: ten hours per week.

**Five sem hours**

*Prereq: NUR 350 Nursing Science III, NUR 351 Nursing Science III Clinical Laboratory and NUR 370 Health Assessment.*

**NUR 410 Concepts of Nursing Practice III.**

The nurse's role in secondary health care with emphasis on planning beyond the hospital setting. Communication skills necessary for group interaction, stress theory, assertiveness techniques and change theory. Lecture: two hours per week.

**Two sem hours**

*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 380 Health and Illness Problems Throughout the Life Span.*

**NUR 411 Concepts of Nursing Practice III****Clinical Laboratory.**

Contracted learning experiences in maternal-child, mental health or medical-surgical nursing based on the outcome of portfolio assessment. Laboratory: four hours per week or equivalent.

**Two sem hours**

*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 380 Health and Illness Problems Throughout the Life Span.*

**NUR 450 Nursing Science V.**

Introduction to the concept of the nurse as a change agent. Nursing research, nursing management theories and characteristics of professionalization.

**Three sem hours**

*Prereq: NUR 404 Nursing Science IV and NUR 405 Nursing Science IV Clinical Laboratory.*

**NUR 451 Nursing Science V Clinical****Laboratory.****Four sem hours**

Clinical practice in the care of clients in a county public health agency, an acute psychiatric nursing setting 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.*

**NUR 477, 478, 479 Special Topics****in Nursing.****One, two, three sem hours**

Experimental courses or special topics in nursing may be offered (to be announced).

*Prereq: Department permission.*

**NUR 497, 498, 499 Independent****Study.****One, two, three sem hours**

*Prereq: Department permission.*

**SOCIAL WORK**

Office: 411 King Hall

**Department Head: Donald M. Loppnow****Professor: Donald M. Loppnow**

**Associate Professors: Kaaren Brown, Don Ifill, Joan Laird,  
Emily Jean McFadden, Leroy Watts**

**Assistant Professors: Elvia Krajewski-Jaime, George Mink,  
Lynn Nybell, Marguerite D. Smith, Marjorie Ziefert**

**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 a student organization, the Student Social Work Organization, whose members sponsor social activities and community service projects, serve on faculty committees and sponsor an annual student conference. All social work students are encouraged to join.

**DEGREE:** Bachelor of Science or Bachelor of Arts**PROGRAMS OF STUDY****Curriculum:** Social Work**Minor:** Social Work**Supplemental/Elective Programs:**

Family and Children's Services

Health Care Services

**ADVISING** will be assigned to social work faculty members. Students should contact the Department of Social Work to set up an advising appointment. Department Head Donald Loppnow and Advising Coordinator Leroy Watts are available for special advising concerns. 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. Winter and spring-summer students should consult with the field placement coordinator regarding the scheduling of SWK 489 Field Experience II. 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 is required (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 "C" or better in their first semester field placement to be eligible to continue in the second semester.
5. A field placement application must be obtained from the social work office, completed by the student and returned to the office by March if placement is desired fall/winter and by October for the following winter/spring/summer terms. The field placement coordinator will arrange *all* field placements.
6. Students enrolling for the first semester of field placement (SWK 488 Field Experience I) must take SWK 405 Analysis and Change of Social Welfare Policies and 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.
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, with participants sharing expenses.

**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 (\*).

Area	Sem hours
Language.....	8-9
Requirements 1 and 2 (Box page 26).....	5-6
Choose one course from the following:	
ENG 225 Intermediate English Composition, ENG 424 Technical Writing	
CTA 224 Public Speaking, CTA 225 Listening Behavior, CTA 226 Non-verbal Communication	
Science and mathematics.....	13-14
*BIO 105 Biology and the Human Species.....	4
*PSY 101 General Psychology.....	3
*PSY 360 Abnormal Psychology.....	3
One additional laboratory science course from the biology, chemistry, geography, physics or psychology departments or one mathematics course (MTH 104 Intermediate Algebra or CSC 136 Computers for the Non-specialist recommended.....	3-4

Social sciences.....	71
Requirements 1 and 2 (Box page 27).....	6
ECO 201 Principles of Economics I or ECO 200 The American Economy.....	3
1. Required courses.....	56
*ANT 135 Introduction to Cultural Anthropology.....	3
*SOC 105 Introductory Sociology.....	3
*SOC 314 Racial and Cultural Minorities.....	3
*SOC 462 Complex Organizations.....	3
*Two courses on statistics and research completed by taking either Option 1 or Option 2.....	6
<b>Option 1</b>	
SOC 341 Quantitative Methods in Social Research I.....	3
SOC 342 Quantitative Methods in Social Research II.....	3
<b>Option 2</b>	
SOC 250 Elementary Social Statistics.....	3
SOC 304 Methods in Sociological Research.....	3
*SWK 120 Introduction to Social Work Services and Professional Roles.....	3
*SWK 222 Social Welfare Policies and Services.....	3
*SWK 315 Theoretical Bases for Social Work Practice..	3
*SWK 317 Social Work Practice I.....	3
*SWK 360 Practice Issues Concerning Minorities and Women.....	3
*SWK 388 Pre-Professional Practicum.....	2
*SWK 405 Analysis and Change of Social Welfare Policies.....	3
*SWK 408 Social Work Practice II.....	3
*SWK 409 Social Work Practice III.....	3
*SWK 488 Field Experience I.....	6
*SWK 489 Field Experience II.....	6
2. Restricted electives.....	6
*Choose one course from the following:	
AAS 101 Introduction to Afro-American Studies	
ANT233 Peoples and Culture of Mexico, ANT 236 Peoples of Africa, ANT 237 Indians of North America	
ECO 321 Minority Workers in the Labor Market	
PSY 340 Psychological Perspectives on Prejudice and Discrimination	
*Choose one course from the following:	
ECO 328 Economics of Women	
PSY 242 Psychology of Women	
SOC 444 Sociology of Sex Roles	
Humanities.....	11-12
Requirements 1, 2 and 3 (Box page 27).....	11-12
Education (Group IV).....	4
*EDP 325 Life Span Human Growth and Development.....	4
Physical education and health (Group VII).....	2
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
Electives.....	15-16
Total.....	124

## Minor Offered in the Department of Social Work

	Sem hours
Minor in social work.....	20-21
(Non-teaching)	

This minor is compatible with the disciplines where the college graduate will be in a helping role with people.

1. Required courses.....	6
SWK 120 Introduction to Social Work Services and Professional Roles.....	3
SWK 222 Social Welfare Policies and Services.....	3
2. Electives.....	14-15
Choose 14-15 credits from social work courses.	

### 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 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:

	Sem hours
Required courses.....	
SWK 419 Family Centered Practice .....	3
SWK 438 The Interdisciplinary Health Care Team .....	1
SWK 439 Social Work Practice in Health Care Settings .....	3
HAD 300 Health Care Issues .....	2
One of the following options .....	
<i>Medical Option</i>	
NUR 380 Health and Illness Problems Throughout the Lifespan.....	2
SWK 457 Separation, Loss and Grief .....	1
<i>Substance Abuse Option</i>	
SWK 431 Substance Abuse .....	3
<i>Mental Health Option</i>	
SWK 440 Issues in Mental Health Practice .....	3
<b>Total.....</b>	<b>12</b>

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 as 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.

*Prereq: SWK 120 Introduction to Social Work Services and Professional Roles, SWK 222 Social Welfare Policies and Services and SWK 315 Theoretical Bases for Social Work Practice. Non-social work majors must have department permission.*

**SWK 360 Practice Issues Concerning Minorities and Women. Three sem hours**

The validity and reliability of social work practice in the development and implementation of services to racial and ethnic minorities and women. Integration of knowledge concerning minorities and women presented in prerequisite courses and application to social work practice.

*Prereq: SWK 315 Theoretical Bases for Social Work Practice, SOC 314 Racial and Cultural Minorities, ANT 135 Introduction to Cultural Anthropology, an additional course relating to minorities, and one of the following: PSY 242 Psychology of Women, ECO 328 Economics of Women or SOC 444 Sociology of Sex Roles, or department permission.*

**SWK 388 Pre-Professional Practicum. Two 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. 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 405 Analysis and Change of Social Welfare Policies. Three sem hours**

Current social policy and its intended and unintended effects on client populations. Policy analysis and strategies and methods for policy change. Social work majors must enroll concurrently in SWK 408 Social Work Practice II and SWK 488 Field Experience I.

*Prereq: SWK 120 Introduction to Social Work Services and Professional Roles, SWK 222 Social Welfare Policies and Services, and either PLS 112 American Government or PLS 202 State and Local Government.*

**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: SOC 250 Elementary Social Statistics, SOC 304 Methods in Sociological Research, SWK 317 Social Work Practice I, SWK 360 Practice Issues Concerning Minorities and Women and SWK 388 Pre-Professional Practicum.*

**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, interventive strategies, methods, roles and skills. Must be taken concurrently with SWK 489 Field Experience II.

*Prereq: SWK 405 Analysis and Change of Social Welfare Policies and SWK 408 Social Work Practice II.*

**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 Professional Roles and SWK 223 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 Professional Roles, SWK 222 Social Welfare Policies and Services, or department permission.*

**SWK 457 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 Professional Roles and SWK 222 Social Welfare Policies and Services or department permission.*

**SWK 460 The Law and Social Work 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 Professional 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 Professional 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 relationships 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 Professional 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, indications 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 supervisor. 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 488 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 Department of 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 405 Analysis and Change of Social Welfare Policies and SWK 408 Social Work Practice II.

*Prereq: SWK 315 Theoretical Bases for Social Work Practice, SWK 317 Social Work Practice I, SWK 360 Practice Issues Concerning Minorities and Women, SWK 388 Pre-Professional Practicum and department permission.*

**SWK 489 Field Experience II.**

**Six sem hours**

A continuation of SWK 488 Field Experience I. A student must receive a "C" or better in SWK 488, 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 409 Social Work Practice III.

### 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: 217 King Hall

### Interdisciplinary Coordinating Committee for Gerontology:

Janet Boyd	Nursing
Thomas Bushey	Teacher Education
Francis Canter	Psychology
William Fennel	Biology
Marie Immekus	Occupational Therapy
Donald Loppnow, chairperson	Social Work
Walter Moss	History and Philosophy
Marilyn Nagy	Human, Environmental and Consumer Resources
Karen Sinclair	Sociology/Anthropology
Lou Thayer	Teacher Education
Ira Wasserman	Sociology

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 the above faculty who are actively involved in the gerontology field.

The 24-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.

Students who are qualifying for a Secondary Teaching Certificate may wish to complete this minor beyond the required teaching major and minor. This would prepare them for service in occupational training programs in secondary schools where geriatric aide training is in progress or being developed. Those students should consult a gerontology adviser to select appropriate electives for this sequence and, in addition, complete two summers (or equivalent) of full-time employment in a convalescent or extended care facility.

ADVISING is arranged through Donald Loppnow, advising coordinator. A faculty member from the Interdisciplinary Coordinating Committee for Gerontology will be assigned to students.

### Sem hours

### Minor in gerontology ..... 24-26

Students are required to complete elective requirements by choosing courses from each of the following five content areas:

#### Psychosocial and environmental aspects of aging

1. Required courses..... 10
  - SOC 311 Social Gerontology..... 3
  - EDP 325 Life Span Human Growth and Development..... 4
  - PSY 323 Psychology of Human Aging..... 3
2. Electives
  - HEC 269 Housing for Consumers..... 3
  - EDP 402 Learning in the Later Years..... 3
  - PSY 551 Psychology of Death and Dying..... 3
  - HEC 642 Family in Middle and Later Years..... 2

#### Biological and health aspects of aging

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..... 3
  - 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 418 Policies and Issues in Services to Families... 3
  - SWK 424 Social Work with Physically and Mentally Handicapped..... 3

#### Gerontology practicum or research ..... 2-6

Each student must complete a practicum or research/independent study course in gerontology. This course must be selected and approved in consultation with a gerontology adviser.

#### Gerontology interdisciplinary seminar

1. Required course..... 3
  - GRT 404 Gerontology Interdisciplinary Seminar..... 3

## Gerontology Course

### GRT 404 Gerontology Interdisciplinary Seminar.

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.

# **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 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 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.

The Technology Services Center within the college provides training and consulting services to business and industry on a contract basis.

**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, Russell L. Ogden, Harold E. PaDelford, Robert A. Ristau, Mary F. Robek, Rosetta C. Wingo

**Associate Professors:** Lewis D. Kieft, Ann M. Remp, Herbert H. Wilson

**Assistant Professors:** Thomas L. McDole, Earl C. Meyer

**Instructor:** Kim A. Novak

**BUSINESS AND INDUSTRIAL EDUCATION** offers two degrees as indicated in the following curricula:

**DEGREE:** Bachelor of Business Education

**Business Education Curriculum**

**Majors:**

Distributive Education

Office Education

**DEGREE:** Bachelor of Science

**Office Technology Curriculum**

**Majors:**

Executive Assistant

Legal Assistant

Office Administrator

Word Processing Administrator

**Industrial Education Curriculum**

**Majors:**

Industrial Arts Education

Industrial-Vocational Education

**Minors:**

Business Education

Office Technology

Industrial Education

**ADVISING COORDINATORS:**

Distributive Education: Earl Meyer, Rosetta Wingo

Office Education: Russell Ogden, Mary Robek, Rosetta Wingo

Executive Assistant: Russell Ogden, Ann Remp, Mary Robek, Rosetta Wingo

Legal Assistant: Ann Remp

Office Administrator: Russell Ogden, Ann Remp, Mary Robek, Rosetta Wingo

Word Processing Administrator: Ann Remp, Mary Robek, Rosetta Wingo

Industrial Arts Education: Gerald Jennings, Harold PaDelford  
Industrial-Vocational Education: Gerald Jennings, Harold PaDelford

Business Education Minor: Russell Ogden, Mary Robek, Rosetta Wingo

Office Technology Minor: Russell Ogden, Ann Remp, Mary Robek, Rosetta Wingo

Industrial Education Minor: Lewis Kieft, Herbert Wilson

**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 education 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 distributive 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.

Distributive 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	Sem hours
<b>Language</b> .....	<b>8-12</b>
Requirements 1, 2 and 3 (Box page 26).....	8-12
<b>Science and mathematics</b> .....	<b>10-12</b>
Requirement 1 (Box page 26).....	4-6
PSY 101 General Psychology.....	3
MTH 118 Mathematical Analysis for Social Sciences I...3	
<b>Social sciences</b> .....	<b>12</b>
Requirements 1 and 2 (Box page 27).....	6
ECO 201, 202 Principles of Economics I and II.....	6
<b>Humanities</b> .....	<b>11-12</b>
Requirements 1, 2 and 3 (Box page 27).....	11-12
<b>Education (Group IV)</b> .....	<b>28</b>
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
<b>Two business methods courses</b> .....	<b>4</b>
BE 364 Methods of Teaching General Business Subjects and BE 365 Methods of Teaching Office Education or BE 366 Methods of Teaching Distributive Education.....	50
<b>Practical arts (Group VI)</b> .....	<b>32</b>
BE 100 Contemporary Business.....	3
BE 121 Typewriting Applications.....	2
*BE 201 Microcomputers for Business Applications.....	3
BE 124 Calculating Applications in Technology.....	3
ACC 240, 241 Principles of Accounting I and II.....	6
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
<b>Academic major</b> .....	<b>18</b>
Choose one of the following majors: Business Education/Distributive Education or Business Education/Office Education.....	2
<b>Physical education and health (Group VII)</b> .....	<b>2</b>
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Electives</b> .....	<b>0-3</b>
<b>Total</b> .....	<b>128</b>
*Students electing the business education/data processing option must take ORI 215 Introduction to Business Information Systems in place of BE 201.	

## Major in Business Education/ Distributive Education

**THE DISTRIBUTIVE EDUCATION MAJOR** leads to a Michigan Secondary Provisional Certificate and possible vocational endorsement\* qualifying the prospective teacher in such areas as sales, retailing, marketing and advertising. One of two options—consumer economics or career education—must be chosen.

This major can be completed **only** in conjunction with the Bachelor of Business Education curriculum. See adviser before registering for courses in major area.

[\*NCES CODE: 07.0601 — code number for vocational endorsement.]

<b>Major in business education/distributive education</b> .....	<b>18</b>
<b>1. Required courses</b> .....	<b>6</b>
MKT 261 Contemporary Selling.....	3
MKT 363 Retailing.....	3
<b>2. Required option</b> .....	<b>13</b>
Choose one option from the following:	
<b>Option I: Consumer economics</b>	
HEC 112 Introduction to Consumer Affairs.....	3
PLS 315 Consumer Law and Politics.....	3
ECO 326 Consumer Economics.....	3
Restricted electives (see page 272).....	3
<b>Option II: Career education</b>	
G&C 100 Career Exploration and Decision Making.....	2
BE 205 Women in Business.....	3
G&C 405 Basic Guidance Concepts and Processes.....	2
BE 498 Independent Study.....	2
Restricted electives (see page 272).....	3

## Major in Business Education/ Office Education

**THE OFFICE EDUCATION MAJOR** leads to a Michigan Secondary Provisional Certificate and possible vocational endorsement\* qualifying the prospective teacher for grades 7-12 in such office-related courses as typewriting, office procedures and office management. Teaching options are accounting, data processing, shorthand or word processing.

This major can be completed **only** in conjunction with the business education curriculum.

<b>Major in business education/office education</b> .....	<b>18</b>
<b>1. Required course</b> .....	<b>3</b>
**BE 422 Office Systems.....	3
<b>2. Required option</b> .....	<b>15</b>
Choose one option from the following:	
<b>Option I: Accounting</b>	
[*NCES CODE: 07.0101 — code number for vocational endorsement]	
ACC 340, 341 Intermediate Accounting.....	6
ACC 342 Managerial Cost Accounting.....	3
ACC 344 Tax Accounting.....	3
ACC 346 Governmental Accounting.....	3
<b>Option II: Data processing</b>	
[*NCES CODE: 07.0301 — code number for vocational endorsement]	
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 (see page 270) instead of BE 422.	

ORI 317 Systems Simulation.....3  
 ORI 413 Evaluation and Application of  
 Computer Hardware.....3  
 ORI 417 Systems Organization and Analysis.....3  
**Option III: Shorthand**  
 [\*NCES CODE: 07.0601 — code number for vocational  
 endorsement]  
 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**  
 [\*NCES CODE: 07.0601 — code number for vocational  
 endorsement]  
 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  
 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  
 Education.....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

**Office Technology Curriculum**

**THE BACHELOR OF SCIENCE DEGREE** is designed for individuals preparing for careers such as an executive assistant, legal assistant, office administrator or word processing administrator. Majors are offered in these specific areas. Individuals who complete this professional curriculum should find many other career opportunities open to them.

Area	Sem hours
Language.....	8-12
Requirements 1, 2 and 3 (Box page 26).....	8-12
Science and mathematics.....	10-12
Requirement 1 (Box page 26).....	4-6
PSY 101 General Psychology.....	3
MTH 118 Mathematical Analysis for Social Sciences I.....	3

**Social sciences**..... 12  
 Requirements 1 and 2 (Box page 27).....6  
 (PLS 112 American Government recommended for  
 Requirement 1)  
 ECO 201, 202 Principles of Economics I and II.....6  
**Humanities**.....11-12  
 Requirements 1, 2 and 3 (Box page 27)..... 11-12  
**Practical arts (Group VI)**.....50  
**Office technology core**.....32  
 BE 100 Contemporary Business.....3  
 BE 121 Typewriting Applications.....2  
 BE 124 Calculating Applications.....3  
 BE 201 Microcomputers for Business Applications.....3  
 ACC 240, 241 Principles of Accounting.....6  
 BE 250 Personal Finance.....3  
 LAW 293 Legal Environment of Business.....3  
 MKT 360 Principles of Marketing.....3  
 BE 395 Office Administration.....3  
 BE 396 Records Administration.....3  
**Academic major**.....18  
 Choose one of the following majors:  
 Office technology/executive assistant  
 Office technology/legal assistant  
 Office technology/office administrator  
 Office technology/word processing administrator  
**Physical education and health (Group VII)**.....2  
 Physical education activity courses.....2  
 (Any two courses in Military Science may be applied)  
**Electives**.....24-31  
**Total**.....124

**Major in Office Technology/Executive Assistant**

**THE EXECUTIVE ASSISTANT MAJOR** is designed to develop competent 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.

