Bulletin - Western Michigan University: The Undergraduate Catalog 1973-1974

Western Michigan University

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WESTERN MICHIGAN UNIVERSITY is located in Kalamazoo, midway between Chicago and Detroit. Three major highways and numerous bus routes connect the city with other midwestern cities. The population of Kalamazoo is 85,555 and of Kalamazoo County is 201,000.

DIRECTIONS FOR CORRESPONDENCE

Director of Admissions
   Admissions, University Literature, Credit Acceptance

Controller
   Business and Financial Arrangements

Dean of the College of Applied Sciences
   Matters Relating to Vocational Education

Dean of the College of Arts and Sciences

Dean of the College of Business

Dean of the College of Education

Dean of the College of Fine Arts

Dean of the College of General Studies

Dean of The Graduate College

Director of Housing

Director of Counseling

Dean of Continuing Education
   Adult Education, In-Service Courses and Credits, Consultative Services to Schools, Speakers for Special Occasions

Director of Career Planning and Placement
   Teacher Placement, Business and Industrial Placement

Director of Records
   Credits, Provisional and Permanent Certification, Transcripts, Records

Director of Registration
   Registration, Course Time Schedules, Space Allocation

Director of Honors
   Honors Program

Office of Financial Aid
   Scholarships, Loans and Part-time Employment
In all of its relationships the University prohibits any discrimination on the basis of race, religion, sex or national origin.

The text paper used in this catalog contains 30 percent post consumer use recycled waste.
Copies of the complete Western Michigan University Undergraduate Catalog are available for examination at most high schools, libraries, other State universities, community colleges and State government offices. Each entering student, freshman or transfer, is entitled to one copy without charge. Additional copies are available at Western's Campus Bookstore at $1 each.
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Western Michigan University

Founded: 1903
President: James W. Miller, Ph.D., LL.D., D.Hum., L.H.D.
State Supported, Co-educational

Colleges:
- Applied Sciences
- Arts and Sciences
  - School of Social Work
- Business
- Education
- Fine Arts
- General Studies
- The Graduate College
- School of Librarianship

Governing Body:
Under the Michigan Constitution of 1963, Western Michigan University has Constitutional status with its own Board of Trustees, appointed by the Governor.

Educational Goals:
To develop in each student the ability to think objectively and critically, so that he may be capable of assessing the validity of the information with which he is confronted and his own response to his environment; to introduce him to the world in which the educated and responsible citizen must live; to provide him with a foundation for tenable values; to provide each student with sufficient knowledge in a discipline, or a group of related disciplines, so that he will have an understanding of its methodology, some initial competence in the field and an appreciation of the vastness of the knowledge still to be explored.

Academic Year: 1973-74
- Fall Semester—September 4 - December 19
- Winter Semester—January 7 - April 27
- Spring Session—May 6 - June 26
- Summer Session—July 2 - August 23
  (Two sessions equal to one semester)
### 1973

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### 1974

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<tr>
<td>September 1, Saturday</td>
<td>Final Registration</td>
<td></td>
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<tr>
<td>September 4, Tuesday</td>
<td>Classes Begin</td>
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<tr>
<td>October 19, Friday</td>
<td>Classes Dismissed at 2 p.m.</td>
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<tr>
<td>October 20, Saturday</td>
<td>Homecoming</td>
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<tr>
<td>November 21, Wednesday</td>
<td>Thanksgiving Recess (12 Noon)</td>
<td></td>
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<tr>
<td>November 26, Monday</td>
<td>Classes Resume</td>
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<tr>
<td>December 19, Wednesday</td>
<td>Semester Ends</td>
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<tr>
<td>December 19, Wednesday</td>
<td>Commencement (7 p.m.)</td>
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<tr>
<td>January 5, Saturday</td>
<td>Final Registration</td>
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<tr>
<td>January 7, Monday</td>
<td>Classes Begin</td>
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<tr>
<td>March 4, Monday</td>
<td>Semester Recess</td>
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<td>March 11, Monday</td>
<td>Classes Resume</td>
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<tr>
<td>April 12, Friday</td>
<td>Good Friday Recess (12 Noon)</td>
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<tr>
<td>April 27, Saturday</td>
<td>Semester Ends</td>
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<td>April 27, Saturday</td>
<td>Commencement (2 p.m.)</td>
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<tr>
<td>May 4, Saturday</td>
<td>Final Registration</td>
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<tr>
<td>May 6, Monday</td>
<td>Classes Begin</td>
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<tr>
<td>May 27, Monday</td>
<td>Memorial Day Recess</td>
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<tr>
<td>June 26, Wednesday</td>
<td>Session Ends</td>
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<td>July 1, Monday</td>
<td>Registration, All Students</td>
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<td>July 2, Tuesday</td>
<td>Classes Begin</td>
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<td>July 4, Thursday</td>
<td>Independence Day Recess</td>
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<td>August 23, Friday</td>
<td>Session Ends</td>
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<tr>
<td>August 23, Friday</td>
<td>Commencement (6 p.m.)</td>
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BOARD OF TRUSTEES

Dr. Julius Franks, Jr., Grand Rapids
Philip N. Watterson, Cascade
Mildred Swanson Johnson, Muskegon
Robert D. Caine, Hickory Corners
Fred W. Adams, Grosse Pointe
Charles H. Ludlow, Kalamazoo
John R. Dykema, Grosse Pointe Farms
Maury E. Parfet, Hickory Corners
James W. Miller

Term Expires
December 31, 1974
December 31, 1974
December 31, 1976
December 31, 1976
December 31, 1978
December 31, 1978
December 31, 1980
December 31, 1980
Ex Officio

Fred W. Adams, Chairman
Philip N. Watterson, Vice Chairman
Robert W. Hannah, Secretary
Robert B. Wetnight, Treasurer
Administrative Officers

President  . James W. Miller, Ph.D., LL.D., D.Hum., L.H.D.
Vice President for Academic Affairs
                       . Stephen R. Mitchell, Ph.D.
Assoc. Vice President for Academic Affairs
                       . Philip Denenfeld, Ph.D.
Vice President for Finance
Vice President for Institutional Services
                       . Myron L. Coulter, Ed.D.
Vice President for Student Services  . Thomas E. Coyne, M.A.
Dean, College of Applied Sciences  . W. Chester Fitch, Ph.D.
Dean, College of Arts and Sciences  . Cornelius Loew, Ph.D.
Dean, College of Business  . Arnold E. Schneider, Ph.D.
Dean, Continuing Education  . Leo C. Stine, Ph.D.
Dean, College of Education  . John E. Sandberg, Ed.D.
Dean, College of Fine Arts  . Robert Holmes, Ph.D.
Dean, College of General Studies
                       . Norman C. Greenberg, Ph.D.
Dean, The Graduate College  . George G. Mallinson, Ph.D.
Dean, Admissions and Records  . Clayton J. Maus, M.S.
Dean of Students  . Marie L. Stevens, M.A.
Controller  . Robert Beecher, J.D.
Administrative Groups

THE FACULTY SENATE

The Senate is composed of members elected by the faculty to represent the departments of the University and the University at large and others appointed by the President. It meets each month to promote the common interests of the University and to give the faculty a share in the determination of institutional policy.

Officers for 1972-73:

Samuel I. Clark  
Stanley S. Robin  
Mary C. Brown  
Ada E. Berkey  
Nita H. Hardie

UNIVERSITY COUNCILS

The University Councils are composed of members elected by the Faculty Senate for three-year terms and certain ex officio members. The terms of elected members expire in September of the year indicated.

EDUCATIONAL POLICIES COUNCIL

Ex Officio

*Russell H. Seibert
*Stephen R. Mitchell, Chairman
Norman C. Greenberg, Dean
Robert Holmes, Dean
W. Chester Fitch, Dean
Cornelius Loew, Dean
George G. Mallinson, Dean
John E. Sandberg, Dean
Arnold E. Schneider, Dean
Carl Sachtleben, Director of Libraries

Elected

Donald P. Bullock 1973
Ollin J. Drennan 1973
Robert L. Stallman 1973
James A. Jaksa 1974
Gale E. Newell 1974
Larry Oppliger 1974
William S. Bennett 1975
Mary A. Cain 1975
Dean R. Tyndall 1975
Students: Pat Cayemberg  
Joanne Ernst  
Kathy Repinski

GRADUATE STUDIES COUNCIL

**Ex Officio**
- W. Chester Fitch, Dean
- Cornelius Loew
- George G. Mallinson, Chairman
- John E. Sandberg
- Arnold E. Schneider
- *Russell H. Seibert
- *Stephen R. Mitchell, Vice President

**Elected**
- Frederick P. Gault 1973
- Peter Schmitt 1973
- Betty Taylor 1973
- John T. Burke 1974
- Stanley S. Robin 1974
- John H. Stroupe 1974
- T. D. Argyropoulos 1975
- Laurel A. Grotzinger 1975
- David R. Taylor 1975

**Students:** Burrell Berry
- John Davis
- Lou Steinberg

RESEARCH POLICIES COUNCIL

**Ex Officio**
- George G. Mallinson, Dean
- Einard S. Haniuk, Director, Research Services
- *Russell H. Seibert
- Stephen R. Mitchell, Vice President

**Elected**
- John R. Rizzo, Chairman 1973
- Uldis Smidchens 1973
- **Charles Risher 1973
- Howard E. Farris 1974
- Cora E. Marrett 1974
- Werner Sichel 1974
- Russell M. Goldfarb 1975
- Robert E. Shamu 1975
- David A. Sheldon 1975

**Students:** Thomas J. Umlauf
- Gary Rochau

STUDENT SERVICES COUNCIL

**Staff**
- Charles Donnelly, Associate Dean of Students
- Sally Pippen, Housing Program

**Faculty**
- Robert L. Betz
- Fred Decker
- Geraldine Richardson
- Clarence N. Van Deventer

**Students**
- John Adamo 1973
- Bob Friedinger 1973
- Ron Becker 1973
- Allan Healy 1973
- Lee Hobrla 1973
- Zahid Hussain 1973
- Larry Hoxie 1973
- Doug Merkle 1973
- Fred Rohlf 1973

Administrative Groups

CAMPUS PLANNING COUNCIL

Ex Officio
Myron L. Coulter, Vice President for Institutional Services, Chairman
William J. Kowalski, Director, Campus Planning
Robert H. Williams, Director, Physical Plant
William F. Hamill, Director, Plant Extension

Elected
Henry J. Beukema 1973
Kenneth E. Dickie 1973
Beth Schultz 1973
Harold W. Boles 1974
H. Nicholas Hamner 1974
Robert F. Maher 1974
Richard A. Hatch 1975
Robert G. Humiston 1975
Charles M. Woodliff 1975

Presidential Appointees
Harold O. Bahlke, College of General Studies
Cornelius Loew, Dean, College of Arts and Sciences
Joseph J. Eisenbach, Head, Special Education

Students
Paul Hamilton
Dick Wade

CONTINUING EDUCATION COUNCIL

Ex Officio
Leo C. Stine, Dean, Chairman

Presidential Appointees
Sidney Dykstra
Russell L. Gabier
Kenneth Simon

Elected
Darrell G. Jones 1973
G. Stewart Johnson 1973
Herbert H. Hannon 1974
Lawis H. Carlson 1974
Clayton A. Holaday 1975
Robert H. Barstow 1975

THE ATHLETIC BOARD

Leo C. Vanderbeek, Chairman and Faculty Representative, Mid-American Conference
Gary Harris, Student Representative
Mark Orr, Student Representative
Al Whitlock, Student Representative

Presidential Appointees
Chauncey Brinn, Assistant to the V.P. for Academic Affairs
Clayton J. Maus, Dean of Admissions and Records
Robert B. Wetnight, Vice President for Finance
Administrative Groups

Faculty
Mary E. Burns, Social Work
Joseph C. McCully, Mathematics
Lloyd J. Schmaltz, Geology

Ex Officio
Joseph T. Hoy, Director of Athletics
Ruth Ann Meyer, Assistant Director of Athletics
Rick Markoff, Director of Alumni Relations

ACCREDITATION

In 1915 Western Michigan University was placed on the approved list of the North Central Association of Colleges and Secondary Schools. The following year it was approved by the organization which in time evolved into the present National Council for Accreditation of Teacher Education. Western's School of Librarianship is accredited by the American Library Association, its Department of Music by the National Association of Schools of Music, its Department of Occupational Therapy by the American Medical Association in collaboration with the American Occupational Therapy Association and its Department of Chemistry is accredited by the American Chemical Society. The School of Social Work is accredited by the Council on Social Work Education. The Department of Speech Pathology and Audiology is accredited by the American Boards of Examiners in Speech Pathology and Audiology. The Art Department is a member of the National Association of Schools of Art. The College of Business is accredited by the American Association of Collegiate Schools of Business.

Western Michigan University is a member of the American Association of Colleges for Teacher Education, American Council on Education, American Association of State Colleges and Universities, and is on the approved list of the American Association of University Women.
Admission

Western Michigan University admissions policy prohibits any discrimination on the basis of race, religion, sex, or national original.

Application for admission may be made to any semester or session. An acceptable secondary school or college transfer record is required for admission. College preparatory or academic subjects are given maximum weight in evaluating applications from beginning students. In addition, individual attributes and special abilities are given consideration.

The University welcomes students transferring from all educational institutions and supports this posture by granting full credit for transferable and applicable courses wherever possible. Western Michigan University is fully cognizant and supportive of the vital role which the community colleges fulfill in providing higher education to the people within the State of Michigan.

Transferring and re-entering (former) students may be admitted for any semester or session provided their records are satisfactory and evidence presented indicates that they will be academically successful.

The University recognizes the necessity for providing educational opportunities to people of all ages and levels of educational preparation. Further, University officials desire that adults in particular who are desirous of doing so, be given every opportunity possible to utilize prior education or occupational experiences which may, in some instances, be validated by a testing program. Consequently, whenever there is evidence to indicate that individuals will benefit academically and/or vocationally, these persons are encouraged to enter the University.

Admission to the University carries with it the responsibilities of meeting the standards of scholarship and conduct established by the students, faculty and administration. Therefore, admission and matriculation may be canceled for any student who does not meet these standards.

Western Michigan University recognizes the need to make provisions and adjustments in admissions standards which will enable potentially successful students from the disadvantaged, culturally deprived, or economically impoverished segments of our society to gain admission to the University, and continue those special programs which now are in existence on Western's campus.

METHODS OF ADMISSION

Students may be admitted in the following ways:

1. Admission by secondary school diploma: A graduate of an accredited high school, academy or the equivalent may be admitted upon presentation of an acceptable written record.

2. Admission by examination: A person who does not qualify for admission by certificate may be admitted by passing examinations prescribed by the University provided he meets all other requirements.

3. Admission by advanced standing: A student wishing to transfer from another accredited college, university, community or junior college, may be admitted upon presentation of an acceptable written transcript of credit showing honorable dismissal. This transcript must
be official, and mailed directly from the institution previously attended to the Director of Admissions of this University. Transferred credits will be acceptable only when they have been earned at a college which at the time the student was enrolled, was accredited by the North Central Association of Colleges and Secondary Schools, an equivalent organization or by the Michigan Commission on College Accreditation. Each transfer case is handled individually, with separate evaluation of credit.

4. Admission as an unclassified student: (a) A person who does not plan to work toward a degree or certificate may be admitted as an unclassified student if he presents evidence that he can profit by the instruction; (b) A person who holds a Bachelor's degree or a higher degree for which it is prerequisite, may be admitted to the University as an unclassified student upon presentation of credentials showing that he holds such degree or degrees. A person eighteen years of age or older who is unable to present credentials upon which regular admission can be based may be given admission as an unclassified student by the Director of Admissions. Before any unclassified student can receive a degree or certificate from this University, he must have met the requirements for admission prescribed under the other admission procedures numbered 1-3 above.

5. Admission as a guest: One who is regularly matriculated and in good standing at another college may be admitted as a guest student. The student assumes full responsibility for determining whether or not the courses he takes at this University will apply to his program of study. A guest matriculant is urged to have the courses to be taken approved in advance by the Registrar of the college or university to which the credits are to be transferred. The appropriate guest application form may be secured at the office of the Registrar at any Michigan college.

6. Readmission of former students: Former students in good standing will be admitted until such time as the University can no longer accommodate additional students. Students who have been dismissed from Western are generally expected to remain out at least one semester. The Committee on Readmissions is concerned with the extent to which the dismissed student, who is applying for readmission, has resolved his past academic difficulties. It is recommended, therefore, that the student include a written statement with the "short form" application.

7. A student who registers and attends classes during the semester for which he makes initial application will, although he may not attend succeeding sessions, be eligible to register for one year following. If he does not register for the initial semester, he must re-apply for admission.

A student who has current admission status and has been attending classes on or off campus will retain that status as long as he has attended classes within the last year.

APPLICATION FOR ADMISSION

Freshman — A Student Entering College for the First Time

Students graduating from an accredited high school in the state of Michigan with an above-average record earned in a college preparatory program will be admitted into most programs of study offered in the University until such time as admissions are closed.
1. A prospective freshman should secure an application from his high school counselor, principal, or the Undergraduate Admissions Office and complete those parts for which he is personally responsible.

2. The application should then be returned to the high school counselor or principal for completion. A $10 check or money order payable to Western Michigan University for the non-refundable application fee must accompany the application.

3. The completed application will be forwarded to the University by the high school. It is not acceptable if sent directly by the student.

4. Applications for admission may be sent to the University at any time during or after the seventh semester in high school.

5. Final dates for receiving applications in the Undergraduate Admissions Office for any entry period are subject to change without notice.

6. Satisfactory recommendations from an authorized school official must be recorded on the application unless the policy of the high school specifically opposes such recommendations.

7. Admission to the University will be judged on the basis of the high school record established prior to the date of admission. The final record is, however, required at the close of the senior year to confirm the admission of all applicants admitted early. Realizing that at present the high school record is the most reliable single factor for predicting immediate college success, the Admissions Office refrains from relying heavily on test scores in decision making.

8. Students whose academic records fall below a C+ average in solid subjects may be required to furnish first semester senior grades and ACT scores before action is completed on their application.

9. The student must be officially admitted before he can be counseled or enrolled. Therefore, all credentials must be in the Admissions Office in advance of registration.

10. Applications which may require special consideration should be brought to the attention of the Admissions Staff by the principal or high school counselor with a complete description of the problems or unusual circumstances involved.

Transfer — A Student Who Has Attended Another College

Students transferring to Western from other institutions are expected to present a record which indicates their potential to complete satisfactorily graduation requirements. In nearly all cases, a minimum cumulative 2.0 or “C” average is required for admission.

1. Complete an application for degree admission.

2. Forward the application to the high school if less than thirty semester hours of credit have been earned or the overall grade point average is less than a “C” (2.0) average.

3. Forward the Transfer Recommendation form (Parts III, IV, and V) to the appropriate dean of the college last attended as a regular full-time student, for completion.

4. Be prepared to come to the campus for pre-admission counseling if requested. If an interview is desired, it may be arranged Monday through Friday, each week. Appointments are scheduled between 9:00 a.m. and 4:00 p.m.

5. Have a complete official transcript from each of the colleges attended forwarded directly to the Admissions Office, Western Michigan
Admission

University. Transcripts presented by the student are not considered official.

6. If presently enrolled, request an official transcript forwarded to the Admissions Office, Western Michigan University, immediately upon completion of the semester. Admission is not officially completed until the final transcripts are received.

7. An official transcript for students with tentative admission must be received in the Admissions Office within ten days following the first day of the semester. Failure to provide such a record may result in the student being withdrawn from school.

8. Grades and honor or quality points are not transferable to or recorded on the WMU permanent record. Courses completed at another college which are transferable will be accepted for credit only. Courses in which "D's" or the equivalent thereof have been earned will be accepted for credit when:

   a. the applicant's cumulative grade point average for courses which are transferable, including all institutions, is a 2.0 or better and
   b. the applicant's cumulative grade point average at the school from which "D" grades are to be transferred is a 2.0 or better.
   c. "D" grades, or the equivalent thereof, which are transferred may not be used in fulfilling major or minor requirements.

American College Test Required of Freshmen

The American College Testing program (ACT) is required of all new freshmen. (The results of this test must be on file in the Admissions Office prior to enrollment.) Applicants with marginal records will often be asked to submit test results before a final decision is reached relative to their admission status. Prospective applicants should take the test late in their junior year in high school or early in the senior year. While all test results recorded on an application are considered by the Admissions Staff in the evaluation process, no other achievement or aptitude tests will substitute for the ACT requirement.

All applicants intending to participate in intercollegiate athletics must complete either the ACT or the Scholastic Aptitude Test (SAT).

Notification of Admission

Western Michigan University operates on a “rolling admission” notification system. This means that applications are processed as soon as they are received and action is taken by the Admissions Committee when the application is complete. Notification of the admission status is mailed to the student as soon as possible.

Beginning applicants whose high school record clearly meets all admission requirements will be notified immediately that they have been granted tentative early admission. Tentative early admission is automatically confirmed when the student’s final transcript arrives verifying graduation from high school with an acceptable record.

Interviews

A personal interview is not a requirement for admission; however, some students are requested to appear for an interview before final action can be taken on their application.
Admission

If a personal interview is desired, a request should be addressed to the Office of Admissions at least two weeks in advance of the desired date. The Office of Admissions and Records is located in the Administration Building and is open from 9:00 a.m. to 12:00 noon and 1:00 p.m. to 4:00 p.m., Monday through Friday.

Campus Visits

The University encourages interested students and their parents to visit the campus as early in their high school career as possible. Qualified admissions counselors are available for consultation, and campus facilities are available for visits.

Advanced Placement Program

A number of high schools and preparatory schools offer selected students the opportunity to accelerate and to take in the senior year one or more subjects which are taught at the college level and cover the materials of a college course. Each year in May the College Entrance Examination Board administers a series of Advanced Placement examinations covering this advanced work.

Western Michigan University cooperates with the Advanced Placement Program, granting college credit for Advanced Placement courses passed with a score of 3 or better. Individual departments of the University have formulated policies concerning these college courses which are bypassed through such advanced placing. Entering freshmen with acceptable Advanced Placement scores will be given Advanced Placement credit.

COLLEGE LEVEL EXAMINATION PROGRAM

The General Examinations of the College Level Examination Program (CLEP) are used at Western Michigan University to meet the needs of two groups primarily:

1. NON-MATRICULATED STUDENTS and adults who wish to study for a degree and who have achieved college level proficiency in the areas of English Composition, Humanities, Natural Sciences, and Social Sciences.

2. BEGINNING FRESHMEN who have been enrolled in Honors Programs in their secondary schools, but have not taken the required Advanced Placement Tests for advanced standing and credit.

The General Examinations are intended to provide a comprehensive measure of undergraduate achievement in the five basic areas of the liberal arts: English Composition, Humanities, Mathematics, Natural Science and Social Sciences. (The Mathematics section of the General Examination is not weighed in determining credit at Western Michigan University.)

NON-MATRICULATED STUDENTS AND ADULTS who often become interested in a formal degree program after considerable work experience and informal study will find that the General Examinations are particularly important. The Examinations are particularly useful to adults considering a degree program on a part-time basis where the time required to reach their goal is an important factor. College Level Examinations can help avoid duplication of effort and also shorten the amount of time required for a degree by evaluating the nontraditional
college-level education through correspondence courses, radio, private tutoring, work experience, service connected courses, etc., and lead to a direct assignment of credit toward a specific degree program.

ENTERING FRESHMEN may be granted college credit at Western Michigan University through testing by the College Level General Examinations only under specific conditions. The application to take a General Examination must be approved by the Admissions Office at Western Michigan University. Approval is contingent on a valid reason for the testing request such as: The secondary school’s inability to offer an advanced placement program; a special educational experience such as travel abroad wherein the applicant engaged in a formal study program or seminar; a special summer study program; enrollment in Honors courses equivalent to formal Advanced Placement courses without the Advanced Placement opportunity; and/or other evidence of college level proficiency in areas of the General Examination.

A Bulletin of Information for candidates is available on request from: College Entrance Examination Board, Publications Order Office, Box 992, Princeton, New Jersey 08540.
Degrees

The Board of Trustees on recommendation of the President and faculty of Western Michigan University, confers degrees as follows:

BACHELOR OF ARTS

The student who regularly completes a curriculum conforming to the requirements of this degree and embracing at least 70 hours of General Education, Language and Literature, Science and Social Science, including at least eight hours in one foreign language, is eligible for the degree of Bachelor of Arts. If two or more years of high school preparation in one foreign language are presented for entrance, the requirements for foreign language may be waived.

BACHELOR OF BUSINESS ADMINISTRATION

BACHELOR OF FINE ARTS

BACHELOR OF SCIENCE IN MEDICINE
(Physicians' Assistants)

BACHELOR OF MUSIC

BACHELOR OF SCIENCE

The student who completes a curriculum conforming to the requirements of this degree, with a minimum of 40 hours taken from the General Education program and for courses in Language and Literature, Science or Social Science areas, is eligible for the degree of Bachelor of Science.

BACHELOR OF SCIENCE IN ENGINEERING
(Industrial)

SECOND BACHELOR'S DEGREE

A student who earns a bachelor's degree at Western Michigan University and who subsequently becomes a candidate for a second bachelor's degree may, by earning 30 semester hours of residence credits beyond those required for the first degree, be awarded the second degree. The additional hours need not be taken subsequent to completion of requirements for the first degree.
MASTER OF ARTS
MASTER OF BUSINESS ADMINISTRATION
MASTER OF FINE ARTS
MASTER OF MUSIC
MASTER OF OCCUPATIONAL THERAPY
MASTER OF SCIENCE
MASTER OF SCIENCE IN ACCOUNTANCY
MASTER OF SCIENCE IN BUSINESS
MASTER OF SCIENCE IN LIBRARIANSHIP
MASTER OF SCIENCE IN STATISTICS
MASTER OF SOCIAL WORK

SPECIALIST IN ARTS

Sixth-year programs are offered primarily for the preparation of Community College teachers in Business, English, History, Mathematics and Librarianship by the departments indicated and The Graduate College.