This major can be completed **only** in conjunction with the office technology curriculum.

**Major in office technology/executive assistant**..... 18  
 1. **Required courses**.....9  
 BE 325 Shorthand Transcription.....3  
 Students without appropriate background must take BE 121  
 Typewriting Applications and BE 225 Gregg Shorthand  
 as prerequisites  
 MGT 386 Organization Theory and Development.....3  
 BE 422 Office Systems.....3  
 2. **Restricted electives** (see page 271).....9

**Major in Office Technology/Legal Assistant**

**THE LEGAL ASSISTANT MAJOR** provides the background necessary for an individual to draft legal documents, interview clients and witnesses, perform legal research and prepare papers to be filed in court. Employment opportunities exist in private law offices, prosecutors' offices or legal aid clinics.

This major can be completed **only** in conjunction with the office technology curriculum.

**Major in office technology/legal assistant** .....33

BE 211 Introduction to Legal Assistance.....3

BE 220 Word Processing Operations.....3

BE 387 Cooperative Education in Business Education...3

BE 411 Law Office Documents and Procedures.....3

BE 412 Court Documents and Procedures.....3

BE 487 Cooperative Education in Business Education...3

RES 210 Real Estate Principles.....3

SPH 227 Interpersonal Communications.....3

SPH 359 Small Group Communications.....3

LAW 313 Legal Research.....3

LAW 393 Law of Business Enterprises.....3

**Major in Office Technology/Administrative Manager**

**THE ADMINISTRATIVE MANAGER 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.

This major can be completed only in conjunction with the office technology curriculum.

**Major in office technology/administrative manager** .....18

**1. Required courses** ..... 12

BE 210 Concepts of Word Processing.....3

ORI 265 Business Statistics I.....3

BE 495 Office Automation.....3

BE 496 Records Administration Using Database.....3

**2. Restricted option** .....6

**Option I: Communication technology**

IDT 305 Communication Transmission Systems.....3

IDT 409 Emerging Technologies in Storage and Retrieval.....3

**Option II: Personnel**

MGT 384 Personnel Administration.....3

MGT 485 Training Function in Organizations.....3

**Option III: Information systems** (student is responsible for prerequisites)

ORI 315 Applied Data Structures.....3

ORI 419 Data Base Management Systems.....3

**Major in Office Technology/Word Processing Administrator**

**THE WORD PROCESSING ADMINISTRATOR MAJOR** focuses on the changing technologies and operations of information processing and the management skills necessary to these operations. Emphasis is on the role of the word processing administrator as it applies to the information processing cycle.

This major can be completed **only** in conjunction with the office technology curriculum.

**Major in office technology/word processing administrator** ..... 18

**1. Required courses** ..... 15-17

BE 121 Typewriting Applications (if needed).....2

MGT 202 Business Communications.....3

BE 210 Concepts of Word Processing.....3

BE 220 Word Processing Operations.....3

BE 310 Word Processing Administration.....3

BE 422 Office Systems.....3

**2. Restricted electives** (see page 271) ..... 1-3

**Office Technology Restricted Electives**

BE 121 Typewriting Applications.....2

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 Education.....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

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

**Industrial Education Curriculum**

**THIS CURRICULUM** prepares teachers of industrial arts and industrial-vocational subjects for the middle school, junior high 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.

Area	Sem hours
<b>Language</b> .....	<b>8-9</b>
Requirements 1, 2 and 3 (Box, page 26) .....	8-9
<b>Science and mathematics</b> .....	<b>12-13</b>
PSY 101 General Psychology .....	3
MTH 107 Trigonometry.....	2
Two courses in chemistry and/or physics .....	7-8
<b>Social sciences</b> .....	<b>12</b>
Requirements 1 and 2 (Box, page 26).....	6
A two-course sequence in economics or sociology .....	6
<b>Humanities</b> .....	<b>12</b>
Requirements 1, 2 and 3 (Box, page 27) .....	12
<b>Education</b> .....	<b>26</b>
EDP 322 Human Development and Learning .....	4
SFD 328 Social Aspects of Teaching.....	3
CUR 311 Teaching Reading in the Secondary School....	3
EDP 340 Introduction to Measurement and Evaluation.....	2
SGN 251 Education of Exceptional Children.....	2
IE 460 Practicum in Industrial Education .....	2
IE 461 The Teaching of Industrial Education.....	2
EDU 492 Student Teaching.....	8
<b>Practical arts</b> .....	<b>50</b>
Choose one of the following majors:	
Industrial education/industrial arts	
Industrial education/industrial-vocational	
<b>Physical education</b> .....	<b>2</b>
Physical education activity courses .....	2
<b>Electives</b> .....	<b>0-2</b>
<b>Total</b> .....	<b>124</b>

## 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 industrial 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.

### Major in industrial education/industrial arts.....50

#### Basic technical courses .....12

IE 102 Woodwork .....3

IT 122 Technical Drawing or IT 228 Construction

Drawing.....3

IT 123 Metal Processes .....3

IT 200 Industrial Electricity .....3

#### Industrial education core .....17

IT 103 Introduction to Modern Industry .....3

IE 118 Energy Utilization .....3

IDT 121 Graphic Communication .....3

IT 125 Introduction to Construction.....2

IT 203 Manufacturing Technology .....3

IT 213 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 education major will complete 14 hours in an area of concentration. Concentrations include construction, manufacturing, graphic communication 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

IT 231 Industrial Computer Graphics .....3

IE 387 Cooperative Education in Industrial Education ..3

IT 400 Site Planning and Development .....3

IT 401 Construction Estimating and Bidding.....2

IT 402 Construction Materials.....3

IE 487 Cooperative Education in Industrial Education ..3

#### Manufacturing

Select 15 semester hours from the following:

IT 124 Non-Metallic Industrial Materials Processing .....3

IT 202 Plastics .....3

IT 215 Machine Tool Metalworking .....3

IT 231 Industrial Computer Graphics .....3

IT 251 Materials Analysis and Testing .....3

IT 306 Plastic Processing.....3

IT 314 Integrated Circuits: Digital.....3

IT 316 Advanced Machining Processes.....3

IT 318 Energy Transfer Systems .....3

IE 387 Cooperative Education in Industrial Education ..3

IT 416 Introduction to Numerical Control.....3

IT 417 Industrial Robotics.....3

IT 434 Microcomputer Circuits.....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 Descriptive Geometry.....3

IT 229 Planning Commercial Structures .....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 204 Photographic Communication .....2

IDT 205 Photo-Technology.....2

IDT 207 Photographic Reproduction .....3

IDT 304 Advanced Photographic Communication.....3

IE 387 Cooperative Education in Industrial Education ..3

IDT 404 Photo Communication Workshop.....3

IE 487 Cooperative Education in Industrial Education ..3

## Power

Select 15 semester hours from the following:

#### Electronics Option

IT 314 Integrated Circuits: Digital.....3

IE 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 Energy Transfer Systems .....3

IE 387 Cooperative Education in Industrial Education ..3

IT 417 Industrial Robotics.....3

IT 428 Control and Instrumentation.....3

IE 487 Cooperative Education in Industrial Education ..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 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**

IT 103 Introduction to Modern Industry .....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

### Business Education Minor

UNDERGRADUATE STUDENTS majoring in some other area of teaching can earn a business teacher education minor by completing the following program.

[NCES CODE 07.0601—code number for vocational endorsement]

	Sem hours
<b>Minor in business education.....</b>	<b>22-23</b>
<b>1. Required courses.....</b>	<b>20</b>
BE 100 Contemporary Business.....	3
BE 200 Principles of Distributive and Office Education.....	3
BE 210 Concepts of Word Processing or BE 225 Gregg Shorthand.....	3
BE 220 Word Processing Operations or BE 325 Shorthand Transcription.....	3
BE 124 Calculating Applications.....	3
BE 365 Methods of Teaching Office Education.....	2
BE 422 Office Systems.....	3
<b>2. Restricted electives.....</b>	<b>2-3</b>
Choose one course from the following:	
BE 121 Typewriting Applications, BE 222 Transcription Applications and Technology, BE 395 Office Administration	

### Office Technology Minor

	Sem hours
<b>Minor in office technology.....</b>	<b>21</b>
<b>1. Required courses.....</b>	<b>9</b>
BE 124 Calculating Applications.....	3
BE 396 Records Administration.....	3
BE 422 Office Systems.....	3
<b>2. Required option.....</b>	<b>9</b>
<b>Option I: Shorthand</b>	
BE 225 Gregg Shorthand.....	3
BE 325 Shorthand Transcription.....	3
BE 222 Transcription Applications and Technology.....	3

**Option II: Word processing**

BE 210 Concepts of Word Processing.....3

BE 220 Word Processing Operations.....3

BE 222 Transcription Applications and Technology.....3

**3. Restricted electives.....3**

Choose one of the following:

BE 220 Word Processing Operations or

BE 395 Office Administration

### Industrial Education Minor

ANY STUDENT following an elementary or special education curriculum may choose this minor. It is not available to students on other programs.

	Sem hours
<b>Minor in industrial education.....</b>	<b>20</b>
<b>1. Required courses.....</b>	<b>16</b>
IE 253 Industrial Technology and the Elementary Teacher.....	3
IE 354 Experiences in Technology for Children.....	2
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.....	2
<b>2. Restricted electives.....</b>	<b>4</b>
Choose four credits from the following:	
IE 105 History of Industrial Technology, IE 350 Curriculum in Industrial Education, IE 452 Principles of Vocational-Technical Education, IE 497 Directed Study	
IT 103 Introduction to Modern Industry	
IDT 121 Graphic Communication, IDT 204 Photographic Communication	

### Business Education Courses

**BE 100 Contemporary Business. Three sem hours**  
The American business enterprise. Contemporary problems and future challenges. Career decision-making in terms of business careers. Open to all freshmen, sophomores and non-business upperclassmen.

**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.

**BE 120 Typewriting Techniques. 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 121 Typewriting 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 120 Typewriting Techniques 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 124 Calculating Applications.****Three sem hours**

Application of electronic and automated office equipment to the solution of mathematical problems encountered in the business office. Operational and keyboarding skill is developed on contemporary office tools. Lab fee required.

**BE 200 Principles of Distributive and Office Education.****Three sem hours**

An introduction to distributive education and office education. The scope and importance of vocational education with emphasis on distributive and office education.

**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 Processing.****Three sem hours**

The concepts and functions of word processing equipment, procedures and career opportunities. Applications and the organization of word processing services; the extension of word processing through the use of peripherals.

**BE 211 Introduction to Legal Assistance.****Three sem hours**

Legal assisting: research and writing requirements, professional responsibilities, career opportunities. U.S. law, legal systems and procedures, resources/references used in the profession.

**BE 220 Word Processing Operations.****Three sem hours**

Creation of written communications through the use of electronic media. Communication skills (spelling, punctuation, grammar and formatting) and "hands-on" experience in machine transcription and automated typewriters. Lab fee required.

*Prereq: BE 121 Typewriting Applications or equivalent.*

**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 Processing Operations and BE 121 Typewriting Applications or equivalent.*

**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 121 Typewriting 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 income taxes. Students learn to make

decisions within the context of a realistic consumer-oriented environment. Open to all students.

**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.

*Prereq: BE 210 Concepts of Word Processing, BE 220 Word Processing Operations.*

**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: EDP 302 Educational Psychology. A "C" average in all business education subjects taken at Eastern Michigan University is required before enrollment, with no academic probation.*

**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 302 Educational Psychology and BE 364 Methods of Teaching General Business Subjects. A "C" average in all business education subjects taken at Eastern Michigan University is required before enrollment, with no academic probation.*

**BE 366 Methods of Teaching****Distributive Education.****Two sem hours**

Techniques and practices utilized in teaching distributive and cooperative education in secondary schools, community colleges and adult evening schools.

*Prereq: EDP 302 Educational Psychology and BE 364 Methods of Teaching General Business Subjects. A "C" average in all business education subjects taken at Eastern Michigan University is required before enrollment, with no academic probation.*

**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, personnel relations and control of office output. Lab fee required.

**BE 396 Records Administration.****Three sem hours**

Management methodology in records, control, costs, protection, retention, retrieval and disposal. Records administration as a management tool. Lab fee required.

**BE 411 Law Office Documents and Procedures.****Three sem hours**

Documents and procedures commonly encountered in the operation of a law office. Designed for the legal assistant and the professional legal secretary.

*Prereq: LAW 293 Legal Environment of Business.*

**BE 412 Court Documents and Procedures.****Three sem hours**

Documents and procedures commonly used in litigation. Designed for the legal assistant and the professional legal secretary.

*Prereq: BE 293 Legal Environment of Business.*

**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.

*Prereq: BE 220 Word Processing Operations and BE 222 Transcription Applications and Technology.*

**BE 495 Office Automation.****Three sem hours**

Overview of office automation and its relationship to information, information technology and 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.

*Prereq: BE 124 Calculating Applications, BE 201 Microcomputers for Business Applications, BE 210 Concepts of Word Processing, BE 220 Word Processing Operations, BE 395 Office Administration.*

**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 396 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 and design, hand composition, printing methods, proofreading, basic press work, silk screen printing, duplicating, thermography, rubber stamps and basic photo-offset lithography. 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 its impact on the other arts and culture in general. Basic principles of design in industrial and home arts, and the eotechnic, paleotechnic, neotechnic and atomic 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, tuneups, 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. Avocational 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 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.

# INDUSTRIAL TECHNOLOGY

Office: 118 Sill Hall

**Department Head: Everett N. Israel****Professors: Ronald J. Baird, Jerald A. Griess, Everett N. Israel****Associate Professors: Jolin J. Jellema, Max E. Kanagy, Walter Tucker, John A. Weeks****Assistant Professors: Daniel J. Fields, Alfred Roth, Thomas C. Soyster, Karen L. Sterzik****Instructors: Peter J. Loughney, Dennis L. Mackey, Joseph S. Reams**

**THE INDUSTRIAL TECHNOLOGY DEPARTMENT** offers two computer technology curricula and an industrial technology curriculum with five diversified majors. In addition, two pre-professional programs are shared with the College of Arts and Sciences—pre-architecture and pre-engineering—for which advising is provided in this department.

**DEGREE:** Bachelor of Science**PROGRAMS OF STUDY****Computer Technology Curricula****Majors:**

Computer-Aided Design Technology

Computer-Aided Manufacturing Technology

**Industrial Technology Curriculum****Majors:**

Aviation Technology

Construction Technology

Industry

Manufacturing Technology

Plastics Technology

**Minor:** Industrial Technology**Pre-professional programs**

Pre-Engineering

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: Jerald Griess, Dennis Mackey, Karen Sterzik

Computer-Aided Manufacturing: Max Kanagy, Walter Tucker

Construction Technology: Joseph Reams, John Weeks

Industry: Everett Israel, John Jellema

Manufacturing Technology: Alfred Roth, Thomas Soyster

Plastics Technology: Ronald Baird

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 computer-aided design/computer-aided manufacturing, construction, and manufacturing. These degrees are described in detail in the Graduate Catalog.

## Computer Technology Curricula

THE CURRICULUM for each of the following computer technology specialities is designed to fulfill the needs of the work field.

### Computer-Aided Design

COMPUTER-AIDED DESIGN majors use graphics terminals, plotters and copiers, mainframe and other ancillary equipment to develop computer programs and to learn computer drafting and design techniques.

This degree curriculum includes course work in Basic Studies, with specified science and mathematics courses and technical course work. No outside minor is needed.

Area	Sem hours
Language.....	8-9
Requirements 1 and 2 (Box page 26).....	5-6
ENG 424 Technical Writing.....	3
Science and mathematics.....	30
MTH 107 Plane Trigonometry.....	2
MTH 122 Elementary Linear Algebra.....	2
CHM 119 Fundamentals of Chemistry.....	4
PHY 221 Mechanics, Sound and Heat.....	4
PHY 222 Electricity and Light.....	4
CSC 137 Introduction to Computer Programming.....	3
CSC 238 Topics in Computer Science.....	3
CSC 239 Assembly and Machine Language Programming.....	3
Electives (must be approved).....	5
Social science.....	12
Requirements 1 and 2 (Box page 27).....	6
ECO 201, 202 Principles of Economics I and II.....	6
Humanities.....	11-12
Requirements 1 and 3 (Box page 27).....	8-9
PHI 130 Introduction to Logic.....	3
Practical arts (Group VI).....	50
Academic major in computer-aided design technology.....	50
IT 103 Introduction to Modern Industry.....	3
IT 122 Technical Drawing.....	3
IT 123 Metal Processes.....	3
IT 203 Manufacturing Technology.....	3
IT 215 Machine Tool Metalworking.....	3
IT 223 Descriptive Geometry.....	3
IT 231 Industrial Computer Graphics.....	3
IT 314 Integrated Circuits.....	3
IT 318 Energy Transfer Systems.....	3
IT 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
MGT 384 Personnel Administration.....	3
MGT 386 Organization Theory and Development.....	3
Electives (must be approved).....	5
Physical education and health (Group VII).....	2
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
Electives.....	9-11
<b>Total.....</b>	<b>124</b>

## Computer-Aided Manufacturing

COMPUTER-AIDED MANUFACTURING is designed to prepare students for supervisory and management positions in the automated plants and factories of both today and the future. The curriculum combines instructional experiences in robotics, electronics, power systems and numerical control.

This degree curriculum includes course work in Basic Studies, with specified science and mathematics courses and technical course work.

Area	Sem hours
Language.....	8-9
Requirements 1 and 2 (Box page 26).....	5-6
ENG 424 Technical Writing.....	3
Science and mathematics.....	25
CHM 119 Fundamentals of Chemistry.....	4
MTH 107 Plane Trigonometry.....	2
MTH 118, 119 Mathematical Analysis for Social Sciences I and II.....	6
MTH 137 Introduction to Computer Programming.....	3
CSC 239 Assembly and Machine Language Programming.....	3
PHY 221 Mechanics, Sound and Heat.....	4
Electives (must be approved).....	3
Social sciences.....	12
Requirements 1 and 2 (Box page 27).....	6
ECO 201, 202 Principles of Economics I and II.....	6
Humanities.....	11-12
Requirements 1 and 3 (Box page 27).....	8-9
PHI 130 Introduction to Logic.....	3
Practical arts (Group VI).....	57
Academic major in computer-aided manufacturing technology.....	57
IT 103 Introduction to Modern Industry.....	3
IT 122 Technical Drawing.....	3
IT 123 Metal Processes.....	3
IT 124 Non-Metallic Materials Processing.....	3
IT 200 Industrial Electricity.....	3
IT 203 Manufacturing Technology.....	3
IT 213 Occupational Safety and Health.....	3
IT 314 Integrated Circuits.....	3
IT 318 Energy Transfer Systems.....	3
IT 387 Cooperative Education in Industrial Education.....	3
IT 416 Introduction to Numerical Control.....	3
IT 417 Industrial Robotics.....	3
IT 418 Planning Manufacturing Systems.....	3
IT 420 Controlling Manufacturing Systems.....	3
IT 425 Improving Manufacturing Systems.....	3
IT 428 Control and Instrumentation.....	3
IT 434 Microcomputer Circuits.....	3
IT 485 Computer-Aided Manufacturing Laboratory.....	3
Electives (must be approved).....	3
Physical education and health (Group VII).....	2
(Any two courses in Military Science may be applied)	
Electives.....	7-9
<b>Total.....</b>	<b>124</b>

## Industrial Technology Curriculum

**FOUR MAJORS** provide specialized course work pertinent to professional use in their respective work fields.

**THE MAJOR IN CONSTRUCTION TECHNOLOGY** is designed to prepare men and women for middle- and upper-level management careers in the fields of residential and commercial construction. It has been developed in cooperation with experts from the construction industry and reflects the current needs and trends of the entire field.

The degree curriculum includes course work in Basic Studies, with specified science and mathematics courses and technical course work. No outside minor is needed.

	Sem hours
<b>Language</b> .....	8-9
Requirements 1 and 2 (Box page 26).....	5-6
ENG 424 Technical Writing.....	3
<b>Science and mathematics</b> .....	16
MTH 107 Plane Trigonometry.....	2
MTH 118 Mathematical Analysis for Social Sciences....	3
MTH 119 Mathematical Analysis for Social Sciences....	3
CHM 119 Fundamentals of Chemistry.....	4
PHY 221 Mechanics, Heat and Sound.....	4
<b>Social sciences</b> .....	12-15
Requirements 1 and 2 (Box page 27).....	3
Choose one of the following: ECO 201 and 202 Principles of Economics I and II, or ECO 200 The American Economy and an approved two-course sequence.....	6-9
<b>Humanities</b> .....	11-12
Requirements 1, 2 and 3 (Box page 27).....	11-12
<b>Practical arts (Group VI)</b> .....	67
<b>Industrial technology core</b> .....	6
IT 103 Introduction to Modern Industry.....	3
IT 213 Occupational Safety and Health.....	3
<b>Technical courses</b> .....	43
IT 105 Computer Applications for Industry.....	3
IT 125 Introduction to Construction.....	2
IT 201 Construction Systems.....	3
IT 206 Surveying.....	3
IT 228 Construction Drawing.....	3
IT 229 Analysis of Commercial Prints.....	3
IT 301 Planning and Scheduling.....	3
IT 302 Contracts, Documents, Regulation and Specifications.....	3
IT 387 Cooperative Education in Industrial Technology.....	3
IT 400 Site Planning and Development.....	3
IT 401 Construction Estimating and Bidding.....	3
IT 402 Construction Materials.....	3
IT 403 Production Control.....	2
IT 406 Construction Law.....	2
GLG 160 Physical Geology.....	4
<b>Additional requirements</b> .....	18
Electives in mathematics and science.....	9
Electives in business.....	9
<b>Physical education and health (Group VII)</b> .....	2
Physical education activity courses.....	2
(Or may apply two semesters of Military Science)	
<b>Electives</b> .....	3-8
<b>Total</b> .....	124

**THE THREE MAJORS IN MANUFACTURING (INDUSTRY, MANUFACTURING TECHNOLOGY AND PLASTICS TECHNOLOGY)** include the specified course work in basic studies as indicated below. The technical courses for each major are identified. No outside minor is needed.

<b>Language</b> .....	8-9
Requirements 1 and 2 (box, page 26).....	5-6
ENG 424 Technical Writing.....	3
<b>Science and mathematics</b> .....	16
CHM 119 Fundamentals of Chemistry.....	4
CSC 137 Introduction to Computer Programming.....	3
MTH 105 College Algebra.....	3
MTH 107 Plane Trigonometry.....	2
PHY 221 Mechanics, Sound and Heat.....	4
<b>Social sciences</b> .....	12-15
Requirements 1 and 2 (box, page 27).....	6
Choose one of the following options: ECO 201 and 202 Principles of Economics I and II, or ECO 200 The American Economy and an approved two-course sequence.....	6-9
<b>Humanities</b> .....	11-12
Requirements 1, 2 and 3 (box, page 27).....	11-12
<b>Practical arts (Group VI)</b> .....	55-65
<b>Academic major</b> .....	55-65
Choose one from the following: industry (55 credits), manufacturing technology (61 credits), plastics technology (65 credits)	
<b>Physical education and health</b> .....	2
Physical education activity courses.....	2
(Or may apply two semesters of Military Science)	
<b>Electives</b> .....	5-20
<b>Total</b> .....	124

**THE MAJOR IN INDUSTRY** is especially designed to accommodate the needs of students transferring from community colleges and four-year institutions of higher education.

<b>Industry major</b> .....	55
<b>Industrial technology core</b> .....	6
IT 103 Introduction to Modern Industry.....	3
IT 213 Occupational Safety and Health.....	3
<b>Required technical courses</b> .....	49
<b>Required industrial technology courses</b> .....	40
Courses are to be chosen from department offerings in consultation with an appropriate advising coordinator; a maximum of six semester hours of the required 40 hours may be taken in a department other than industrial technology.	
<b>Electives in mathematics and science</b> .....	9
Courses are to be chosen from mathematics and science department offerings in consultation with an appropriate advising coordinator.	

**THE MAJOR IN MANUFACTURING TECHNOLOGY** is closely associated with the field of engineering and includes the planning, organizing, improving and controlling of production processes. Manufacturing technology is a professional occupation within industrial production.

<b>Manufacturing technology major</b> .....	<b>61</b>
<b>Industrial technology core</b> .....	<b>6</b>
IT 103 Introduction to Modern Industry.....	3
IT 213 Occupational Safety and Health.....	3
<b>Technical courses</b> .....	<b>55</b>
IT 122 Technical Drawing.....	3
IT 123 Metal Processes.....	3
IT 124 Non-Metallic Materials Processing.....	3
IT 200 Industrial Electricity.....	3
IT 203 Manufacturing Technology.....	3
IT 231 Industrial Computer Graphics.....	3
IT 387 Cooperative Education in Industrial Technology.....	3
IT 418 Planning Manufacturing Systems.....	3
IT 420 Controlling Manufacturing Systems.....	3
IT 425 Improving Manufacturing Systems.....	3
MGT 384 Personnel Administration.....	3
MGT 386 Organization Theory and Development.....	3
MTH 118, 119 Mathematical Analysis for Social Sciences I and II.....	6
PHY 222 Electricity and Light.....	4
Electives (must be approved).....	9

**THE MAJOR IN PLASTICS TECHNOLOGY** is designed to prepare supervisory and middle management personnel for the plastics manufacturing industries.

<b>Plastics technology major</b> .....	<b>65</b>
<b>Industrial technology core</b> .....	<b>6</b>
IT 103 Introduction to Modern Industry.....	3
IT 213 Occupational Safety and Health.....	3
<b>Technical courses</b> .....	<b>59</b>
IT 122 Technical Drawing.....	3
IT 123 Metal Processes.....	3
IT 202 Plastics.....	3
IT 215 Machine Tool Metalworking.....	3
IT 251 Materials Analysis and Testing.....	3
IT 306 Plastic Processing.....	3
IT 316 Advanced Machining Processes.....	3
IT 387 Cooperative Education in Industrial Education.....	3
IT 409 Plastic Mold Design and Construction.....	3
IT 410 Plastic Product Design.....	3
IT 411 Plastic Fabricating and Decorating.....	3
IT 418 Planning Manufacturing Systems.....	3
IT 420 Controlling Manufacturing Systems.....	3
IT 425 Improving Manufacturing Systems.....	3
CHM 131 General Chemistry I.....	5
CHM 241 Materials Science.....	3
CHM 242 Materials Science Laboratory.....	1
IDT 310 Polymers for Engineers and Technologists.....	3
IDT 410 Mechanical and Physical Properties of Polymers.....	3
IDT 411 Mechanical and Physical Properties of Polymers Laboratory.....	2

## Minor Offered in the Department of Industrial Technology

### Industrial Technology Minor

**THE INDUSTRIAL TECHNOLOGY MINOR** is designed to serve majors in industrial, business and science-related subjects. Employment opportunities for persons with majors in these subject areas often are enhanced with studies in technical courses such as those offered in this minor.

Elective courses in the minor are selected to relate to the student's major subject area. Academic advising to determine elective course choices is provided by the Department of Industrial Technology. A maximum of six semester hours will be transferred from outside the department.

	<b>Sem hours</b>
<b>Minor in industrial technology</b> .....	<b>24</b>
<b>1. Required course</b> .....	<b>3</b>
IT 201 Construction Systems or IT 203 Manufacturing Technology.....	3
<b>2. Restricted electives</b> .....	<b>5-6</b>
Choose five or six semester hours from the following:	
IT 103 Introduction to Modern Industry, IT 122 Technical Drawing or IT 228 Construction Drawing, IT 213 Occupational Safety and Health	
<b>3. Electives (must be approved)</b> .....	<b>15-16</b>
Choose in consultation with advising coordinator	

## 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 constant contact with universities that offer related four-year programs in order to maximize the value of the program of study at Eastern Michigan University, as well as to facilitate the admission of the student into these other programs.

### Pre-Engineering Program

**THIS PROGRAM** is designed for the student who wishes to transfer to an engineering program at another university. Courses taken will apply to a number of four-year programs at Eastern Michigan University if the student chooses to remain on campus.

<b>Required courses</b>	<b>Sem hours</b>
ENG 121 English Composition.....	3
ENG 225 Intermediate English Composition.....	3
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
CHM 131 General Chemistry I.....	5
CHM 241 Materials Science.....	3
PHY 223 Mechanics, Sound and Heat.....	4
PHY 224 Electricity and Light.....	4
ECO 201, 202 Principles of Economics I and II (ECO 202 is optional).....	6

Two literature courses.....	6
A humanities course.....	3
<b>Recommended courses</b>	
IT 122 Technical Drawing.....	3
IT 223 Descriptive Geometry.....	3
IT 231 Industrial Computer Graphics.....	3

### Pre-Architecture Program

**THIS PROGRAM** is designed for students who wish to transfer to an architecture program at another university. Courses also will apply to a number of four-year programs at Eastern Michigan University if the student chooses to remain on this campus.

Required courses	Sem hours
ENG 121 English Composition.....	3
CTA 121 Fundamentals of Speech.....	2
MTH 120, 121 Calculus I and II.....	8
CSC 137 Introduction to Computer Programming.....	3
PHY 223 Mechanics, Sound and Heat.....	5
PHY 224 Electricity and Light.....	5
CHM 119 Fundamentals of Chemistry.....	4
PLS 112 American Government or PLS 202 State and Local Government.....	3
HIS 123 Major Trends in United States History or equivalent.....	3
ECO 201, 202 Principles of Economics I and II.....	6
PHI 130 Introduction to Logic or approved alternative.....	3
FA 123 Drawing I or music or theatre arts course.....	3
FA 231 Three-Dimensional Design.....	3
Two literature courses.....	6

### Industrial Technology Courses

**IT 105 Computer Applications for Industry.** **Three sem hours**  
Current uses of the computer in manufacturing and construction. Commercially available software programs utilized by industry. Lecture: two hours per week. Laboratory: two hours per week.

**IT 122 Technical Drawing.** **Three sem hours**  
The application of technical sketching and mechanical drawing. Planned and organized especially for pre-engineering, industrial education and industrial technology majors. Lecture: two hours per week. Laboratory: two hours per week.

**IT 123 Metal Processes.** **Three sem hours**  
Survey and analysis of fundamental metal processes used in manufacturing. Theory and application in joining, forming, cutting, treating and physical testing of metals. Lecture: two hours per week. Laboratory: two hours per week.

**IT 124 Non-Metallic Industrial Materials Processing.** **Three sem hours**  
Non-metallic industrial materials and their associated production processes as used in manufacturing. Lecture: two hours per week. Laboratory: two hours per week.

**IT 125 Introduction to Construction.** **Two sem hours**  
Developing, planning and scheduling of construction projects. Site development, material usage, specifications, estimating and managing cost control. Lecture: two hours per week.

**IT 200 Industrial Electricity.** **Three sem hours**  
The application of fundamental electrical concepts and principles. Direct and alternating current, resistance, reactance, basic electrical machines and controls. The use of meters and test equipment. Lecture: two hours per week. Laboratory: two hours per week.

**IT 201 Construction Systems.** **Three sem hours**  
Structural systems, associated non-structural components and considerations appropriate to mechanical, electrical, plumbing and support equipment. Lecture: two hours per week. Laboratory: two hours per week.

*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 the application of design to product manufacture. Lecture: two hours per week. Laboratory: two hours per week.

**IT 203 Manufacturing Technology.** **Three sem hours**  
Technological experiences and practices in the production of manufacturing goods. Planning, organizing and controlling manufacturing production systems, personnel practices, and processing, processing and servicing practices. Lecture: two hours per week. Laboratory: two hours per week.

*Prereq: IT 122 Technical Drawing or IT 228 Construction Drawing.*

**IT 206 Surveying.** **Three sem hours**  
The fundamental use of the transit and level. Linear measurement, angle measurements, extending straight lines, differential and profile leveling, a simple transverse survey and the keeping of accurate notes. Lecture: two hours per week. Laboratory: two hours per week.

*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. Appropriate for anyone with an interest in occupational safety and health.

**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 and classification of metals. Lecture: two hours per week. Laboratory: two hours per week.

**IT 218 Energy Systems.** **Three sem hours**  
An introduction to energy conversion devices. Laboratory problems using technical equipment that includes gasoline, diesel, steam, reaction and gas turbine engines. Nuclear power, turbines, wind, solar and alternate energy areas. Lecture: two hours per week. Laboratory: two hours per week.

**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: two hours per week. Laboratory: two hours per week.

- IT 223 Descriptive Geometry.** **Three sem hours**  
A drawing course involving geometrical constructions as related to distances, angles, intersections and the development of surfaces. Orthographic projection and geometrical theory are related to technical descriptions. Lecture: two hours per week. Laboratory: two hours per week.  
*Prereq: IT 122 Technical Drawing.*
- 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. Lecture: two hours per week. Laboratory: two hours per week.
- 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.  
*Prereq: IT 228 Construction Drawing or department permission.*
- 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: two hours per week. Laboratory: two hours per week.  
*Prereq: Trigonometry and FORTRAN.*
- IT 251 Materials Analysis and Testing.** **Three sem hours**  
Study of the structure, characteristics and working qualities of common industrial materials. Lecture: two hours per week. Laboratory: two hours per week.
- 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.*
- IT 302 Contract Documents, Regulations and Specifications.** **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 fabricating processes. Analysis of chemical and physical properties, mold design and problems of production. Experimentation and testing. Lecture: two hours per week. Laboratory: two hours per week.  
*Prereq: IT 202 Plastics.*
- IT 314 Integrated Circuits: Digital.** **Three sem hours**  
The study of combinatorial and sequential logic. Concepts of digital control and computer circuits. Lecture: two hours per week. Laboratory: two hours per week.  
*Prereq: IT 200 Industrial Electricity or department permission.*
- IT 316 Advanced Machining Processes.** **Three sem hours**  
A study of advanced machining techniques. Modern processes such as electrical discharge, numerical control, chipless forming and ultrasonic machining. Extensive practice with machine tools. Lecture: two hours per week. Laboratory: two hours per week.  
*Prereq: IT 215 Machine Tool Metalworking.*
- IT 318 Energy Transfer Systems.** **Three sem hours**  
Mechanical, fluidic and electrical methods of energy transfer. Principles of hydraulics, pneumatics, electro-mechanical control and direct drive mechanisms provide a base for laboratory experimentation in these methods. Lecture: two hours per week. Laboratory: two hours per week.
- IT 324 Industrial Drawing.** **Three sem hours**  
The intermediate aspects of drawing. Orthographic projection, auxiliary projection, sections, technical and structural drafting procedures, sheet metal layout and topographical drawing.  
*Prereq: IT 122 Technical Drawing, IT 223 Descriptive Geometry.*
- 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 may be received. Graded credit/no credit. Credit applicable to the major in industrial technology or industrial teacher education only.
- IT 400 Site Planning and Development.** **Three sem hours**  
Analysis of site characteristics and the implications for arranging structures in harmony with the environment and each other. Lecture: two hours per week.  
*Prereq: IT 201 Construction Systems, IT 206 Surveying and IT 228 Construction Drawing.*
- 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. Stone, concrete, wood, glass, plastics, metals and bituminous products. Lecture: two hours per week. Laboratory: two hours per week.  
*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 Billing 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.  
*Prereq: IT 302 Contracts, Documents and Regulations.*

**IT 409 Plastics Mold Design and Construction.** Three sem hours  
Principles of mold design for a variety of plastics molding processes. Mold materials, machining, fabricating and testing in appropriate processing equipment. Lecture: two hours per week. Laboratory: two hours per week.

**IT 410 Plastics Product Design.** Three sem hours  
The development of products through plastics materials selection and design. The esthetics of design, the selection of engineering properties. Lecture: two hours per week. Laboratory: two hours per week.

**IT 411 Plastics Fabricating and Decorating.** Three sem hours  
Processes involved in forming and fastening of standard profile materials in plastics. Methods of joining, machining and decorating of plastics materials and products. Lecture: two hours per week. Laboratory: two hours per week.

**IT 414 Integrated Circuit Applications.** Three sem hours  
Fundamentals of discrete solid-state devices and linear integrated circuits. Concepts of instrumentation and control applications. Lecture: two hours per week. Laboratory: two hours per week.  
*Prereq: IT 200 Industrial Electricity or department permission.*

**IT 415 Communication Circuits.** Two sem hours  
Concepts and principles of electronics as applied to radio and television circuits. Superheterodyne configuration. Lecture: one hour per week. Laboratory: two hours per week.

**IT 416 Introduction to Numerical Control.** Three sem hours  
Manual parts programming for both NC mills and lathes. The transfer of part descriptions into a detailed process plan, tool selection and finally into NC machine code. Verification accomplished by computer graphics and laboratory work. Lecture: two hours per week. Laboratory: two hours per week.  
*Prereq: IT 122 Technical Drawing, IT 215 Machine Tool Metalworking, MTH 107 Plane Trigonometry.*

**IT 417 Industrial Robotics.** Three sem hours  
The nature and use of industrial robots. Capabilities, equipment and associated hardware, justification, preparation and installation, launching and monitoring.  
*Prereq: IT 203 Manufacturing Technology or department permission.*

**IT 418 Planning Manufacturing Systems.** Three sem hours  
The production planning activities and processes related to the manufacture of a given product; forecasting, optimum batch lot calculations, economic evaluation, allocation of resources and scheduling systems. Lecture: three hours per week.

**IT 420 Controlling Manufacturing Systems.** Three sem hours  
The controlling activities and processes related to manufacturing organizations; production scheduling matrices, inventory analysis and control; quality assurance and control and plant layout. Lecture: three hours per week.

**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.

**IT 425 Improving Manufacturing Systems.** Three sem hours  
Functions related to the modification of manufacturing activities; human factors, work environment, methods/measurement, machines/maintenance and productivity as found in modern technology. Lecture: three hours per week.  
*Prereq: IT 203 Manufacturing Technology or department permission.*

**IT 428 Control and Instrumentation.** Three sem hours  
The application of electricity, hydraulics, pneumatics, and fluidics in control of machines and processes. Both digital and analog systems and instrumentation. Lecture: two hours per week. Laboratory: two hours per week.  
*Prereq: IT 200 Industrial Electricity and IT 318 Energy Transfer Systems.*

**IT 431 Interactive Industrial Computer Graphics.** Three sem hours  
Students develop a 2-D interactive graphics FORTRAN program. The use of graphics hardware and the generating, modifying and transforming of graphics entities and data bases. Lecture: two hours per week. Laboratory: two hours per week.  
*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 3-D interactive BASIC CAD program. Hidden surface removal, 3-D transformations surface shading and 3-D data bases. Lecture: two hours per week. Laboratory: two hours per week.  
*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 a light source, defining multiple hardware surfaces, pixel manipulation, raster color concepts, and hardware pan and zoom. Lecture: two hours per week. Laboratory: two hours per week.  
*Prereq: IT 432 3-D Computer-Aided Design.*

**IT 434 Microcomputer Circuits.** Three sem hours  
The microprocessor and its applications in the control of machines and industrial processes. Lecture: two hours per week. Laboratory: two hours per week.  
*Prereq: IT 314 Integrated Circuits: Digital and a computer programming course.*

**IT 485 Computer-Aided Manufacturing.** Three sem hours  
Design and implementation of a flexible manufacturing cell. Machining materials, material handling and storage, inspection and inventory. Part programming using numerical control, robotics/programmable automation programming, development of a manufacturing data base and hierarchical computer control. Lecture: two hours per week. Laboratory: two hours per week.  
*Prereq: IT 314 Integrated Circuits: Digital, IT 416 Introduction to Numerical Control, IT 417 Industrial Robotics, IT 428 Control and Instrumentation and IT 434 Microcomputer Circuits.*

**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. Credit applicable to the major in industrial technology only. Graded credit/no credit.  
*Prereq: IT 387 Cooperative Education in Industrial Technology.*

**IT 494, 495, 496 Industry Based 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-chairman.



## INTERDISCIPLINARY TECHNOLOGY

Office: 122 Sill Hall

**Department Head: Paul D. Kuwik**  
**Professors: Taki Anagnostou, John C. Graham, Felix Kaufmann, Paul D. Kuwik, Ronald M. Westrum**  
**Associate Professors: Alexandra B. Aldridge, Demo Stavros**  
**Assistant Professors: Norman L. Delventhal, David Gore, John M. Preston**  
**Instructors: Timothy Doyle, John E. Gordon, Gerald Lawver, Reinaldo Perez**

**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 technology concentration on the Master of Liberal Studies program, described in the Graduate Catalog.