The School of Librarianship and The Graduate College also offers Specialist in Arts programs for public school and public library administrators.

SPECIALIST IN EDUCATION

A sixth-year program offered through the College of Education and The Graduate College, with specialization in Educational Administration or School Psychological Examiner.

DOCTOR OF EDUCATION

A degree program offered by the Department of Educational Leadership in the College of Education and The Graduate College designed for educational leaders in schools, business and government.

DOCTOR OF PHILOSOPHY

Programs leading to the Ph.D. degree are offered in Chemistry, Mathematics, Science Education and Sociology.
Degree Requirements

Any curriculum leading to a bachelor's degree consists of at least 122 hours of credit.

The student must meet the following requirements or their equivalent:

**GENERAL REQUIREMENTS**

a. Courses must be selected so that the requirements in at least one of the curricula are fulfilled before graduation.

b. The student must complete a major with a minimum of 24 hours and a minor with a minimum of 15 hours (30-hour subject major or 36-hour group major is required of students in Elementary and Secondary Education, with a minor or minors of at least 20 semester hours. For further details see under Curricula for Teachers.) In Elementary Education the student may complete two minors or group minors of 20 or 24 hours each; or one major or group major of 30 or 36 hours; and in addition to the major or two minors, a minor in Elementary Education is required. All students in International and Area Studies, Electrical Engineering Technology and Mechanical Engineering Technology and Metallurgical Engineering and Industrial Supervision, Automotive Engineering Technology and Aviation Engineering Technology, Physicians’ Assistants Program, including any available options within these curricula may be excused from the requirement of declaring a regular major and/or minor field if they satisfy the requirements of their curriculum as set forth in the catalog or that curriculum as modified by substitutions approved through normal channels.

c. Each student must complete 35 hours of work in approved General Education courses and/or non-professional courses in the College of Arts and Sciences. Beginning with the Fall semester, 1973, students graduating with an Associate of Science degree from Michigan two-year colleges, which are signatory to the Michigan Association of Collegiate Registrars and Admissions Officers General Education Agreement, will automatically have fulfilled freshman-sophomore level general education requirements. General education requirements of eight semester hours at the junior and senior levels will continue to be required. Western's general education requirements are not a part of this agreement.

d. A minimum grade point average of 2.0 must be attained in any major or minor(s) presented for graduation.

e. Each student must complete two semester hours of general physical education. Freshmen are urged to arrange their schedules so that they complete their two-hour physical education requirement no later than their sophomore year. Persons 30 years of age or older at the time of graduation are not bound by this requirement. Such a waiver applies only to general physical education and not to specific curricular requirements nor to total hours required for graduation. Veterans of Military Service (minimum of one year continuing active duty) shall, upon request, be granted two hours of general physical education credit. A maximum of eight hours of general physical education may be counted towards graduation.
Degree Requirements

f. Minimum residence requirements: It is expected that all candidates for the Bachelor's degree or full certification will have earned at least 15 hours of credit on the campus of Western Michigan University or one of its established off-campus centers at Muskegon, Grand Rapids or Benton Harbor. A minimum of 30 hours of credit must be taken through Western. Ten of the last 30 hours must be taken through Western. Correspondence credit may not be used to satisfy any of the minimum residence requirements.

g. A maximum of 15 semester hours of credit in correspondence courses may be applied to a degree program.

h. Students transferring from a two-year community or junior college must complete a minimum of one-half of the academic work required in their curriculum at an accredited four-year, degree-granting institution (exclusive of the general physical education requirement).

i. A student may graduate under the catalog in effect at the time of his initial registration or any succeeding catalog except that no student may graduate under the requirements of a catalog which is more than ten years old.

j. In cooperation with two-year institutions of higher education in the State of Michigan, a student who transfers directly to Western Michigan University from a two-year Michigan institution may elect to graduate under the catalog in effect at the time of his initial registration at the two-year institution. He must, however, meet the requirements of the ten-year rule above.

GENERAL EDUCATION REQUIREMENT

The 35-hour General Education Requirement is designed to offer a maximum of choice, self-direction and flexibility. In deciding how to fulfill the requirement, you should keep in mind your talents, interests and educational goals. The requirement may be met three ways: (1) The General Studies Program, (2) The Distribution Program, (3) The Integrated Programs. For advice and counseling on the programs themselves, moving from one program to another, contact a curriculum advisor. Further assistance is available at the General Education (AID) office, Room 2090 Friedmann Hall.

1. The General Studies Program: For Students Enrolled Previous to Fall Term '73

These requirements are listed in all WMU catalogs 1965-66 through 1972-73. Currently enrolled and re-entry students (especially juniors and seniors) may continue to meet General Studies requirements. All students enrolled before Fall '73 (especially freshmen and sophomores) may switch to either the Distribution or Integrated Programs, in which case curriculum advisors or the AID office if necessary should be contacted.

2. The Distribution Program: For New Students Enrolling Fall Term '73

This Program is designed as an introduction to a series of discrete or separate courses in different academic disciplines. For example, course work can move from GEOL 131 Earth History and Evolution, to ENG 107 Good Books, to SOC 190 Men and Women in Contemporary Society. The virtue of this Program is two-fold: (1) the
Degree Requirements

The student has almost total freedom in planning his program (over 200 courses satisfy this requirement); (2) in each course the student deals with the skills and techniques of knowledge within a specific discipline (Geology, English, Sociology, etc.). In other words, the student will “distribute” his course work into different “ways” of knowing, hence the name, Distribution Program.

3. The Integrated Programs: For New Students Enrolling Fall Term '73

These Programs are designed to introduce students to a single subject from different points of view. In Program F, for example, the subject “Technology in Culture” is approached from the following points of view: Environment and Technology; Society and Technology; Man and Technology; Technology, Past, Present and Future. The virtue of the Integrated Programs is also two-fold: (1) students have a choice of 7 different programs; (2) in each program students deal with the inter-relationships between “ways” of knowing—the “integration” of knowledge—hence the name, Integrated Programs.

All Departmental courses listed in italics in this catalog and all General Studies courses have been approved for General Education purposes.

COURSES AND REQUIREMENTS FOR THE DISTRIBUTION PROGRAM

Requirements

From the courses listed below, students may design their General Education Program. There are six stipulations:

1. Your program must total at least 35 semester hours of credit.

2. At least six semester hours must be completed satisfactorily in each of the following three areas:
   A. Humanities and Fine Arts
   B. Social and Behavioral Sciences
   C. Natural Sciences and Mathematics

3. At least one course must be completed satisfactorily in a fourth area: the Non-Western World.

4. At least eight semester hours must be completed satisfactorily at the junior-senior (300-400) level.

5. No more than two courses from the same department (except General Studies courses) may be counted towards the total of 35 hours.

6. Hours used towards the 35 hour General Education Requirements cannot apply towards curricular, major or minor requirements (certain curricular exceptions to this rule have been approved by the University General Education Committee. Information regarding these exceptions may be obtained from curriculum advisors.
Degree Requirements

Courses (For full course descriptions refer to Department Listings)

<table>
<thead>
<tr>
<th>AREA I</th>
<th>HUMANITIES &amp; FINE ARTS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Art: 120, 130, 140, 220, 221); (Arts &amp; Sciences: 145A-B); (Bus. Ed.: 142); (Comm. Arts &amp; Sciences: 220); (English: 105A-B-C-D-E, 107, 110, 111, 150, 210, 222, 305, 311); (General Studies—Humanities: 102, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 300, 301, 302, 303, 305, 315, 316, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413); (Languages—French: 100, 101, 375); (German: 100, 101, 375); (Greek: 100, 101); (Italian: 100, 101); (Latin: 100, 101); (Classics: 360, 375, 450); (Russian: 100, 101, 375); (Spanish: 100, 101, 375); (Linguistics: 100); (Music: 150, 151, 152, 350, 351); (Philosophy: 100, 200, 201, 220); (Religion: 200, 305, 306, 312, 313, 331, 333)</td>
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<thead>
<tr>
<th>MINIMUM 6 HOURS</th>
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<tbody>
<tr>
<td>AREA II SOCIAL &amp; BEHAVIORAL SCIENCES:</td>
</tr>
<tr>
<td>(Accountancy: 301); (Anthropology: 100, 240, 425); (Business Ed.: 140, 292); (Economics: 100, 201, 202, 313); (Engin. Tech.: 378); (General Studies—Soc. Science: 120, 121, 122, 123, 220, 221, 223, 224, 225, 255, 256, 355, 421, 422, 423, 455, 456, 457); (History: 100, 101, 102, 103, 104, 105, 300, 306, 307, 312, 314, 315, 341, 344, 346, 390); (Management: 300); (Marketing: 190); (Political Science: 100, 250, 300, 313, 340, 343, 344, 350, 360, 361); (Sociology: 100, 101, 171, 190, 200); (Religion: 323, 324, 332)</td>
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<tr>
<th>MINIMUM 6 HOURS</th>
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<tbody>
<tr>
<td>AREA III NATURAL SCIENCES &amp; MATHEMATICS:</td>
</tr>
<tr>
<td>(Anthropology: 250); (Biology: 107 234, 300); (Chemistry: 101, 102, 103, 105, 109, 140); (General Studies—Science: 130, 131, 132, 133, 330, 430, 431, 432, 433); (Geography: 100, 105, 204, 206); (Geology: 100, 130, 131, 300, 312, 444); (Math.: 100, 116, 190, 200, 366); (Physics: 102, 104, 106, 110, 111, 120)</td>
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<tr>
<th>MINIMUM 6 HOURS</th>
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<tbody>
<tr>
<td>AREA IV NON-WESTERN WORLD:</td>
</tr>
<tr>
<td>(Anthropology: 220, 334, 335, 336, 337, 538); (Econ.: 585, 587); (General Studies—General: 304); (Geography: 386, 387, 389, 390); (History: 381, 386, 581, 583, 585); (Political Science: 341, 342, 345); (Religion: 302, 303, 304, 307); (Sociology: 530, 535)</td>
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<tr>
<th>MINIMUM 3 HOURS</th>
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<tbody>
<tr>
<td>AREA V OPTIONAL ELECTIVES: May be used towards the 35 hour requirement but not to satisfy area requirements I-II-III-IV. (Business—General: 305); (General Studies—General: 100, 101, 222, 331); (General Studies—Integrated: 155, 260, 424); (Geography: 350); (Management: 102, 200); (Military Science: 100, 101)</td>
</tr>
</tbody>
</table>

INTEGRATED PROGRAMS AND REQUIREMENTS

Requirements

Any of the following seven Integrated Programs satisfies the General Education Requirement. There are four stipulations:
Degree Requirements

1. Student course work, elected in consultation with his program coordinator, must total at least 35 semester hours of credit.

2. With certain exceptions, no course work may be applied toward a curricular, major or minor requirement. For exceptions, consult your curriculum advisor or the AID office if necessary.

3. At least eight semester hours must be completed satisfactorily at the junior-senior (300-400) level.

4. Every program must include an introduction to the Non-Western World.

Programs (For more complete descriptions, see College of General Studies listings)

Program A: Getting it Together (GIT)
This Program is designed to help students expand their awareness in two directions: (1) the Self, (2) the Self's environment, i.e., Context. From the "double" perspective of Self and Context, students will be able to examine personal as well as historical experience and knowledge per se, (Post-Freudian Thought, for example).

Program B: World Explorations
Through actual exploration of the world, this Program is designed to acquaint the student with the drama and discovery occurring at the frontiers of today's knowledge.

Program C: The Twentieth Century Experience
This Program focuses on the meaning of Twentieth Century existence. Central concerns will be: (1) Where have we come from? How? Why? (2) Where are we now? Why? (3) Where are we headed? How? Why?

Program D: Non-Western World Studies
This Program is designed to offer the student a better understanding of his own culture by studying and comparing various Non-Western cultures. The student will investigate and explore the aesthetic creations, philosophical thought, and social organizations of these cultures which comprise such a sizeable and important portion of human achievement.

Program E: Environments of Man: Patterns of Change
This Program combines the views of science, social science, and the humanities in an exploration of responses humans have made and will be required to make to the environments of nature, culture, society and self. The Program focuses on the change and diversity in human environments in an effort to better understand alternatives for the future.

Program F: Technology in Culture
This Program (1) investigates the interactions between various aspects of technology and other segments of our culture; (2) attempts to develop an awareness of responsibility for the problems brought about by these interactions; (3) offers the student skills to use in meeting these responsibilities.

Program G: Self-Instructional Inquiry
This Program is designed to allow the student to pursue his General Education Requirement independently. It centers on the habits of
intelligent independent inquiry (asking useful questions, mobilizing resources, designing systematic investigation, etc.) and offers faculty support and guidance.

**GENERAL EDUCATION REQUIREMENT FOR TRANSFER STUDENTS**

1. **Students with Approved Associate Degrees from Michigan Community Colleges**
   
   A. Must complete satisfactorily at least eight semester hours of approved General Education courses at the junior-senior (300-400) level.
   
   B. Must complete satisfactorily at least three semester hours in the Non-Western World area. This course work may be applied toward requirement A.

2. **Students without Approved Associate Degrees from Michigan Community Colleges**

   May satisfy the General Education Requirement by:
   
   A. The General Studies Program (see catalogs for 1965-66 through 1972-73).
   
   B. The Distribution Program.
   
   C. The Integrated Program.

   For General Education transfer credits, see a curriculum advisor or the AID office.

3. **Students from Out-of-State Two-Year Colleges**

   **Students from Senior (Four-Year) Colleges**

   May satisfy the General Education Requirement by:
   
   A. The Distribution Program.
   
   B. The Integrated Programs.

   For General Education transfer credits, see a curriculum advisor or the AID office.

**EXEMPTIONS AND COMPREHENSIVE EXAMINATIONS**

1. Comprehensive examination in some General Studies areas are available for well-prepared students. Information about them can be obtained from the office of the Dean of the College of General Studies.

2. Exemptions from all or part of the General Studies science requirements are made for students who, because of choices of majors or minors or because of curricular requirements, must take a considerable amount of departmental science. However, a student must acquire a knowledge of more than one departmental area.

*A list of approved Associate Degree programs is included in the General Education Supplement section of the 1973-74 class schedule.*
STUDENT PLANNED CURRICULUM

The Student Planned Curriculum is designed for students who desire to enroll in a specific course of study not otherwise available through existing university programs. This curriculum affords students the opportunity for individualized inter-disciplinary study not restricted by departmental or college boundaries.

University requirements (Bachelor's Degree) include:

1) General Education requirements.
2) University electives sufficient to meet graduation requirements.
3) An Open Curriculum—an organized plan of study created by the student with the assistance of an official University academic advisor any time before he has completed 75 credit hours, and which he might revise as it seems appropriate.

Information concerning enrollment in the Student Planned Curriculum may be obtained from the Counseling Center, which will in turn refer the student to an appropriate academic advisor.

COLLEGES AND CURRICULAR OFFERINGS

COLLEGE OF APPLIED SCIENCES

Agriculture
Distributive Education
Electrical Engineering Technology
Engineering and Technology
  Engineering Graphics Technology
  Industrial Engineering
  Industrial Supervision
  Manufacturing
  Metallurgical Engineering Technology
Home Economics
  Dietetics
  Home Economics in Business
  Home Economics in Education
  Home Economics General
Industrial Education
  Industrial Arts
  Vocational-Technical Education
  Printing Management
Mechanical Engineering Technology
Occupational Therapy
Paper Science and Engineering
  Paper Science
  Paper Engineering
Transportation Technology
  Automotive Management and Service
  Automotive Engineering and Technology
  Aviation Technology and Management
  Aviation Engineering and Technology
  Flight Technology
College and Curricular Offerings

Two-year Terminal Curricula

- Food Distribution
- Petroleum Distribution
- Aircraft Technology

COLLEGE OF ARTS AND SCIENCES

- Liberal Arts
- Anthropology
- Biology
- Chemistry
- Geography
- Geology
- History
- International and Area Studies
- Language (French, German, Latin, Russian, Spanish. Limited courses are available in Greek.)
- Linguistics
- Mathematics

General

The same areas of concentration are available in the General curriculum as are found in the Liberal Arts curriculum.

Medical Technology

Social Work

Speech Pathology and Audiology

COLLEGE OF BUSINESS

Business Administration
- Accountancy
- Business Education (The teaching of business subjects, administrative services, secretarial administration, cooperative work experience program)
- General Business (finance and insurance)
- Management
- Marketing (advertising, general, industrial, and retailing)

COLLEGE OF EDUCATION

Teacher Education
- Elementary
- Rural Life and Education
- Junior High School
- Secondary
- Librarianship
- Music
- Elementary Music

Educational Leadership

Counseling and Personnel
Special Education
  Crippled and Homebound
  Emotionally Disturbed
  Mentally Handicapped
  Speech Pathology and Audiology
  Blind Rehabilitation

Physical Education for Men (Health, physical education, recreation)
Physical Education for Women (Health and physical education)

COLLEGE OF FINE ARTS
  Art
  Dance
  Music

COLLEGE OF GENERAL STUDIES
Preprofessional Curricula

Every professional school has prescribed the nature and amount of the academic work to be completed as a prerequisite to the professional training for a particular vocation. Four years of higher education are generally required by most professional schools for entrance. Western Michigan University is able to offer its students courses of study that meet the requirements for this preprofessional training. It should be noted, however, that the courses outlined are only suggested plans to illustrate in general the kinds of programs that preprofessional students should follow. IN EVERY CASE THE STUDENT SHOULD PLAN HIS COURSE ACCORDING TO THE REQUIREMENTS OF THE SCHOOL TO WHICH HE PLANS TO TRANSFER FOR HIS PROFESSIONAL TRAINING. It cannot be emphasized too strongly that the student should exercise care to make certain that the specific requirements of a particular school will have been met.

Dentistry

Dr. Leonard Beuving, Adviser

Although the Dental Aptitude Test is required of all applicants to any dental school, the amount and kind of academic work needed for admission varies. Therefore, a student planning to do his predental work at Western Michigan University should refer to the catalogs from the schools of his choice and plan his work at Western to meet the requirements of those particular schools. A useful source handbook, "Admission Requirements of American Dental Schools" is on a 2-hour reserve in Waldo Library and many of the current dental school catalogs are available in the preprofessional advisor's office. Predental students should see the preprofessional advisor in Room 122 Wood Hall for curriculum suggestions, a Dental School Advisory Kit, Dental Aptitude Test application forms, centralized application service information, and Preprofessional Evaluation Committee services. In addition, predental students are encouraged to join the Medical Science Association which is composed of students interested in health science careers.

The curriculum suggestions listed below assure completion of the predental course requirements in two years. This sequence, however, can be altered according to your interests.

<table>
<thead>
<tr>
<th>First Year</th>
<th>S.H.</th>
<th>Second Year</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading and Composition</td>
<td>6</td>
<td>Biology</td>
<td>3-6</td>
</tr>
<tr>
<td>Biology 100, 101 or 102</td>
<td>6</td>
<td>Physics 110, 111</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry 101, or 102, 120</td>
<td>8</td>
<td>Organic Chem. 360, 361</td>
<td>8</td>
</tr>
<tr>
<td>General Education</td>
<td>4</td>
<td>General Education</td>
<td>8</td>
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<tr>
<td>Mathematics 100, 120 or 120,</td>
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<tr>
<td>121 or 122, 123 or 200, 260</td>
<td>8</td>
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</tr>
</tbody>
</table>
Recommended Third Year
Major and minor requirements
General Education
Psychology
Electives

Engineering

Dr. D. W. Nantz, Adviser

Students who wish an engineering program, other than that offered in the College of Applied Sciences should consult the adviser. He will help the students plan a program to permit transfer to either Michigan State University, Michigan Technological University, Oakland University, University of Michigan (Ann Arbor or Dearborn campus) or Wayne State University.

Frequent and significant changes have occurred in the curricula of these and other engineering schools in recent years. Thus, each student should seek counseling during his first semester of enrollment. Representative course schedules have been prepared on the basis of suggestions received from these institutions.

**MICHIGAN STATE UNIVERSITY**

<table>
<thead>
<tr>
<th>First Year</th>
<th>S.H.</th>
<th>Second Year</th>
<th>S.H.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MATH</td>
<td>Mathematics 222, 223</td>
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<td>Math 106, 122, 123</td>
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<tr>
<td>General Chemistry*</td>
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**MICHIGAN TECHNOLOGICAL UNIVERSITY**

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<td>8</td>
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<td>Economics 201, 202</td>
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<td>Math 122, 123</td>
<td></td>
<td>Statics</td>
<td>Statics 256</td>
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<td>CHEM</td>
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<td>MET</td>
<td>Strength of Materials</td>
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<td>Gen. Chemistry**</td>
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<td>353</td>
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<tr>
<td>103, 109</td>
<td>6</td>
<td>Dynamics</td>
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<td>IEGM</td>
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<tr>
<td>Drafting** 131, 136</td>
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<tr>
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<td>MET</td>
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*Students in Chemical, Metallurgical or Materials Engineering, and students in Meteorology, Oceanography or Physics, should take Chemistry 102 and 120.

**Chemical Engineers should omit Drafting 131, 136 and Chem 103, 109 and take Chem 102, 120, 362, 363.
## Preprofessional Curricula

### Oakland University

<table>
<thead>
<tr>
<th>First Year</th>
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<tbody>
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<td>MATH Mathematics 222, 223</td>
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<td>MATH Mathematics 106, 306</td>
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<td>MATH Mathematics 122, 123</td>
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<td>MET Statics 256</td>
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<tr>
<td>CHEM General Chemistry 103, 109</td>
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<td>MET Dynamics 355</td>
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### University of Michigan

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<tr>
<td>General Education</td>
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<td>MATH Mathematics 222, 223</td>
<td>8</td>
</tr>
<tr>
<td>MATH Math 106, 122, 123</td>
<td>9</td>
<td>PHYS Physics 210, 211</td>
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</tr>
<tr>
<td>IEGM Engrg. Drawing 131</td>
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<td>CHEM Chemistry* 103, 109</td>
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<td>MET Dynamics 355</td>
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### Wayne State University

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</thead>
<tbody>
<tr>
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<td>MATH Mathematics 222, 223</td>
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<tr>
<td>MATH Mathematics 122, 123</td>
<td>8</td>
<td>PHYS Physics 211, 212</td>
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<td>CHEM Gen. Chemistry 101 or 102</td>
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<td>PSCI Poli. Sci. 200, 302 or 304</td>
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<tr>
<td>ECON Economics 201</td>
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<td>MATH Mathematics 360, 506</td>
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<td><strong>TOTAL</strong></td>
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</tbody>
</table>

### Law

Advisors: Morrison, Batch, Bliss, Casey, Gossman, McCarty

No special college program is required or recommended by most law schools. In general, law schools urge a solid four-year program leading to a Bachelor's degree. Although it is relatively unimportant what the prospective law student uses for his major, it is most important that

*Students in Chemical, Metallurgical or Materials Engineering, and students in Meteorology, Oceanography or Physics, should take Chemistry 102 and 120.*
Preprofessional Curricula

a high level of academic achievement be maintained. It is also important that the prospective lawyer's education be as broad as possible.

The freshman student is urged to concentrate his first year of studying in satisfying first year general education requirements and also in improving his writing and speaking skills by taking courses in English and Communication.

A freshman student should see a Pre-Law advisor during his first semester for assistance in selecting his curriculum. A transfer student should see a Pre-Law advisor as soon as possible.

Librarianship

A preprofessional curriculum in librarianship is outlined in this bulletin under The Graduate College.

Medicine and Osteopathy

Dr. Leonard Beuving, Advisor

Although only 90 credit hours of undergraduate studies are required, most medical and osteopathic schools expect students to finish four years of college work before admission. The required Medical College Admission Test is offered at Western Michigan University and should be taken during the Spring prior to the student's application to osteopathic or medical schools in the Fall of his senior year.

A student planning to do his premedical work at Western Michigan University should refer to the catalogs from the medical or osteopathic schools of his choice and should plan his college work to meet their requirements. A useful source handbook, "Medical School Admission Requirements, U.S.A. and Canada", is on 2-hour reserve in Waldo Library and many of the current medical and osteopathic school catalogs are available in the preprofessional advisor's office. Preosteopathic and premedical students should see the preprofessional advisor in Room 122 Wood Hall for curriculum suggestions, Medical and/or Osteopathic Advisory Kits, Medical College Admission Test application forms, centralized application service forms, and Preprofessional Evaluation Committee services. In addition, premedical and preosteopathic students are encouraged to join the Medical Science Association in order to participate in a variety of hospital experiences and to meet other students interested in health science careers.

The curriculum suggestions listed below assure early completion of most premedical and preosteopathic course requirements. This sequence, however, can be altered according to the student's interests.
### Major and Minor Requirements

<table>
<thead>
<tr>
<th>First Year</th>
<th>S.H.</th>
<th>Second Year</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading and Composition</td>
<td>6</td>
<td>Biology</td>
<td>3-6</td>
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<tr>
<td>Biology 100, 101 or 102</td>
<td>6</td>
<td>Physics 110, 111</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry 101, or 102, 120</td>
<td>8</td>
<td>Organic Chem. 360, 361</td>
<td>8</td>
</tr>
<tr>
<td>General Education</td>
<td>4</td>
<td>General Education</td>
<td>8</td>
</tr>
<tr>
<td>Physical Education</td>
<td>1-2</td>
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<td></td>
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<tr>
<td>Mathematics 100, 120 or 120,</td>
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</tr>
<tr>
<td>121 or 122, 123 or 200, 260</td>
<td>8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Recommended Third Year**
- Major and minor requirements
- General Education
- Psychology
- Electives

---

**Major and Minor Requirements**

A major is a sequence of related courses totaling a minimum of 24 hours (30 hours in Elementary and Secondary Education or 36 hours in a group major in Elementary or Secondary Education); a minor is a sequence of related courses totaling a minimum of 15 hours (20 hours in Elementary and Secondary Education or 24 hours in a group minor in Elementary or Secondary Education).