### PROGRAMS OF STUDY

**Curricula:**

- Aviation Management Technology
- Bilingual Vocational Teacher Education
- Communication Technology
- Coating Process Technology
- Energy Management
- Industrial Distribution
- Polymers and Coatings Technology

**Minors:**

- 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: Reinaldo Perez
- Communication Technology: David Gore
- Coating Process Technology: Taki Anagnostou
- Energy Management Technology: John Preston
- Industrial Distribution: Demo Stavros
- Polymers and Coatings Technology: Taki Anagnostou
- 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 general aviation technology. The program has a foundation of aviation-related and basic business coursework.

Area	Sem hours
<b>Language</b> .....	<b>8-9</b>
Requirements 1 and 2 (Box page 26).....	5-6
ENG 424 Technical Writing.....	3
<b>Science and mathematics</b> .....	<b>16</b>
CHM 119 Fundamentals of Chemistry.....	4
CSC 137 Introduction to Computer Programming.....	3



MTH 105 College Algebra.....	3
MTH 107 Plane Trigonometry.....	2
PHY 221 Mechanics, Sound and Heat.....	4
<b>Social sciences.....</b>	<b>12-14</b>
Requirements 1 and 2 (Box page 27).....	6
Choose one of the following: ECO 201, 202 Principles of Economics I and II or ECO 200 The American Economy and an approved two-course sequence.....	6-8
<b>Humanities.....</b>	<b>11-12</b>
Requirements 1, 2 and 3 (Box page 27).....	11-12
<b>Practical arts (Group VI).....</b>	<b>66</b>
IDT 100 Introduction to General Aviation.....	1
IDT 110, 210 Aircraft Maintenance I and II.....	6
IDT 120, 220 Flight Operations I and II.....	6
IDT 170 Aviation Ground Instruction.....	3
IDT 303 Aviation Law and Insurance.....	3
IDT 320 Aviation Safety, Accident Investigation and Training.....	3
IDT 341 Instrument Flight/IFR Operations.....	3
IDT 387 Cooperative Education in Aviation Management Technology.....	3
IDT 413 Computers in Aviation.....	3
IDT 422 Aviation Maintenance, Operations and Management.....	3
IDT 430 Aviation Facilities.....	3
MGT 384 Personnel Administration.....	3
MGT 386 Organization Theory and Development.....	3
MTH 118, 119 Mathematical Analysis for Social Science I and II.....	6
ORI 265 Business Statistics I.....	3
ACC 240, 241 Principles of Accounting.....	6
ECO 325 Collective Bargaining.....	3
FIN 350 Principles of Finance.....	3
GEO 462 Meteorology.....	2
<b>Physical education and health (Group VII).....</b>	<b>2</b>
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Electives.....</b>	<b>5-9</b>
<b>Total.....</b>	<b>124</b>

## 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 of Science 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 Science in business education.

### Bilingual Industrial-Vocational Teacher Education Curriculum

<b>Language.....</b>	<b>8-11</b>
Requirements 1, 2 and 3 (box, page 26).....	8-11
<b>Science and mathematics.....</b>	<b>12-13</b>
PSY 101 General Psychology.....	3
MTH 107 Plane Trigonometry.....	2
Two courses in physics or chemistry.....	7-8

<b>Social sciences.....</b>	<b>9-12</b>
Requirements 1, 2 and 3 (box, page 27).....	9-12
(PLS 112 American Government recommended for requirement 1; a two-course sequence in economics or sociology recommended for requirement 3)	
<b>Humanities.....</b>	<b>14-15</b>
Requirements 2 and 3 (box, page 27).....	5-6
Two intermediate foreign language courses or two advanced foreign language literature courses.....	6
FLA 421 Theory and History of Bilingual Education.....	3
<b>Education (Group IV).....</b>	<b>30</b>
EDP 322 Human Development and Learning.....	4
CUR 305 Curriculum and Methods.....	3
CUR 311 Teaching Secondary Reading.....	3
SFD 328 Social Aspects of Teaching.....	3
EDM 345 Media for the Classroom Teacher.....	1
EDT 300 Introduction to Computer Applications in Education.....	1
SGN 300 Exceptional Children in the Regular Classroom.....	1
EDP 340 Introduction to Measurement and Evaluation... <i>Student Teaching Sequence*</i>	3
IE 460 Practicum in Industrial Education.....	2
IE 461 The Teaching of Industrial Education.....	2
EDU 492 Student Teaching.....	8
<b>Practical arts** (Group VI).....</b>	<b>17</b>
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... Education.....	3
IDT 478 Teaching Methods in Bilingual Vocational Education.....	2
IDT 479 Seminar in Bilingual Vocational Education.....	3
<b>Occupational specialty***.....</b>	<b>35</b>
<b>Physical education (Group VII).....</b>	<b>2</b>
Physical education activity or military science.....	2
<b>Total.....</b>	<b>130-135</b>

**NOTE:** Satisfactory completion of this program will result in the Bachelor of Science degree and issuing of the Michigan temporary vocational authorization for teaching in occupational specialty, grades 9-12.

\*Must hold 2.25 overall at EMU and 2.5 in major before enrolling in student teaching sequence.

\*\*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 occupation or for completion of appropriate examinations (e.g. the Michigan Occupational Competency Assessment Center test).

### Bilingual Business/Distributive Teacher Education Curriculum

<b>Area.....</b>	<b>Sem hours</b>
<b>Language.....</b>	<b>8-11</b>
Requirements 1, 2 and 3 (box, page 26).....	8-11
<b>Science and mathematics.....</b>	<b>10</b>
Requirement 1 (box, page 26).....	4
PSY 101 General Psychology.....	3
MTH 118 Mathematical Analysis.....	3

**Social sciences** ..... 12  
 Requirements 1 and 2 (box, page 27)..... 6  
 ECO 201 and 202 Principles of Economics..... 6  
 (PLS 112 American Government recommended for requirement 1)

**Humanities**.....14-15  
 Requirements 2 and 3 (box, page 27)..... 5-6  
 Two intermediate foreign language courses or two advanced foreign language literature courses..... 6  
 FLA 421 Theory and History of Bilingual Education.... 3

**Education (Group IV)**..... 33  
 BE 200 Principles of Distributive and Office Education ..... 3  
 EDP 322 Human Development and Learning..... 4  
 CUR 305 Curriculum and Methods..... 3  
 CUR 311 Teaching Secondary Reading..... 3  
 SFD 328 Social Aspects of Teaching..... 3  
 EDM 345 Media for the Classroom Teacher ..... I  
 EDT 300 Introduction to Computer Applications in Education ..... I  
 SGN 300 Exceptional Children in the Regular Classroom..... I  
 EDP 340 Introduction to Measurement and Evaluation..... 2  
 Methods coursés (choose two)..... 4  
 BE 364 Methods of Teaching General Business Subjects..... 2  
 BE 365 Methods of Teaching Office Education .... 2  
 BE 366 Methods of Teaching Distributive Education..... 2  
 EDU 492 Student Teaching..... 8

**Business education core (Group V)** ..... 36  
 ACC 240 Principles of Accounting..... 3  
 ACC 241 Principles of Accounting..... 3  
 MKT 360 Principles of Marketing..... 3  
 LAW 293 Legal Environment in Business..... 3  
 ORI 215 Computers in Business..... 3  
 BE 100 Contemporary Business..... 3  
 BE 121 Typewriting Applications ..... 2  
 BE 224 Calculator Applications: Personal and Business ..... 3  
 BE 250 Personal Finance..... 3  
 BE 395 Office Administration ..... 3  
 BE 396 Records Administration..... 2  
 IDT 478 Teaching Methods in Bilingual Vocational Education ..... 2  
 IDT 479 Seminar in Bilingual Vocational Education .... 3

**Occupational Specialty**

**Office education major**.....19  
 BE 422 Office Systems..... 3  
 Select one of the following options:  
**Option I: Accounting**..... 16  
 ACC 340 Intermediate Accounting..... 3  
 ACC 341 Intermediate Accounting..... 3  
 ACC 342 Managerial Cost Accounting..... 3  
 ACC 344 Tax Accounting..... 3  
 ACC 346 Governmental Accounting..... 3  
 Restricted electives ..... 1  
**Option II: Data processing\*** ..... 16  
 ORI 265 Business Statistics I..... 3  
 ORI 219 COBOL Programming..... 3  
 ORI 317 Systems Simulation..... 3

ORI 415 Applied Data Structure..... 3  
 ORI 416 Computer Operating Systems ..... 3  
 Restricted electives ..... 1  
 \*Students may choose to take MOCAC test and receive nine semester hours.

**Option III: Word processing**..... 16  
 BE 210 Concepts of Word Processing..... 3  
 BE 220 Word Processing Operations ..... 3  
 BE 310 Word Processing Administration ..... 3  
 Restricted electives ..... 7

**Option IV: Shorthand** ..... 16  
 BE 226 Shorthand Dictation ..... 3  
 BE 325 Shorthand Transcription ..... 3  
 BE 327 Shorthand Speedbuilding ..... 3  
 Restricted electives ..... 7

**Distributive education major** ..... 19  
 MKT 261 Contemporary Selling..... 3  
 MKT 363 Retailing..... 3  
 Select one of the following:  
**Option I: Consumer Economics** ..... 13  
 ECO 326 Consumer Economics ..... 3  
 HEC 112 Introduction to Consumer Affairs ..... 3  
 PLS 315 Consumer Law and Politics..... 3  
 Restricted electives ..... 4  
**Option II: Career Education**..... 13  
 BE 205 Women in Business ..... 3  
 G&C 405 Basic Guidance Concepts and Procedures..... 2  
 BE 498 Independent Study..... 2  
 G&C 100 Career Exploration and Decision Making..... 2  
 Restricted electives ..... 4

**Physical education (Group VII)** ..... 2  
 Physical education or Military Science ..... 2

**Total**..... 131-132

Students completing the above curriculum have met the major and minor requirements for graduation. No outside minor is needed. A maximum of 10 courses from the College of Business will count toward the 124 semester hour graduation requirement.

**Business Education Restricted Electives**

BE 119 Keyboarding for Computers ..... 2  
 BE 205 Women in Business ..... 3  
 BE 210 Concepts of Word Processing..... 3  
 ORI 219 COBOL Programming..... 3  
 BE 220 Word Processing Operations ..... 3  
 BE 225 Gregg Shorthand ..... 3  
 BE 226 Shorthand Dictation ..... 3  
 BE 310 Word Processing Administration..... 3  
 BE 325 Shorthand Transcription ..... 3  
 BE 327 Shorthand Speedbuilding ..... 3  
 MKT 374 Industrial Marketing and Purchasing ..... 3  
 BE 387 Cooperative Education in Business Education... 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 487 Cooperative Education in Business Education ... 3  
 BE 497, 498, 499 Independent Study ..... 1,2,3

## 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.

Students completing this curriculum have met major and minor requirements. No outside minor is needed.

Area	Sem hours
<b>Language</b> .....	<b>8-9</b>
Requirements I, 2 (Box page 26).....	5-6
ENG 424 Technical Writing.....	3
<b>Science and mathematics</b> .....	<b>13</b>
PHY 110 Physical Science.....	4
MTH 118, 119 Mathematical Analysis for Social Sciences I and II.....	6
CSC 137 Introduction to Computer Programming.....	3
<b>Social sciences</b> .....	<b>12</b>
Requirements I and 2 recommended (box page 27).....	1
PLS 112 American Government.....	6
ECO 201, 202 Principles of Economics I and II.....	6
<b>Humanities</b> .....	<b>12</b>
LIT 155 Narrative in Literature and Film.....	3
LIT 245 Introduction to Film.....	3
Requirement 2 (Box page 27).....	3
CTA 150 Introduction to Theatre.....	3
<b>Practical arts (Group VI)</b> .....	<b>76</b>
<b>Academic major in communication technology</b> .....	<b>63</b>
<b>Media production</b>	
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
<b>Transmission systems</b>	
IT 200 Industrial Electricity.....	3
IDT 305 Communication Transmission Systems.....	3
<b>Computer technology</b>	
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
<b>Communication theory and practice</b>	
CTA 227 Interpersonal Communications.....	3
CTA 354 Organizational Communications.....	3
<b>Business and investment skills</b>	
MKT 360 Principles of Marketing.....	3
ORI 265 Business Statistics I.....	3
<b>Management skills</b>	
ACC 240 Principles of Accounting.....	3
MGT 202 Business Communications.....	3

### Industrial technology

IDT 121 Graphic Communication.....	3
IT 231 Industrial Computer Graphics.....	3
IDT 387 Cooperative Education in Interdisciplinary Technology.....	3
IDT 404 Emerging Technologies in Storage and Retrieval.....	3
IDT 425 Communication Technology and Social Change.....	3
IDT 470 Senior Seminar in Communication Technology.....	3

### Concentration.....13

Choose 13 credits in one of 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	

### Physical education and health (Group VII).....2

Physical education activity courses.....2  
(Any two courses in Military Science may be applied)

### Electives.....0-1

**Total**.....124

## 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 a series of technical courses.

Students completing this curriculum have met the major and minor requirements for graduation. No outside minor is needed.

Area	Sem hours
<b>Language</b> .....	<b>8</b>
Requirements I and 2 (Box page 26).....	5
ENG 424 Technical Writing.....	3
<b>Science and mathematics</b> .....	<b>35</b>
CHM 131, 132 General Chemistry I and II.....	9
CHM 241 Materials Science.....	3
CHM 242 Materials Science Laboratory.....	1
CHM 270 Organic Chemistry.....	4
CHM 271 Organic Chemistry Laboratory.....	1
MTH 118, 119 Mathematical Analysis for Social Sciences I and II.....	6
CSC 137 Introduction to Computer Programming.....	3
PHY 221 Mechanics, Sound and Heat.....	4
PHY 222 Electricity and Light.....	4

Social sciences.....	12
Requirements 1 and 2 (box page 27).....	6
(PLS 112 American Government recommended)	
ECO 201, 202 Principles of Economics I and II.....	6
Humanities.....	11-12
Requirements 1, 2 and 3 (Box page 27).....	11-12
Practical arts (Group VI)	
Academic major in coating process technology.....	42
IDT 310 Applied Polymer Concepts or	
IDT 400 Polymers and Coatings I.....	3
IDT 402 Polymers and Coatings II.....	3
IDT 403 Polymers and Coatings II Laboratory.....	3
IDT 405 Coating Processes I.....	3
IDT 406 Coating Processes I Laboratory.....	3
IDT 407 Coating Processes II.....	3
IDT 487 Cooperative Education in Interdisciplinary	
Technology.....	3
IT 122 Technical Drawing.....	3
IT 203 Manufacturing Technology.....	3
IT 420 Controlling Manufacturing Systems.....	3
IT 424 Industrial Plant Facilities and Planning.....	3
ORI 265 Business Statistics I.....	3
ORI 374 Production/Operations Management.....	3
MGT 386 Organization Theory and Development.....	3
Physical education and health (Group VII).....	2
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
Electives.....	13-14
Choose 13-14 credits with the following recommended:	
IT 213 Occupational Safety and Health, IT 318 Energy	
Transfer Systems	
Total.....	124

## Energy Management Technology Curriculum

**ENERGY MANAGEMENT TECHNOLOGY** is designed to prepare the student for a career in the management of facility energy consumption, energy auditing and consulting, sales of energy conservation equipment or other new energy-related professions. Emphasis is on acquiring skills useful in today's commercial buildings.

Students completing this curriculum have met major and minor requirements for graduation. No outside minor is needed.

Area	Sem hours
Language.....	11
Requirements 1 and 2 (Box page 26).....	8
ENG 424 Technical Writing.....	3
CTA 350 Persuasion or CTA 354 Organizational	
Communication or CTA 359 Small Group	
Communication.....	3
Science and mathematics.....	18-21
CHM 131 General Chemistry I.....	5
PHY 221 Mechanics, Sound and Heat.....	4
PHY 222 Electricity and Light.....	4
Electives (must be approved).....	2-5
Social sciences.....	12
Requirements 1 and 2 (Box page 27).....	6
ECO 201 Principles of Economics I.....	3
ECO 337 Energy Economics.....	3
Humanities.....	11-12
Requirements 1, 2 and 3 (Box page 27).....	11-12

Practical arts (Group VI).....	48-51
Academic major in energy management technology	
IT 125 Introduction to Construction.....	3
IT 200 Industrial Electricity.....	3
IT 314 Integrated Circuits.....	3
IT 318 Energy Transfer Systems.....	3
MGT 202 Business Communications.....	3
MGT 402 Business Report Writing.....	3
IDT 201 Microcomputer Applications.....	3
IDT 300 Energy Management Controls.....	3
IDT 312 Heating, Ventilating and Air Conditioning.....	4
IDT 314 Utility Rates and Building Codes.....	2
IDT 316 Lighting for Energy Management.....	2
IDT 387 Cooperative Education in Interdisciplinary	
Technology.....	3
IDT 412 Energy Measurement.....	2
IDT 415 Computer Programming for Energy	
Measurement.....	3
IDT 430 Senior Seminar in Energy Management.....	3
Restricted electives.....	5-8
Physical education and health (Group VII).....	2
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
Electives.....	15-22
Total.....	124

## Industrial Distribution Curriculum

**THE INDUSTRIAL DISTRIBUTION PROGRAM** at Eastern Michigan University will prepare men and women for positions in industrial sales, sales management, inventory control and mid-management with manufacturers who produce goods and with wholesale distributors who purchase, warehouse, sell, distribute and service a wide variety of industrial products.

Students completing this curriculum have met the major and minor requirements for graduation. No outside minor is necessary.

	Sem hours
Language.....	8
Requirements 1 and 2 (box, page 26).....	5-6
Eng 424 Technical Writing.....	3
Science and mathematics.....	9
MTH 107 Plane Trigonometry.....	2
MTH 118 Mathematical Analysis for Social Sciences I.....	3
PHY 221 Mechanics, Sound and Heat.....	4
Social sciences.....	15
Requirements 1 and 2 (box, page 27).....	6
(PLS 112 American Government recommended)	
ECO 201, 202 Principles of Economics.....	6
SOC 250 Elementary Social Statistics (or any	
other appropriate statistics course).....	3
Humanities.....	11-12
Requirements 1, 2 and 3 (box, page 27).....	11-12
Major requirements (Group VI).....	66
Business.....	24
ACC 240 Principles of Accounting.....	3
MGT 202 Business Communication.....	3
MGT 386 Organizational Theory and Development.....	3
MKT 261 Contemporary Selling.....	3
MKT 360 Principles of Marketing.....	3
MKT 368 Marketing Strategy.....	3
MKT 374 Industrial Marketing and Purchasing.....	3
MKT 461 Sales Management.....	3

<b>Technology</b> .....	24
IT 122 Technical Drawing .....	3
IT 123 Metal Processes .....	3
IT 200 Industrial Electricity .....	3
IT 314 Integrated Circuits.....	3
IT 318 Energy Transfer Systems .....	3
IT 417 Industrial Robotics.....	3
IT 428 Control and Instrumentation.....	3
IDT 310 Polymers for Engineers and Technologists.....	3
<b>Industrial distribution</b> .....	18
IDT 240 Introduction to Industrial Distribution.....	3
IDT 340 The Industrial Climate and Its Effects Upon Distribution .....	3
IDT 387 Co-op for Industrial Distribution.....	3
IDT 440 Industrial Distributor Operation .....	3
IDT 444 Industrial Distribution .....	3
ECO 460 Industrial Organization .....	3
<b>Concentrations</b> .....	11-13
Students may select concentrations from below to meet their career plans with approval of adviser. Other concentra- tions may be selected with adviser approval.	
<b>Mechanical/Manufacturing</b> .....	13
IT 215 Machine Tool Metallurgy .....	3
IT 251 Material Analysis and Testing .....	3
IT 420 Controlling Manufacturing.....	3
Electives.....	4
<b>Electronics</b> .....	13
IT 405 Computer Applications for Industry .....	3
IT 414 Solid State Electronics .....	3
IT 434 Microcomputer Circuits.....	3
Electives.....	4
<b>Energy management</b> .....	11
IDT 300 Energy Management Controls.....	3
IDT 312 Heating, Ventilating and Air Conditioning.....	4
IDT 316 Lighting for Energy Management.....	2
IDT 412 Energy Measurement.....	2
<b>Recommended electives</b> .....	0-2
(No more than six semester hours can be taken from the College of Business)	
IDT 121 Graphic Communications .....	3
IDT 300 Energy Management Controls .....	3
IT 316 Advanced Machinery Processes.....	3
FIN 350 Principles of Finance .....	3
FIN 358 Analysis of Financial Statements.....	3
MGT 402 Business Report Writing.....	3
IT 416 Introduction to Numerical Control .....	3
MKT 470 Marketing Research .....	3
BE 396 Records Administration.....	2
<b>Physical education and health</b> .....	2
Two semester hours of Military Science may be substituted for physical education.	
<b>Total</b> .....	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.