1. The student’s major and minors will be his subject specialization, such as: mathematics, accounting, biology or chemistry.

2. His curriculum may be general or specific preparing him for a specialized career or profession such as business, medicine, law, transportation technology or engineering.

3. Departmental requirements for a number of majors and minors are listed elsewhere in this catalog. Where requirements are not specified, students should consult the departmental advisors for approval of a major or minor program as soon as possible but not later than the junior year.

4. The candidate for a degree must complete a major and a minor. A candidate for the Elementary Provisional Certificate may elect instead, a major of at least 30 semester hours (group major of 36 semester hours) or two minors of 20 semester hours (group minors, 24 semester hours). In addition to the major or two minors, the Elementary Education minor is required.

5. In certain cases “group” majors totaling a minimum of 30 hours and “group” minors totaling a minimum of 20 hours are permitted. (Note: Students in Elementary and Secondary Education must have 36 hour “group” majors and 24 hour “group” minors.) They usually consist of courses selected from related departments, as in case of social science and science.
6. Under certain conditions General Education courses may be counted toward major and minor requirements. (See Departmental requirements.)

7. Minors may often be related to majors, so as to recognize naturally or closely related fields; for example, mathematics and physics, history and geography, literature and history, etc.

8. It is not permissible to use education as a major or minor in any undergraduate curriculum with the exception of the Elementary Education curriculum. In the Elementary Education curriculum it is a required minor in addition to a major or two minors. (See Elementary Education curriculum.)

9. The following courses are not to be counted as satisfying major and minor requirements:
   a. Courses in General Education
   b. Required professional courses in education
   c. Required courses in general physical education

10. A combination of foreign languages, or of English or American Literature with a foreign language, is not permissible. A major or minor must be in one language only.

11. Mathematics may not be combined with science (physics, geography, chemistry, or biology) for any major or minor sequence, but may be required to satisfy requirements of certain curricula.

12. Except upon formal approval, courses elected to satisfy requirements in one major and/or minor may not be counted again to satisfy requirements in another major and/or minor. Exceptions are not granted for students seeking teacher certification.

PROGRAMS REQUIRING MAJOR AND MINOR SLIPS

(In All Cases Check Catalog Requirements)

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<thead>
<tr>
<th>Major Slips Required</th>
<th>Minor Slips Required</th>
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<tbody>
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<td>Accountancy</td>
<td>Yes</td>
</tr>
<tr>
<td>African Studies</td>
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<tr>
<td>Agriculture</td>
<td>Yes</td>
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<tr>
<td>American Studies</td>
<td>Yes</td>
</tr>
<tr>
<td>Anthropology</td>
<td>Yes</td>
</tr>
<tr>
<td>Art</td>
<td>Yes</td>
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<tr>
<td>Asian Studies</td>
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<tr>
<td>Biology</td>
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<tr>
<td>Black Americana Studies</td>
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<tr>
<td>Business Education</td>
<td>Yes</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Yes</td>
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<tr>
<td>Communication Arts and Sciences</td>
<td>No</td>
</tr>
<tr>
<td>Comparative Cross Cultural Studies</td>
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<tr>
<td>Dance</td>
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<tr>
<td>Distributive Education</td>
<td>Yes</td>
</tr>
<tr>
<td>Earth Science</td>
<td>Yes</td>
</tr>
<tr>
<td>Economics</td>
<td>Yes</td>
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## Major and Minor Requirements

<table>
<thead>
<tr>
<th>MAJOR SLIP REQUIRED</th>
<th>MINOR SLIP REQUIRED</th>
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</thead>
<tbody>
<tr>
<td>(curricular offering only)</td>
<td>(curricular offering only)</td>
</tr>
</tbody>
</table>

**Electrical Engineering Technology**

**Engineering and Technology Engineering Graphics Technology**

**Industrial Engineering****

**Industrial Supervision**

**Manufacturing**

**Metallurgical Engineering Technology**

**English***

**Environmental Studies***

**General Business Administrative Services**

**Business Law**

**Finance**

**General Business**

**Insurance**

**Public Administration**

**Geography**

**Geology**

**History***

**Home Economics Dietetics**

**Home Economics in Business**

**Home Economics in Education**

**Home Economics General**

**Family Life**

**Clothing-Textile**

**Industrial Education**

**General Industrial Arts**

**Drawing**

**Electricity-Electronics**

**Graphic Arts**

**Metalworking**

**Power-Auto Mechanics**

**Woodworking**

**Vocational-Technical Education**

**Technical Drafting**

**Architectural Drafting**

**Auto Mechanics**

**Cabinet Making**

**Carpentry**

**Electronics**

**Machine Tool**

**Printing**

**Printing Management**

**Integrated Creative Arts**

---

*Major and minor slips are required for all students taking an English major or minor with writing emphasis.

**Check with department head or administrative assistant.

***Major and minor slips are required for all students who wish to transfer in credit to be counted toward a major or minor.

****Minor available for statistics majors only.
### Major and Minor Requirements

<table>
<thead>
<tr>
<th>Language</th>
<th>MAJOR SLIP REQUIRED</th>
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<td>German</td>
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<td>Latin</td>
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<td>Spanish</td>
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<td>Latin American Studies</td>
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<td>Librarianship</td>
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<td>Management</td>
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<td>Physical Education-Men</td>
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<td>Speech Pathology and Audiology</td>
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<tr>
<td>Transportation Technology</td>
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<tr>
<td>Automotive Management and Service</td>
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<tr>
<td>Aviation Technology and Management</td>
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<td>Aviation Engineering and Technology</td>
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<tr>
<td>Flight Technology</td>
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</tbody>
</table>

*Curricular offering only*
Certificates

TEACHER CERTIFICATION—PROVISIONAL

The following types of teaching certificates are granted:
(for persons earning the Provisional Certificate after July 1, 1970).

1. State Elementary Provisional
   This certificate qualifies the holder to teach all subjects in grades kindergarten through 8, and in major or minor fields of grade 9, as specified on the certificate in any public school in Michigan. It is valid for approximately 6 years and may be renewed once for three years, provided that the applicant presents 10 semester hours of credit in a planned program approved by the University when earned after the issuance of the first certificate. The candidate must meet the requirements for a degree as defined above prior to the issuance of the first certificate.

2. State Secondary Provisional
   This certificate is valid for teaching all subjects in grades 7 and 8, and in subject matter fields in grades 9 through 12 in which the applicant has completed a major or minor. It is valid for approximately 6 years and may be renewed once for three years provided that the applicant presents 10 semester hours of credit in a planned program approved by the University when earned after the issuance of the first certificate. The candidate must meet the requirements for a degree as defined above prior to the issuance of the first certificate.

TEACHER CERTIFICATION—CONTINUING

To be qualified for teaching at the expiration of the elementary provisional or secondary provisional certificate, or its renewal as specified above, the applicant must qualify within the 6-year period for the continuing certificate at the appropriate level. All continuing certificates are valid for continued teaching or administrative service in Michigan schools in the grades, subjects, or levels specified on the certificates.

The following procedures must be followed to qualify for the continuing certificate:

1. Application must be made to the Certification Officer, College of Education, Western Michigan University, prior to the expiration of the provisional certificate or its renewal.

2. The candidate must have taught successfully during the life of the provisional certificate for 3 years according to the validity of the certificate. The success of this teaching is determined by the State Board of Education upon recommendation of the University and of the local school district(s).

3. The candidate must present evidence that he has completed a minimum of 18 semester hours in a planned course of study subsequent to the issuance of the provisional certificate and the degree. This advanced course of study must be approved by the Certification Officer before the candidate begins the Program. Instructions for obtaining
Certificates

approval may be secured from the Certification Officer in the College of Education.

4. The candidate must secure the appropriate blanks from the Certification Officer, complete the blanks and return them to the University, accompanied by his provisional certificate and Teacher's Oath.

5. The University will investigate the qualifications of the candidate, ascertain if he satisfies the requirements for continuing certification, and make appropriate recommendation to the State Board of Education. (Procedures for appealing certification decisions may be obtained from the Certification Officer, College of Education.)

Certificates earned before July 1, 1970, retain their original validity. Persons earning Provisional Certificates before July 1, 1970, must meet requirements for the Permanent Certificate.

THIRTY-HOUR CONTINUING CERTIFICATE

This certificate is not required but is available to the teacher who qualifies and requests such certificate. The same requirements pertain as for the continuing certificate described above, with the exception of the substitution of 30 semester hours of credit in a planned program approved by the University for the 18 semester hour requirement in the regular continuing certificate program.

NOTE—ALL PREVIOUSLY ISSUED CERTIFICATES SHALL RETAIN THEIR ORIGINAL DESIGNATION AND VALIDITY. ALL PERMANENT CERTIFICATES SHALL CONTINUE AS PERMANENT CERTIFICATES.
Student Fees

Student fees are assessed on a credit hour basis, with a minimum assessment for three hours. Fees per credit hour are:

- Resident undergraduate ........................................ $18.00
- Non-resident undergraduate .................................. 38.00
- Resident graduate .................................................. 24.00
- Non-resident graduate .......................................... 58.00

Graduate students, if not otherwise enrolled, are assessed for use of University facilities and staff services while completing a Master's thesis, Specialist's project or a Doctoral dissertation, at the rate of $25 a semester or $12.50 a session.

Student fees are subject to change by action of the Board of Trustees. Partial payments will not be accepted.

APPLICATION FEE—A non-refundable payment of $10 must accompany each new application for admission as an undergraduate student or for admission to the Graduate College.

ADMISSION VALIDATION DEPOSIT (Entering Students)—A $50 Deposit is required of all new beginning students, transfer students, and former students who have been reactivated for admission on campus for the Fall Semester. The Deposit will be applied towards the Student Fees in each case and must be paid according to certain prescribed dates which are provided by the Admissions Office at the time of admission. Refunds of this Deposit are also made in accordance with detailed instructions received with the certificate of Admission.

APPLIED MUSIC FEE—A special departmental fee of $75.00 for 60 minutes, or $38.00 for 30 minutes of private instruction per week is charged for applied music each semester. Each credit hour of applied music normally requires 30 minutes of private instruction.

AUDITORS' FEES—Auditors (students who attend classes but do not desire credit) are governed by the same regulations as students desiring credit.

GRADUATION FEE—A Graduation Fee of $10 is due and payable at the time a diploma request is filed with the Records Office.

FLIGHT INSTRUCTION—Based on the courses taken, fees range from $300 to $450 per course. For a specific course fee, consult Department of Transportation Technology.

ROOM AND BOARD—Cost of room and board is $585 a student for each semester. The rate for room only in those residence halls which do not provide board, is $210 a student for each semester. A first payment of $50 to be applied toward room and board payment will be required with the signed contract before a housing assignment is made.

All prices quoted are on the basis of two students per room. Due to the unsettled condition of prices for food and labor, the University reserves the right to increase the charge during the year, if in its opinion, such an increase is necessary.

Address requests for housing information to the Director of Housing. It is the responsibility of each student to file his application for resident housing. This is not automatic upon acceptance by the University.
REFUNDS

STUDENT FEES—Changes in student credit hour load prior to the end of the final day for adding a course are considered to be reassessments, and a refund will be granted, in full, for any net reduction in such credit hour load. Alternatively, an increase in credit hour load will result in an upward adjustment of the fee assessment.

REFUND SCHEDULE:
For Complete Withdrawal

100 Per Cent Through the end of the final day for adding a course.
50 Per Cent From the end of the final day for adding a course through the 5th week of classes in a semester or second week in a session. Refunds to students who made an Admission Deposit will be reduced by the $50 deposit.

NOTE—The refund date will normally be determined by the date that the Registrar receives a Change of Enrollment request form or an Appeal to Withdraw form.

MILITARY SERVICE—A special refund schedule is applicable to students involuntarily called to active duty in the military service and is on file in the Controller's Office.

FLIGHT INSTRUCTION FEES—Refund of flight instruction fees will be made in accordance with the policy established by the Department of Transportation Technology.

RESIDENCY:

The following policy adopted by the Board of Trustees of Western Michigan University applies to all students:

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

2. A person who is at least 21 years of age at the time of registration in the institution and who has resided in this state six months next preceding the date of registration without being registered at a college or university during that period is deemed a resident of this state for the purpose of such registration.

3. The residence of a student who otherwise would be classified as a non-resident will follow that of his or her spouse if the spouse is classified as a resident.

4. No person is deemed to have gained or lost residence in this state while a student at any institution in this state, public or private, except by changes in status effected under paragraphs 1, 3 or 5.

5. A person in the service of the United States, and his wife or minor children, who have met the six months residence requirements in paragraph 2, may register as residents of this state.
6. An alien lawfully admitted for permanent residence in the United States and who has obtained his permanent visa, and his wife or minor children, who have met the other requirements herein for residence, may register as residents of this state.

7. A member of the University staff and his dependents may register as residents of this state.

It shall be the duty of every student at registration, if there are any possible questions as to his right to legal residence in Michigan under the rules stated above, to raise the question with the Controller and have such questions passed upon and settled prior to registration.

SCHOLARSHIP REGULATIONS

UNIT OF CREDIT

The unit of credit is the semester hour; the number of semester hours credit given for a course generally indicates the number of periods a class meets each week.

GRADING SYSTEM

The student receives one grade in each course that he takes. This grade combines the results of class work, tests, and final examinations. Grades are indicated by letters, to each of which is assigned a certain value in honor points per hour of credit, as shown in the table below.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Significance</th>
<th>Honor Points per hour credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Excellent</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>Good</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>Fair</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>Passing</td>
<td>1</td>
</tr>
<tr>
<td>E</td>
<td>Failure</td>
<td>0</td>
</tr>
<tr>
<td>X</td>
<td>Failure (Unofficial Withdrawal)</td>
<td>0</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete</td>
<td>0</td>
</tr>
<tr>
<td>CR</td>
<td>Credit</td>
<td>0</td>
</tr>
<tr>
<td>NC</td>
<td>No Credit</td>
<td>0</td>
</tr>
</tbody>
</table>

"I" INCOMPLETE

This is a temporary grade given for work which is lacking in quantity to meet course objectives. It may be assigned when illness, necessary absence, or other reasons generally beyond the control of the student prevent completion of the course requirements by the end of the semester. This grade may not be given as a substitute for or as a means of evading a failing grade.

A grade of "I" may be removed only by the instructor who gave it, or, in exceptional circumstances by the department head or his appointed representative. If the "I" is not removed within a period of two calendar years, the Incomplete remains a part of the student's permanent record. When the "I" is removed, a permanent grade will be recorded. Students
who receive an incomplete grade in a course must not re-register for the course in order to remove the "I".

An instructor who assigns a grade of "I" will submit to the Department Chairman and to the Registrar a statement of remaining requirements for removal of the incomplete grade for each student concerned.

**COMPREHENSIVE EXAMINATIONS**

Each department shall have the authority with the approval of its dean, to establish a procedure for granting credit for any course in that department through comprehensive examinations. All comprehensive examinations should be administered by authorized personnel determined by the department. Each department should determine those courses for which the comprehensive examination procedure would apply.

All credit by examination is subject to the following regulations:

1. All credit will be posted as credit only without grade or honor points. Students who do not achieve a sufficient score for credit will have no entry made.

2. Credit by comprehensive examination in courses numbered 300 or higher can be used to meet the requirement that one-half of all academic work must be completed at a four-year degree granting institution.

3. Credit by comprehensive examination can be used to meet all other University graduation requirements except the minimum residence requirements.

4. Credit by comprehensive examination can be posted only for admitted students who have either previous or current enrollment.

5. All credit by comprehensive examination is normally considered undergraduate credit.

Examination fees are assessed on a clock hour basis and are the same for all students. The current fee schedule:

- Less than four clock hours $25.00
- Four clock hours to eight clock hours $50.00

By special arrangement some course examinations may require higher fees.

**CREDIT/NO CREDIT SYSTEM**

The regulations of a system, supplementing the A, B, C, D, and E grading system but not replacing it except as the student wishes, are as follows:

1. The name of program shall be Credit/No Credit.

2. "Credit" will be posted for each student who earns the grade of A, B, or C. "No Credit" will be posted for the grade of D or E. Faculty members will not be notified whether a student is taking a course for a grade or for Credit/No Credit.

3. A student may elect for Credit/No Credit any course in General Education or General Physical Education as well as other courses not counting toward his major or specified in his curriculum as defined in the University Undergraduate Catalog.*

*Directed Teaching, a required course, is taken on a credit/no credit basis.
Acceptance of Credit/No Credit in required courses may be permitted on an individual basis by the head of the department or dean of the college requiring the course.

4. A student may change only during the drop/add period from Credit/No Credit to grade or from grade to Credit/No Credit.

5. All undergraduate students, regardless of classification or probationary status, will be allowed to enroll Credit/No Credit.

6. Credit/No Credit courses, while counting toward a degree, will not be used to determine the overall grade point average (GPA) of the individual student.

IMPORTANT: Students should be fully aware of the implications of this system for acceptance in graduate schools. It has been ascertained that most graduate schools will accept students who have elected to take courses on a Credit/No Credit basis, but that if courses taken on this basis are sufficient in number on the transcript, the Graduate Record 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.

A leaflet explaining the program is available in the Registration Office.

**REPEATED COURSES**

Any course in which a student may have been enrolled more than once is considered a repeated course. A grade must be presented for each course. The grade and credit earned the final time in the course will count toward curricular or degree requirements. All courses taken, even if they have been repeated, will be counted in grade point averages. Grade point averages will be adjusted for repeated courses, if necessary, only at the time of graduation. A repeated course is not removed from the student's record.

**HONOR POINTS**

The number of honor points earned in a course is the number of semester hours credit given by the course multiplied by the number of honor points per hour of credit corresponding to the letter grade received, as shown in the preceding table. For example, a grade of B in a four hour course gives 4 x 3, or 12 honor points.

**GRADE-POINT AVERAGE**

A grade-point average is obtained by dividing the total number of honor points earned by the total number of semester hours of work for which the student is officially enrolled during any period. For example, a total of 32 honor points earned in a semester by a student officially enrolled for 16 hours of work gives a grade point average of 32/16 or 2.0 for that semester.

**DEAN'S LIST**

To gain a place on the Dean's List for a semester, a student must:

1. Have taken at least fourteen semester hours of work during the semester for letter grade.
2. Have a grade-point average of at least 3.50 for the semester.
SCHOLARSHIP STANDARDS

A student must earn an over-all grade point average of at least 2.0 to satisfy degree requirements. The scholarship policy is intended to encourage satisfactory progress toward that end. The policy operates as follows:

1. Good Standing
   A student is in good standing whenever his over-all grade point average is at least 2.0.

2. Warning
   Whenever the grade point average for any enrollment period is less than 2.0, but the over-all grade point average is 2.0 or above, the student will be warned.

3. Probation
   The student will be placed on probation whenever his over-all grade point average falls below 2.0.

4. Probation Removed
   Whenever the conditions of Good Standing are restored, Probation will be removed.

5. Continued Probation
   If the over-all grade point average increases, although still below 2.0, the student may be continued on Probation for one additional enrollment period.

6. Dismissal
   The student who fails to increase his over-all grade point average at the end of an enrollment period of Probation, or whose over-all grade point average fails to reach 2.0 at the end of one enrollment period of Continued Probation, will be asked to withdraw from the University. Exceptions may be granted, at the discretion of the Registrar, where the increase has been substantial but still falls fractionally short of the minimum 2.0 requirement.

CLASS ATTENDANCE

Students are responsible directly to their instructors for class and laboratory attendance as well as for petitions for excuses for absences.

CLASS LOAD

A first semester freshman may not enroll for more than eighteen hours of work except by special permission, which is seldom granted unless the curriculum demands it. This regulation applies to total credit for work taken by extension or in some other institution, in addition to credit desired in residence at Western.

The normal maximum load for the Spring and Summer sessions is nine hours.

Students employed part-time should reduce their class loads proportionately. If a student works full time, his academic load should not exceed eight to ten hours.
Full time teachers will be limited to a maximum of six hours each semester either on campus, through Division or Continuing Education or both. No full time teacher may enroll at any time in more than two courses offered by the Division of Continuing Education.

**CHANGING COURSES (DROP-ADD)**

Students may enroll in (Add) any course through the first six days (of a regular semester) of classes, including Saturday. The final date for adding courses will be published in the Schedule of Classes. (Time for ‘Adds’ proportionately reduced for the short sessions.)

Students may withdraw (Drop) from courses without grade through the first Saturday past mid-semester. (Initiate this action at the Records Office.) The final date for dropping will be published in the Schedule of Classes. Students may not withdraw from one class or from all classes after this date without penalty.

Students who believe that they must withdraw after this date without penalty because of genuine hardship must appeal to a Faculty-Student Committee. Documented justification must be presented to the Office of the Dean of Admissions and Records on appropriate forms to be secured at the Records Office. The student is expected to follow the outlined steps in making this appeal. The action of the Committee will be final. Each student is encouraged to visit with his instructor before deciding to withdraw from class. The above policy applies to students who withdraw from any or all of the courses for which they are registered. For additional regulations governing complete withdrawals, see section under “Withdrawal From the University.”

**WITHDRAWAL FROM THE UNIVERSITY**

Any student who wishes to withdraw completely from the University must initiate this action through the Office of Records.

**CLASSIFICATION**

Students at Western Michigan University are classified officially as follows:

- **Freshmen**—Students credited with 0-25 hours inclusive.
- **Sophomores**—Students credited with 26-55 hours inclusive.
- **Juniors**—Students credited with 56-87 hours inclusive.
- **Seniors**—Students credited with 88 hours or more.

**COURSE NUMBERING SYSTEM**

The course numbering system is limited to three digits. The first digit indicates the level of work. The second digit indicates an area of study within the series or level. The third digit indicates the specific course number in each area and each series. Undergraduate courses are numbered from 100 through 599. Graduate courses are numbered 600 through
If the course number has been changed within the past three years, the former number is shown in parentheses following the current course number.

**Course Numbers**

<table>
<thead>
<tr>
<th>0-89</th>
<th>Non-credit courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-99</td>
<td>Terminal course credit that may not be applied toward degree programs</td>
</tr>
<tr>
<td>100-199</td>
<td>Courses primarily for Freshmen</td>
</tr>
<tr>
<td>200-299</td>
<td>Courses primarily for Sophomores</td>
</tr>
<tr>
<td>300-399</td>
<td>Courses primarily for Juniors and Seniors</td>
</tr>
<tr>
<td>400-499</td>
<td>Courses primarily for Seniors</td>
</tr>
<tr>
<td>500-599</td>
<td>Courses for advanced undergraduates and graduate students</td>
</tr>
<tr>
<td>600-699</td>
<td>Courses for graduate students only</td>
</tr>
<tr>
<td>700-799</td>
<td>Graduate Seminars, Theses, Independent Research, etc.</td>
</tr>
</tbody>
</table>

Generally speaking, an even numbered third digit is the first half of the course and an odd numbered third digit is the second half of the course. Courses that terminate at the end of one semester and may not be divided into two courses in the immediate future may be assigned an odd numbered third digit to protect the system from becoming overloaded with even-numbered third digits. Frequently, applied music has variable credit and will be two digits with a prefix of either “H” or “Z”.

**EXAMINATIONS**

1. All students enrolled in a course in which a final examination is given must take the examination.
2. Students may not request an examination at any other than the scheduled time. Any unavoidable conflict should be reported to the Dean of Admissions and Records as soon as known so that special arrangements can be made.

**GRADUATION**

Application for graduation must be made no later than seven weeks before the anticipated graduation date. In order to secure a graduation audit statement before registration for the final semester, a student should apply during his junior year.

Application for graduation:

**Summer Session**

Apply by April 1, but not later than July 1.

**Fall Semester**

Apply by January 1, but not later than November 1.

**Winter Semester**

Apply by September 1, but not later than March 1.

**Spring Session**

Apply by January 1, but not later than May 1.
STANDARD FOR GRADUATION

A student must have an overall grade point average of 2.00 or higher to be graduated in any curriculum. If a student goes on academic probation or is dismissed as a result of the work taken in his final semester, he will be required to remove the low scholarship status before being granted a degree or certificate.

FINAL DATE FOR COMPLETION OF WORK

All work taken either on or off the campus must be completed by graduation day. Transcripts of completed work earned off the campus will be received after the end of the semester only in cases where there are extenuating circumstances.

Courses taken or completed after the summer session will not count toward bachelor's degrees or teaching certificates granted at the close of the summer session. Students who take or complete such courses will receive their degrees and certificates at the close of the fall semester.

Correspondence courses must be completed, examinations taken, and the grades received in the Registrar's Office on the following dates, as applicable for degree considerations:

a. For December graduation, by November 15
b. For April graduation, by March 15
c. For June graduation, by May 15 (No commencement Program)
d. For August graduation, by July 15

Students who fail to meet the above standards will be removed from graduation lists automatically. Such students will be placed in the class of the succeeding semester or session only after reapplication for graduation, assuming other requirements can then be met. When a student fails to meet requirements for graduation resulting from failed courses, incomplete work, or for any reason for which the student accepts responsibility or has control, responsibility rests with the student to reapply for the next regular graduating class following completion of his requirements.