Area	Sem hours
<b>Language</b> .....	8
Requirements I and 2 (Box page 26).....	8-9
ENG 424 Technical Writing.....	3
<b>Science and mathematics</b> .....	33-34
CHM 131, 132 General Chemistry I and II.....	9
CHM 241 Materials Science.....	3
CHM 242 Materials Science Laboratory.....	1
CHM 381 Instrumentation for Chemical Technology.....	2
CHM 475 Introduction to Polymer Chemistry.....	3
CSC 137 Introduction to Computer Programming.....	3
MTH 105 College Algebra and MTH 107 Plane Trigonometry or MTH 120 Calculus 1.....	4-5
PHY 221 Mechanics, Sound and Heat.....	4
PHY 222 Electricity and Light .....	4
<b>Social sciences</b> .....	12
Requirements I and 2 (Box page 27).....	6
(PLS 112 American Government recommended)	
ECO 201, 202 Principles of Economics I and II.....	11
<b>Humanities</b> .....	11-12
Requirements I, 2 and 3 (Box page 27).....	11-12
<b>Practical arts (Group VI)</b> .....	42
<b>Academic major in polymers and coatings technology</b>	
1. <b>Required courses</b> .....	33-36
CHM 281 Quantitative Analysis.....	4
CHM 270 Organic Chemistry and CHM 271 Organic Chemistry Laboratory or CHM 371 Organic Chemistry I, CHM 372 Organic Chemistry II and CHM 373 Organic Chemistry Laboratory.....	5 or 8
IDT 400, 402 Polymers and Coatings Technology I and II.....	6
IDT 401 Polymers and Coatings Technology I Laboratory.....	3
IDT 403 Polymers and Coatings Technology II Laboratory.....	3
IDT 460 Advanced Coatings Topics.....	3
IDT 487 Cooperative Education in Interdisciplinary Technology.....	3
IT 202 Plastics.....	3
MKT 360 Principles of Marketing.....	3
2. <b>Electives</b> .....	6-9
Choose six to nine credits from the following: CHM 415 Environmental Chemistry or IT 213 Occupational Safety and Health, IDT 387 Cooperative Education in Interdisciplinary Technology or CHM 340 Industrial Chemistry	
<b>Physical education and health (Group VII)</b> .....	2
Physical education activity courses.....	2
(Any two courses in Military Science may be applied)	
<b>Electives</b> .....	13-16
<b>Total</b> .....	124

## Minors Offered in the Department of Interdisciplinary Technology

### 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.

	Sem hours
Minor in graphic communication.....	23
1. Required courses.....	11
IDT 104 Introduction to Communication Technology.....	2
IDT 121 Graphic Communication.....	3
IDT 204 Photographic Communication.....	3
IDT 207 Photographic Reproduction.....	3
2. Electives.....	12
IDT 304 Advanced Photographic Communication.....	3
IDT 318 Graphic Arts Workshop.....	3
IDT 404 Photographic Communication Workshop.....	3
BE 220 Word Processing Operations.....	3
IT 231 Industrial Computer Graphics.....	3
FA 179 Graphic Design.....	3
FA 201 Graphic Design.....	3
FA 205 Graphic Design.....	3
ENG 215 Journalism.....	3
ENG 307 Copy Editing.....	3
ENG 311 Editing Procedures.....	3
ENG 424 Technical Writing.....	3
MKT 369 Advertising.....	3
BE 119 Keyboarding for Computers.....	3

### 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
(Non-teaching)	
1. Required courses.....	15
CSC 136 Computers for the Non-Specialist or CSC 137 Introduction to Computer Programming.....	3
IDT 150 Basic Technological Concepts.....	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:	
<b>Subgroup A:</b>	
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 Economic Geography,  
 GEO 495 Environmental Impact Assessment  
 IDT 420 Women and Technology  
 IT 103 Introduction to Modern Industry  
 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: two hours per week. Laboratory: two hours per week.

**IDT 150 Basic Technological Concepts. 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, their languages and their applications in technology. An introduction to the BASIC language, spreadsheet, word processing and their applications such as energy management, quality control and computer research techniques. Application packages in computer graphics, business, industry and process control.

**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 and photo reproduction. 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 platemaking 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, compounding 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 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: PHY 222 Electricity and Light of department permission.*

**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, rheology, polymer fabrication techniques.

**IDT 312 Heating, Ventilating and Air Conditioning.****Four sem hours**

Ten different commercial systems 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.*

**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, safety and illumination.

**IDT 316 Lighting for Energy Management.****Two sem hours**

Light sources such as high intensity discharge, fluorescent, incandescent and day light compared for efficiency, color, maintenance, initial cost and life cycle cost. Appropriate retrofit opportunities identified and savings calculations methods evaluated.

*Prereq: PHY 222 Electricity and Light or department permission.*

**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 a 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 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 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, alkyds, oils, epoxies, epoxyesters, aminoplasts, urethanes, phenolics, hydrocarbons, cellulotics.

*Prereq: CHM 270 Organic Chemistry, CHM 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, melamine formaldehyde and urethane polymers with extensive use of physical techniques such as G.C., I.R., 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.*

**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 urethane, 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 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 Processes 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 of 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, rheology 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: PHY 221 Mechanics, Sound and Heat.*



**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.  
*Prereq: ORI 215 Computers in Business.*

**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 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 431 Aviation Facilities.** **Three sem hours**  
The design of new aviation facilities and the retro-fit of existing facilities to meet short and long term requirements of aviation operations.

**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 representatives from industrial distributor organizations in the geographical area.  
*Prereq: IDT 440 Industrial Distributor Operations, senior standing.*

**IDT 450 Wire Technology 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.** **Three 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 covered 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.*

# MILITARY SCIENCE

Office: 18 Roosevelt Building

Department Head: Lt. Col. Miles W. Holmes Jr.  
 Assistant Professors: Maj. Donald V. Ayres, Capt. Dean A. Farr,  
 Capt. Jerry C. Sommerville, Maj. Douglas E. Warren

**THE MILITARY SCIENCE PROGRAM** provides men and women training that permits 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 is commissioned a second lieutenant.

Students must complete all of the military science courses unless granted advanced placement for the 100 and 200-level classes.

**The ROTC scholarship program** is open to students who have completed at least one semester in military science. Scholarships for three or two years' duration are available and are awarded on a "best qualified" basis. Scholarships cover payment of tuition, fees, text 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.

**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 March.

**Veterans and JROTC graduate programs** offer advance placement credit to individuals who have completed basic training or three years JROTC in high school. Credit may be given for MS 100 and 200 courses. Applicants should contact the department for acceptance into MS 300 or 301 at the earliest possible time before the next full semester.

**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 summer field course. Armed Forces veterans may receive the \$100 per month pay in addition to any other veterans benefits they are receiving.

## PROGRAM OF STUDY

Minor in Military Science

**ADVISING** requirements specify that each year-level of students report to an assigned instructor. All students, prior to entry into the advanced program, must be processed by the enrollment officer.

**ADVISING COORDINATOR:** Lt. Col. Miles W. Holmes Jr.

## 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 continuance** 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

	Sem hours
<b>Minor in military science</b> .....	<b>20</b>
(Non-teaching)	
<b>Required courses</b> .....	<b>20</b>
MS 100 Fundamentals of Leadership and Management I.....	2
MS 101 Fundamentals of Leadership and Management II.....	2
MS 200 Applied Leadership and Management I.....	2
MS 201 Applied Leadership and Management II.....	2
MS 300 Advanced Military Leadership and Management I.....	3
MS 301 Fundamentals and Dynamics of the Military Team I.....	3
MS 400 Fundamentals and Dynamics of the Military Team II.....	3
MS 401 Advanced Military Leadership and Management II.....	3

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 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.

**MS 200 Applied Leadership and Management I,**

**Second Year — Basic Program. Two sem hours**

Basic military skills in map reading, communications, drill and ceremonies. Introduction to the Army's physical readiness training program.

**MS 201 Applied Leadership and Management II,**

**Second Year — Basic Program. Two sem hours**

Individual and group leadership dynamics. Students participate in a military simulation game. Significant military historical events and people; the current world situation.

**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.

Laboratories allow students to put leadership and knowledge skills and techniques into practice as small unit leaders.

**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. Organizations of five to 800 men 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 law and communication.

**MS 401 Advanced Military Leadership and Management II,**

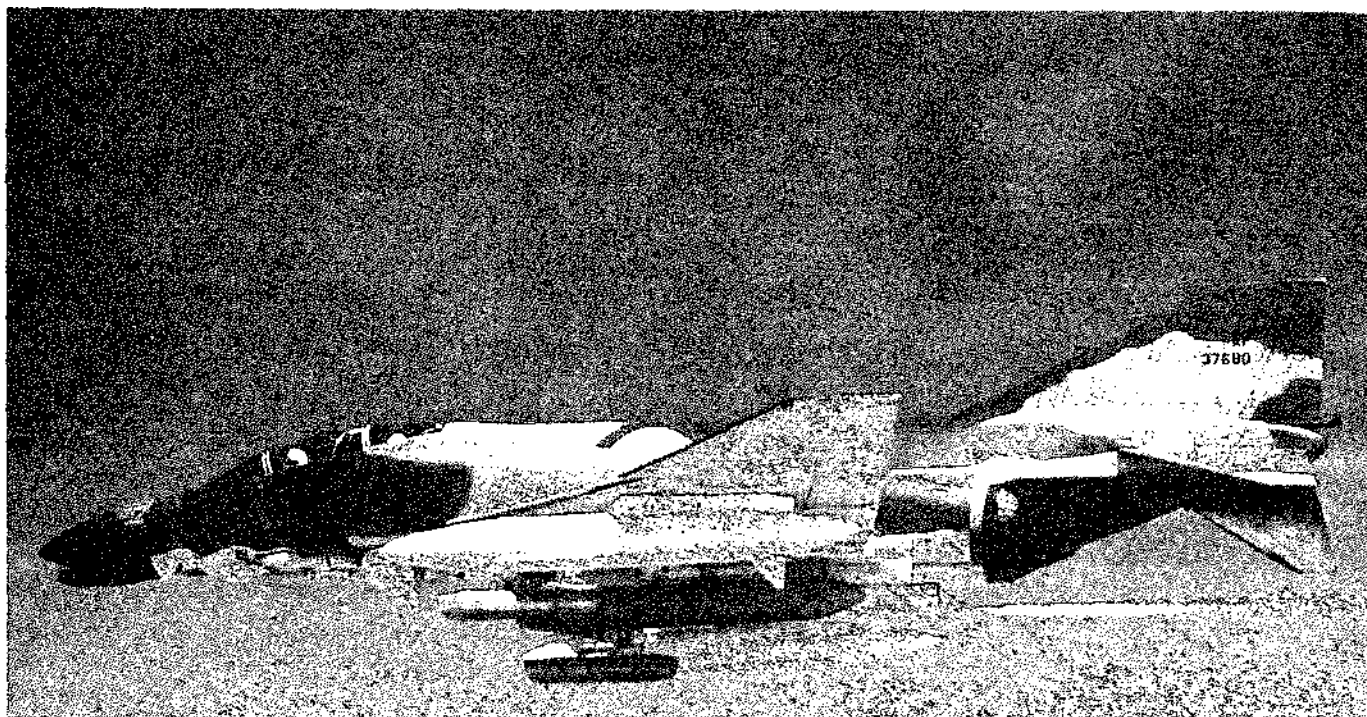
**Second Year — Advanced Program. Three sem hours**

The essentials of the Army personnel management system, logistics and training management. An in-depth examination of ethics and professionalism as they apply to the military officer.

**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 764-2403 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.

**CAREER OPPORTUNITIES.** Men and women can serve in a wide range of flying duties as aircrew members or in technical fields such as meteorology, research and development, communications and electronics, engineering, transportation, logistics and intelligence as well as in numerous managerial and training fields such as administrative services, accounting and finance, personnel, statistics, manpower management, education and training, investigation and information services. Advanced education or technical training for these career areas may be obtained on active duty at Air Force expense.

**FOUR-YEAR AND TWO-YEAR PROGRAMS.** The four-year program consists of eight terms (16 hours) of coursework. The first four terms (freshman and sophomore years) comprise the general military course (GMC). During the summer following the GMC, each student is required to attend a four-week field training session. After completing field training, students enroll in the last four terms (junior and senior years) of AFROTC called the professional officer course (POC).

The two-year program is for junior-level college students or graduate students in a two-year degree program who have not participated in the GMC but want to enter the POC. These students must attend a six-week field training session prior to entering the POC.

**FINANCIAL BENEFITS AND SCHOLARSHIPS.** All students enrolled in the POC, whether or not on scholarship, receive a monthly stipend of \$100 for each month of the academic year. Uniforms and the necessary AFROTC books and equipment are furnished to all students. Pay and a travel allowance are provided to attend field training.

AFROTC provides three and one-half, three, two and one-half and two-year scholarships on a competitive basis. These scholarships provide tuition, laboratory fees, a book allowance and the \$100 monthly stipend. Room and board are not furnished.

**MILITARY OBLIGATION.** After being commissioned, graduates of the program are called to active duty with the Air Force in a field usually related to their academic degree program. The period of service is four years for non-flying officers, five years for navigators after navigator training, and eight years for pilots after flight training. A contractual obligation is established for nonscholarship students when they attend the first POC class. Scholarship students in the four-year program incur a contractual obligation upon entering the sophomore year of AFROTC, whereas those in the two-year program incur one on entering the POC.

**FLYING ACTIVITIES.** In the *flight screening program*, mentally and physically qualified cadets who wish to become Air Force pilots receive approximately 13 hours of dual and solo light plane instruction under supervision of an Air Force instructor pilot. This training takes place between a cadet's sophomore and junior years at a pilot training base in conjunction with field training. If cadets hold private pilots licenses, this screening is not necessary.

**COURSE OF STUDY.** Students enroll in one course in aerospace studies (AS) during each term of participation in the program.

**General military course sequence (first and second years):**  
AS 101, 102, 201, 202 (4 credits)

**Professional officer course sequence (third and fourth years):**  
AS 310, 311, 410, 411 (12 credits)

Supplemental course requirements for scholarship program cadets include the satisfactory completion of courses in English composition, mathematical reasoning, and in a major Indo-European or Asian language. Non-scholarship students need only complete a course in mathematical reasoning.

### Courses

#### AS 101 The U.S. Air Force Today I.

Lecture: one semester hour; leadership laboratory: one hour a week. The growth and development of the United States Air Force; presidential, secretary of defense and JCS roles in the defense posture and the national and U.S. military strategic concepts; the Air Force contribution to strategic offensive, defensive and general purpose forces. The dynamics and interaction of all U.S. military forces in the general purpose role and their cooperative efforts in the national security posture.

#### AS 102 The U.S. Air Force Today II.

Lecture: one semester hour; leadership laboratory: one hour a week. Continuation of AS 101.

#### AS 201 U.S. Aviation History and Its Development into Air Power I.

Lecture: one semester hour; leadership laboratory: one hour a week. Development of aviation from the 18th century, from balloons and dirigibles to the present, and how technology has affected growth and development of air power. Use and development of air power through WWI, WWII, the Korean and Vietnamese conflicts, and employment in relief missions and civic action programs in the late 1960s.

#### AS 202 U.S. Aviation History and Its Development into Air Power II.

Lecture: one semester hour; leadership laboratory: one hour a week. Continuation of AS 201.

#### AS 310 Concepts of Leadership.

Seminar: three semester hours; leadership laboratory: one hour a week. The concepts, principles and techniques of leadership and human relations presented within the framework of behavioral theories. The leader, group and situation; their interaction as dynamic factors in an organizational environment with methodological implications for military and other professions.

**AS 311 Principles of Management.**

Seminar: three semester hours; leadership laboratory: one hour a week. Historical overview of management theory development with particular consideration of behavioral science's impact on primary management functions. Problem-solving and discussion of management functions; management principles as they apply to various combinations of political and power relations in the organizational setting.

**AS 410 National Security Forces in Contemporary American Society.**

Seminar: three semester hours; leadership laboratory: one hour a week. The armed forces as an integral element of society. Examination of a broad range of American civil-military relations and the

environmental context in which defense policy is formulated. Social attitudes towards the military; the role of the professional military leader-manager in a democratic society; the fundamental values and socialization process associated with the Armed Services; the requisites for maintaining adequate national security forces; political, economic and social constraints on the national defense structure; the impact of technological and international developments on strategic preparedness.

**AS 411 National Security Forces in Contemporary American Society II.**

Seminar: three semester hours; leadership laboratory: one hour a week. Continuation of AS 410.



# CONTINUING EDUCATION

Dean: Paul T. McKelvey

Director of Credit Programs: Arthur N. McCafferty

Acting Director of International Studies: George J. Klein

Coordinator of Independent Study: Michael McPhillips

Upward Bound Program Director: Hildred Lewis

Microcomputer Program Coordinator: Gerald L. Beers

## Goodison Hall

SERVICE to the community-at-large and the non-traditional as well as the traditional student are 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 and on-campus credit and non-credit courses, correspondence courses, microcomputer training programs, professional development programs, and in-house and contract programs.

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 credit and non-credit courses or correspondence courses 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:

### Enrollment

1. Undergraduate students who enroll in off-campus courses must meet the entrance requirements of Eastern Michigan University and must matriculate at Eastern to receive credit towards certificates and degrees. Application blanks and details of the admission procedure may be obtained by writing Eastern Michigan University, Admissions Office, 226 Pierce Hall. A non-matriculated student without a bachelor's degree may be permitted to take courses for *one semester only*, with no further enrollment permitted unless regularly admitted.

2. Students who hold a bachelor's degree register in off-campus classes under one of the following categories:
  - 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 116 Pierce Hall (487-3400).
3. Students must register by mail or in person for off-campus credit courses through the director of registration, Briggs Hall, Eastern Michigan University, Ypsilanti, Mich. 48197 (487-2300).
4. 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, should make their selection of classes and should consult the director of Academic Records and Teacher Certification.
5. 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 for 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 for 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 director of Academic Records and Certification.
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 reasons (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 Academic Records and Certification.
5. Persons may audit a course without credit upon payment of regular fees, following the established policy (see "Auditing").

## Correspondence Courses

**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

1. Students make application to Independent Study Through Correspondence, Continuing Education, 319 Goodison Hall, Eastern Michigan University, Ypsilanti, Mich. 48197.
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, 226 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 mark earned is entered on the permanent record. No grade points are recorded.
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 of \$35 per credit hour is assessed correspondence students. This is payable in full at the time of enrollment.
2. An administrative fee of \$45 per course is assessed to cover the cost of study guides, mailing and registration.
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.