HONORS

Honors are conferred upon graduating students who have displayed a high level of performance during their university career. Such honors are announced at a special convocation.

Recipients of honors receive their degrees:

Cum laude—when their grade-point average is 3.50 to 3.69, inclusive
Magna cum laude—when their grade-point average is 3.70 to 3.89, inclusive
Summa cum laude—when their grade-point average is 3.90 to 4.00, inclusive

In computing grade-point average for honors in course, the following rules will apply:

1. Credits and honor points earned during a student's second to seventh semester, inclusive, only will be counted toward honors.
2. Credits and honor points earned in correspondence and extension classes will be considered toward honors.
3. No student will be eligible for honors who has not earned at least 160 honor points in this University during the interval mentioned in Rule 1.

TRANSCRIPTS

A student desiring a transcript of his record in this University should write to the Office of Academic Records giving dates of attendance and, if a graduate, the date of graduation. He should give all names under which he may have been enrolled. Each student is entitled to one transcript of his record without charge. Additional copies are one dollar each. No transcript will be released except upon written authorization of the student.

FOREIGN STUDENTS

Western Michigan University has long encouraged the enrollment of students from other countries. The presence of foreign students within the student body establishes an international dimension which encourages both formal and informal cross-cultural contacts and the development of positive interpersonal relationships on the campus as well as in the community.

The Office of Foreign Student Affairs deals with the special needs and circumstances of foreign students such as processing of applications for admission, conducting an orientation program for new foreign students prior to each enrollment period, assisting with housing arrangements, coordinating community programs involving foreign students, providing advisement on matters related to each student’s immigration status, serving as a liaison between the student and his sponsor, and offering personal and social counseling on a wide variety of concerns.

While at the University, foreign students may participate in numerous academic and social activities. Students are invited to become involved in these activities according to their interests and available time.

Any foreign student interested in seeking admission to Western should contact the Office of Foreign Student Affairs for an application form and instructions.

IDENTIFICATION

Each student on campus is required to have an identification card which includes photo, name, social security number and validating label.

STUDENT ACADEMIC RIGHTS:
POLICIES AND PROCEDURES

I. Introduction

The University endorses as a guideline for policy the following section from the Joint Statement on Rights and Freedoms of Students.
In the Classroom
The professor in the classroom and in conference should encourage full discussion, inquiry and expression. Student performance should be evaluated solely on an academic basis, not on opinions or conduct in matters unrelated to academic standards.

Protection Against Improper Academic Evaluation
Students should have protection through orderly procedures against prejudiced or capricious academic evaluation. At the same time they are responsible for maintaining standards of academic performance established for each course in which they are enrolled.

Protection of Freedom of Expression
Students should be free to take reasoned exception to the data or views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.

II. Policies and Procedures
A. Students should be fully informed by the faculty about course requirements, evaluating procedures and academic criteria to be used in each class. This information should be provided at the beginning of the semester or sufficiently in advance of actual evaluation.

B. Procedures for Reviewing Student Grievances Related to Grading

(1) Students have the right to have all their examinations and other (written) graded material made available to them with an explanation of the grading criteria. Faculty should retain all such material not returned to the student) for at least one full semester after the course was given. Faculty are not required to return such material to the student but must provide reasonable access to it.

(2) Whenever a student believes he has a grievance regarding a grade, he should first arrange a meeting with his instructor who may be able to explain the reasons for the grade or recommend a change if warranted.

(3) If the student believes that he has not received a satisfactory resolution of his grievance from the instructor, he should then go to the department chairman or head, who may effect a satisfactory resolution through his good offices.

(4) If the student is still dissatisfied after seeing the department chairman or head, the student should next see the University ombudsman. The function of the ombudsman in this situation would be to collect information from both the student and the faculty member and then to make a decision that (a) the student's grievance is unwarranted, and should not be considered further, or (b) there is sufficient evidence that the situation be considered by the Undergraduate Committee on Academic Fairness.

(5) The Undergraduate Committee on Academic Fairness consists of three faculty and three undergraduate students.

(6) When a case is presented to the Committee, the Committee shall investigate it, making sure that all interested parties have a full opportunity to present their position. The Com-
mittee will be able to recommend (a) no grade change, (b) a change of letter grade, (c) pass or fail or credit/no credit, or (d) any other grade used by the Records Office.

(7) If the Committee decides that there should be no change of grade they will so inform the student, the faculty member, the department chairman or head and the ombudsman. If the Committee decides to recommend a change of grade, the Committee will first inform the faculty member of its intent so that he may initiate the change himself. If the faculty member prefers not to initiate the change, the Committee will do so by notifying the Dean of Records and Admissions.

(8) To protect all parties involved in any case, the strictest privacy consistent with the Committee's task will be maintained.

(9) Occasions do occur when a faculty member or an administrative official may wish to question a grade or a grade change. In such instances, these procedures, beginning with review by the ombudsman, shall be available to them.

C. Policies and Procedures Regarding Requirements

(1) All students who seek advice on academic requirements will be provided written copies of their academic adviser's recommendations and students will not be held responsible for errors made by their advisers. This section is not to be interpreted to mean that the student is relieved of the responsibility of meeting the total graduation requirements stated in the catalog in force at the time he was admitted, or in a later catalog if he chooses to meet its graduation requirements.

(2) The student shall not be held responsible for meeting curricular requirements that are not listed or not applicable under the catalog governing the work he is taking.

(3) Every department (shall) provide systematic procedures for students to express their views on matters of program and curriculum.

(4) University policy and implementation of such policy should not be determined and enforced according to the needs of computer programming or records. Special care should be taken to insure that no individual is treated unfairly because of computer problems.

(5) The University ombudsman will have the authority to investigate complaints and recommend or negotiate fair solutions on behalf of the student.
Student Services

CAREER PLANNING AND PLACEMENT

Two services with closely related purposes are offered to Western students and alumni. The first is designed to assist the individual in making a career choice, while the second is to help the person in obtaining an entry level position or an upgrading of present position which reflects the training, experience, and interests of the candidate.

CAREER PLANNING—Western Michigan University offers many unique and challenging curricula in each of its seven colleges. Students are encouraged to visit or call the Career Planning and Placement Office, and make an appointment to talk with one of the trained counselors. Close liaison is maintained with the Counseling Center and the Testing Services Office in helping any student make decisions regarding their future occupation(s).

PLACEMENT—Western Michigan University operates a centralized placement service, and offers continuous services to seniors, graduates and employers. In 1971-72, this office served 5600 seniors and alumni who were actively looking for a position. Such assistance includes:

- Setting up interview sessions on campus between employers and candidates.
- Making personal referrals to employers on availability of trained individuals.
- Maintaining an occupational library.
- Publishing two weekly employment bulletins of job vacancies which are widely distributed on and off campus, and supplementing this with periodic listings of summer and part time employment needs.

This office is located in the Knollwood Building one block south of West Michigan Avenue on Knollwood Street, and is open from 8:00 a.m. —Noon, and 1:00-5:00 p.m. Monday through Friday.

CONDUCT AND DISCIPLINE

Rules and regulations covering student conduct are developed by the Student Services Council composed of faculty and students. The policies, when approved, are published in The Code of Student Life. Rules and regulations appearing in this Code are developed under the philosophy reflected in this statement:

"The individual student of Western Michigan University, as a part of the University society, should be encouraged to help develop a responsible, intelligent community. He should be encouraged to maintain his own integrity through sound self-discipline. The University should adopt only such reasonable rules and regulations as are necessary for the orderly and harmonious, functioning of the whole community."
The Dean of Students has the overall responsibility for student conduct and discipline. It is implemented by the Office of University Judiciaries. When infractions of rules and regulations occur, violators will be referred to the Office of University Judiciaries for disposition.

COUNSELING CENTER

Many important decisions and situations will confront students while they are at Western Michigan University. They will need to make decisions regarding courses, curricula, and vocational choice. They may become involved in social and personal situations which leave them feeling confused and upset. In addition, it is likely the inherent stresses of university life will cause most students, at some time, to feel emotional discomfort. The University Counseling Center, located on the main floor of the Student Services Building, exists to help students deal effectively with such concerns.

Accredited by the American Board on Counseling Services, the Center is staffed with professionally trained counselors and psychologists. Among the services provided by the Counseling Center are:

- **Individual counseling**, providing students with an opportunity to discuss various concerns including vocational planning, academic counseling, educational goals and personal or emotional difficulties.

- **Group sessions and workshops**, designed to increase self-understanding, facilitate life styles and career decisions, improve relationships with others, increase leadership skills and eliminate behaviors that are self-defeating.

- **Occupational-Vocational Library**, which provides a wide variety of information concerning careers as well as a substantial number of catalogs and bulletins from other American colleges and universities.

- **Training and Internship programs**.

Students using the counseling service are assured of complete confidentiality.

Appointments may be made by telephone or by stopping at the Counseling Center reception desk between 8 a.m. - 12 noon or 1 - 5 p.m., Monday through Friday.

HEALTH SERVICE

POLICIES AND PROCEDURES:

Western Michigan University Health Center provides facilities for medical, surgical, physical, or psychiatric examinations. All undergraduate students, and new student transfers are required to have on file with the Health Center a record of a physical examination performed by a physician of the student’s choice. If no physical examination is on file, the usual customary fee for an office call will be charged until the physical examination is on file. Registration is not considered complete until the health examination has been received. In order to assure uniformity of records, the University Health Center blank is sent to each student by the Admissions office along with the individual’s notification of acceptance as a student.
WHO IS ELIGIBLE FOR CARE:

All undergraduates regularly enrolled in the University and taking 7 or more credit hours are entitled to health service during the term in which they are enrolled. Spouses of eligible students are seen by appointment and on a fee basis. The Health Center is not presently staffed adequately to provide care for children of students. A validated identification card must be presented when service is requested. Part time students, taking 6 credit hours or less in a semester, or 1 to 3 hours in a session are charged a fee for each clinic visit. Faculty members employed full time and enrolled in one or more courses are not considered students and are not eligible for care at the Health Center.

A student is entitled to use the Health Center facilities only when he or she is enrolled in the University. The date and time limitations of enrollment are established from the University calendar, in the Western Michigan University catalog.

LOCATION:

The student Health Center is located on the west side of Gilkison Drive, north of Michigan Ave. The emergency entrance is on the south side of the building, just west of the main entrance.

HOURS:

Monday through Friday hours are 8 a.m. to 4:30 p.m. Saturday hours, 9 a.m. to 12 noon, are for urgent or emergency services only. Summer session hours, Monday through Friday are 8 a.m. to 4:15 p.m. Visiting hours for the hospital section patients are limited to 2 p.m. to 4 p.m. and 7 to 8 p.m. Monday through Friday and 2:30 to 4 p.m. Saturday and Sunday.

EMERGENCY SERVICE:

When the University is in session there is a 24-hour emergency service with nurses on duty. This service is available at all times at the emergency entrance. A service fee is charged for after hours emergency service. There is no after hours emergency service during the summer session.

TO SEE A PHYSICIAN—OUTPATIENT CLINIC:

Students are seen by appointment except for emergencies. Appointments can be made by calling 383-6005. If you cannot keep an appointment, call to cancel it. Your failure to cancel an appointment will compromise another student’s opportunity to see a physician.

PSYCHIATRIC CONSULTATIONS:

Consultations are made on a referral basis by our physicians and/or on an appointment basis.

FEES:

No fee is charged the full time student for his or her visit to the Health Center if the visit occurs during the hours of 8 a.m. to 4:30 p.m. Monday through Friday. A service fee is charged for students requesting service between the hours of 4:30 p.m. and 8 a.m. and on Saturdays after 12 noon until Monday morning. In addition to the service fee, students are charged conventional fees for all medications, medical supplies, x-rays and clinical laboratory diagnosis.
ALLERGY PATIENTS:

Students, who have procured special medication or allergy vaccines at their own expense, may have these substances stored at the Health Center and may have the scheduled administration of the medication performed there for a minimal fee for each treatment. Consultants are called upon by the recommendation of the staff physician and their professional fees are charged to the patient.

GENERAL INFORMATION:

In cases of acute illness or serious accidents a student patient may be taken to the Health Center or the emergency room of a local hospital. If an emergency case is taken to the Health Center during non clinic hours, the nurse on duty may confer with the physician on call, refer the patient to an emergency room at a hospital or arrange for temporary care pending the physician’s examination later.

Students who require medical care and laboratory examinations, which cannot be performed at the Health Center, will be referred to a local hospital. When a student is transferred to a local hospital, the nearest relative or friend will be notified as early as possible.

No operative procedures will be performed on students under the age of 18 without permission of the parents, except in cases of extreme emergency or life threatening situations. Cost related to hospitalization, including fees of outside consulting physicians, are the responsibility of the student or the parents. It shall not be the responsibility of the University to pay for such hospitalization or consultation.

STUDENT HEALTH INSURANCE:

To cover some of the medical expenses which may be incurred, it is strongly recommended a student carry a health and accident insurance policy. Most parents have such coverage; however, it is advisable to review the provisions of the policy regarding dependent’s age and college attendance. A group health and accident policy is offered to students through the University at a modest premium and may be applied for when a student is admitted to the University.

Parents of foreign students may have an insurance policy which provides benefits to a son or daughter but such policies frequently provide benefits only when an illness or accident occurs in the family’s country. Citizens of other nations who are studying or conducting research as foreign students on a temporary U. S. visa, e.g. F-1, J-1, B-2, A-2, etc., are required to maintain health and accident insurance coverage while they are attending the University which will provide benefits in the United States. Students not covered by an existing insurance policy may be interested in the group health and accident policy offered to students through the University. Foreign students may also wish to contact the Office of Foreign Student Affairs for information about other desirable insurance programs.

HOUSING POLICIES

HOUSING REGULATIONS

It is a condition of enrollment at Western Michigan University that all Freshman and Sophomore students live in a residence hall on campus. The classification of a student is determined by the number of semester hours earned that are acceptable to Western Michigan University.
Housing Policies

Juniors, Seniors, and Graduate students may live in housing of their own choosing.

EXEMPTION OF REGULATION

A request for exemption from regulations to occupy housing other than a residence hall on campus must be submitted by ALL FRESHMAN AND SOPHOMORE STUDENTS regardless of age, marital status, part-time status, commuter status, etc. Exemption requests must be submitted to the Off-Campus Housing Office, Student Services Building, for approval. A form is provided for this purpose.

GUIDELINES FOR GRANTING EXEMPTIONS

MARRIED STUDENTS—those living with their spouses. Proof of marriage may be required.

SOPHOMORES—members of a fraternity or sorority may elect to live in their fraternity or sorority house provided it is registered with the Office of Student Activities.

PART-TIME STUDENTS—those carrying 6 hours or less during fall and winter semesters and 4 hours or less during spring and summer sessions.

COMMUTING STUDENTS—those living in the homes of their parents. A personal interview with the parent may be required to confirm the student's housing arrangement before an exemption is granted.

UNIQUE CIRCUMSTANCES—such as severely physically handicapped persons, those with medical or psychological conditions, Bronson Hospital student nurses living in Truesdale Hall, unwed mothers, seminary students living in residence, and veterans of the Armed Forces.

Students will not be granted exemptions for financial reasons. They are expected to have the financial resources to attend W.M.U. or seek financial assistance from the Office of Student Financial Aid and Scholarships.

CHANGE OF ADDRESS

ALL STUDENTS MUST REPORT THEIR ACTUAL LOCAL ADDRESS WHILE ATTENDING THE UNIVERSITY.

HOUSING VIOLATIONS

Any student who violates the University regulations regarding housing policies will be referred to the Office of University Judiciaries. For further information regarding University regulations, please consult the Office of the Dean of Students.

RESIDENCE HALLS—20 residence halls of various styles serve approximately 7,200 students.

MARRIED HOUSING—590 married student apartments consisting of 341 one-bedroom and 249 two-bedroom, in either furnished or unfurnished styles.

SORORITY/FRATERNITY HOUSES—Privately owned and operated by various fraternal organizations for their members.
The primary contribution the University Ombudsman makes to Western Michigan University is the confirmation that the University seeks to resolve grievances and provide justice for all members of the University community. To achieve this goal at Western Michigan University, the University Ombudsman has the following prerogatives and responsibilities:

The Ombudsman is a presidential appointee chosen with the active participation of students, faculty and staff and confirmed by the Board of Trustees. Regardless of the present position of the proposed Ombudsman, it is imperative he be a competent, well-known and respected person on the campus and his role as Ombudsman be recognized by faculty, staff and students as one of importance. The appointment is to be for a two-year term with an option of one additional two-year reappointment.

The Ombudsman's ability to function effectively comes primarily from his skill in working with others to resolve difficulties and from the fact he acts under authority of the President of the University, to whom he reports. His role is to investigate and mediate grievances. He must be dedicated primarily to concerns of the individual as opposed to the power of the institution to impose its will. However, his position must be impartial rather than partisan. To be effective in dealing with students, faculty and staff, the integrity of the Ombudsman must be unquestionable.

The Ombudsman will assure simple and rapid procedures for hearing requests, complaints and grievances. He shall investigate such matters, and where he discovers there is a malfunction in the administrative process or an abuse of power, he shall assist the individual in accomplishing a quick and fair resolution of his problem. Some problems he may be able to remedy himself, but when appropriate, he will refer the person to other University members and/or offices. His office will be easily accessible and adequately furnished and staffed. He is authorized to make thorough investigations and shall have direct and prompt access to all University offices and relevant records. He will be alert especially to the chief causes for student concerns, and make recommendations for the elimination of these causes consistent with the fundamental purpose of the University. He shall keep written confidential records consistent with University policy regarding records and make periodic reports on the work of his office.

RELIGIOUS ACTIVITIES

Western Michigan University recognizes that helping people to clarify their values, to act on their commitments, to articulate their own beliefs and to understand the beliefs of others, is an important part of the educational process. The University endorses no particular faith or religious tradition, but it welcomes and facilitates the presence of many religious organizations.

A broad spectrum of religious opportunities including traditional, contemporary and experimental worship; individual and small group Bible studies; workshops and retreats; study-travel experiences, social concerns, religious drama, and action groups is available to interested students.
The Coordinator of Religious Activities and the campus ministry staff are available to students and their families for personal and religious counseling, information on all campus religious programs, and materials and resources for religious activities.

The Office of Religious Activities, which is a part of University Student Services, assures equality in the University's relationships with more than 15 student religious organizations and the 12 campus ministers currently present on campus.

The Kanley Memorial Chapel facility includes an interfaith Chapel, several meeting rooms and offices. It is maintained by the University as a center for religious activities and serves as the meeting place for most student religious organizations. It is also the home of three regular Sunday worship services, and provides a popular site for student weddings. The Office of Religious Activities and six campus ministers have offices in the building.

In addition to Kanley Memorial Chapel, there are five student centers operated by specific denominations on or near campus.

Specific information regarding the religious groups on or near campus is available in the Office of Religious Activities.

STUDENT ACTIVITIES AND ORGANIZATIONS

Classes, professors, and term papers are an ever present part of one's college experience, but the University recognizes that classroom activities alone do not provide the total education today's college students are seeking.

Students can enrich and broaden their collegiate life by becoming involved in any number of the more than 200 organizations coordinated and sanctioned by the Office of Student Activities located in the Student Services Building.

To develop leadership skills, gain valuable vocational training, gain new friends, get to know faculty members and administrators, serve the campus and the community—a student need only become involved in the extracurricular activities available on campus.

Organizations are divided into these interest areas:
- Departmental and Professional
- Honorary
- Publications and Communication
- Religious
- Service Organizations
- Social
- Special Interest
- Student Government

TESTING SERVICES

Testing Services provides many guides for students seeking self-understanding. Vocational Interest Inventories, Personality Assessments, Aptitude and many other types of tests are available. There is a minimal cost to cover the scoring.

Testing Services also offers assistance in planning research projects and papers. Scanning sheets are available free to students for the
purpose of collecting data and for various types of statistical analysis. Testing Services has the most extensive “Test File” in this area. These files can be of assistance for class projects or general information. They are open to both students and faculty members at no cost. Testing Services is located in West Hillside Apartments.

**STUDENT FINANCIAL AID AND SCHOLARSHIPS**

The Office of Student Financial Aid and Scholarships administers the Scholarship, the Long-Term Loan, the College Work-Study, the Supplemental Educational Opportunity Grant, the Short-Term Loan, the Law Enforcement Education, and the Off Campus Part-Time Employment programs.

The scholarship program at Western Michigan University is designed to reward academic excellence and to alleviate financial need. Students in all curricula may apply for scholarships ranging from $100 to $1,000 a year.

Students at Western also have the opportunity to apply for scholarships in their special fields of interest through the several academic departments. These scholarships are offered by individuals and by local and national industries in recognition of Western's unique contribution to certain fields of learning.

Scholarship application (Application for Financial Assistance) forms are available at the Office of Student Financial Aid and Scholarships. They may also be obtained from the principals of most Michigan high schools.

Scholarship applications must be completed by March 15. For further information please contact the Office of Student Financial Aid and Scholarships.

Several sources of loans are available at Western, including long term loans under the National Direct Student Loan program, the Federally Insured Student Loan Program, and the United Student Aid Funds, Inc. Employment opportunities, both on-campus and off-campus, are available to students at Western. The on-campus opportunities include regular University employment and Work-Study job opportunities. The Work-Study programs and off-campus job placement are administered by the Office of Student Financial Aid and Scholarships. For regular on-campus University employment see page 82 under “Student Employment.”

In determining financial assistance, Western utilizes the recommendations of the College Scholarship Service. An entering student who plans to apply for a scholarship, a National Direct Student Loan, a Supplemental Educational Opportunity Grant, or a College Work-Study job must submit a copy of the Parents' Confidential Statement to the College Scholarship Service, designating Western Michigan University as one of the recipients.

Information concerning fellowships may be obtained from the Graduate College.

**FINANCIAL AID PROCEDURES**

In seeking financial assistance through the Office of Student Financial Aid and Scholarships, a student interested in a National Direct Student
Scholarships

Loan, the College Work-Study Program, or the Supplemental Educational Opportunity Grant in addition to making application for admission must take the following steps:

1. Submit a Parents’ Confidential Statement (PCS) to the appropriate address given on the statement. The PCS may be obtained from the high school principal or counselor or the Office of Student Financial Aid and Scholarships.

2. Complete a Western Michigan University Application for Financial Assistance. It may be obtained from the high school principal or counselor or the Office of Student Financial Aid and Scholarships. The application deadline is March 15.

3. Arrange for a personal interview with a staff member of the Office of Student Financial Aid and Scholarships. Incoming Freshmen and Transfer students starting the Fall Semester should arrange for this interview during their summer orientation and/or preregistration period.

SCHOLARSHIPS

Distinguished University Scholarships

WALDO-SANGREN SCHOLAR AWARDS—These distinguished scholarships honor the first two presidents of Western Michigan University. Awards will be made to students of high academic achievement who have demonstrated leadership ability and pursue meritorious projects of academic value. Because this program assumes that highest scholarship recognition involves a dimension of commitment, the student may be involved in the following areas: Assistantships, Research, Special Projects, Foreign Study or Community Service. A 3.5 grade point average is desirable.

Available to undergraduate students, sophomore, junior or senior level. The scholarship stipend is up to $1,000 per academic year.

NATIONAL MERIT SCHOLARSHIP CORPORATION—Western Michigan University is an institutional member of this organization and effective with the fall semester 1971 will offer five sponsored merit scholarships to semi-finalists. College sponsored Merit Scholarships are awards available to seniors in all secondary schools; public, private and parochial—in fifty states, District of Columbia and certain territories and possessions. They are awarded on a competitive basis. Recipients are selected on the basis of ability to benefit from a college education; an important index is their relative scores on scholastic tests.

PAUL V. SANGREN ALUMNI DISTINGUISHED STUDENT SCHOLARSHIP—These distinguished scholarships honor the second president of the University. The awards range from $100-$500 and the funds are provided by the Alumni Association. Students are considered with outstanding scholastic records and who have been active in extra curricular activities.

HONORS COLLEGE SCHOLARSHIPS—A limited scholarship fund to support special needs, projects or programs. Apply directly to the Honors College.
General University Scholarships

BOARD OF TRUSTEES SCHOLARSHIPS—The Western Michigan University Board of Trustees provides funds to continue and enlarge the scholarship program. Annually a number of cash awards are given to academically outstanding freshmen and upperclass students. The scholarships range in value from $100-$400 per year and are renewable.

COMMUNITY COLLEGE SCHOLARSHIPS—Western Michigan University offers a program to community college transfers from Michigan community colleges who have successfully completed two years of academic work.

UNIVERSITY SCHOLARSHIPS—Western Michigan University annually awards a number of cash scholarships to academically superior freshmen and upperclass students. The scholarships range in value from $100-$500 per year and are renewable.

Distinguished Sponsored Scholarships

ALPHA BETA EPSILON SCHOLARSHIPS—Each of the 18 chapters of the sorority gives one or more scholarships each year. A student who receives a scholarship must fill the requirements set by the chapter. Apply to the chairman of the sorority chapter in your community.

ALVIN M. BENTLEY FOUNDATION SCHOLARSHIP AWARD FOR EXCELLENCE—The Alvin M. Bentley Foundation grants three $750 Awards for Excellence to incoming freshmen who are graduates of Michigan high schools. The scholarships are awarded for one year but may be renewed three times upon recommendation of the University Scholarship Committee.

THE CLIFFORD AND ELLA CHAPMAN SCHOLARSHIP FOUNDATION AWARD—These scholarships are provided from funds of the foundation established in 1964 by Clifford and Ella Chapman, long time friends of Western Michigan University. The number of scholarships and the amount of each will be determined by the University Scholarship Committee in consultation with the Trustee of the Foundation.

THE FORD MOTOR COMPANY FUND maintains a scholarship program for the sons and daughters of Ford Motor Company employees. Apply to the Ford Motor Company.

GENERAL MOTORS FOUNDATION SCHOLARSHIP—One four-year scholarship is awarded annually to a prospective freshman with outstanding scholastic and extra-curricular records who shows promise of continued success. The amount is based on need which is determined by the College Scholarship Service and Western Michigan University.

ELIZABETH DURAND HEBBEN SCHOLARSHIP—Originally the support for this funding was initiated by Elizabeth Durand Hebben who, as a student at Western Michigan University, became aware of the many students with financial difficulties involved in their educational program. The desire to help these students resulted in the continuing of this support through the establishment of this award through the generous contributions of Elizabeth and George Hebben. Consideration is given to junior and senior students with high academic standings and/or
Scholarships

distinctive financial needs. The award can be renewed for more than one semester; the stipend based on the type of need and availability of funds. Selections will be made by the University Scholarship Committee.

1968 SENIOR CLASS SCHOLARSHIP—This scholarship fund was created by contributing members from the class of 1968. Two annual scholarships of $100 each are presented to brothers or sisters of contributing members. In the event there are no family applicants, other students meeting the other criteria are eligible.

THE EDWIN AND ADELAIDE STEFFEN SCHOLARSHIP—This award is provided by the funding of a living trust through the generosity of Edwin and Adelaide Steffen to recognize students who have graduated from Saginaw, Decatur or L’Anse high schools. The award will be granted to entering freshmen for one semester or academic year, based upon the yield of the fund and the number of candidates applying. A grade point average of 3.0 or above is required with a demonstrated financial need.

UPJOHN COMPANY MERIT SCHOLARSHIP—The company sponsors a minimum of ten national merit scholarships, including one or more scholarships at Western Michigan University for science students from Southwestern Michigan. Eight of these scholarships are for students who plan to major in pharmacy, engineering, pre-medicine, or in one of the chemical or biological sciences. Two are for students who plan to pursue a course of study in any field. Administration of these scholarships is by the National Merit Foundation and all correspondence regarding them should be directed to the National Merit Scholarship Corporation, 990 Grove, Evanston, Illinois.

WOMEN’S ARMY CORPS—Extends the opportunity to all women students who have successfully completed their junior or first term senior year of college to participate in the College Junior and Student Officer Scholarship Programs. The College Junior Program is timed and planned to give an insight into the opportunities offered to college graduates as officers in the Women’s Army Corps. For further information, contact the Placement Office or nearest Army Recruiting Station.

HAZEL WIRICK RECOGNITION AWARD—An award of $250 a year for a student in his junior or senior year with an overall 3.0 grade point average and the recommendation of the Biology Department.

COLLEGE OF APPLIED SCIENCES

Agriculture

MICHIGAN FARM BUREAU—The Michigan Farm Bureau awards four scholarships of $125.00 each annually to the senior students chosen as the outstanding students majoring in Agriculture. Apply directly to the Agriculture Department.

KALAMAZOO FARM BUREAU—Students of less than senior standing who are Agriculture majors are eligible for one of the four Kalamazoo Farm Bureau scholarships worth $125 each. Apply directly to the Agriculture Department.
Scholarships

Engineering Technology

AMERICAN FOUNDRYMEN'S SOCIETY SCHOLARSHIP—The Central Michigan Chapter offers two $250 scholarships per year. The Detroit Chapter offers a $400 William D. Innes Memorial, and a $500 Theodore R. Schroeder Memorial Scholarship per year. Apply directly to the Engineering and Technology Department.

SOCIETY OF MANUFACTURING ENGINEERS (Phillip J. Beatty Memorial)—The Society of Manufacturing Engineers offers scholarships of $150-$250 to Engineering or Technology students, sophomore standing or above. Apply directly to Engineering and Technology Department.

CONTINENTAL CAN COMPANY—Has offered scholarship funds in the past up to $600 for one scholarship. Given to any Engineering and Technology major with approval of Continental Can Management. Apply directly to the Engineering and Technology Department.

DURAMETALLIC SCHOLARSHIP—The Durametallic Corporation offers two $250 scholarships per year to students enrolled in Engineering Technology. Apply directly to the Engineering and Technology Department.

FOUNDRY EDUCATIONAL FOUNDATION SCHOLARSHIP—The Foundry Educational Foundation offers eight $250 scholarships per year plus a special Jim Morrow Award in the name of S.D.C.E. Chapter #39 for $250 to any Engineering or Technology student having a direct interest in the foundry industry. Apply directly to the Engineering and Technology Department.

INDUSTRIAL MANAGEMENT SOCIETY SCHOLARSHIP—The Industrial Management Society offers one $250 scholarship each semester to a sophomore, junior or first semester senior enrolled in an Engineering Technology curriculum and who is a student members of IMS in good standing. Apply directly to the Engineering and Technology Department.

KYSOR INDUSTRIES MANUFACTURING SCHOLARSHIP—The Kysor Industries offer two $500 scholarships to students enrolled in the Manufacturing curriculum. Apply directly to the Engineering and Technology Department.

THE SOCIETY OF DIE CASTING ENGINEERS SCHOLARSHIPS—The St. Joseph and the Saginaw Chapters offer two $250 scholarships per year to any Engineering Technology student who has a direct interest in Die Casting or Die Making. Apply directly to the Engineering and Technology Department.

Food Distribution

FOOD DISTRIBUTION SCHOLARSHIPS—Each year Western offers a number of scholarships to qualified students majoring in Food Distribution. Amounts are variable. Applications should be obtained from the Department of Distributive Education.

NFBA FOUNDATION, INC., SCHOLARSHIP—This scholarship grant is offered to an undergraduate in the Food Distribution curriculum who is interested in making a career in food distribution. The amount of the scholarship is $750; it is offered for one year only. Apply to the Distributive Education Department.
Scholarships

INDUSTRIAL EDUCATION

S.M.E. SCHOLARSHIPS (Phillip J. Beatty Memorial)—The American Society of Tool and Manufacturing Engineers offers two scholarships per year to Industrial Education students, sophomore standing or above. Apply directly to the Industrial Education Department.

SPE SCHOLARSHIP—The Society of Plastics Engineers offers a one year, full tuition scholarship. Provisions of the scholarship include free one year membership to SPE, summer employment in one or more plastics industries, and commitments from the student to (1) pursue plastics education, and (2) attend a minimum of four SPE meetings during the calendar year. Apply directly to the Industrial Education Department.

MILITARY SCIENCE

MILITARY SCIENCE R.O.T.C. SCHOLARSHIPS—Four, three, two, and one year scholarships are available to qualified students. Each scholarship provides for all tuition, textbooks and laboratory fees in addition to an allowance of $100 per month for the period that the scholarship is in effect. Four-year scholarships are open on a competitive basis, to high school graduates who enter Army R.O.T.C. as freshmen. The other scholarships are open only to students enrolled in R.O.T.C. Applications for scholarships, which will begin the academic year following application, must be submitted between September 1 and January 15 of the current academic year. Students desiring application or other information should contact the Head of the Military Science Department.

OCCUPATIONAL THERAPY

EDNA BURIAN SKELTON SCHOLARSHIP FUND—Supported by the Kenny-Michigan Rehabilitation Foundation, this fund provides scholarships up to the amount of $300 annually. Grants will be based on merit and financial need and may be awarded at any time during the academic year. Preference will be given to residents of Michigan at the sophomore, junior and senior levels. Grants will be made to freshmen when circumstances warrant and funds are available. Students should earn a minimum 2.5 scholastic average. Apply to the Occupational Therapy Department.

MICHIGAN OCCUPATIONAL THERAPY ASSOCIATION—An award has been established by the Michigan Occupational Therapy Association for the purpose of aiding worthy students in occupational therapy. Applicants must exhibit scholarship, show a definite need, be Michigan residents and be juniors or seniors majoring in occupational therapy. Amount of each award is $200 annually. Apply to the Department of Occupational Therapy.

SOCIAL AND REHABILITATION ADMINISTRATION GRANT—Annual traineeships, awarded on the basis of scholarship and financial need, are offered to juniors, seniors and graduate students in occupational therapy. Apply to the Department of Occupational Therapy.

Information concerning scholarships other than those administered by the Department of Occupational Therapy may be obtained from the departmental secretary.
PAPER SCIENCE AND ENGINEERING

Up to 70 scholarships ranging in size from $150-$600 per semester are available to students majoring in the Paper Science and Engineering Curriculum. The average grant is about $400 per semester, renewable for eight semesters. The scholarship program is supported through the Paper Technology Foundation, Inc., The Louis Calder Foundation, individuals, and groups, as listed below.

Beginning students interested in the physical science and/or engineering may write the Department directly to request additional scholarship and curriculum information and to obtain scholarship application blanks. College students already in the Department or majoring in science or engineering and transferring to the Department are also eligible to apply. Recipients are selected each semester by the Paper Technology Scholarship Committee made up of University and industry representatives.

These scholarships are awarded on a semester-to-semester basis, primarily on the basis of superior academic achievement or promise. Need is a secondary consideration, but does have significance in deciding the level of the grant where academic factors are not decisive.

Conditions for renewal of the scholarships include the maintenance of a 2.5 cumulative point-hour-ratio, having no more than one semester below a 2.5 point-hour-ratio, and passing at least 14 semester hours of credit in the Paper Science and Engineering Curriculum.

The scholarship program is supported by major contributions from the following:

Members of the Paper Technology Foundation

Albany International Corporation
Allied Paper Incorporated
American Can Company Foundation
American Can Company—R & D
American Cyanamid Company
Anglo-American Clays Corporation
Appleton Papers, Inc.
Appleton Wire Works Corporation
BSAF Wyandotte Corporation
The Bauer Bros. Co.
Beloit Corporation
Benlo Chemicals
Bergstrom Foundation
The Black-Clawson Company
Blandin Paper Company—Blandin Foundation
Boise Cascade Corporation
Boxboard Research Development Association (BRDA)
Brown Company
Burgess Cellulose Foundation
Named Scholarship Fund
The Louis Calder Foundation
Olin W. Callighan Scholarship Fund (in memoriam)
Cameron Machine, Midland-Ross Corporation
Cargill, Incorporated
Celanese Coatings & Specialties Co.
Stein, Hall Products, Celanese Resins
Central Soya Company, Inc.
Champion International
Consolidated’s Civic Foundation, Inc.
Container Corporation of America
Bert Cooper
CPC International, Inc.
Diamond International Corporation
The Dow Chemical Company
The Draper Brothers Company
Theodore W. Dunn Memorial Scholarship Fund
Eastman Kodak Company
Engelhard Minerals & Chemicals Corporation
Freeport Minerals Company
French Paper Company
Georgia Kaolin Company
Georgia-Pacific Corporation
P. H. Glatfelter Company
Philip H. Glatfelter Scholarship Fund
D. S. & R. H. Gottesman Foundation
Grain Processing Corporation
Scholarships

Hammermill Paper Company—Hammermill Foundation
Albert S. Harman Scholarship Fund
Hercules Incorporated
Hoerner Waldorf Corporation
Hooker Chemical Corporation
J. M. Huber Corporation
Huyck Corporation
Irecon, Inc.
ITT Rayonier, Inc.
Improved Machinery, Inc.
Industrial Nucleonics Corporation
International Paper Company
Foundation
The Johnson Corporation
Kimberly-Clark Foundation, Inc.
The Lindsay Wire Weaving Co.
Mae Munter Callighan Scholarship Fund
Chas. T. Main, Inc.
The Mead Corporation Foundation
Measurex Corporation
Menasha Corporation Foundation
Michigan Carton Co.
Morden Machines Company
Mosinee Paper Corporation
Nalco Chemical Company
National Gypsum Company
The NL Industries Foundation, Inc.
The NSC Foundation, Inc.
Nekoosa-Edwards Paper Company, Inc.
Nicolet Paper Company
The Orr Felt Company
Owens-Illinois, Inc.
Oxford Paper Company
Packaging Corporation of America
Pfizer, Inc.
PIMA-Northwestern Division
Potlatch Forests, Inc.
Raybestos-Manhattan, Inc.
Rice Barton Corporation
Ronningen-Petter, Division of Dover Corp.
Russel H. Savage Scholarship
St. Regis Paper Company
Scott Paper Company Foundation
J. E. Sirrine Company
Stauffer Chemical Company
Fredrick W. Sutherland Scholarship—W. A. Kirkpatrick
Stowe-Woodward Co.
TAPPI—Kalamazoo Valley Section
Union Camp Corporation
Union Carbide Corporation
Vicksburg Foundation (Norman Bardeen Scholarship)
Weyerhaeuser Company Foundation

PETROLEUM DISTRIBUTION

PETROLEUM DISTRIBUTION—Each year Western offers a number of scholarships to qualified students majoring in Petroleum Distribution. Amounts are variable. Applications should be obtained from the Department of Distributive Education.

CENTRAL MICHIGAN OILMEN'S CLUB—A grant for student fees and books up to a maximum of $400 per year. Available on a one year basis. Open to high school graduates and community college students interested in petroleum from Clinton, Eaton, Ingham and Jackson counties.

"MIKE" JENKINS MEMORIAL SCHOLARSHIP AWARD—An award of $100 a year to be presented to the petroleum student with the highest overall grade point average. To be awarded in February of each year. The overall will be determined from the previous Fall semester grade report.

DETROIT OILMEN'S CLUB—A grant up to a maximum of $300 per year is available on a one year basis. Open to high school graduates and community college students from Wayne, Oakland, and Macomb counties with preference given to sons of oil families and oil company employees.
PRINTING MANAGEMENT

NORTHEASTERN PRINTERS, INC.—An award of $300 a year, to be divided equally between the Fall and Winter semesters, is available to high school graduates enrolling in the Printing Management Curriculum. Applicants must have been residents of Michigan for six months prior to the date of admission and must have a high school GPA of 3.0 or above. This award is renewable if the recipient maintains a 2.5 GPA overall and a 3.0 GPA in graphic arts courses. Apply to Printing Management, Department of Industrial Education.

PRINTING HOUSE CRAFTSMEN—The Kalamazoo Valley Club of Printing House Craftsmen has established a four-year scholarship in Printing Management at Western Michigan University, for residents of the State of Michigan. The scholarship pays $215 for each full semester and is renewable throughout the four years required to complete the curriculum. A new scholarship is offered each year so that up to four such grants may be in effect at any one time. Apply to the Industrial Education Department.

TRANSPORTATION TECHNOLOGY

AMERICAN AIRLINES SCHOLARSHIP—An American Airlines grant provides scholarships for worthy juniors in Aviation Engineering Technology. Awards up to $250 are made each semester. Transfer students are eligible after completing 15 semester hours at WMU. Apply directly to the Transportation Technology Department.

DUKE HARRAH MEMORIAL SCHOLARSHIP—Awards up to $250 will be available each semester to students in Aircraft Technology or Aviation Engineering Technology. All undergraduates who have completed at least 15 semester hours at WMU are eligible. Selection will be based on need and demonstrated scholarship. Apply directly to the Transportation Technology Department.

LUBRIZOL SCHOLARSHIP—An award of $500 for a student in Automotive Engineering Technology. To be eligible, a student must be a junior or senior in the Production and Testing curriculum option. Transfer students are eligible after completing 15 semester hours at WMU. Apply directly to the Transportation Technology Department.

College of Arts and Sciences

COMMUNICATION—Communication scholarships are offered to undergraduates who are majors or minors in the Department of Communication Arts and Sciences. These scholarships are in amounts ranging from $200-$700 per year depending upon the individual’s qualifications. The recipients of these scholarships must: (a) hold a 3.0 overall average, (b) be willing to assume positions of responsibility in assisting with research, working with co-curricular activities, and working on special projects, (c) be recommended by the Department of Communication Arts and Sciences. The scholarships are renewable by recommendation of this department. Contact the Department of Communication Arts and Sciences, Mr. James McIntyre.
MEDICAL TECHNOLOGY

KALAMAZOO UNIT OF THE AMERICAN CANCER SOCIETY—Open to residents of Kalamazoo enrolled in a Michigan college or university or to students enrolled in a Kalamazoo college or university at the sophomore level. The amount is approximately $200 and continues through the junior year if the academic average remains adequate; senior year awards are made in reduced and variable amounts. The recipient must matriculate at Borgess or Bronson Methodist Hospital Schools of Medical Technology. If the recipient drops out of the medical technology curriculum at any level for any reason, the scholarship reverts to a loan and becomes payable within one year after the student completes his or her education. After this period interest accumulates at 4 per cent. Apply to the Chairman, Committee on Medical Technology, Biology Department.

HACKLEY HOSPITAL AUXILIARY—The Auxiliary of Hackley Hospital (Muskegon) offers a scholarship in medical technology to cover tuition at Western Michigan University for the junior college year and the senior intern year. The award is based upon need and academic merit with preference given to students intending to intern at Hackley Hospital. Apply to the Chairman, Committee on Medical Technology, Biology Department.

THE RUPP AND BOWMAN SCHOLARSHIP—Open to Michigan residents enrolled in their junior or senior year in a medical technology curriculum in a Michigan college or university or in an A.M.A. approved Michigan Hospital School of Medical Technology which does not provide economic assistance for the intern year, but which year is necessary for a baccalaureate degree. The award is $400 for one academic year; if the recipient drops out of the medical technology curriculum at any level or for any reason, the scholarship reverts to a loan and becomes payable within one year. Apply to the Chairman, Committee on Medical Technology, Biology Department.

MUSIC

PERFORMANCE GRANTS—Each year Western offers a number of grants-in-aid to deserving music students through the Department of Music. These grants, ranging in value from $180-$300 per year, are available in the following areas: Ensemble, Applied Music, Special Ability, and Drum Major. For detailed information concerning dates of application and auditions, write to the Chairman of the Department of Music.

HARPER MAYBEE SCHOLARSHIPS—Awards are made by the Department of Music through the Harper Maybee Scholarship Fund to students in their final year of music study. The awards are made in the amount of $200 per semester to outstanding senior music majors, who carry a minimum overall grade point average of 3.0, and who demonstrate major evidence of accomplishment in their chosen field of music concentration. Funds for these scholarships, which honor the first Chairman of the Department of Music, are contributed by alumni and friends of Western Michigan University.

MAE ARNOLD THACKER SCHOLARSHIPS—Awards are made by the Department of Music through the Mae Arnold Thacker Scholarship
Fund to students in their final year of music study. The awards are made in the amount of $200 per semester to outstanding senior music majors, who carry a minimum overall grade point average of 3.0, and who demonstrate major evidence of accomplishment in their chosen field of music concentration. Funds for these scholarships are contributed by Nelle M. Thacker (class of 1920) to honor the memory of her mother, Mae Arnold Thacker.

HONORS STRING QUARTET AWARDS—Made possible by a grant from the Kalamazoo Symphony Society, these awards pay tuition, applied music fees, and an honorarium (total value approximately $600 per year). The awards are granted to two violinists, one violist, and one cellist of outstanding ability (preferably freshmen) each year and are renewable provided the student maintains a minimum grade point average of 2.75. Recipients perform in an Honors String Quartet, the University Orchestra, and the Kalamazoo Symphony. Apply to the Music Department.

MUSIC THERAPY—SIGMA ALPHA IOTA ALUMNAE AWARD—This award pays tuition for a music therapy student who meets the requirements. Preference will be given to juniors. Recipients will be selected on the basis of scholarship, musicianship, financial need, personality and faculty recommendation. The award is renewable provided scholastic and other qualifications are sustained. Apply to the Music Department.

THEODORE PRESSER SCHOLARSHIP—An award of $200 per semester is made through the Theodore Presser Foundation to a senior who is majoring in Public School Music at Western Michigan University. This student is selected from a list of students who are nominated by the Department of Music Faculty. The recipient, in addition to showing outstanding promise as a public school music teacher, must carry an overall grade point average of at least 3.0.

POLITICAL SCIENCE

ARDEN J. ELSASSER MEMORIAL SCHOLARSHIP—This scholarship has been established by the League of Women Voters of the Kalamazoo area in memory of Arden J. Elsasser who gave faithful service to this organization and contributed to the Kalamazoo community. The award, which is made annually, will normally be $150. This amount may be varied depending on the availability of funds. Application is open to women undergraduates or graduates majoring in political science at Western Michigan University. Applicants must have a minimum grade point average of 3.0 overall and in Political Science, and must have second semester junior standing by the end of the term in which the award is granted. See Chairman, Political Science Department for information and application.

SCIENCE

PAUL ROOD FELLOWSHIP—The generous gift of Dr. and Mrs. Paul Rood has made it possible to grant in the freshman year to outstanding men and women planning to major in physics amounts up to $300. These stipends may be continued for students maintaining a high scholastic record in physics, mathematics and related sciences. Application forms may be obtained from the Department of Physics, Western Michigan University.
Scholarships

SPEECH PATHOLOGY AND AUDIOLOGY

Senior traineeships, awarded on the basis of scholarship and financial need, are available annually from grant funds provided by the office of Education, Department of Health, Education and Welfare.

Scholarships for juniors, seniors and graduate students are offered by the Michigan State Department of Education for majors in speech pathology and audiology who are preparing for professional careers as speech and hearing clinicians in public schools.

College of Business

GENERAL SCHOLARSHIPS OPEN TO ALL STUDENTS IN COLLEGE OF BUSINESS

BUSINESS—American National Bank Scholarship: An annual award to any student enrolled in the Business Administration curriculum. The award is based on scholarship ability and financial need. Apply to the College of Business.

BUSINESS—Gamma Tau Chapter of Alpha Kappa Psi, awards annually a scholarship key to the senior male student in business who has the highest scholastic average for two years of work completed at Western Michigan University.

ARNOLD E. SCHNEIDER SCHOLARSHIP AWARD—The Gamma Tau chapter of Alpha Kappa Psi awards twice annually a Sixty Dollar ($60) Pledge Scholarship to the individual who during the semester in which he is a pledge attains the highest grade point average of any pledge.

The chapter also awards twice annually $100 Active Member Scholarship. This scholarship is awarded to the individual member who has accumulated the highest grade point average for his last two years of work at Western Michigan University. Apply to the College of Business.

FIRST FEDERAL SAVINGS AND LOAN ASSOCIATION SCHOLARSHIP—An annual award to any student enrolled in the Business Administration Curriculum. The student must exhibit scholastic ability and financial need. Preference is given to students who are residents of western and southwestern Michigan. Apply to the College of Business.

REAL ESTATE SCHOLARSHIP—This scholarship is open to any student enrolled in the College of Business who will commit himself to the Real Estate Certificate program. The student must exhibit a definite need as well as scholastic ability. The amount of the award is $250 per semester for a total of $1,500, including a year towards a master's degree. Apply to Dr. A. C. Edwards, College of Business, Western Michigan University.

ACCOUNTANCY

ALEXANDER GRANT & COMPANY SCHOLARSHIP—Alexander Grant & Company, Certified Public Accountants, offers one annual award for student fees. It is open to students majoring in accounting who have completed or are completing their junior year. Both need and scholarship must be demonstrated. Contact the Department of Accountancy, College of Business.
SCHOLARSHIPS

CROWE, CHIZEK AND COMPANY SCHOLARSHIPS—Four annual awards to accounting majors for their junior year at Western Michigan University. Two of the recipients are selected from sophomores at Western Michigan University, one is selected by the faculty at Lake Michigan College and one is selected by the faculty at Southwestern Michigan College. Contact the Department of Accountancy, College of Business.

DOERN, MAYHEW, GROB AND McNAMARA SCHOLARSHIP—An annual award to a senior majoring in accounting that transferred from Kellogg Community College. Contact the Department of Accountancy, College of Business.

ERNST AND ERNST AWARD—An annual award to the outstanding graduating senior with a major in accounting.

KALAMAZOO ACCOUNTANTS ASSOCIATION SCHOLARSHIP—One award for student fees and automatic membership in the Kalamazoo Accountants Association for the period of the scholarship is open to juniors or seniors majoring in accounting. Contact the Department of Accountancy.

BUSINESS EDUCATION AND ADMINISTRATIVE SERVICES

NATIONAL SECRETARIES ASSOCIATION SCHOLARSHIP—Applicants must submit an essay stating "Why I am Preparing to be a Secretary (or Teacher)." Open to any student in the secretarial curriculum having an academic average of B and the recommendation of the faculty based on character, scholastic aptitude, endeavor and financial need. Contact Mr. T. W. Null, Coordinator, Department of Business Education and Administrative Services, College of Business, Western Michigan University.

ROSEANNE SCHNEIDER MEMORIAL SCHOLARSHIP—The Roseanne Schneider Memorial fund offers one annual award to a senior student majoring in the teaching of business subjects. The award will be made by the Scholarship Committee on the basis of scholarship and commitment to teaching as a career. Contact the Department of Business Education and Administrative Services, College of Business, Western Michigan University.

GENERAL BUSINESS

DONALD E. CHARNLEY MEMORIAL INSURANCE AWARD—This award in the amount of $100 is granted annually to the senior insurance student whose achievements during his undergraduate years merit special recognition. Consideration is given to extra curricular activities, character, and adherence to professional ideals, as well as scholastic achievement.

MICHIGAN ASSOCIATION OF MUTUAL INSURANCE AGENTS SCHOLARSHIP—An annual scholarship of $430 is available to insurance majors with senior status. Apply to Dr. W. L. Burdick, Department of General Business.