MTH 104 Intermediate Algebra  
 SOC 105 Introductory Sociology  
 IDT 150 Basic Technological Concepts  
 MGT 281 Basic Supervision  
 LIT 210 Introduction to Shakespeare  
 LIT 305 Shakespeare: Major Comedies and Histories  
 ENG 325 Expository Writing  
 ENG 402 Modern English Syntax  
 ENG 421 The History of the English Language

### Additional Information

For additional information about independent study, contact:  
 Independent Study Office  
 Division of Continuing Education  
 329 Goodison Hall  
 Eastern Michigan University  
 Ypsilanti, MI 48197  
 Phone: (313) 487-1081 or 487-2424

## Professional Development Programs and Workshops

**Professional development programs and workshops** serve specific needs of persons living in Southeastern Michigan. Short-term, intensive educational programs are designed specifically for those who wish to develop professional skills, enhance career development or stimulate new interests or personal growth.

An ever-increasing variety of non-credit courses and workshops are presented throughout the year. While some have a broad base of appeal and wide applicability, most are designed to fulfill the specific continuing educational needs of professional groups or target audiences.

**Microcomputer training programs** are offered in the Division of Continuing Education's microcomputer laboratory, 326 Goodison, where students receive the latest training on IBM-PC/XT compatible computers. Intensive short courses are available utilizing state-of-the-art software, including MS-DOS, Wordstar, dBase, RBase, Lotus 1-2-3 and others. Classes are limited to 12 students to guarantee individual attention. In-house training is available. For more information about current microcomputer training programs, call (313) 487-0407.

**In-house and contract courses** can be designed to meet the needs of particular groups such as businesses, industries, school systems, health care facilities and other institutions. Credit or non-credit courses can be arranged.

These courses meet unique needs and can be provided for specialized training, professional development or investigating problems identified by a particular organization. They are usually held at the site of the organization or contracting agency.

Continuing education units (CEUs) are offered by the division for selected non-credit programs. The CEU is a nationally-adopted measure of participation in non-credit continuing education programs with one CEU equivalent to 10 contract hours of instruction. A permanent cumulative record of CEU participation is kept and transcripts are available for persons awarded CEUs at Eastern Michigan University.

Persons in many professional fields are required to accumulate CEUs as evidence of continuing professional training and to maintain certification. Others find the CEU to be a convenient, permanent measure of their professional development and growth.

## International Studies

**THE OFFICE OF INTERNATIONAL STUDIES** provides opportunities for Eastern Michigan University students to complement their university education through travel and study abroad. This is accomplished through expanding programs and services in three related areas: study tours, exchange programs and residential language programs.

**Travel-study programs** offer students the opportunity to earn University credit through structured learning experiences planned and taught by regular EMU professors. Study-abroad programs vary from year to year and are usually offered during spring/summer sessions. For current information on tours abroad, contact the Office of International Studies, (313) 487-2424.

**The European cultural history program** has been offering low-cost extended European travel for University credit for 12 years. Since its beginning, the program has grown to be the largest university-sponsored program of its kind in the country, drawing students not only from EMU but from 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.

**Student exchange programs** are established between EMU and colleges and universities in Great Britain. Selected students exchange places during the fall semester with a comparable number of students at participating British schools. EMU students pay room, board and tuition directly to Eastern Michigan University; the only additional expenses are for transportation, incidental personal expenses and optional travel. Students receive up to 15 semester hours of credit at EMU for their term abroad.

The availability of exchange opportunities may vary from year to year. Interested students are urged to contact the Office of International Studies to obtain information on current exchange programs and application procedures.

**Residential language programs**, offered in cooperation with the Department of Foreign Languages and Bilingual Studies, provide intensive foreign language instruction in foreign countries during spring/summer sessions. Currently, residential foreign language programs are offered in Spanish (Cuernavaca, Mexico), French (Paris and Nice) and German (Vienna). Interested students should contact the head of the Foreign Languages and Bilingual Studies Department for details.

## GRADUATE SCHOOL

Dean: Ronald E. Goldenberg  
116 Pierce 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 in Room 116 Pierce 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 coursework completed at Eastern Michigan University.
2. Election of graduate hours as an undergraduate must be limited to the 500-level course series. *Advanced undergraduates are not 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 as 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).

All application materials should be received by The Graduate School 45 days prior to the beginning of the semester or session in which enrollment is anticipated. All documents and supporting data required for admittance become the property of The Graduate School and will not be returned.

Applicants are *not* officially admitted to The Graduate School and the requested graduate academic program until they have been notified in writing of acceptance by the assistant dean of The Graduate School.



**ADMISSION CATEGORIES** follow:

1. **Master's degree candidates** are expected to hold a bachelor's degree from an accredited college or university and have a minimum undergraduate GPA of 2.50 or 2.75 in the last half of the undergraduate program.

Applicants who do not meet these criteria may be considered for alternative admission. For those departments that participate in alternative admission, a 10-hour program of study is developed with an adviser and must be completed with a minimum 3.3 ("B+") GPA. Upon successful completion of this program, a student may apply for regular degree admission. (Note: many departments have requirements beyond those listed above — see the Graduate Catalog.) A listing of departments willing to consider alternative admission candidates may be obtained in The Graduate School Office.

2. **Specialist's degree candidates** must have a minimum GPA of 3.3 ("B+") in the master's degree programs. For those departments admitting students directly into the specialist's degree from the bachelor's degree program, a minimum undergraduate GPA of 2.75 is required. Departments may establish a higher standard than this minimum.
3. **Special students** may enroll for any semester/session if they fulfill the following criteria:
  - a. Special students are those who are electing courses for self-enrichment, have been granted alternative admission, are pursuing continuing certification from the state of Michigan, are pursuing a Graduate Certificate from Eastern Michigan University or have been temporarily issued this admission status by the Graduate School for the purpose of enrolling in graduate level courses prior to gaining degree admission.
  - b. Special students should be aware that the courses elected as a special student do *not* automatically apply to a graduate program of study and that Graduate School policies dictate that a student must successfully complete a minimum of 10 academic credit hours *after degree admission* to an academic program.
  - c. Special students must present acceptable proof of a baccalaureate degree (transcripts, diploma, teaching certificate).
  - d. Students may enroll for as many enrollment periods as they wish with special student status.

**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).

All application materials should be received by The Graduate School 45 days prior to the beginning of the semester or session in which enrollment is anticipated. All documents and supporting data required for admittance become the property of The Graduate School and will not be returned.

Applicants are *not* officially admitted to The Graduate School and the requested graduate academic program until they have been notified in writing of acceptance by the dean of The Graduate School.

**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 (MGSL) or the Canadian equivalent, and Michigan State Direct Loans (MSDL).

In addition, The Graduate School offers the following programs:

1. **The graduate assistantship program** provides financial support and experiential training to students offered admission to an EMU graduate degree program and selected to become a graduate assistant in an academic or administrative department on campus. Appointments are contingent upon recommendation of the academic department and the approval of The Graduate School, maintaining an acceptable academic GPA of at least 3.0 during the assistantship, and successful participation and evaluation in departmental assignments.

G.A. assignments vary according to the needs of individual departments, some of which utilize the G.A. in classrooms or classroom-related activities, while others employ them on research projects, recruitment activities or in administrative functions. The preferred time commitment is 20 hours per week (some part-time commitments require 10-15 hours). Interested candidates should first contact the department head in their fields of interest and submit an application to the dean of The Graduate School to be included in the G.A. resource file. Submission of credentials, however, does not guarantee placement.

For further information, please request the publication "Graduate Assistantship Program" from the office of the dean (487-0042).

2. **The minority graduate assistantship program** has as its main purpose the attraction of highly qualified minority students interested 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 recognized the need for well-trained minority scholars.

For more information on this program, please contact the dean (487-0042).

3. **The Barton Scholarship awards**, considered among the University's highest honors, are available to students who have earned a baccalaureate degree from EMU and maintained at least a 3.0 undergraduate GPA. Recipients must pursue graduate study at EMU or The University of Michigan and continually strive for academic excellence.

The scholarships are one-time, non-restrictive cash awards of \$500 and are highly competitive. The scholarships are awarded to students who have been admitted to a graduate program, but who have not yet enrolled in graduate classes. Applications are considered bi-annually in January and July for the fall and winter semesters, respectively, by the associate dean of The Graduate School, who makes recommendations of proposed recipients to the Barton Scholarship Award Committee for its final determination. Of the total scholarships to be awarded each year, predicated on the current endowed fund balance, approximately 70 percent are awarded for the fall semester and 30 percent for the winter semester.

4. **Graduate fellowships** are available to new graduate students admitted to an academic program who have a 3.2 undergraduate GPA. Graduate students currently enrolled must present a 3.6 GPA. Those graduate students with graduate assistantships are *not eligible*. Awards are in the form of tuition waivers and cover four credit hours of six in which a student is enrolled. Appointments for the graduate fellowship are made by academic departments by May 30 for the following fall and winter terms.

For more information, contact the dean of The Graduate School (487-0042).

# UNIVERSITY ADVANCEMENT

## Office for Alumni Relations

Associate Director: Patrick R. Moran  
 Assistant Director: Carole Lick  
 202 McKenny Union (487-0250)

**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

Director: Jack Slater  
 212 McKenny Union (487-0252)

**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 whose specific interests and capabilities are known.
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 and intellectual property.

## Office of Public Information and Publications

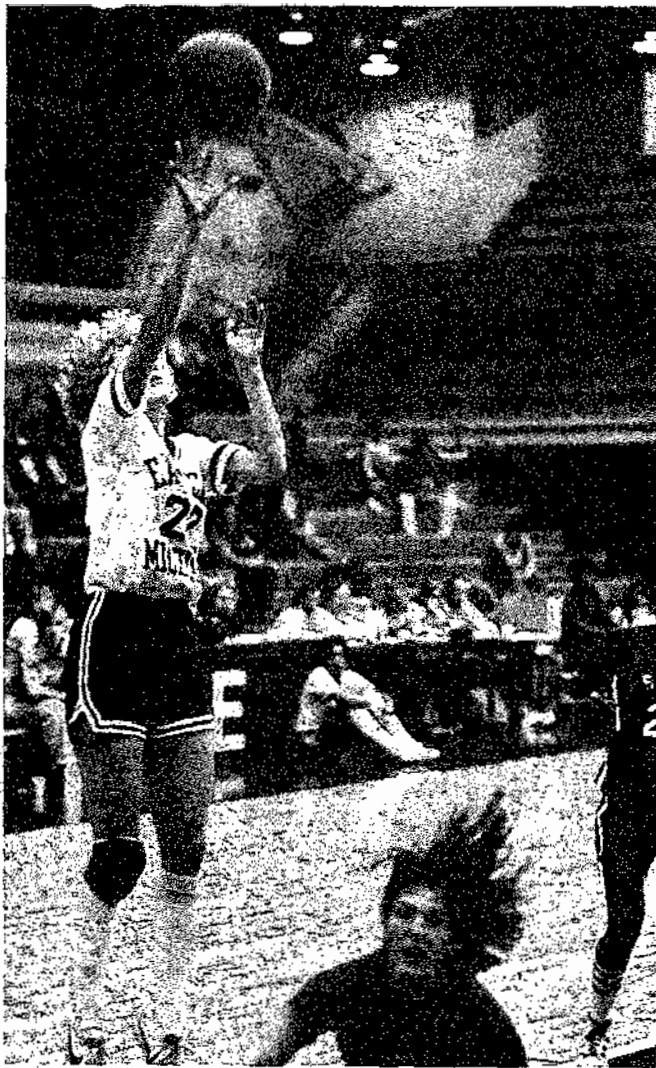
Director of University Communications: Kathleen D. Tinney  
Basement, Goddard Hall (487-4400)

**THE OFFICE OF PUBLIC INFORMATION AND PUBLICATIONS** encompasses the University News Bureau, the University photographer and University Publications. Staff members offer professional assistance and counsel to the campus community in public relations and media relations.

**The News Bureau** is the focal point for all contact with the news media. University events and activities are publicized through this office, and inquiries of reporters generally are directed here. The News Bureau also coordinates internal campus communication and is responsible for Focus EMU, a weekly bulletin for faculty and staff, and EMU Today, a daily news bulletin. For daily calendar and news information, call the 24-hour news line: 487-2460.

**The University photographer** provides black and white and color photographs and slides for news and sports releases, slide shows, displays and University publications.

**University publications** are produced through the University Publications Office, located in the lower level of Dining Commons I. Complete editorial, design, typesetting, copying and printing services are available to University departments, faculty, staff, students and alumni.



## STUDENT REFERENCES

Dean of Students: Bette White  
218 Goodison Hall (487-3116)

**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 fire fighting 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: 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:

- 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
- 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 campus in an official capacity or visitor(s).

## 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:** 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.

(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.

### 7. 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 insisting that another, including the initiate, perform an act for initiation individually or with any student or other organization which may cause or create an unnecessary risk or cause mental or physical harm to any person or 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 or 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.

### 8. 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;
- (c) EMU published bulletins (undergraduate and graduate catalogs);
- (d) *The Eastern Echo*;
- (e) Rules and regulations specific to University buildings;
- (f) Campus Life Council regulations and guidelines for organizations;
- (g) Student Government monetary allocation guidelines.

### B. Off-campus Conduct

Conduct described in the regulations in Part A which occurs off campus may also result in disciplinary action by the University under the same provisions as the individual Conduct Code.

### C. Nothing in the foregoing shall subject an organization to liability under the provisions of this Code for the acts of individuals unless such acts are committed under the formal or informal sponsorship, authority, direction, or as a group action of the organization.

## Section III. Judicial Structure for Students and Student Organizations

### A. Procedural Rights of the Student(s)/Student Organization

1. The student(s)/student organization shall have the right to remain silent.
2. The student(s)/student organization shall have a right to a voluntary adviser of their choice. Such adviser shall be selected from the University community and may participate in the disciplinary proceedings. The student shall also be informed by the Dean of Students that assistance is available through Student Government's Student Defender's Union.

The student shall be informed of the availability of such assistance prior to the discipline process when applicable.

When criminal prosecution is pending on charges stemming from the same incident, the student(s)/student organization shall have a right to engage an attorney, at their own expense, of their choice to be present at a University hearing. The attorney shall not represent the student(s)/student organization nor be a participant in the hearing but shall be permitted to consult with the student(s)/student organization at all stages of the proceedings.

3. The student(s)/student organization shall be given a written statement of the charges against them prior to the commencement of the disciplinary process.
4. The student(s)/student organization must be presented with a written list of their rights. Rights 1-4 shall extend to all judicial proceedings, all investigations conducted by the Dean of Students Office and before any statement is made to the Dean of Students Office.
5. The student(s)/student organization may confront their accuser and is guaranteed to the right to cross-examine all those testifying against them.
6. The student(s)/student organization shall have the right to bring witnesses to testify in their defense. The University Judicial Board and the Judicial Appeals Board shall have the authority to limit the number of witnesses by a two-thirds (2/3) vote of those members present, in order to avoid dilatory tactics.
7. The student(s)/student organization shall have the right to an open or closed hearing at their discretion. A hearing shall be deemed to have been open if provision for twenty (20) spectators was made in the hearing room and no person was excluded until the room's capacity was reached except for sequestration or if such person's behavior was disruptive of the atmosphere for the conduct of a fair hearing.

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 of 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 or not 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) All decisions of the University Judicial Board shall be final and shall be implemented after five (5) working days, unless appealed or as provided under Section V, Item A. These decisions may be appealed by either party to the Judicial Appeals Board. The appeal must be in writing to the chairperson of the Judicial Appeals Board and delivered to the Dean of Students Office within five (5) working days from the date of the decision.
  - (d) 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.

(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 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.

**I. Jurisdiction of the Judicial Appeals Board**

1. The Judicial Appeals Board shall have appellate jurisdiction in all cases heard before the University Judicial Board and shall have original jurisdiction on the motion of the student(s)/student organization party in any case.

2. In the event the University Judicial Board shall fail to convene and decide any case within a reasonable time, the Judicial Appeals Board will have the power to assume jurisdiction.

3. The Judicial Appeals Board shall exercise superintending control over lower courts if there is probable cause to believe that elementary principles of fairness and justice are being violated or will be violated.

**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, if 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.

### 3. Administrative Probation

Defines the student's status to be conditional and may require exclusion from some programs and curricular or extracurricular activities. In each case, the length and nature of the exclusions, if any, shall be determined according to the nature of the offense. Any breach of conduct while on administrative probation will be viewed not only as the breach of conduct itself, but a violation of probation which may result in dismissal.

### 4. Suspension

Suspension is an involuntary separation of the student from the University which may extend for one semester, until a specified date, and/or until a stated condition is met.

### 5. Dismissal

Dismissal, like suspension, involves separation from the University but it is for an indefinite period of time.

In case of a judicial decision requiring that a commitment or action or other stated condition be met by a student, the person or body setting this condition shall be responsible for making their expectations clear to the student and for superintending and monitoring its implementation.

## B. Penalties for Student Organizations

### 1. Reprimand

An official written statement of the University's disapproval of an individual or group action.

### 2. Administrative Warning

Issued to student organizations for lesser offenses than those subject to administrative probation. Any breach of conduct will be viewed not only as the breach of conduct itself, but a violation of this warning, which may result in suspension of said organization's status as a student organization. The misconduct may be reported to said organization's national office, if applicable.

### 3. Administrative Probation

Defines the student organization's status to be conditional and may require exclusion from campus activities, forfeiting of student monetary allocations, and withdrawal of Campus Life status for a minimum of one semester. Any breach of conduct while on administrative probation will be viewed not only as the breach of conduct itself, but a violation of probation which may result in suspension of said organization's status as a student organization.

### 4. Suspension or Termination

The involuntary withdrawal of status of the student organization from the University permanently, for a specified period of time and/or until a stated condition is met. During this period the University will not in any way recognize nor support the continued operation of said organization. The student organization must re-apply to the Office of Campus Life for renewed recognition following any period of suspension. The suspension action shall be reported to said organization's national office, if applicable.

Action taken against a student organization may also result in separate action being taken against individual members of said group, when appropriate. In this case, the sections of the Conduct Code referring to student conduct will be applied.

## 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 he/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/or which constitutes an interference with the maintenance of the University's educational processes and missions.

The student(s)/student organization shall be notified of their 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 these 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.

## 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 schedul-

ing 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 made 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 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 1 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 a 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 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, who 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).

## 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 previous 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 Goodison 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 the newest campus facility, the 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—17 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 long-time 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 and apartment complexes.

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, a 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 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**, today the Office of Registration, Student Accounting and the Cashier's Office, 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. Goodison 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 Publications, 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 College 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 cafeteria and dining services, a 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 Washtenaw via Oakwood Avenue, is adjacent to Pittman and Ford roads, which bisect 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. In 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 the main administrative offices of the University, the Office of Academic Records and Certification and The Graduate School. Staged renovation of this facility will be ongoing throughout the 1987-88 academic year.

**Pray-Harrold Hall** provides classrooms and offices for the departments of English Language and Literature, History and Philosophy, Mathematics and Computer Science in the College of Arts and Science, and the College of Business. 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 1913-1937, 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 amphitheatre, 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 amphitheatre and expand the capabilities of technical studios, 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 its 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 clinic for 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.B.M. 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 Child Care 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 as the Admissions On-Campus Program Center, which provides services for the University community and campus visitors. Included are an Information Center, Campus Tours, "EMU Candids," which publicize outstanding students and faculty, new student orientation conferences and a host of special activities designed for prospective students and their families.

**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 has been vacant for five years, but will be rehabilitated beginning in the fall of 1987.

## 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.

**Rynearson Stadium**, named for Elton J. Rynearson 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 EMU Baseball 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 revenue bonds, 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 and the Office of Public Information are 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 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.

**Phelps-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 northwest 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.