JAMES M. WILSON, SR. MEMORIAL INSURANCE SCHOLARSHIP—An academic year scholarship of $500 is awarded to an undergraduate
Scholarships

with an interest in pursuing a career in the insurance industry. The award is made on the basis of scholastic ability only and may be renewed at the option of the donor. Apply to Dr. W. L. Burdick, Department of General Business.

MARKETING

DOW MARKETING SCHOLARSHIPS—Two scholarships in the amount of $500.00 each are awarded during the Winter semester for the following school year to declared marketing majors of junior class standing (56-87 hours) who are carrying a minimum of 12 semester hours and whose cumulative grade point averages are at least 2.5. Also considered are work experience, participation in University and community activities, and faculty recommendations. Awards are available in amounts of $250.00 per person during registration for the Fall semester and again during registration for the Winter semester, provided the minimum grade point average of 2.5 and course load of 12 semester hours are maintained. Application forms can be obtained from and should be turned in to the Marketing Department Secretary, 224 North Hall, East Campus, by February 16.

PHYSICAL EDUCATION

M. J. GARY SCHOLARSHIP FUND—The M. J. Gary Scholarship Fund was begun in 1967 to assist academically qualified students-athletes attending Western Michigan University. The M. J. Gary Scholarship program is administered in accordance with the rules and regulations of the National Collegiate Athletic Association and the Mid-American Conference.

SPECIAL EDUCATION

Scholarships are offered by the University in cooperation with the United States Department of Health, Education, and Welfare for juniors, seniors, and graduate students enrolled in special education. They include stipends ranging from $300-$2,200 per year. Payment of student fees for the academic year are also included. Scholarships are available in the following areas of special education: Mentally Handicapped, Emotionally Disturbed and Physically Handicapped.

The Michigan State Department of Education, in conjunction with the University, also offers scholarships for juniors, seniors and graduate students who are enrolled in special education. The stipends vary according to the student's needs and the availability of state funds. State scholarships are available in the following areas: Mentally Handicapped, Emotionally Disturbed, Physically Handicapped, Visually Handicapped, and School Psychology. Students in applying should direct their inquiries to the Head, Department of Special Education, Western Michigan University.

GRANTS

ATHLETIC—Western Michigan University makes certain grants-in-aid available to students excelling in athletics, and participating in or preparing to participate in varsity sports. A student must be recom-
mended by the Athletic Department. Application forms may be obtained from the Athletic Department.

UNION OIL FOUNDATION—A grant of up to $500.00 a year to a minority student. The student must be majoring in Petroleum Distribution.

STUDENT LOANS

LONG TERM LOANS

NATIONAL DIRECT STUDENT LOAN FUND

Through this program, formerly the National Defense Student Loan, loans are available to students who have demonstrated a financial need. Full-time undergraduates may borrow up to but not exceed $2,500 in the first two years in college, and not exceed $5,000 as an undergraduate. A graduate student may borrow up to $10,000, including loans received as an undergraduate. The actual amount borrowed may not exceed the student's demonstrated need. The interest rate of 3% and repayments start nine months after leaving college. The minimum monthly repayment is $30. Part or all of the loan is forgiven for those teaching in specified areas; under stated provisions partial cancellation is also provided for military service. Repayment may be deferred up to three years while in service in the Armed Forces, or as a volunteer in the Peace Corps or VISTA. The student must complete a Western Michigan University Application for Financial Assistance obtainable from his high school principal or counselor or from WMU's Office of Student Financial Aid and Scholarships. This application must be completed by March 15 preceding the start of the Fall Semester.

FEDERALLY INSURED STUDENT LOAN

The federal government guarantees loans made by private lending institutions (banks, savings and loans, credit unions) to undergraduate and graduate students up to a maximum of $2,500 per year. The agency within each state which administers this program may at its discretion lower this maximum; in Michigan (Michigan Higher Education Assistance Authority) the limit is $1,500. Undergraduates may borrow up to $7,500 and graduates may borrow up to $10,000 including undergraduate loans. These loans bear a 7 percent simple interest rate which is waived for the student while attending college and nine months after leaving school on that portion of the loan which is equal to the student's need; the latter is the difference between the educational costs and the student's resources including any expected family contribution to be determined by criteria established by the U. S. Office of Education. The student should apply directly to his local lending institution which participates in this program. The names of participating institutions can be obtained from your high school principal or counselor or for those in Michigan at WMU's Office of Student Financial Aid and Scholarships.

To qualify for the interest waiver the student must demonstrate a financial need, which involves the completion of a Parents' Confidential Statement or, if the applicant meets the criteria for independent status set by the U.S. Office of Education, an Independent Student Statement must be completed. The latter is obtained from the WMU Office of Student Financial Aid and Scholarships.
UNITED STUDENT AID FUND PROGRAM

Students unable to qualify for a National Direct Student Loan and unable to obtain a Michigan Higher Education Assistance Authority loan (for a nonresident of Michigan unable to obtain a federally guaranteed loan in his own state) may apply to his local lending institution which participates in this program. The names of participating institutions can be obtained from United Student Aid Funds, Inc., 5259 North Tacoma Avenue, Indianapolis, Indiana 46220. The loan is not to exceed $1,500 per academic year for an undergraduate or graduate student.

SHORT TERM LOANS

There are 90 short-term loan funds providing emergency assistance for enrolled full-time undergraduate and graduate students to meet educational expenses. These have been established by University friends, alumni, faculty, and staff. Many of these funds are available for a maximum of 6 months at a simple interest rate of 5%. Some funds are restricted to students in certain curricula, of various academic ranks, from a given geographical location, etc. Application for these loans are made in person at the Office of Student Financial Aid and Scholarships.

SHORT TERM LOANS

A.A.U.W. GRADUATE SOCIAL WORK Fund
A.A.U.W. NURSERY EDUCATION Loan Fund
ALPHA BETA EPSILON, Xi CHAPTER, Loan Fund
ALUMNI Short-Term Loan Fund
AMERICAN BUSINESS CLUB Loan Fund
A. ROBERT ANDERSON MEMORIAL Loan Fund
ASSOCIATED WOMEN STUDENTS Loan Fund
AUSCO Loan Fund
FANNIE BALLOU MEMORIAL Fund
AMELIA BISCOMB MEMORIAL Loan Fund
WILLIAM R. AND EMMA WALES BROWN Student Loan Fund
ERNEST BURNHAM RURAL Loan Fund
CHAPMAN Student Loan Fund
DOROTHY DALTON Loan Fund
DELTA SIGMA THETA Loan Fund
DISTRIBUTIVE EDUCATION Loan Fund
THE GORDON AND FERNE ELFERDINK Loan Fund
MICHAEL FINLEY MEMORIAL Loan Fund
FOREIGN STUDENT AID Loan Fund
JAMES GARDNER MEMORIAL Loan Fund
HARRIS-BRIGHAM Loan Fund
LEROY H. HARVEY MEMORIAL Loan Fund
EUNICE E. HERALD HOME ECONOMICS Loan Fund
DELEDEE M. HERMAN FORENSIC Loan Fund
JOHN C. HOEKJE Loan Fund
INTER-FRATERNITY COUNCIL Loan Fund
FREBURN W. JAMES Loan Fund
JOHN JENKINS MEMORIAL Loan Fund
KALAMAZOO AREA CHAPTER MAEDC Loan Fund
KALAMAZOO LADIES' LIBRARY ASS'N. Loan Fund
KALAMAZOO MOTOR FREIGHT Loan Fund
JEROME E. J. KEANE Loan Fund
KIWANIS EDUCATIONAL AID Fund
THE DR. RADFORD KUYKENDALL MEMORIAL Loan Fund
ALICE LOUISE LEFEVRE MEMORIAL Fund
ELIZABETH E. LICHTY Loan Fund
MARVEL F. LIDDY Student Loan Fund
THE DAVID E. LING MEMORIAL Loan Fund
LARRY G. LOCHNER MEMORIAL Fund
RAYTH W. LOWER MEMORIAL Loan Fund
THE CHARLES H. MAHER Loan Fund
THE R. C. MAHON FOUNDATION Loan Fund
MILDRED MALONEY MEMORIAL Loan Fund
MATHEMATICS FACULTY MEMORIAL Loan Fund
WILLIAM MC CRACKEN Loan Fund IN CHEMISTRY
MEXICAN-AMERICAN Loan Fund
MICHIGAN BROADCASTING Loan Fund
FREDERICK W. MIHOLICH MEMORIAL Loan Fund
FREDERICK W. MIHOLICH MEMORIAL Fund For SPECIAL EDUCATION
CHARLES S. NICHOLS MEMORIAL Loan Fund
OCCUPATIONAL THERAPY Fund
OMNIBUS Loan Fund
PANHELLENIC (DETROIT, GRAND RAPIDS) Loan Funds
PANHELLENIC WMU COUNCIL Loan Fund
TRUMAN A. PASCOE MEMORIAL Fund
RAY C. PELLETT MEMORIAL Loan Fund
PIMA (MICHIGAN DIVISION) Loan Fund
ARCHIE S. POTTER MEMORIAL Fund
DOUGLAS V. RATCLIFFE MEMORIAL Loan Fund
SOPHIA REED—MARY MOORE HOME ECONOMICS Loan Fund
NELLIE N. REID MEMORIAL Loan Fund
ROTARY Student Loan
KATHERINE SHUVER Loan Fund
SIGMA PHI OMEGA BOB HAYES MEMORIAL Fund
SIGMA TAU GAMMA MEMORIAL Loan Fund
J. TOWNER SMITH Loan Fund
SOUTHWESTERN STATE EMPLOYEES' CREDIT UNION Loan Fund
MARION R. SPEAR OCCUPATIONAL THERAPY Fund
GEORGE SPRAU Loan Fund
KENNETH H. SQUIRES MEMORIAL Loan Fund
MR. AND MRS. J. FRED STALEY Fund
STATE D.A.R. SCHOLARSHIP Loan Fund
HELEN STATLER Fund
STONE D.A.R. Student Loan Fund
RON STRAWSER MEMORIAL Loan Fund
STUDENT Loan Fund
MARION TAMIN MEMORIAL FRENCH Loan Fund
TAPPI (KALAMAZOO VALLEY SECTION) Loan Fund
THE UNIVERSITY DAMES OF WMU Loan Fund
Student Loans

DR. CHARLES VAN RIPER SPEECH PATHOLOGY AND AUDIOLOGY Loan Fund
DWIGHT B. WALDO MEMORIAL Fund
WALTER WEGELEY SCHOLARSHIP Loan Fund
JAMES A. WELCH FOUNDATION Loan Fund

WMU LANGUAGE DEPARTMENT Loan Fund
WMU PAPER TECHNOLOGY ALUMNI ASSOCIATION Loan Fund
WMU PARENTS ASSOCIATION Loan Fund
WMU SOUTHERN CALIFORNIA ALUMNI Loan Fund
WMU SPEECH Loan Fund

W. DEAN WORDEN Loan Fund
CRYSTAL WORNER MEMORIAL Fund
EDUCATIONAL OPPORTUNITY GRANT PROGRAMS

Basic Program

This program entitles an undergraduate student to receive a grant which cannot exceed 50 percent of the actual cost of attending an institution and cannot exceed $1,400 per student per year minus the expected parental contribution as to be determined by criteria established by the U.S. Commissioner of Education. In the event that the entitlement is not adequately funded, the grants will be pro-rated.

Supplemental Program

Under this program federal funds are made available to Western Michigan University to award grants to undergraduate students of exceptional financial need. Only students whose family gross income is less than $9,000 qualify. These grants range in amount from $200 to $1,500.

To be considered for this program a student must submit a Parents' Confidential Statement to the appropriate address. He must also complete and send to the Office of Student Financial Aid and Scholarships a WMU Application for Financial Assistance. Both of these are obtainable from the high school principal or counselor or WMU's Office of Student Financial Aid and Scholarships. In addition, he must submit to this office a photostatic copy of his family's last income tax statement (Form 1040 or 1040A) to be obtained by him from the Internal Revenue Office.

THE COLLEGE WORK-STUDY PROGRAM

The College Work-Study Program is a cooperative program between the University and the Federal Government. Its purpose is to promote the employment in institutions of higher education and non-profit agencies those students, undergraduates and graduates, who need these earnings to attend or remain in college. Priority must be given to students with the greatest financial need. Earnings under this program will not meet all of a student's educational expenses. It is anticipated that a student will need other financial aid such as a loan, a scholarship (or a grant-in-aid), and summer earnings to get through a year of college.

LAW ENFORCEMENT EDUCATION PROGRAM

This federal program was established in 1969 to encourage persons interested or engaged in law enforcement to pursue studies in higher education beneficial to them in this profession. Law enforcement involves "all activities pertaining to crime prevention or reduction and enforcement of the criminal law."

Grants up to $300 per semester are available for full-time or part-time students, undergraduates and graduates, who are full-time employees of publicly funded law enforcement agencies.
Loans up to $900 per semester are available for full-time undergraduate and graduate students enrolled in the "Corrections Program," offered by the School of Social Work. Loan recipients must be employed in or intend to enter, the "Law Enforcement" profession.

Applications are obtainable from WMU's Office of Student Financial Aid and Scholarships.

MONTHLY EDUCATION PAYMENT PLANS

Western Michigan University has approved a monthly payment program which provides parents with the opportunity to borrow from $500 up to a maximum of the entire educational expense of their son or daughter. Inquiries concerning this program should be directed to the following addresses:

College Aid Plan, Inc.
1008 Elm Street
Manchester, New Hampshire 03101

The Tuition Plan
Concord, New Hampshire 03301

STUDENT EMPLOYMENT

A large percentage of students earn a portion of their expenses by working summers or by combining summer employment with employment while attending school. Students who find it necessary to work full-time and simultaneously carry more than ten semester hours of classes may anticipate academic difficulties. A full-time employee, no doubt, will require more than four years to secure his degree. Excessive employment usually leads to an unsatisfactory academic record.

Students who work while attending classes should adjust their work and academic loads so that they can achieve at the academic level of which they are capable. Students should not force themselves to give up all extracurricular activities in favor of long working hours or a shorter college career.

OFF-CAMPUS EMPLOYMENT

Students in good health and with reasonable ambition can carry an average academic load (12-16 credit hours) and work from ten to twenty hours per week. Men students may find work in the city of Kalamazoo in such places as restaurants, hotels and motels, service stations, police departments, factories and hospitals. In drug, clothing, department and appliance stores, and as custodians, chauffeurs, truck drivers, etc. Women students may find work in cafeterias, office and retail stores, and as waitresses and babysitters. Students interested in part-time off-campus work opportunities should apply at the Office of Student Financial Aid and Scholarships. They should not do so, however, prior to their arrival for classes.

ON-CAMPUS EMPLOYMENT

On the Campus, students are employed in cafeterias, offices, at switchboards, as staff assistants, custodians, waitresses, stenographers and machine operators. Students seeking work in Residence Halls and Food
Service areas, Libraries, maintenance or various departmental student positions are encouraged to make direct application to the Dormitory Director, appropriate Departmental Supervisor, or Food Service Manager concerned.

AWARDS

Departmental

ACCOUNTING—The Ernst and Ernst Award is awarded annually on the basis of scholastic achievement to a graduating senior who has majored in Accounting. The student's grades in accounting and his overall grades are the factors considered in making the selection.

ATHLETICS—The Athletic Board of Control Award is given to an outstanding athlete who ranks high in scholarship and participation.

BIOLOGY—The Harold Cook Memorial Prize of $20 is given to a student judged most proficient by the Scholarship Committee, in cooperation with the president of the Faculty Science Club.

BIOLOGY—The Merrill Wiseman Award was named in honor of a distinguished teacher who was on the biology faculty for forty years. It is made annually to a student outstanding in the field of microbiology.

BUSINESS—Gamma Tau chapter, Alpha Kappa Psi, professional fraternity in commerce, awards annually a Scholarship Key to the male senior student pursuing a degree in the College of Business, who has attained the highest scholastic average for three years of work at this University.

CHEMISTRY—The William McCracken Award was named in honor of the first head of the Chemistry Department. It is given to a senior who, in the opinion of the chemistry staff, has shown the greatest aptitude in the field of basic chemistry.

ECONOMICS—Harald Smith Patton prizes given in memory of Lieutenant Colonel Patton, accidentally killed in service 1945, while on military leave as Head of the Department of Economics, Michigan State University. The prizes will be given to outstanding Economics majors, one of $60 to a senior, and one of $30 to a junior.

ENGLISH—The George Sprau Award in English is given to the outstanding English major in the graduating class.

FRENCH—The French Embassy gives an annual prize to the outstanding student of French in the graduating class.

HISTORY—The James O. Knauss History Award was established in honor of a distinguished scholar and teacher who was on the faculty for thirty years and was head of the History Department for eleven. It is awarded annually to the senior history major who has made the most outstanding record in history during his university career. The Smith Burnham Award was established to honor a widely known speaker and head of the department for twenty years. It is made annually to the junior history major who has the most outstanding record in history.
Awards

HOME ECONOMICS—An award to a freshman girl based on scholarship and leadership.

INDUSTRIAL EDUCATION—A plaque is given to the outstanding senior student in that department.

MATHEMATICS—This prize is awarded to the senior student judged by the Department of Mathematics to have exhibited the highest proficiency and promise in that field.

OCCUPATIONAL THERAPY—The Marion R. Spear Award was established in honor of the founder of the Kalamazoo School of Occupational Therapy (1922-1944) and director of the Occupational Therapy curriculum at Western between 1944 and 1958. It is awarded annually to an outstanding senior who gives promise of being a superior occupational therapist.

PAPER SCIENCE AND ENGINEERING—Awards from $100 to $500 given to students above freshman level who demonstrate superior performance in the curriculum. These awards may be for one year only, and vary in amount and number. These awards are made possible by American Cyanamid Co., Junior Award—$500; Boxboard Research and Development Association, Senior Student Award—$250; Kalamazoo Valley Section Tappi, Senior Thesis Awards—$100, $60 and $40; Northwest Division of the Paper Industry Management Association Award—$300; Paper Industry Management Association, Scholarship Award—$200.

PHILOSOPHY—The Robert Friedmann Essay Award was established by the Department of Philosophy and Religion in honor of Professor Robert Friedmann on his retirement. Any topic which is primarily philosophical may be chosen and competition is open to all undergraduate students. The prize is $50.

PHYSICS—An annual prize is given to the senior judged most proficient throughout his college course in the field of physics. An annual prize of a Handbook of Chemistry and Physics is awarded to the best students completing the first course in calculus-physics (210, 211, 212).

The Charles J. Wilcox Memorial Award, made possible by family and friends of a physics graduate student, is given annually to one or two outstanding graduating seniors majoring in physics. Also, copies of a Handbook of Chemistry and Physics are awarded annually to the best students completing the first course in calculus-physics (210, 211, 212).

POLITICAL SCIENCE—The D. C. Shilling Awards were established in honor of a distinguished scholar and teacher who was on the faculty of Western Michigan University for thirty years, and Head of the Political Science Department for seven years. An annual award of about $30 is given to the graduating senior Political Science major or minor who has made the most outstanding record in Political Science during his university career. The D. C. Shilling Junior Scholarship Award of about $50 is given to the Political Science major or minor who, at the completion of his junior year, exhibits proficiency and promise in Political Science.

Organizational

ASSOCIATED WOMEN STUDENTS—A prize to the outstanding woman student.
KAPPA DELTA PI—A prize to the outstanding student in academic areas.

MEN'S UNION—A prize to the outstanding male student.

PI KAPPA RHO—A scholarship cup awarded annually by the Committee on Scholarship to the outstanding women's organization.

TAU KAPPA EPSILON—A scholarship cup awarded annually by the Committee on Scholarship to the outstanding men's organization.
The Alumni Office serves the alumni of Western Michigan University, acts as liaison between former students and the University, and encourages their continuing interest in learning and higher education. The Alumni Office helps coordinate Alumni Homecoming, Alumni Spring Weekend, Alumni tours, Distinguished Alumni Awards, and the Alumni Awards for Teaching Excellence. In addition, the Alumni Office serves in an advisory capacity to the Student Alumni Service Board which aids in the communications process between students and alumni. The 25 member Alumni Board of Directors includes a President, two Vice Presidents and the Director of Alumni Relations who serves as the Executive Secretary. Alumni clubs, constituent societies and individual alumni throughout the nation participate in scholarship, grant, loan fund programs and social events.

Alpha Beta Epsilon, a sorority with 18 chapters and approximately 700 members, is a group of Western alumnae whose chief project is to provide scholarships.

ATHLETICS

The University is represented by teams in football, baseball, basketball, indoor and outdoor track, cross country, tennis, wrestling, swimming, gymnastics, golf, ice hockey and soccer.

Western Michigan University is a member of the Mid-American Conference. Other members of the Conference are Bowling Green, Central Michigan, Eastern Michigan, Kent State, Miami, Ohio and Toledo. The athletics are governed by an Athletic Board which adheres to the Athletic Code of the Mid-American Conference and the policies and principles established by the National Collegiate Athletic Association. The teams winning Mid-American Conference championships in basketball and baseball qualify automatically for the annual NCAA playoffs.

Western Michigan University is a member of the Central Collegiate Conference. Participation in this conference furnishes competition with a number of the stronger track teams in the middle west.

Western Michigan University is a member of the “Association for Intercollegiate Athletics for Women” and the “Mid-West Association for Intercollegiate Athletics for Women”. These organizations set standards and policies governing intercollegiate competition for women and sponsor national tournaments.

Field hockey was the first sport for women on an intercollegiate basis. Volleyball, basketball, bowling, speed swimming, synchronized swimming and tennis have been added.

The season of 1971-72 saw the women’s teams top all previous records by fielding an undefeated field hockey team; state championships in volleyball, basketball and bowling; regional championships in volleyball and bowling; the volleyball team competing in the “National Volleyball
Tournament” and individual champions going to national bowling and swimming tournaments.

The intercollegiate program at Western is sponsored by the Department of Physical Education for Women.

**INTRAMURAL**

An extensive intramural program provides opportunity for students to engage in competitive sports on campus as members of clubs, fraternities or independent teams. Sports offered include archery, badminton, basketball, billiards, bowling, cross country, field hockey, free throw shooting, golf, gymnastics, handball, paddleball, soccer, softball, swimming, table tennis, tennis, touch football, track, volleyball, wrestling and hockey. Any sport in which a sufficient number of students indicate an interest and for which facilities are available may be set up in the intramural schedule.

The “Women’s Recreation Association” offers a variety of sport and recreation activities for Western women. Women students are members of the WRA. The following activities are offered: basketball, volleyball, field hockey, gymnastics, swimming, badminton, tennis, bowling, riflery, flag football, slimnastics, water polo and track and field.

**AUDIO SERVICES**

Audio Services serves the recording needs of the campus with quality location recording, mixing, editing, and full production services. Audio Services maintains large music and effects libraries as well as facilities for corrective recording. Interested students are trained in the use of professional audio equipment.

**AUDIOVISUAL CENTER**

The Audiovisual Center, located in Waldo Library, is organized to serve the students and faculty of Western Michigan University through the use of audiovisual media and equipment. Besides the operation of a library of films, filmstrips, and recordings, there are additional functions of production of transparencies and photographs, lettering, tape recording, and picture mounting. A staff of student employees is trained to operate audiovisual equipment for classroom instruction and student campus activities.

**SPEECH AND HEARING CLINIC**

Among the services provided students are those of the Speech and Hearing Clinic, located in the Department of Speech Pathology and Audiology. Diagnosis and therapy are provided for individuals with voice, articulation, stuttering, hearing, cleft palate, or foreign accent problems. Individuals unable to carry on their classroom activities or to achieve adequate results in the general speech courses or to do their practice teaching because of speech or hearing difficulties may be referred for treatment in this modern clinic. Student clinicians use the facilities of the clinic in preparing for their careers.
DRAMA

All students in good academic standing, regardless of academic major or minor, may participate in the University Theatre program of the Department of Communication Arts and Sciences. Housed in the excellent and spacious new Laura V. Shaw Theatre complex, the theatre opportunities each year include acting or technical work on five or six productions in the Shaw Theatre, five or more in the Arena Theatre, as well as a number of student-directed "laboratory productions" each semester. Both adult and children's drama are performed. In addition, opportunities for intensive, concentrated study and practice in the theatre arts are available through the Summer Ensemble Theatre.

EDUCATIONAL RESOURCES CENTER

The Educational Resources Center, winner of the NCATE Award for Excellence in Teacher Education, is located in Sangren Hall and serves the students and faculty of the College of Education. The ERC is concerned with the total range of instructional media and educational technology for the improvement of teaching and learning. In addition to providing library, audiovisual, and curriculum material services, the center provides: instructional units in media to education classes, consultation to students and faculty in the use of media, and facilities and supervision for the production of instructional materials. Further, the ERC serves as a focal point for a variety of audiovisual courses leading to the Master's degree in Audiovisual Media.

UNIVERSITY LIBRARIES

The University Libraries consist of the Dwight B. Waldo (Main) Library, the Business Library, the Music Library, the Physical Sciences Library, and the Educational Resources Center Library. The collection numbers over one million bibliographic items including books, bound periodicals, music scores, recordings, maps, documents and materials on microform. Over 10,000 periodicals and serials and 100 newspapers are currently received.

The main collection is housed in the Dwight B. Waldo Library which is named for the second President of the University. Built in 1959, it was enlarged in 1967 to almost double its original size. Also housed in Waldo Library are the School of Librarianship, the University Archives, and the Audiovisual Center.

The Library system is a depository for Michigan and United States government documents, and receives the microprint edition of United Nations documents and official records.

The microform collection of over 215,000 contains such items as the Human Relations Area File, the American Periodical Series, Early American Newspapers of the 18th and 19th centuries, the U.S. National Archives, and books printed in Great Britain from 1475-1640.

Other special collections include:

1. The Ann Kercher Memorial Collection on Africa is an extensive collection of materials on Africa south of the Sahara. Started more than a decade ago, the collection has grown rapidly to become a noteworthy addition to the University Libraries holdings.
2. The South Asia Collection is another area of unusual strength. Together with the African collection it represents the University's strong commitment to area studies.

3. The Randall Frazier Memorial Collection, honoring a notable alumnus, has a wealth of material on the history and culture of Black America.

4. The Regional History Collection is a unique group of items on the thirteen southwest counties of Michigan. In addition to books, this collection contains many manuscripts of early residents of this area.

5. Another area of strength is Medieval Studies, involving history, religion, philosophy and culture of the medieval period.

6. The C. C. Adams Ecological Collection consists of the personal collection and papers of the pioneer American ecologist, Charles C. Adams.

7. The Map Collection, an unusually large collection of 100,000 items, includes Army and U. S. Geological Survey maps, some antique maps of special historical interest, various domestic and foreign maps, and over 600 atlases.

The Business Library, located in North Hall, has a collection of some 30,000 books, supplemented by special microform collections, annual reports from businesses and industries, and current subscriptions to 500 periodicals and newspapers.

The Music Library is on the second floor of Maybee Music Hall. In addition to some 16,500 books and scores and subscriptions to 100 periodicals, this branch contains a collection of 10,000 phonograph records and extensive listening facilities.

The Physical Sciences Library contains some 23,000 volumes in the fields of Mathematics, Astronomy, Physics and Geology, and has subscriptions to 600 periodical titles.

The Educational Resources Center Library in Sangren Hall comprises some 70,000 volumes and receives 670 periodical titles. The Center, a cooperative venture between the University Libraries and the College of Education, combines the best facilities and practices of library and audiovisual services into a single center for the improvement of instruction and learning.

The University Libraries is a member of the Center for Research Libraries in Chicago, a special collection of nearly three million items to which there is immediate access via teletype. Teletype facilities also permit us to communicate rapidly with other research libraries throughout the country and to expedite loan requests to and from other libraries. Any student or faculty member may obtain interlibrary loan services. Related to these services are the services available in the extension centers in Benton Harbor, Muskegon and Grand Rapids, each of which has a library to serve off-campus students.

The entire resources and services of the University Libraries system are available for your use when you are a student at Western.

**MOTION PICTURE SERVICES**

The Motion Picture Services produces a variety of films for educational purposes at Western. Its facilities are also used in the training of students interested in motion picture production.
MOTOR VEHICLES

Detailed regulations covering the use of motor vehicles on campus are available from the Office of Safety and Security. In general, only upper-class students (Juniors or above) are eligible to operate or park a motor vehicle on University property. Freshmen and sophomores living at home and commuting or having unusual circumstances, may apply for special privileges. The operation and parking of motor vehicles are restricted to certain areas. All students who qualify for motor vehicle privileges must register their cars (or motor bikes, motorcycles, etc.) and pay a registration fee.

MULTIPLE AUDIO DISTRIBUTION

The Multiple Audio Distribution System (MAD) is an automated tape playback system which provides supplementary lesson material day and night, seven days a week, for WMU students in their residence hall and at other selected locations on the campus. The MAD System presents material for language, general studies, business and music courses on eleven separate channels. The MAD programs are carried by wire to the various listening rooms where the students use headphones to listen to the programs of their choice.

MUSIC

Numerous music activities and organizations at Western Michigan University are available for the cultural enrichment of the student. Faculty members, students, and guest artists provide a schedule of more than two hundred recitals every year, to which all University students are invited.

Students may participate actively in the music life on campus by joining one of the many ensembles—the Marching Band, Symphonic Band, Wind Ensemble, Orchestra, and Women’s Chorus, the University Choir, the Campus Chorale, the Varsity Choir, Opera Workshop, and University Singers. The University also offers opportunities for participation in small ensemble groups for strings, woodwinds, brass, and percussion, including Jazz Lab Band and Madrigal Singers.

PUBLICATIONS

The Western Herald, student newspaper, is published Mondays, Wednesdays and Fridays during the Fall and Winter semesters, twice weekly during the Spring session and weekly during the Summer session. It is distributed free.

The positions of editor, business manager, departmental editors, circulation and advertising managers are paid positions. Staff jobs are open to all university students.

The Western Herald offices are located in the Student Services Building. The paper is printed in the University’s print shop.

Threshold, the WMU yearbook, is written and edited by university students.

The positions of editor, associate editor, business manager and photographers are paid jobs. More than 20 staff posts are open to university students each fall. Offices are in the Student Services Building.
Reading Horizons, a quarterly devoted to the study of reading problems, is sponsored and published by the staff of the Reading Center and Clinic at Western Michigan University. Subscriptions for the journal are received from the United States and from three foreign countries.

Peripatos, a student mimeographed literary publication, is distributed throughout the school year. Supervision is provided by the English faculty.

The Occasional Papers of the C. C. Adams Center for Ecological Studies are scholarly contributions in the field of ecology. The series is published by The Graduate College and editorial responsibility lies with the staff of the Center. Issues appear irregularly, but the general rate has been three or four a year since the series was initiated in 1960.

RADIO

WMUK is the FM voice of Western Michigan University broadcasting at 102.1 on the dial with 39,000 watts of stereo power.

The station provides an educational and cultural extension of the campus through its broadcasts of many University events and brings to its listeners programs from the community and leading cultural centers of the world.

WMUK began official broadcasts in April, 1951, with a power of 400 watts. In 1954, a Kellogg Foundation grant made possible a power increase, enabling the station to serve an area sixty miles in radius. The station is a member of the National Association of Educational Broadcasters, the Broadcasting Foundation of America, and The National Association of Broadcasters.

WIDR RADIO serves all on-campus residents, carrying student oriented, contemporary programming to each residence hall and complex. The station, associated with the American Information Radio Network, is a full time, semi-commercial operation. Founded in 1953 WIDR is one of the oldest and most highly rated installations of its type in the nation.

WIDR is operated by the students from studios and offices located in the Student Services Building. It operates on a frequency of 750 AM.

R.O.T.C.

The U.S. Army Reserve Officer Training Corps (R.O.T.C.) Program at Western Michigan University offers the student an opportunity to secure a commission as a Second Lieutenant in the United States Army while studying for and obtaining a bachelor degree in the area of his choice.

The Military Science Department offers academic courses oriented toward leadership and management theory with emphasis on its military application. A Minor in Military Science is also available to those who apply.

The Military Science Department sponsors several extracurricular activities that students here at Western have found to be an interesting challenge. These include the University Rimfire Rifle Club, The R.O.T.C. Rifle Team, the Western Rangers (they specialize in small unit and counter guerrilla tactics) and the Scabbard and Blade Society which is a national honorary military society for those with superior academic records.
Buildings and Grounds

Additional opportunities for students enrolled in this program include flight training for those who desire and qualify, scholarships that pay for all tuition and fees plus related school expenses are available on a competitive basis, and students who desire are draft exempt while enrolled.

TELEVISION

In its role as one of the mass media services provided by the WMU Broadcasting Department, the facilities support nearly one hundred courses with televised instructional materials over a closed-circuit network of seven channels, reaching 150 classrooms as well as various non-academic areas. These television lessons are produced in a modern, four-camera television studio utilizing broadcast quality equipment and systems. Television materials may be preserved on videotape, using one of the six studio or eleven "portable" recording systems. Supporting the facility is a staff of media producers, engineers, graphic artists, cinematographer/photographer, and various other special-skills personnel.

Television Services was started in 1960 and its use is continually being broadened to meet growing academic needs. In addition to preparing instructional materials for classroom use, the Service produces educational programs on film and videotape for use by local commercial stations and occasionally for the networks.

WMU-TV is also made available to the students on a regular basis for the production of entertainment, "talk" shows, and news specials about matters of campus interest.

In 1964 the University won two national awards for television production.

BUILDINGS AND GROUNDS

EAST CAMPUS

EAST HALL—Gymnasium, natatorium, and classrooms for the departments of Accountancy, Management, Music, Art, P.E.W.

PRINTING SERVICES—University print shop and mimeographing service.

NORTH HALL—College of Business and the Business Library.

PHYSICAL PLANT—Trades maintenance shops; grounds crew and University garage; Campus Planning Department and Plant Extension Department.

OAKLAND RECITAL HALL—Office, classroom and practice space are provided for the Music Department and a 300-seat auditorium.

SPEECH AND HEARING CENTER—The Department of Speech Pathology and Audiology, and Reading Center and Clinic.

WALWOOD UNION—Snack bar, cafeteria, meeting rooms, ballroom, and the Division of Continuing Education.

WEST HALL—Occupational Therapy Department, Agriculture Department, and the College of Business.
Buildings and Grounds

WEST CAMPUS

ADMINISTRATION BUILDING—Administrative offices.

ARCADIA—Division of Plant Services consisting of Safety and Security and Custodial Services.

BEHAVIORAL RESEARCH LABORATORY—Psychology Department.

WILLIAM R. BROWN HALL—Classrooms for the Communication Arts and Sciences, English, Language, and Linguistics Departments.

DISTRIBUTIVE EDUCATION—Distributive Education Department.

WILLIS F. DUNBAR HALL—Classrooms for the departments of History, Economics, Philosophy, Religion, College of General Studies and Television studios.

JOHN EVERETT HALL—Faculty offices for Departments of Physics, Geology and Mathematics.

ROBERT FRIEDMANN HALL—Offices for Dean of College of Arts and Sciences, Dean of College of General Studies, faculty offices, WMUK-FM studios and the Dean, College of Fine Arts.

HILLSIDE (Apts.) EAST—Alumni, Martin Luther King Program, Graphic Arts, International and Area Studies, Custodial.

HILLSIDE (Apts.) WEST—Honors College, Testing Services, General Studies.

INDUSTRIAL ENGINEERING AND TECHNOLOGY—Departments of Home Economics, Industrial Arts, Engineering and Technology, and Transportation Technology.

KANLEY MEMORIAL CHAPEL—This is the campus religious center. It was made possible through a gift from the estate of the late William Kanley, an alumnus, and was opened in 1951.

JAMES O. KNAUSS HALL—Instructional facility consisting of 4 lecture halls and exhibit space.

KNOLLWOOD BUILDING—Career Planning and Placement Office and News and Publications division.

HARPER C. MAYBEE HALL—Music Department.

WILLIAM McCracken HALL—Chemistry Department and Department of Paper Science and Engineering.

JAMES W. MILLER AUDITORIUM—Cultural center for the performing arts of music, opera, drama, and the dance, the Auditorium has a capacity of 3,550 with seating arranged on three levels in continental style.

MOORE HALL—School of Social Work and classrooms.

PAUL ROOD HALL—Classrooms for the Departments of Physics, Geology and Mathematics; the Computer Center; and a 12-million electron volt linear accelerator.
Athletic Facilities

PAUL V. SANGREN HALL—College of Education; the Departments of Art, Political Science, and Sociology; the Educational Resources Center.

LAURA V. SHAW THEATRE—The University Players present productions in this 600-seat theatre.

GEORGE SPRAU TOWER—Offices of the Communication Arts and Sciences, English, Language and Linguistics Departments.

STUDENT SERVICES BUILDING—Counseling, Financial Aid, Scholarships, Housing, Student Activities, Orientation; offices for major student organizations; WIDR, campus radio stations, Western Herald.

UNIVERSITY HEALTH CENTER—75-bed student health service building opened in 1969.

UNIVERSITY STUDENT CENTER—Social and recreational facilities are provided for students and are available for other educational ventures as schedules permit. The building includes a snack bar, cafeteria, bowling alleys, game room, lounges, ballroom, music room, faculty lounge and dining room and the Board of Trustees meeting room.

DWIGHT B. WALDO LIBRARY—Resources include more than half a million volumes, microfilmed newspapers, map collection, the C. C. Adams Center for Ecological Studies; housed are the School of Librarianship and the University Archives.

LESLIE H. WOOD HALL—Biology, Psychology and Geography Departments.

OFF-CAMPUS

AVIATION BUILDING—Shops, laboratories and classroom for aircraft technology and pilot training.

KLEINSTUCK NATURE PRESERVE—Given in 1922 by Mrs. Caroline Hubbard Kleinstuck, this 50-acre tract provides instructional space for biological sciences near the campus and inside the city of Kalamazoo.

ATHLETIC FACILITIES

GARY PHYSICAL EDUCATION CENTER

1. Physical Education Building:
   Includes a regulation swimming pool, 9 handball courts, a gymnasium floor 90 feet by 120 feet, a wrestling room, special purpose rooms, classrooms, locker facilities, and offices for the men's physical education department. Dressing rooms for women are available adjacent to the pool. Read Fieldhouse and the intramural building connect to this building.

2. Intramural Building:
   Includes a multipurpose gymnasium 120 feet by 235 feet which can accommodate four basketball courts, 6 volleyball courts, 10 badminton courts, 4 tennis courts, and a gymnastics area. An artificial surface area
140 feet by 160 feet is also included in this building. These two areas are used for intramural and recreational sports activities, physical education classes, and various intercollegiate athletic programs.

**READ FIELDHOUSE**

Provides indoor facilities for intercollegiate athletic programs of basketball, and track. It has a spectator seating capacity of 9,500. The hard surface mainfloor area is 160 feet by 212 feet. A 220 yard rubber-asphalt indoor track is provided.

**WALDO STADIUM**

An intercollegiate football stadium which is equipped with artificial turf and 25,000 seats. The stadium is used for recreation, intramural activities and instruction in addition to competitive athletics.

**HYAMES FIELD**

An excellent collegiate baseball layout. Permanent seating is provided for 2,500 people. Immediately adjacent to Hyames Field is a second baseball diamond for baseball practice and physical education classes.

**KANLEY FIELD**

Includes two practice football fields and a landscaped picnic area. Used for intercollegiate athletics and recreation.

**INTRAMURAL FIELDS**

Three multipurpose recreation fields are located in Goldsworth Valley adjacent to Goldsworth Apartments. Five additional multipurpose recreation fields are located at the west end of Goldsworth Valley. These fields are used by physical education classes and the Intramural-Recreational Sports Program.

**TENNIS COURTS**

Twenty asphalt courts are available in the Ellsworth Hall-Goldsworth Valley area. These courts accommodate physical education classes, intramural and recreational sports as well as the intercollegiate tennis program.

**BOWLING ALLEYS**

Twenty bowling alleys are available for physical education classes and recreation in the Student Center.

**OAKLAND GYMNASIUM**

Located on the East Campus, this building houses the Women's Physical Education Department and R.O.T.C.
The Honors College

Samuel I. Clark, Director of Honors

The Honors College coordinates all Honors work at Western Michigan University. Honors program, designed for bright, creative, enterprising and talented students, are flexible, accommodating to the particular talents and inclinations of students. Classes are often small, often follow the style of seminars. There is opportunity for independent and inter-disciplinary study.

Members of the Honors College pursue programs of study which will widen their intellectual interests and competence while deciding on their fields of specialty. They are expected to equip themselves with the basic intellectual skills of communication, clear thinking, and writing. They are encouraged to learn a foreign language and to become acquainted with literature and the arts. Above all, they are urged to pursue their own academic interests with programs tailored to their individual talents.

The Honors College student, confident that “getting through school and making a living” are neither problems nor ultimate aims, can afford to indulge in imaginative explorations, creative research, and free critical inquiry. There is no need to be competitive with fellow students or aggressive toward society or natural environment. The Honors College student is free for public service.

The College from time to time organizes foreign study seminars, special seminar courses, field trips, film programs, public speakers and performances. It manages a substantial undergraduate assistanship program providing research opportunities for students. The Honors College assists its students in securing financial aid, applying for scholarships, and fellowships, seeking admission to graduate schools, and realizing foreign study-travel-work opportunities.

A minimum grade point average of “B” is required both to enter the Honors College and to continue in its programs. Upon admission to Western Michigan University students may be admitted to the Honors College in one of three ways: directly from high school into the Freshman General Education Honors Program; as a transfer student entering Western from another institution; or as a Sophomore or Junior after a year's work at Western. Honors College members must, in their Senior year, write an Honors College paper (or produce a creative work of art) and be orally examined by their faculty. An Honors College graduate is so designated upon graduation.

A student may be a member of the Honors College without participating in any further honors program; however, the Honors College cooperates with or coordinates three other honors operations at the University: The General Education Honors Program, Departmental Honors Programs, and the Honors College Curriculum.

THE GENERAL EDUCATION HONORS PROGRAM is an Honors College alternative course program for the General Studies requirements. Freshmen enter the program when they first enter the University and are in a sense “provisional” members of the Honors College.

The program seeks to present a challenging and engaging educational experience for many of the University’s most promising entering stu-
The Honors College

Students. The program offers opportunity for small classes, provocative instructors, and considerable intellectual freedom. General Education Honors consists of approximately 36 semester hours of study, pursued mainly during the Freshman and Sophomore years.

Students normally meet the 36 hour requirement by completing 12 credit hours in each of three general areas: Humanities, Social Science, Natural Science.

DEPARTMENTAL HONORS PROGRAMS exist in the academic departments listed below. Students enter these departmental honors programs by direct application to the departments. A student need not be in the Honors College to be a member of a departmental honors program. In general, departmental honors programs are reserved for students of high promise and performance, who wish to pursue a special field of study with particular diligence. These programs usually require a minimum "B" average both to enter and to remain in them. They generally serve Junior and Senior students.

Programs are flexible, involve independent study, small seminar classes, and ablest faculty. Students interested in a particular departmental honors program should communicate directly with the department.

Departments having honors programs are: Accountancy, Biology, Chemistry, Engineering and Technology, Geography, History, Management, Mathematics, Occupational Therapy, Philosophy, Physics, Political Science, and Psychology.

THE HONORS COLLEGE CURRICULUM is designed for students who wish to avail themselves of the maximum advantages of the Honors College. The curriculum can be entered at the time a student is first admitted to the University or at a later date. The curriculum freedom and flexibility leads to the B.A. degree and is an excellent preparation for graduate school. Students must be or become members or provisional members of the Honors College to be enrolled in the curriculum; however, not all members of the Honors College are enrolled in the Honors College Curriculum.

The Curriculum expects students to study a variety of subjects in order to enlarge their knowledge; they are expected to pursue one area of study with some concentration, and they are expected to do "B" work. The curriculum strongly encourages students to acquire a foreign language and a knowledge of mathematics (if neither has been acquired in high school).

A senior paper and an oral examination are also required of students in the curriculum.

The formal expectations of the curriculum are as follows:
1. Adequate quality of performance (routinely established through a minimum "B" grade point average).
2. Minimal competency in the Humanities (12 credit hours).
3. Minimal competency in the Social Sciences (12 credit hours).
4. Minimal competency in the Natural Sciences (12 credit hours).
   A. Competency in the Life Sciences (at least 4 hours in Biology or Psychology).
   B. Competency in the Physical Sciences (at least 4 hours in Chemistry, Geography, Geology or Physics).
5. Minimal competency in a foreign language (routinely satisfied through proficiency tests or completion of an intermediate language
Honors College 121 Humanities II

Continuation of Honors College 120, Humanities I.

4 hrs.

Prerequisite: Honors College course. The study of seldom used languages is encouraged in which cases special determinations of competency are necessary).

6. Minimal competency in Mathematics (routinely satisfied by four years of high school mathematics or first year courses in college mathematics).

7. Minimal competency in Physical Education (routinely satisfied by two semester hours of physical education).

8. A departmental or interdepartmental major concentration.

9. A departmental or interdepartmental minor concentration.

10. An Honors College senior paper (or equivalent) properly approved and accepted.

11. An Honors College oral examination properly passed.

12. Adequate overall course work in the University (routinely satisfied by 122 hours of course work approved by the Honors College).

DESCRIPTION OF COURSES

GENERAL EDUCATION HONORS COURSES

Honors College 100 Civilization of the West I 4 hrs.

A survey of the human experience from the ancient civilizations of the Near East, Greece, and Rome, through Medieval Europe to the era of the Renaissance and Reformation, with emphasis on the unique achievements of each culture.

Honors College 101 Civilization of the West II 4 hrs.

A continuation of Civilization of the West I (though this course may be taken independently), surveying the rise of modern Europe from the sixteenth and seventeenth centuries, through the eras of Enlightenment and revolution, to the present day.

Honors College 106 Life Sciences I 4 hrs.

An introduction to and a critical examination of the principles of such subdivisions of biology as ecology, genetics, growth and development, taxonomy, anatomy and physiology, how these principles evolved and their impact on man.

Honors College 107 Life Sciences II 4 hrs.

An examination of the evidence serving as bases for the principles of biology, of the methodology and techniques employed in the accumulation of evidence and of the frontiers remaining to challenge biologists. Prerequisite: Life Sciences I.

Honors College 120 Humanities I 4 hrs.

A study of man's creative and imaginative life as this is revealed in philosophical, religious and esthetic works.

Honors College 121 Humanities II 4 hrs.

Continuation of Honors College 120, Humanities I. Prerequisite: Humanities I.
Honors College 202 Social Science I 4 hrs.
An historical account of the development of social science dealing with major questions about the nature of society and culture. Basic insights and concepts derived from anthropology, psychology, sociology, economics, geography and political science are presented.

Honors College 203 Social Science II 4 hrs.
Continuation of Social Science I. Prerequisite: Social Science I.

Honors College 208 Physical Properties of Nature 4 hrs.
By treating the fundamental ideas and concepts of the physical sciences as they appeared in history, this course attempts to provide the student with an understanding of the methods and the goals of present day investigations in the physical sciences. Being a course in physical science, it will apply care and rigor to the presentation of ideas where applicable.

Honors College 290 Honors Seminar Variable Credit
An undergraduate seminar for freshman-sophomore honors students. The content of the seminar varies and will be announced in advance. Admission by permission.

Honors College 299 Independent Study Variable Credit
An opportunity to explore individually, under the guidance of a member of the faculty, a topic or problem in almost any area.

UPPER LEVEL HONORS COLLEGE COURSES

Honors College 490 Honors Seminar Variable Credit
An undergraduate seminar for upper level honors students. The content of the seminar varies and will be announced in advance. Admission by permission.

Honors College 492 Visiting Scholars Variable Credit
A seminar involving visiting scholars from other institutions and countries. The content of the seminar varies and will be announced in advance. Admission by permission.

Honors College 499 Individual Studies Variable Credit
Students in the Honors College may enroll in this course for variable credit for one or several semesters upon approval of the Director of Honors. The course is an administrative facility for individual study outside the usual course structure.
Further information about the Honors College may be had from the Director of Honors, West Hillside Apartment Building, Western Michigan University.
College of Applied Sciences

W. CHESTER FITCH, Dean

GORDON O. JOHNSON, Administrative Assistant

Departments:

Agriculture
Distributive Education
Electrical Engineering Technology
Engineering and Technology
Home Economics
Industrial Education
Mechanical Engineering Technology
Military Science
Occupational Therapy
Paper Science and Engineering
Transportation Technology
UNDERGRADUATE PROGRAMS

The needs of students are served by the College by providing many programs which develop an understanding of and a capability to perform jobs in education, business, and industry for which employment opportunities exist. Students are encouraged to develop an understanding of themselves in relation to society.

Careers in

VOCATIONAL AND PRACTICAL EDUCATION

Agriculture
Distributive Education
Home Economics Education
Industrial Arts
Technical Education

Careers in

ENGINEERING AND ENGINEERING TECHNOLOGY

Industrial Engineering
Paper Engineering
Automotive Engineering Technology
Aviation Engineering Technology
Electrical Engineering Technology
Engineering Graphics Technology
Mechanical Engineering Technology
Metallurgical Engineering Technology

Careers in

PROFESSIONAL AND TECHNICAL MANAGEMENT

Agriculture
Aircraft Technology
Aviation Technology and Management
Automotive Management and Service
Dietetics
Flight Technology
Food Distribution
General Curriculum
Home Economics—General Degree
Home Economics in Business
Industrial Supervision
Manufacturing
Military Science
Occupational Therapy
Paper Science
Petroleum Distribution
Printing Management
Vocational-Technical Management
GRADUATE PROGRAMS

The College of Applied Sciences offers graduate programs in Engineering and Technology, Home Economics, Occupational Therapy, Paper Science and Engineering, and cooperates with the College of Education in providing Master's Degree programs in Teaching of Distributive Education, Teaching of Home Economics, and Teaching of Industrial Education.

ACADEMIC COUNSELING PROGRAM

D. W. Nantz, Director of Counseling and Admissions

A student oriented counseling service for each academic program and related professional careers associated with the College is staffed with senior faculty who are concerned with the current and ongoing needs of the student. Students are urged to contact the counselor in their particular curricular area during their first semester of enrollment in order that they may plan an individual program of courses which will provide them the greatest rewards for their efforts and correspond with their goals. In addition, proper planning will maximize their benefits from the courses taken and minimize their problems with respect to registration.

Course offerings by semester for the years 1973-77 may be obtained in the College counseling office, Room 2038, I&ET Building.

TRANSFER PROGRAM

A student may transfer into a Bachelor of Science degree program from a community college or other on-campus programs by making proper application and having a credit evaluation of the work he has previously taken. A student is then required to complete a normal curriculum as outlined. Of the minimum of thirty credits required of all candidates for a bachelor's degree (page 25) in the College of Applied Sciences curricula, a transfer student must complete at least eighteen hours within the department, of which at least nine must be within the student's major area.

FIELD EXPERIENCE

The departments within the College of Applied Sciences have various work-study programs which allow the student to gain experience and knowledge about the professional field he plans to enter.