## ADMINISTRATIVE OFFICERS

### Officers of the University

President	John W. Porter
Provost and Vice President for Academic Affairs	Ronald W. Collins
Vice President for Business and Finance and Treasurer to the Board	Robert J. Romkema
Vice President for University Marketing and Student Affairs	Laurence N. Smith
Vice President for University Relations and Secretary to the Board	Roy Wilbanks

### Academic Affairs Division

#### Academic Administration:

Associate Provost	Vacant
Associate Vice President for Academic Affairs	Donald H. Bennion
Executive Assistant	Vacant
Academic Budget Officer	Michael L. Chirio Jr.

#### College of Arts and Sciences:

Interim Dean	Ira M. Wheatley
Administrative Associate	Velma G. Clarke

#### Departments:

Afro-American Studies, Director	Ronald C. Woods
Art, Head	John E. Van Haren
Biology, Head	Herbert H. Caswell Jr.
Chemistry, Head	Judith Levy
Communication and Theatre Arts, Head	Dennis M. Beagen
Computer Science, Head	George E. Haynam
Economics, Head	Young-lob Chung
English Language and Literature, Head	Judith A. Johnson
Foreign Languages and Bilingual Studies, Head	Jean S. Bidwell
Bilingual Bicultural Program, Director	Phyllis A. Clemens Noda
Geography and Geology, Head	Elwood J.C. Kureth
History and Philosophy, Acting Head	James C. Waltz
Mathematics, Head	Don R. Lick
Music, Head	James B. Hause
Physics and Astronomy, Head	Elwood J.C. Kureth
Political Science, Head	James D. Johnson
Psychology, Head	Barry A. Fish
Sociology, Head	Jay Weinstein

#### College of Business:

Dean	Stewart L. Tubbs
Associate Dean	Vacant

#### Departments:

Accounting and Finance, Head	Keith W. Lantz
Management, Head	Floyd A. Patrick
Marketing, Head	Robert J. Williams
Operations Research and Information Systems, Head	V.M. Rao Tummala

#### 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	Jack D. Minzey
Special Education, Head	Norman J. Niesen
Teacher Education, Head	Marvin Pasch
Center for Community Education, Director	William F. Kromer

#### College of Health and Human Services:

Dean	Elizabeth C. King
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Departments:

Associated Health Professions	Stephen A. Sonstein
Health Administration, Coordinator	Michael J. Long
Clinical Laboratory Sciences, Director	Jeanne M. Clerc
Occupational Therapy, Acting Coordinator	Ruth Hansen
Human, Environmental and Consumer Resources, Head	Elizabeth J. Rhodes
Nursing Education, Head	Janet S. Boyd
Social Work, Head	Donald M. Loppnow

#### College of Technology:

Dean	Alvin E. Rudisill
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Departments:

Business and Industrial Education, Head	H. James Rokusek
Industrial Technology, Head	Everett N. Israel
Interdisciplinary Technology, Head	Paul D. Kuwik
Military Science, Head	Miles W. Holmes Jr.

#### Academic Advising Center:

Director	Ann C. Kettles
Associate Directors	Edgar L. Jones Karen Moses
Coordinators	Charles Fulford Joseph Gonzalez
Advisers	Brad Brady Barbara Durant Robert Salisbury Joan A. Schiller Patricia L. Williams

#### Academic Records and Certification:

Registrar	Ursula Christian
Associate Directors	Nancy J. Dahl Paul L. Zabawa

#### Continuing Education:

Dean	Paul T. McKelvey
Director, Credit Programs	Arthur N. McCafferty
Acting Director, International Studies	George J. Klein
Coordinator, Independent Study	Michael McPhillips
Coordinator, Microcomputer Program	Gerald L. Beers
Director, Upward Bound	Hildred J. Lewis
Associate Director, Upward Bound	Jill Moore

#### Graduate School:

Dean	Ronald E. Goldenberg
Associate Dean	Vacant
Assistant Dean	Hector Garza

#### Learning Resources and Technologies:

Dean	Morell D. Boone
Associate Dean	Jon D. Drabenstott
Assistant Dean	Sandra G. Yee

#### Office of Research Development:

Director	David L. Clifford
Associate Directors	Rich Howard Cheryl Kozell

#### Registration:

Acting Director	Joanne M. Michalak
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## Executive Division

#### Human Resources:

Executive Director	Milton E. Lewis Jr.
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, Human Resource Development . . . . . Helen Burnstad  
 Director, Employee Relations . . . . . David Tammany  
 Employee Relations Associate . . . . . Richard Dodd  
 University Attorney . . . . . Vacant

**Institutional Advancement:**

Director . . . . . John C. Burkhardt

**University Computing:**

Executive Director . . . . . E. Leon Daniel  
 Associate Director . . . . . Lawrence A. Ripley

**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

**Business and Finance Division**

Director, Risk Management, Procurement  
 and Stores . . . . . Mary C. Brooks  
 Service Operations Manager . . . . . Albert A. Robinson  
 Controller . . . . . Robert E. Thayer  
 Assistant Controllers . . . . . James Cooper  
 Patrick Doyle  
 Phyllis A. Smith  
 Special Funds Accountant . . . . . Dario Ontiveros  
 Fund Accountant . . . . . Regina Kelley  
 General Supervisor of Student Accounting . . . . . Vacant  
 Payroll Supervisor . . . . . Colleen Rheam  
 Plant Accountant . . . . . Jean Pfaus  
 Cashier . . . . . Vacant  
 Accounts Payable Supervisor . . . . . Catherine Cart  
 Student Loan Accountant . . . . . Richard Byrd  
 Treasury Accountant . . . . . Marjorie Pregitzer  
 Purchasing Director, Acting . . . . . Gary Reffitt  
 Purchasing Agents . . . . . Elizabeth Brown  
 Helen Gates-Bryant  
 Physical Plant Director . . . . . William Smart  
 Public Safety Director . . . . . John C. Garland

**Student Affairs Division****Admissions and Financial Aid:**

Dean . . . . . Courtney O. McAnuff  
 Director, Martin Luther King Programs . . . . . Lynette Findley  
 Admissions:  
 Director . . . . . Vacant  
 Associate Director . . . . . Vacant  
 Assistant Director . . . . . Joseph J. Jorfi  
 Coordinator, Admissions Representatives . . . . . James Olsen  
 Admissions Representatives . . . . . Marian Banks  
 Louisa Chen  
 Ralph Cowan  
 Kathi Holley  
 M. Lydia Ortiz  
 Alberto Perales  
 Patricia Tassey

**Financial Aid:**

Director . . . . . Judy B. Tatum  
 Assistant Director, Scholarships . . . . . Pamela Fowler  
 Assistant Director, Operations . . . . . Joy Lehman-King  
 Financial Aid Advisers:  
 Scholarships . . . . . Vacant  
 Pell Grants . . . . . Angela Robinson  
 GSL/SDL . . . . . Kevin Hurlahe

Special Programs, Vocational  
 Rehabilitation, CWS . . . . . Cynthia H. VanPelt  
 Operations . . . . . Rachel Sauve

**Auxiliary Enterprises:**

Executive Director . . . . . Dorian Sprandel  
 Director . . . . . Sandra Williams

**Campus Life:**

Director . . . . . Glenna F. Miller  
 Program Coordinators . . . . . William Barnett  
 Vacant

**Career Services Center:**

Director . . . . . James Vick  
 Assistant Directors:  
 Education, Arts and Sciences Placement . . . . . Theo Hamilton  
 Business and Technology Placement . . . . . Donald Boyd  
 Career Planning . . . . . Joanne Burns  
 Placement, Cooperative Education . . . . . Angelina Laycock  
 Corporate Relations . . . . . Michael J. Erwin  
 Cooperative Education Coordinators . . . . . Barbara Durant  
 Alan Green  
 Gerald Lamotte  
 Norma McCuiston

Employee Relations Associate . . . . . Kenneth L. Meyer  
 Job Location and Development  
 Program Coordinator . . . . . Barbara Jones  
 Manager of Operations . . . . . Jan BenDor  
 Assistant Manager of Operations . . . . . Sylvia Collins

**Health Services:**

Director . . . . . Ellen Gold  
 Associate Director . . . . . Aleta Pittman  
 Chief of Medical Staff . . . . . Barbara Davenport  
 Physician . . . . . Maria Ness-Bradshaw  
 Staff Nurse . . . . . Nancy Moss  
 Nurse Practitioners . . . . . Diane Sobell  
 Pat Woodard  
 Pharmacy Supervisor . . . . . Jerry Vidis  
 Pharmacist . . . . . Karen Wing  
 Medical Technologist . . . . . C. Stuart Jung  
 X-Ray Technician . . . . . Judith Glotfelty  
 Coordinator, Counseling Center . . . . . Rosalyn Barclay  
 Mental Health Counselors . . . . . Jan Collins-Eaglin  
 John Krienke  
 James McGraw  
 Acting Coordinator, Child Care Center . . . . . Lynn Thomas

**Housing and Food Service:**

Director . . . . . Russell Wright  
 Food Service:  
 Associate Director . . . . . Carl Christoph  
 Assistant Director . . . . . John Van Volkinburg  
 Unit Managers . . . . . M. Margaret Brown  
 Nancy Erickson  
 Larry Gates  
 Housing:  
 Associate Dean . . . . . Vacant  
 Assistant Director, Marketing  
 and Customer Relations . . . . . Dennis Lefond  
 Assistant Director, Apartments and Facilities . . . . . Neal Belitsky  
 Assistant Director, Internal Operations . . . . . Colleen Tompkins  
 Budget Analyst . . . . . Jerry Ehlers

**McKenny Union/University Conferences:**

Manager, Conference Sales . . . . . Nancy Gruschow  
 Assistant Manager, Conference Sales . . . . . Janice Shurlow  
 Assistant Manager, Commercial  
 Food-Operations . . . . . Dorothy Sirhan  
 Facilities Manager . . . . . Elmer Roberson Jr.  
 Manager, General Services . . . . . Andrea Harrison  
 Manager, University Bookstore . . . . . Jack Toundaian



**Recreation/Intramurals:**

Director ..... Robert England  
 Associate Director ..... Vacant  
 Assistant Director ..... Rick McNeil

**Special Student Services:**

Dean of Students ..... Bette C. White  
 Associate Dean, Minority Affairs ..... Leslie K. Bates  
 Director, Foreign Student Affairs ..... Paul Dean Webb  
 Veterans Affairs Officer ..... Robert Teehan

**Student Media:**

Director of University Marketing Media  
 and Student Media ..... Rita Abent  
 Manager, Student Media ..... Cecilia Wright

**University Relations Division****Alumni Relations and University Development:**

Director ..... Jack Slater  
 Alumni Relations:  
 Associate Director ..... Pat Moran  
 Assistant Director ..... Carole Lick  
 Development:  
 Associate Director ..... Vacant  
 Coordinator of Planned Giving ..... Gregory Schupra  
 Coordinator of Annual Giving ..... Beverly Farley  
 Coordinator of Endowed  
 Scholarships ..... Mary Ann Dingeman  
 University Relations Records and Research:  
 Coordinator ..... Linda Radke  
 Assistant Secretary to the  
 Board of Regents ..... Melonie Colaianne

**Center for Entrepreneurship:**

Director ..... Patricia Weber

**Corporate Education Center:**

Director ..... Alexandra Aldridge

**Huron Golf Club:**

Director ..... Thomas Pendlebury

**Intercollegiate Athletics:**

Athletic Director ..... Eugene Smith  
 Associate Director ..... John Nordlinger  
 Assistant Director ..... Lucy Parker  
 Business Manager ..... William Turowski  
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Director ..... Arthur J. Timko  
 News and Public Affairs Manager ..... Clark Smith  
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Ph.D., Virginia Polytechnic Institute
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M.A.L.S., University of Michigan
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Ph.D., Duke University
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Ed.D., Oklahoma State University
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Ph.D., Florida State University
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Ph.D., University of Michigan
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Ph.D., Wayne State University
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M.S., Eastern Michigan University
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Ph.D., Northwestern University
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Ph.D., Wayne State University
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Ph.D., University of Pennsylvania
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Ph.D., Michigan State University
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Ph.D., University of Michigan
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D.Ed., Pennsylvania State University
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Ed.D., Wayne State University
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Ph.D., University of Denver
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Ph.D., University of Michigan
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M.H.A., University of Michigan
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Ph.D., University of Michigan
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Ph.D., University of Florida
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Ph.D., University of Michigan
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- Van Sycle, Larry** (1986), Assistant Professor, Accounting and Finance.  
D.B.A., University of Kentucky
- Van Volkinburg, John** (1980), Assistant Director, Food Service.
- Van Voorhees, Florence E.** (1979), Associate Professor, Special Education.  
Ph.D., University of Michigan
- Venis, Ronald M.** (1966), Assistant Professor, Health, Physical Education, Recreation and Dance; Athletic Trainer, Athletics.  
M.S., Indiana University
- Vernon, Daniel R.** (1985), Coordinator, Computer Literacy Project.  
Ph.D., University of Michigan
- Vick, James** (1973), Director, Career Services Center.  
M.A., Eastern Michigan University

- Victor, David A.** (1985), Assistant Professor, Management.  
Ph.D., University of Michigan
- Victor, Gary M.** (1974), Associate Professor, Business and Industrial Education.  
J.D., University of Toledo
- Vidas, Jerry** (1982), Pharmacy Supervisor, Health Services.  
M.S., University of Iowa
- Vielhaber, Mary E.** (1977), Associate Professor, Management.  
Ph.D., University of Michigan
- Vinyard, Jo Ellen** (1986), Professor, History and Philosophy.  
Ph.D., University of Michigan
- Voght, Geoffrey M.** (1971), Professor, Foreign Languages and Bilingual Studies.  
Ph.D., University of Michigan
- Vogt, Michael** (1978), Associate Professor, Economics.  
Ph.D., University of Wisconsin
- Volz, Paul A.** (1969), Professor, Biology.  
Ph.D., Michigan State University
- ## W
- Waffle, Elizabeth L.** (1968), Associate Professor, Biology.  
Ph.D., Iowa State University
- Wahi, Kishor N.** (1967), Professor, Teacher Education.  
Ph.D., University of Michigan
- Waidley, John W.** (1968), Professor, Leadership and Counseling.  
Ed.D., New York University
- Wainscott, V. Jean** (1985), Assistant Professor, Biology.  
Ph.D., University of Oklahoma
- Waksler, Rachelle I.** (1986), Assistant Professor, English Language and Literature.  
Ph.D., Harvard University
- Walker, Alida** (1985), Budget Manager, University Planning, Budgeting and Analysis.
- Walker, Ann** (1983), Programmer/Analyst, University Computing.  
B.A., University of Windsor
- Walker, Glenn K.** (1976), Professor, Biology.  
Ph.D., University of Maryland
- Wallace, Dale C.** (1969), Professor, Biology.  
Ph.D., Cornell University
- Walter, James R.** (1964), Assistant Professor, Mathematics.  
Ph.D., Wayne State University
- Waltman, John L.** (1985), Associate Professor, Management.  
Ph.D., University of Texas
- Waltz, Daniel B.** (1985), Programmer/Analyst, University Computing.  
B.B.A., Eastern Michigan University
- Waltz, James C.** (1968), Acting Department Head, Professor, History and Philosophy.  
Ph.D., Michigan State University
- Ward, Robert M.** (1969), Professor, Geography and Geology.  
Ph.D., University of Michigan
- Warren, Bette** (1984), Assistant Professor, Mathematics.  
Ph.D., Indiana University
- Warren, Bruce L.** (1969), Director, Institute for the Study of Children and Families; Professor, Sociology.  
Ph.D., University of Michigan
- Warren, Douglas E., MAJ, USA** (1985), Assistant Professor, Military Science.  
B.S., United States Military Academy
- Washington, Richard E.** (1970), Associate Professor, Art.  
M.A., Eastern Michigan University
- Wasik, Caludia B.** (1965), Associate Professor, Health, Physical Education, Recreation and Dance; Head Women's Tennis Coach, Athletics.  
M.S., Eastern Michigan University
- Wasserman, Ira M.** (1969), Professor, Sociology.  
Ph.D., University of Michigan
- Watson, Katherine** (1986), Assistant Professor, Nursing Education.  
M.S.N., University of Michigan
- Watts, Leroy W.** (1969), Associate Professor, Social Work.  
M.S.W., University of Iowa
- Webb, Margaret J.** (1967), Assistant Professor, English Language and Literature.  
Ph.D., University of Illinois
- Webb, Paul Dean** (1983), Director, Foreign Student Affairs.  
M.T., North Park Theological Seminary
- Weher, Patricia** (1981), Director, Center for Entrepreneurship; Associate Professor, Marketing.  
D.B.A., Indiana University
- Weeks, C. Wayne** (1978), Associate Professor, Accounting and Finance.  
D.B.A., Kent State University
- Weeks, John A.** (1968), Associate Professor, Industrial Technology.  
Ph.D., University of Michigan
- Weiser, Jerome A.** (1967), Professor, Teacher Education.  
Ed.D., Wayne State University
- Welber, Joel S.** (1984), Assistant Professor, Marketing.  
J.D., Wayne State University
- Welch, Bethann** (1974), User Consultant, University Computing.
- Wersching, Jean M.** (1986), Manager of Applications and Systems Delivery, University Computing.  
M.B.A., University of Detroit
- West, Bruce D.** (1969), Associate Professor, Chemistry.  
Ph.D., University of Wisconsin
- Westerman, W. Scott, Jr.** (1971), Dean, College of Education; Professor, Teacher Education.  
Ph.D., University of Michigan
- Westland, J. Christopher** (1985), Assistant Professor, Accounting and Finance.  
D.B.A., Indiana University
- Westman, Alida S.** (1972), Professor, Psychology.  
Ph.D., Cornell University
- Westrum, Ronald M.** (1972), Professor, Sociology.  
Ph.D., University of Chicago
- Wheatley, Ira M.** (1966), Interim Dean, College of Arts and Sciences; Professor, History and Philosophy.  
Ph.D., University of Iowa
- White, Bette C.** (1970), Dean of Students.  
Ph.D., Michigan State University
- White, Patrick T.** (1967), Professor, English Language and Literature.  
Ph.D., University of Michigan
- Wilbanks, Roy** (1983), Vice President for University Relations, Secretary to the Board of Regents.  
M.A., Eastern Michigan University
- Wilce, Steven** (1982), Head Coach, Women's Gymnastics, Athletics.  
B.S., Eastern Kentucky University
- Wiley, Jacqueline** (1978), Employment Manager, Human Resources.  
M.A., Eastern Michigan University
- Wilkinson, Helen M.** (1969), Assistant Professor, Learning Resources and Technologies.  
M.A., Eastern Michigan University
- Willets, Stanley C.** (1966), Director, Internal Audit.  
B.A., Great Lakes College
- Williams, Patricia** (1979), Professor, Art.  
M.F.A., Indiana University
- Williams, Patricia L.** (1979), Academic Adviser, Academic Advising Center.  
M.A., Eastern Michigan University
- Williams, Robert** (1985), Assistant Football Coach, Athletics.  
B.S., Purdue University
- Williams, Robert J.** (1966), Department Head, Professor, Marketing.  
Ph.D., Cornell University
- Williams, Roger L.** (1968), Professor, Health, Physical Education, Recreation and Dance.  
Ed.D., University of Missouri
- Williams, Sandra** (1985), Associate Executive Director, Auxiliary Enterprises.  
M.B.A., Wayne State University
- Williams, Warren S.** (1969), Professor, Teacher Education.  
Ed.D., University of Rochester
- Williams, Wayne E.** (1986), Assistant Professor, Health, Physical Education, Recreation and Dance.  
Ph.D., Texas A&M University
- Williamson, Jerry R.** (1967), Associate Professor, Chemistry.  
Ph.D., University of Iowa
- Williston, Judith C.** (1971), Associate Professor, Human, Environmental and Consumer Resources.  
Ph.D., University of Michigan
- Willoughby, Robert J.** (1956), Professor, Health, Physical Education, Recreation and Dance.  
M.A., University of Michigan
- Wilson, Herbert H.** (1966), Associate Professor, Business and Industrial Education.  
M.A., West Virginia University
- Wimmer, Vega** (1979), Assistant Professor, Special Education.  
M.A., Wayne State University
- Wingo, Rosetta F.** (1968), Professor, Business and Industrial Education.  
Ph.D., Michigan State University

## Z

- Witten, Charles X.** (1969), Professor, Health, Physical Education, Recreation, and Dance.  
Ph.D., Ohio State University
- Witten, Winifred** (1979), Associate Professor, Health, Physical Education, Recreation and Dance.  
M.S., Eastern Michigan University
- Wittke, Reinhard** (1956), Professor, History and Philosophy.  
Ph.D., University of Michigan
- Wixom, Charlotte K.** (1954), Assistant Professor, Health, Physical Education, Recreation and Dance.  
M.A., Michigan State University
- Woodland, Bill M.** (1981), Associate Professor, Economics.  
Ph.D., Purdue University
- Woodland, Linda M.** (1982), Associate Professor, Operations Research and Information Systems.  
M.S., Purdue University
- Woods, Ronald C.** (1978), Director, Assistant Professor, Afro-American Studies.  
J.D., University of Michigan
- Woodward, M. Patricia** (1986), Nurse Practitioner, Health Services.
- Wooley, Jon K.** (1967), Professor, Physics and Astronomy.  
Ph.D., University of Michigan
- Work, Stewart D.** (1964), Professor, Chemistry.  
Ph.D., Duke University
- Woronoff, Israel** (1956), Professor, Teacher Education.  
Ph.D., University of Michigan
- Wright, Cecilia M.** (1987), Manager, Student Media.  
B.A., Eastern Michigan University
- Wright, Eleanor** (1979), Associate Professor, English Language and Literature.  
M.S., Northwestern University
- Wright, Richard** (1972), Assistant Professor, English Language and Literature.  
M.A., University of Detroit
- Wu, Nesa L.J.** (1974), Professor, Operations Research and Information Systems.  
Ph.D., Purdue University
- Zabawa, Paul L.** (1966), Associate Director, Academic Records and Certification.  
Ed.S., Eastern Michigan University
- Zahratka, Michael** (1966), Professor, Art.  
M.F.A., Syracuse University
- Zandamela, Rogerio** (1986), Assistant Professor, Economics.  
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
- Zirk, Williard D.** (1981), Assistant Professor, Music.  
M.M., Catholic University of America
- Zylstra, Bruce** (1982), Assistant Head Football Coach, Athletics.  
M.A., Western Michigan University

## Y

- Yager, Jay R.** (1968), Professor, Art.  
M.F.A., University of Wisconsin
- Yahrmatter, Arthur J.** (1968), Associate Professor, Communication and Theatre Arts.  
Ph.D., Southern Illinois University
- Yamamoto, Mary** (1986), Instructor, Associated Health Professions.  
M.S., San Jose State University
- Yamauchi, Masanobu** (1965), Professor, Chemistry.  
Ph.D., University of Michigan
- Yeakle, Myrna A.** (1965), Professor, Health, Physical Education, Recreation and Dance.  
Ph.D., Ohio State University
- Yee, Sandra G.** (1982), Assistant Dean, Learning Resources and Technologies.  
Ed.D., University of Michigan
- Yorke, Mary F.** (1982), Instructor, Mathematics.  
M.S., Kansas State University
- Yost, Mary Ida** (1968), Professor, Music.  
A.Mus.D., University of Michigan
- Young, Kenneth C.** (1974), Associate Professor, Operations Research and Information Systems.  
Ph.D., Purdue University
- Young, Phyllis A.** (1972), Assistant Professor, Human, Environmental and Consumer Resources.  
M.A., Eastern Michigan University
- Youssef, Zakhour I.** (1965), Professor, Psychology.  
Ph.D., Wayne State University
- Yu, Shih-An** (1967), Professor, Biology.  
Ph.D., University of New Hampshire

## Emeritus Faculty

## A

- Albritton, Thelma**, B.A., M.A., M.Ed. (1961-84)  
Associate Professor Emeritus, Special Education
- Anderson, Carl R.**, A.B., A.M., L.I.D., Sc.D. (Hon) (1947-68)  
Associate Professor Emeritus, History; Vice President, Public Affairs
- Anderson, Charles T.**, A.B., Ph.D. (1955-86)  
Professor Emeritus, Chemistry
- Anderson, Normajean I.**, A.M., B.S., B.C.S. (1948-79)  
Associate Professor Emeritus, Administrative Services and Business Education
- Anderson, Robert L.**, B.A., M.A., Ph.D. (1957-85)  
Professor Emeritus, Psychology
- Andrews, Naomi**, B.A., M.A. (1968-83)  
Professor Emeritus, English Language and Literature
- Ashton, Charles R.**, A.B., M.B.A. (1964-80)  
Associate Professor Emeritus, Marketing

## B

- Ballew, M. Esther**, A.B., A.M. (1923-49)  
Associate Professor Emeritus, English Language and Literature
- Belcher, Robert O.**, B.A., M.S., Ph.D. (1946-80)  
Professor Emeritus, Biology
- Bell, Margaret E.**, B.S., M.S. (1968-85)  
Assistant Professor Emeritus, Health, Physical Education, Recreation and Dance
- Bell, Mary I.**, B.S., M.A. (1949-83)  
Associate Professor Emeritus, Health, Physical Education, Recreation and Dance
- Bensen, Alice R.**, A.B., M.A., Ph.D. (1947-76)  
Professor Emeritus, English Language and Literature
- Berry, Leona P.**, A.B., M.S., M.A.L.S. (1957-81)  
Associate Professor Emeritus, Learning Resources and Technologies
- Bilsky, Manuel**, B.A., M.A., Ph.D. (1960-80)  
Professor Emeritus, History and Philosophy
- Birleson, Clifford**, B.A., M.A. (1951-80)  
Associate Professor Emeritus, Curriculum and Instruction
- Borusch, Barbara**, B.S., A.M., Ph.D. (1950-79)  
Professor Emeritus, Curriculum and Instruction
- Boughner, Ruth L.**, B.S., M.S. (1923-52)  
Associate Professor Emeritus, Physical Education
- Breedlove, Charles B.**, B.S., M.S., Ed.D. (1964-77)  
Professor Emeritus, Physics and Astronomy
- Brower, George**, B.S., M.A., Ph.D. (1954-83)  
Professor Emeritus, Educational Leadership
- Brown, Donald F.**, B.A., M.S., Ph.D. (1956-83)  
Professor Emeritus, Biology
- Brown, Leland**, A.B., M.A., Ph.D. (1964-83)  
Professor Emeritus, Management
- Brownrigg, William J.**, B.S., A.M. (1932-64)  
Director Emeritus, Academic Advising
- Bryan, William C.**, B.S., M.B.A. (1954-74)  
Associate Professor Emeritus, Business and Finance

## C

- Calkins, Kingsley**, B.S., M.A. (1950-79)  
Professor Emeritus, Department Head, Art
- Caputo, George E.**, B.S., M.Ed. (1965-85)  
Assistant Professor Emeritus, Special Education
- Carr, Marvin S.**, A.B., B.S.E., Ph.D. (1949-65)  
Professor Emeritus, Chemistry
- Collins, W. Oscar**, B.S., M.Ed., Ed.D. (1957-79)  
Professor Emeritus, Accounting and Finance
- Cooper, Virginia A.**, B.A., M.A. (1946-75)  
Associate Professor Emeritus, English Language and Literature
- Curtis, Martha E.**, A.B., A.M., Ph.D. (1936-61)  
Professor Emeritus, Natural Sciences

## D

- Dart, Jane M.**, B.F.A., M.A. (1942-78)  
Associate Professor Emeritus, Art
- DeVries, Harry**, A.B., M.A., Ph.D. (1946-69)  
Professor Emeritus, History and Social Sciences
- Disbrow, Donald W.**, A.B., Ph.D. (1956-79)  
Professor Emeritus, History and Philosophy
- Dornbos, Sanford J.**, A.B., M.A. (1963-86)  
Professor Emeritus, Health, Physical Education, Recreation and Dance
- Drake, Raymond**, B.S., M.B.A. (1965-82)  
Associate Professor Emeritus, Marketing
- Duncan, Charles H.**, Ed.D., Ph.D. (1965-84)  
Professor Emeritus, Business and Industrial Education
- Duvall, Elven E.**, B.A., M.A., Ed.D. (1968-79)  
Professor Emeritus, Educational Leadership

## E

- Early, Madeline**, B.A., M.A., Ph.D. (1956-75)  
Professor Emeritus, Mathematics
- Erickson, Walfred E.**, B.Ed., B.S., M.A., Ph.D. (1952-70)  
Professor Emeritus, Head, Library
- Erikson, Edith A.**, A.B., B.S., A.M. (1946-67)  
Associate Professor Emeritus, Business

## F

- Fenwick, Ruth G.**, B.S.M., M.A. (1952-74)  
Associate Professor Emeritus, Music
- Fielder, Anita L.**, B.Ed., M.S. (1955-80)  
Professor Emeritus, Home Economics
- Fitch, William D.**, B.S., M.S., Ph.D. (1944-76)  
Professor Emeritus, Music
- Foster, Milton P.**, A.B., M.A., Ph.D. (1947-86)  
Professor Emeritus, English Language and Literature
- French, Sophie L.**, A.B., M.A. (1948-76)  
Assistant Professor Emeritus, Special Education

## G

- Galetti, Jeannine M.**, B.S., M.A. (1952-85)  
Associate Professor Emeritus, Health, Physical Education, Recreation and Dance
- Gaston, Hugh P.**, A.B., M.S. (1963-81)  
Assistant Professor Emeritus, Guidance and Counseling
- Gesler, Ralph A.**, B.S., M.A. (1952-74)  
Associate Director Emeritus, Field Services
- Gessert, Walter L.**, B.S., M.S., Ph.D. (1961-86)  
Professor Emeritus, Physics and Astronomy
- Gex, R. Stanley**, B.S., M.A., Ed.D. (1954-77)  
Dean Emeritus, College of Education; Professor Emeritus, Teacher Education
- Gibson, Eugene M.**, B.A., M.A., Ph.D. (1956-81)  
Professor Emeritus, Foreign Languages
- Gibson, Sibylla A.**, B.A., M.A., M.A.L.S. (1958-82)  
Assistant Professor Emeritus, Learning Resources and Technologies
- Gilden, Ralph F.**, B.S., M.A. (1942-82)  
Dean Emeritus, Student Activities and Admissions; Associate Professor Emeritus, Industrial Education
- Giles, Richard A.**, B.S., M.S., Ph.D. (1947-74)  
Professor Emeritus, Department Head, Biology
- Glasgow, James H.**, B.Ed., M.A., Ph.D. (1939-70)  
Dean Emeritus, Graduate School; Professor Emeritus, Department Head, Geography and Geology
- Godfrey, Elaine**, B.S., M.A. (1962-83)  
Associate Professor Emeritus, Art
- Goings, Edmond W.**, A.B., M.S. (1946-76)  
Professor Emeritus, Mathematics, Instructional Computer Service
- Goldsmith, William E.**, B.A., M.A., Ed.D. (1962-83)  
Assistant Professor Emeritus, Teacher Education
- Gray, Ruth A.**, A.B.E.P., M.L.S. (1966-84)  
Assistant Professor Emeritus, Learning Resources and Technologies
- Green, Edward**, A.B., A.M., Ph.D. (1963-86)  
Professor Emeritus, Sociology



## H

- Harris, Augusta**, B.S., M.A. (1928-69)  
Professor Emeritus, Health, Physical Education, Recreation and Dance
- Hebert, Catherine**, A.B., M.A., Ph.D. (1947-83)  
Professor Emeritus, English Language and Literature
- Hester, Kathleen B.**, B.S., M.A., Ph.D., Lit.D. (Hon) (1945-70)  
Professor Emeritus, Education
- Hill, Helen**, B.A., M.A. (1963-83)  
Professor Emeritus, English Language and Literature
- Hill, Susan B.**, B.S., M.A. (1939-69)  
Dean Emeritus, Students
- Hislop, Robert I.**, L.L.B., L.L.M., Ph.D. (1970-81)  
Professor Emeritus, Marketing and Law
- Holtman, Eugene A.**, A.B., A.B.L.S., A.M.L.S. (1967-82)  
Associate Professor Emeritus, Learning Resources and Technologies
- Hoover, Neal F.**, A.B., M.A. (1953-79)  
Assistant Professor Emeritus, Education; Assistant Dean, Graduate School
- Howe, Marvin C.**, B.M., B.Sch.Mus., M.S., M.F.A., Ph.D. (1966-80)  
Professor Emeritus, Music
- Hubbell, Paul E.**, A.B., A.M., Ph.D. (1923-58)  
Professor Emeritus, History

## I

- Ikehara, Hide**, B.A., A.M.L.S., A.M., Ph.D. (1963-84)  
Associate Professor Emeritus, Learning Resources and Technologies

## J

- Johnson, Fred T.**, A.B., Ph.D. (1967-84)  
Professor Emeritus, Physics and Astronomy
- Jones, Hebert**, B.S., M.S., Ed.D. (1964-86)  
Associate Professor Emeritus, Teacher Education
- Jones, Vernon H.**, B.Ed., M.A. (1952-78)  
Associate Professor Emeritus, Pre-Student Teaching
- Jordan, Hoover H.**, B.A., M.A., Ph.D., Ed.D. (Hon) (1939-76)  
Professor Emeritus, English Language and Literature

## K

- Kallenbach, Jessamine**, B.A., M.A., M.A.L.S. (1962-83)  
Professor Emeritus, Learning Resources and Technologies
- Kilanski, Doris M.**, B.A., M.A., Sp.A., Ph.D. (1970-82)  
Associate Professor Emeritus, Educational Leadership
- Kloosterman, Winton A.**, B.A., M.A., Ed.D. (1962-83)  
Professor Emeritus, Educational Leadership
- Koste, Virginia**, B.A., M.A. (1962-86)  
Professor Emeritus, Communication and Theatre Arts
- Krebs, Robert**, B.S., M.A., Ed.D. (1968-86)  
Professor Emeritus, Teacher Education

## L

- LaBounty, 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
- Lanning, Dorothy**, B.S., M.F.A. (1947-76)  
Professor Emeritus, Art
- Langman, Muriel**, A.B., A.M., Ph.D. (1950-72)  
Professor Emeritus, Curriculum and Instruction
- Lansing, Marjorie J.**, B.A., M.A., Ph.D. (1968-86)  
Professor Emeritus, Political Science
- Larsen, Delmar**, B.A., M.A. (1964-84)  
Professor Emeritus, Business and Industrial Education
- Leatherman, Roger L.**, B.A., M.A., Ph.D. (1963-80)  
Professor Emeritus, Social Foundations

## M

- MacDonald, Alister**, B.A., M.A. (1948-78)  
Associate Professor Emeritus, Curriculum and Instruction
- Magoon, Donald W.**, B.S., M.E., M.S., M.B.A. (1965-80)  
Associate Professor Emeritus, Management
- Marshall, Albert P.**, A.B., B.L.S., M.A. (1969-80)  
Professor Emeritus, Learning Resources and Technologies
- Marshall, Everett L.**, B.Ed., M.A., Ph.D., L.H.D. (Hon) (1938-79)  
Professor Emeritus, Education; Dean Emeritus, Academic Records and Certification
- Maxfield, Grace K.**, A.B., B.S.L.S. (1958-78)  
Associate Professor Emeritus, Learning Resources and Technologies
- May, George S.**, A.B., A.M., Ph.D. (1966-86)  
Professor Emeritus, History and Philosophy
- McCalla, Helen** (1922-71)  
Controller Emeritus
- McCarthy, Mary**, B.A., S.C.T., M.A. (1959-83)  
Associate Professor Emeritus, Economics
- McDaniel, Thelma**, B.F.A., M.A. (1964-86)  
Professor Emeritus, Communication and Theatre Arts
- McHugh, Frank**, A.B., M.A. (1958-85)  
Professor Emeritus, English Language and Literature
- McWilliams, Robert**, A.B., M.P.A., Ph.D. (1956-86)  
Professor Emeritus, Political Science
- Menzi, Elizabeth A.**, B.A., M.A., Ph.D. (1964-86)  
Professor Emeritus, Health, Physical Education, Recreation and Dance
- Metler, John**, B.A., B.D., M.A., Ed.D. (1964-86)  
Professor Emeritus, Teacher Education
- Monahan, Thomas**, B.A., M.A., Ed.D. (1953-83)  
Professor Emeritus, Teacher Education
- Moore, Noel S.**, B.A., M.A., Ed.D. (1965-84)  
Associate Professor Emeritus, Teacher Education
- Myers, Allen**, B.M., M.M., M.A., Ph.D. (1958-77)  
Dean Emeritus, College of Education; Professor Emeritus, Special Education

## N

- Nelson, Alfred**, A.B., A.M., Ph.D. (1965-84)  
Professor Emeritus, English Language and Literature
- Nelson, Bruce K.**, B.A., M.A., Ph.D. (1956-81)  
Professor Emeritus, Educational Leadership; Vice President Emeritus, Instruction
- Nelson, Herbert L.**, B.S., M.A. (1965-80)  
Assistant Professor Emeritus, Industrial Education and Technology

## O

- O'Connor, M. Ethel**, B.S., A.M. (1932-64)  
Associate Professor Emeritus, Teacher Education; Supervising Teacher, Elementary
- Oltmanns, Richard G.**, B.S., M.A., M.S. (1956-86)  
Associate Professor Emeritus, Learning Resources and Technologies
- Osadchuk, Mitchell M.**, B.A., M.M. (1956-80)  
Associate Professor Emeritus, Music
- Osborn, Carroll A.**, B.A., B.S., M.A. (1955-81)  
Professor Emeritus, Industrial Education

## P

- Palmer, David E.**, B.A., M.A. (1952-83)  
Associate Professor Emeritus, Special Education
- Parsons, Karl A.**, A.B., M.S. (1950-77)  
Professor Emeritus, Physics and Astronomy
- Pearson, Ross N.**, B.Ed., M.S., Ph.D. (1947-82)  
Professor Emeritus, Geography and Geology
- Perkins, Agnes R.**, B.A., M.A. (1965-86)  
Professor Emeritus, English Language and Literature
- Peterson, Ralph G.**, B.S., M.A. (1946-74)  
Associate Professor Emeritus, Curriculum and Instruction
- Porretta, Louis**, B.A., M.Ed., Ed.D. (1959-83)  
Professor Emeritus, Teacher Education

**Pottel, Edward E.**, A.B., A.M., Ph.D. (1950-81)  
Professor Emeritus, English Language and Literature

**Pyle, Hershhal O.**, B.M., M.A. (1945-78)  
Professor Emeritus, Music

## Q

**Quayle, Robert G.**, B.S., M.M. (1964-84)  
Associate Professor Emeritus, Music

## R

**Riley, Maurice W.**, A.B., M.A., M.M., Ph.D. (1947-77)  
Professor Emeritus, Music

**Risk, Norman W.**, B.S., M.A. (1949-74)  
Professor Emeritus, Industrial Education

**Robbins, Omer E., Jr.**, B.S., M.S., Ph.D. (1961-81)  
Dean Emeritus, Graduate School; Professor Emeritus, Chemistry

**Robinson, Julius M.**, B.S., M.A., Ed.D. (1947-72)  
Dean Emeritus, Summer and Evening Sessions; Professor Emeritus, Business Studies

**Rogers, Agnes L.**, B.A., M.A., M.S. (1955-72)  
Associate Professor Emeritus, Special Education and Occupational Therapy

**Roser, Gertrude**, B.A., A.M. (1926-61)  
Assistant Professor Emeritus, Special Education; Principal, Rackham School of Special Education

**Ross, Frank E.**, B.S., M.A. (1966-84)  
Professor Emeritus, English Language and Literature

**Rossiter, Margaret L.**, A.B., M.A., Ph.D. (1965-80)  
Professor Emeritus, History and Philosophy

**Roth, Earl A.**, B.S., A.M., Ed.D. (1954-78)  
Dean Emeritus, College of Business; Professor Emeritus, Marketing

**Rudin, Helen B.**, B.S., M.A. (1947-71)  
Counselor Emeritus, Counseling Center

## S

**Sattler, John W.**, B.A., M.A., Ph.D. (1947-74)  
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