SCHOLARSHIPS

Scholarships which are available specifically for students in the College are controlled by the individual departments within the College of Applied Sciences. A listing may be found on pages 64-77.
PROFESSIONAL AND HONORARY SOCIETIES

Professional and honorary societies representing the occupations of the various departments are a vital part of a student's program and serve as an opportunity to get involved in the activities engaged in by these various occupations.

SPECIAL ENGINEERING AND TECHNOLOGY PROGRAMS

Cooperative Education  E. J. Brune, Director

Students enrolled in the Engineering, Engineering Technology and related degree curricula may elect a cooperative plan of education.

Students are usually selected in pairs and alternate by semester between campus and industry. While on the job, the student must be enrolled in the course AAS 300, Coordinated Industry. He is paid an appropriate salary by the company.

Cooperative students work in such areas as manufacturing, assembly research, design, quality control, and safety. They may perform tests, prepare engineering drawings, collect and record data, design tools and fixtures, and assist in supervision. The student's cooperative program is closely supervised by a College Coordinator.

Foundry

A student enrolled in any engineering or technology degree curriculum and interested in the foundry industry may elect a series of courses specifically related to foundry operations to prepare for work in this industry. The series will be selected in consultation with a counselor to conform with a student's interest. Enrollment in the cooperative education program is desirable, but not required, for students following this program. Many scholarships are available to help support such students.

Manufacturing

The program in Manufacturing is composed of a requirement regarding the minimal level of proficiency in several areas, a co-requirement of credits in these areas and a technical elective sequence permitting specialization. The selection of the courses in these co-areas will be based upon the student's prior experience in the particular areas in which he is specializing. The specialization sequence will consist of a series of specifically related courses and cognate courses.

A Bachelor of Science degree requires an associate degree in Applied Science (60 S.H.) plus sixty hours at Western Michigan University and two hours of physical education.

THE GENERAL CURRICULUM

The General Curriculum is designed especially for those students who desire a program which leads to a baccalaureate degree and which at the same time provides flexibility in the selection of courses.

Students electing this curriculum are required to complete a major, a minor, a General Education program (See General Education, page 26.)
of this catalog), and two semester hours of physical education. Ordinarily, these requirements total 80-90 semester hours. The balance of the Bachelor of Science degree program, amounting to approximately 35 semester hours, may be elected from the courses of any department.

Departments within the College of Applied Sciences which offer majors in the General Curriculum are Agriculture, Distributive Education, Home Economics, and Industrial Education. Approval of the Department Chairman in an area must be secured in order to enroll in this curriculum. A Bachelor of Science degree requires 122 credit hours.

**COURSE DESCRIPTIONS**

300 Coordinated Industry 3 hrs.
A cooperative education program involves a full-time planned and supervised work experience in industry during the semester or the equivalent on a part-time basis. A written report of the student's activities will be required. May be elected four semesters for a maximum of twelve semester hours credit.

399 Field Experience 2-8 hrs.
A program of practical experience and independent study to supplement and enrich classroom experiences. Written reports will be required.

520 Principles of Vocational Education 3 hrs.
The place and function of the practical arts and vocational education in the modern school; fundamental principles upon which this work is based. For teachers of agriculture, business, home economics, industrial subjects, and administrators. For upperclassmen and graduate students.
Agriculture

Bachelor of Science Degree

Lee O. Baker, Head

The Department of Agriculture recognizes the following responsibilities:

To provide opportunities to learn more about the important role of agriculture in the economy of the nation; basic training for workers in services sponsored by government or farmer group organizations; basic training for students planning to enter employment in the many agriculturally related industries servicing agriculture; technical information in the production of agricultural commodities needed by farm families dependent on sales of farm products; and to prepare teachers of agriculture for public secondary schools and to provide basic courses in agriculture for all teachers.

The Department offers a four year degree program in the distribution of agricultural products and the technical services rendered to farmers by the many agriculturally related industries.

The program requires 30 semester hours of Agriculture for a major, or 18 semester hours for a non-teaching minor. This curriculum requires a minimum of 124 semester hours.

Students majoring in agriculture may complete work for a B.S. degree at Western Michigan University or if a higher degree of specialization is desired, transfer to Michigan State University's College of Agriculture at the end of the sophomore year without loss of credit.

Courses will be selected with the approval of the adviser. Students who complete either a major or minor and who qualify for the secondary certificate may teach general or basic agriculture in Michigan high schools.

Agriculture

<table>
<thead>
<tr>
<th>First Year</th>
<th>S.H.</th>
<th>Second Year</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGR 110</td>
<td>2</td>
<td>ECON 201</td>
<td>4</td>
</tr>
<tr>
<td>AGR 111</td>
<td>3</td>
<td>Principles of Economics 3</td>
<td></td>
</tr>
<tr>
<td>MATH 100</td>
<td>4</td>
<td>SOC 200</td>
<td>3</td>
</tr>
<tr>
<td>or 122 Math-</td>
<td></td>
<td>Principles of Sociology 3</td>
<td></td>
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<tr>
<td>ematics</td>
<td></td>
<td>AGR 220</td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>4</td>
<td>Agronomy</td>
<td>5</td>
</tr>
<tr>
<td>Education—Science**</td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>4</td>
<td>Intro. to Soils</td>
<td></td>
</tr>
<tr>
<td>Education—Science**</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>CAS 104</td>
<td>3</td>
<td>Agriculture</td>
<td>6</td>
</tr>
<tr>
<td>Business &amp; Prof.</td>
<td>Speech</td>
<td>Electives</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Electives*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

*Minor requirements must be met.
**Consult advisor for appropriate course.
### College of Applied Science

#### Third Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTY 201</td>
<td>Accounting Concepts and Applications or</td>
<td>4</td>
</tr>
<tr>
<td>ACTY 210</td>
<td>Principles of Accounting</td>
<td>4</td>
</tr>
<tr>
<td>MGMT 200</td>
<td>Statistics or</td>
<td>3</td>
</tr>
<tr>
<td>BUS 340</td>
<td>Business Law</td>
<td>3</td>
</tr>
<tr>
<td>AGR 322</td>
<td>Agriculture, Marketing, and Finance</td>
<td>4</td>
</tr>
</tbody>
</table>

**Electives**

<table>
<thead>
<tr>
<th>Minor requirements must be met.</th>
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</thead>
</table>

#### Fourth Year

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>AGR 300</td>
<td>Farm Organization &amp; Mgmt. Electives*</td>
<td>19-32</td>
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</table>

**Electives**

<table>
<thead>
<tr>
<th>Minor requirements must be met.</th>
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</table>

#### Recommended Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 101 or 102</td>
<td>BIO 234 Outdoor Science</td>
</tr>
<tr>
<td>Biology 101, 102, 103</td>
<td>GEOG 244 Economic Geography</td>
</tr>
<tr>
<td>BIO 323 Plant Pathology</td>
<td>GEOG 544 Agricultural Geography</td>
</tr>
<tr>
<td>GS 112 Geological Science</td>
<td>GEOG 560 Principles of Cartography</td>
</tr>
<tr>
<td>BIO 542 Entomology</td>
<td></td>
</tr>
</tbody>
</table>

#### Course Descriptions

100 **Agriculture Science**  
A broad perspective of the field of agriculture and an overview of the entire agriculture society is presented so that students may obtain some idea of agriculture's place today in our economy. It is a survey type of course with many different fields being explored. We will examine the historical development of agriculture, and consider the various problems pertaining to agricultural production and farm management. We will explore opportunities in the many agriculturally related fields.

110 **Animal Industry**  
The fundamental problems and essential general concepts of livestock production and marketing in the United States are studied. It is an introduction to types, breeds, selection, feeding and management of dairy cattle, beef cattle, and swine.

111 **Animal Industry**  
A continuation of 110 with sheep, horses, and poultry being considered.

220 **Agronomy (Crop Production)**  
A study of the field of plant science with consideration given to the many applications of plant morphology, physiology, nutrition, pathology, genetics, and ecology as they relate to field crops.
222 Principles of Horticulture 4 hrs.
A basic course which will provide students with the opportunity to
learn the skills and practices of modern horticulture. The scope of study
includes: fruits, vegetables, turf, flowers, ornamental trees, plant propa-
gation and nursery culture.

310 Feeding and Animal Nutrition 4 hrs.
A study of the recent advances and the most important facts concern-
ing the nutrition, feeding, care and management of the various classes
of farm animals.

320 Introduction to Soils 4 hrs.
A course designed to give the student an opportunity of becoming
familiar with soils as natural units or entities and with their inherent
characteristics; to develop in the student an understanding of the signifi-
cance of fundamental soil properties; to set forth basic relationships
between soils and plants; and last, to develop an understanding of the
principles involved in the practical use and conservation of the soil.

322 Landscape Gardening 3 hrs.
It includes such topics as the care and planting of trees, flowers, and
shrubs, lawn establishment and care, identification and selection of plant-
ing materials, and design.

323 Landscape Design 3 hrs.
Emphasis in this course will be placed on the environmental approach
to landscaping. This concept considers the relationship between a house
and its lot and consequently their relationship to the neighborhood, the
community, and ultimately the whole region.

324 Land Use and Soil Conservation 3 hrs.
A study of the utilization of land by man and ways and means of pro-
moting better use of various land types, including recommended practices
for conservation of the productivity of our lands.

330 Farm Organizations and Management 5 hrs.
The role of the many farm organizations and their influence on today’s
agriculture. Basic principles of production, economics, and general prob-
lems in overall farm management are also studied.

332 Agriculture Marketing and Finance 4 hrs.
This course will deal with more specific organized marketing facilities
for farm products, using the existing facilities in Southwest Michigan,
covering grains, fruits, livestock, and vegetable markets. How farming
enterprises are financed and their relations to local sources of credit is
included.

400 Independent Study 2 hrs.
Qualified students may pursue a specific area of study on an individual
basis depending upon background and need. (May be taken twice for
credit.)

520 Soil Science 2 hrs.
Treats soil as an organic resource. Soil formation, composition and
classification are related to various physical, chemical and biological
factors in the environment. Consideration is given to soil fertility, water
retention and runoff, plant growth and land use as they are affected by
these factors.
Distributive Education

Bachelor of Science Degree

Raymond A. Dannenberg, Chairman
William O. Haynes

Richard Neschich
Lawrence A. Williams

The Department provides a variety of educational programs and services for individuals who are interested in the field of distribution in schools and business.

WORK-STUDY PROGRAMS

The Department has two cooperative programs. One is food distribution, designed to develop occupational competencies for management in the food industry. The other is for middle management positions in the petroleum field. These programs are jointly sponsored with the industries. The students in food and petroleum programs may earn a certificate in two years or complete a four-year program for a Bachelor of Science degree.

DISTRIBUTIVE TEACHER EDUCATION

The Department has a degree program for the preparing of teacher-coordinators of cooperative education programs and project method programs and teachers of preparatory and vocational-technical subjects. It qualifies one to receive both the Vocational and Secondary Provisional Certificates.

SERVICES

The Department provides secondary schools having cooperative educational programs with consultative services and has available related instructional materials for classroom use.

The Department also assists schools and businesses in planning and conducting adult education programs, workshops, conferences and institutes.

DISTRIBUTIVE EDUCATION CURRICULUM

This four year curriculum contains three program options and the student selects one of them.

1. Distributive Teacher Education
2. Food Distribution
3. Petroleum Distribution

A. General Education

Requirements as described on page 26 of the catalog must be met.
B. Curriculum Requirements ............................ 27-39 hrs.

AS 120 Technical Communication ..................... 3
ACTY 210 and 211 Principles of Accounting .......... 6
CAS 104 Business and Professional Speech .......... 3
PSY 150 Psychology I .................................. 3
SOC 200 Principles of Sociology ..................... 3
ECON 201 and 202 Principles of Economics .......... 6
D ED 202 and 302 Coordinated Distribution Practices 0-12
D ED 500 Seminar in Distributive Education ....... 3

C. Major Areas of Specialization ..................... 24-30 hrs.

Option 1.—Distributive Teacher Education
D ED 572 Teaching Techniques in Cooperative Education .... 2
D ED 573 Coordination Techniques in Cooperative Education .... 2
D ED 570 Organization and Operation of Distributive Education .... 2
D ED 130 Food Distribution Industry .................. 3
D ED 120 Introduction to Petroleum Industry .......... 3
MKTG 375 Principles of Retailing ................... 3
MKTG 270 Salesmanship .................................. 3
MKTG 374 Advertising ................................... 3
MKTG Electives ........................................... 9

Option 2.—Food Distribution
D ED 130 Food Distribution Industry .................. 3
D ED 132 Food Distribution Merchandising ................ 3
D ED 231 Food Distribution Supervision ................ 3
D ED 232 Food Distribution Operations ................ 3
D ED 109 Industry Survey ................................ 3
D ED Electives ............................................. 10

Option 3.—Petroleum Distribution
D ED 109 Industry Survey ................................ 3
D ED 120 Introduction to Petroleum Industry .......... 3
D ED 220 Properties and Application of Petroleum Products ................ 3
D ED 230 Service Station Supervision .................. 3
D ED 380 Handling of Petroleum Products ............... 3
D ED 327 Petroleum Distribution Finance ............... 3
D ED Electives ............................................. 7

D. Minor Sequence in General Business recommended .... 15-20 hrs.

E. Physical Education ...................................... 2 hrs.

F. Curriculum Electives .................................. 0-7 hrs.

G. Education Courses—Option 1. only .................... 21 hrs.

TEED 250 Human Development and Learning ............ 4
TEED 300 Teaching and Learning ......................... 3
TEED 410 Seminar in Education ......................... 2
TEED 470 Directed Teaching ................................ 9
AS 520 Principles of Vocational Education .............. 3

Minimum hours required for the curriculum: 120 hours plus 2 hours physical education.
A major can be earned only by being enrolled in the four-year curriculum offered by the department. A minor may be secured upon the approval of the departmental adviser.

**CERTIFICATE**

The two-year certificate programs are: (1) Food Distribution which emphasizes the merchandising, operating and supervising functions of the retail food outlet. (2) Petroleum prepares young people in the distribution methods and techniques used by the petroleum industry. Both of them are work-study programs.

**FOOD DISTRIBUTION**

A. Minimum hours required for this curriculum ........................................ 61 hrs.

B. Course Requirements

1. General Education ................................................................. 10 hrs.
2. Communication Arts and Sciences, Language, Literature, Philosophy and Religion .............................. 6 hrs.
   - CAS 104 Business and Professional Speech ................................ 3
   - AS 120 Technical Communication ............................................ 3
   - PSY 150 Psychology I ......................................................... 3
4. Social Science ........................................................................ 6 hrs.
   - ECON 201 and 202 Principles of Economics ............................... 6
5. Applied Sciences—Food Distribution ......................................... 23 hrs.
   - D ED 130 Food Distribution Industry ...................................... 3
   - D ED 132 Food Distribution Merchandising ............................... 3
   - D ED 231 Food Distribution Supervision .................................. 3
   - D ED 232 Food Distribution Operations ................................... 3
   - D ED 109 Industry Survey ..................................................... 3
   - H Ec 116 Family Foods (Supermarket) ..................................... 2
   - D ED 202 Coordinated Distribution Practices ........................... 6
   - ACTY 210 Principles of Accounting ......................................... 3
7. Physical Education .................................................................. 1 hr.

**PETROLEUM DISTRIBUTION**

A. Minimum hours required for this curriculum ........................................ 61 hrs.

B. Course Requirements

1. General Education
2. Communication Arts and Sciences, Language, Literature, Philosophy and Religion .............................. 6 hrs.
   - CAS 104 Business and Professional Speech ................................ 3
   - AS 120 Technical Communication ............................................ 3
   - PSY 150 Psychology I ......................................................... 3
Distributive Education

4. Social Science ........................................ 6 hrs.
   ECON 201 and 202 Principles of Economics ........ 6

   D ED 120 Introduction to Petroleum Industry ... 3
   D ED 220 Properties and Application of Petroleum Products ........ 3
   D ED 230 Service Station Supervision ............. 4
   D ED 109 Industry Survey ......................... 3
   D ED 202 Coordinated Distribution Practices ... 6

   ACTY 210 Principles of Accounting ................ 3

7. Physical Education .................................. 1 hr.

8. Electives .......................................... 6 hrs.

After completing a certificate program, a student may transfer into the degree program upon the recommendation of the counselor.

**COURSE DESCRIPTIONS**

109 Industry Survey 3 hrs.
Inspection trips are made to representative businesses and industrial establishments to observe such functions as production, transportation, storage, research and marketing. Company representatives will lecture to the class on the phases listed. Written reports are to be made of the visits, and a fee of $25.00 for transportation is required from each student.

202 Coordinated Distribution Practices 3 hrs.
The student will be employed as a trainee in a work situation for an entire term under the supervision of the University and the participating company. Written reports will be required and a performance appraisal of the trainee will be made by the employer. Students may elect two units for a total of six semester hours. Freshman-Sophomore level.

302 Coordinated Distribution Practices 3 hrs.
This is an advanced course in supervised work experience under the supervision of the University and the participating company. Written reports will be required and a performance appraisal of the trainee will be made by the employer. Students may elect two units for a total of six semester hours. Junior-Senior level.

500 Seminar in Distributive Education 2-4 hrs.
An intensive study of problems related to distribution and education for distribution. This seminar is especially recommended for seniors and graduates in the Distributive Education Department.

598 Readings in Distributive Education 1-3 hrs.
Directed, individual study of topics and areas of interest which are not otherwise treated in departmental courses. Consent of Department Chairman.
FOOD

130 Food Distribution Industry  3 hrs.
   An introductory course for those entering the field of food distribution.
   A study of food distribution, its history, evolution, and structure with
   emphasis on the growing importance of the store unit will be analyzed.
   Basic principles and practices of the industry will be considered.

132 Food Distribution Merchandising  3 hrs.
   A course designed to acquaint the student with the various merchan-
   dising techniques peculiar to food distribution. Receiving emphasis will
   be buying, display, promotion, turnover, pricing for profit, and increasing
   departmental sales. Resource people from the industry will be utilized
   to enrich classroom activities.

231 Food Distribution Supervision  3 hrs.
   A course designed for providing techniques in supervising and develop-
   ing people in food distribution. Attention will be directed toward organ-
   ization, attention, understanding people, communication, coaching, and building a store team. Leadership concepts so necessary
   in the industry will be stressed. Periodic lectures from industry resource
   people will enrich classroom instruction.

232 Food Distribution Operations  3 hrs.
   A course designed to acquaint the student with the principles and
   methods used in the operation of food distribution units with regard to
   organization, planning and control. The over-all objective will be to
   provide knowledge and develop understanding in the students for efficient
   unit operation. Resource people from food distribution will appear in the
   classroom to enrich the instructional program.

331 Food Distribution Managerial Processes  3 hrs.
   A study of advanced techniques in the development of food distribution
   personnel. Emphasis will be placed on job understanding, career dynam-
   ics, performance review, performance interview, behavior principles, and
   career discussions including appraising promotability. Time will be al-
   lowed for classroom practice of these techniques using roleplaying pro-
   cedures. Prerequisite: Food Distribution 231.

332 Food Distribution Systems Control  3 hrs.
   An analysis of the systems and controls used in the food distribution
   industry for controlling operations, maximizing profits and minimizing
   costs. The use of special operating data and ratios to measure perform-
   ance, budget manpower, and forecast sales and profits. Other strategies
   and control systems applicable to food distribution. Prerequisite: Food
   Distribution Operations 232.

PETROLEUM

120 Introduction to Petroleum Industry  3 hrs.
   A basic course in the study of the petroleum industry dealing with its
   history, exploration, drilling, production refining, distribution, service
   station records and sales, and general economics and structure of the in-
   dustry. The course includes the orientation necessary for the student to
understand the cooperative work program and the student's responsibility to such a program.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>220</td>
<td>Properties and Application of Petroleum Products</td>
<td>3 hrs.</td>
</tr>
<tr>
<td></td>
<td>A comprehensive study of the properties of petroleum products such as fuels, lubricants, greases, naphthas, waxes, pesticides and petroleum chemicals. The application and uses of these products in manufacturing, transportation, agriculture and the individual consumer are covered.</td>
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</tr>
<tr>
<td>230</td>
<td>Service Station Supervision</td>
<td>3 hrs.</td>
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<tr>
<td></td>
<td>The responsibilities and activities of the petroleum company salesman and supervision as they relate to retail establishment are dealt with. Such items as merchandising policies, advertising, inventory, product knowledge, plant layout, location, equipment and selling to the consumer are covered.</td>
<td></td>
</tr>
<tr>
<td>327</td>
<td>Petroleum Distribution Finance</td>
<td>3 hrs.</td>
</tr>
<tr>
<td></td>
<td>A course dealing with service station dealer finance counseling. An understanding of general finance of petroleum businesses, including retail outlets, jobber operations and major oil companies. Such topics as service station financing by major petroleum companies and jobbers, securing capital, interest, insurance and analysis of profit and loss statements are discussed. It also deals with principles of credit, and collections as it relates to the petroleum industry.</td>
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</tr>
<tr>
<td>328</td>
<td>Petroleum Jobber Operations</td>
<td>3 hrs.</td>
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<tr>
<td></td>
<td>An overall study of petroleum jobber operations with special emphasis on heating oil, including degree day forecasting, delivery dispatching, credit and collection control, sales and cost analyses, employee productivity and operating expense accounting with the use of electronic data processing.</td>
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<tr>
<td>380</td>
<td>Distribution and Handling of Petroleum Products</td>
<td>3 hrs.</td>
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<tr>
<td></td>
<td>A course covering the wholesale and retail distribution channels used by major and independent companies. The transportation and handling of petroleum products from the oil field to the retail outlet. The analysis of a sales territory and the selection of a service station site.</td>
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**DISTRIBUTIVE-COOPERATIVE TEACHER EDUCATION**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>570</td>
<td>Organization and Operation of Distributive Education</td>
<td>2 hrs.</td>
</tr>
<tr>
<td></td>
<td>Deals with the organization and operation of distributive education in relation to the total educational program. It is concerned with preparatory, cooperative, and adult programs. Consideration is given to advisory committees and local, state and federal relationships.</td>
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</tr>
<tr>
<td>571</td>
<td>Curriculum Development in Distributive Education</td>
<td>2 hrs.</td>
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<tr>
<td></td>
<td>This course provides for mastery of the techniques necessary for curriculum development in the high school, community college, area vocational center and adult education programs. Recommended for cooperative teacher coordinators.</td>
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<tr>
<td>572</td>
<td>Teaching Techniques in Cooperative Education</td>
<td>2 hrs.</td>
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<tr>
<td></td>
<td>This course deals with the methods and techniques used in teaching</td>
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</tbody>
</table>
the related subjects to students on cooperative work-study programs. Special emphasis will be given to group and individual methods of instruction.

573 Coordination Techniques in Cooperative Education 2 hrs.

This is a study of duties and responsibilities of the coordinator. The organization and establishment of training programs, supervision of trainees on the job, development of individual training programs, establishing working relationships between the school, business, and home; and participation in extra-curricular activities in the community. Especially adapted to prospective coordinators.
Electrical Engineering Technology curriculum is an applied engineering program in the following fields: electrical power, instrumentation, communication electronics, industrial electronics and computer design. Electives may be used to broaden the program to include an area such as supervision, design and development, manufacturing or industrial sales and distribution.

A bachelor of science degree requires 128 semester credit hours. An overall average of 2.00 must be obtained in EET courses for graduation. A minor may be secured upon approval of the department's counselor and by completing fifteen to twenty semester hours of work. Minors for students enrolled in curricula in the Electrical Engineering Technology Department may only be obtained from departmental offerings other than those in the engineering and technology curricula and Transportation Technology curricula.

Cooperative Education

Students enrolled in Electrical Engineering Technology may pursue a cooperative plan of education, whereby alternate semesters are spent working for compensation in industry, followed by a semester of study on the campus. Cooperative students work in such areas as manufacturing, product development, maintenance management, and field service divisions of major companies.

Academic Counseling

Students should contact the Electrical Engineering Technology academic counselor as early as possible. The counselor is available to assist in individual program planning, recommend electives appropriate to a student's educational objectives, discuss employment opportunities, and help solve academic problems. Substitutions and transfer credit must be approved by Departmental counselors.

The academic counselor is located in Room 2038, Industrial and Engineering Technology building.

Additional Information

General information regarding counseling, scholarships and special programs of interest to students in this Department may be found on pages 102-105.

Two Year Curriculum

(Students may secure a two-year vocational certificate in Electronics
by completing a series of courses which have been approved by the counselor in that field.)

Bachelor of Science Degree

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>S.H.</th>
<th>Semester 2</th>
<th>S.H.</th>
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<tbody>
<tr>
<td>IEGM 102</td>
<td>Tech. Communications¹</td>
<td>3</td>
<td>CHEM 101, 102 or 103 General Chemistry</td>
</tr>
<tr>
<td>MATH 122</td>
<td>Calculus I</td>
<td>4</td>
<td>MATH 106 Intro. to Computers</td>
</tr>
<tr>
<td>IEGM 105</td>
<td>Industrial Calculations</td>
<td>1</td>
<td>MATH 123 Calculus II</td>
</tr>
<tr>
<td>EET 250</td>
<td>Basic Logic Circuits</td>
<td>3</td>
<td>EET 210 Electrical Circuits</td>
</tr>
<tr>
<td>MET</td>
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<tr>
<td>PHYS 210</td>
<td>Mechanics and Heat²</td>
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<td>PHYS 211 Electricity and Light²</td>
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<td>IEGM 131</td>
<td>Engineering Drafting</td>
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<td>EET 230 DC Machines and Transformers</td>
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<td>EET 220</td>
<td>Electronic Circuits</td>
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<td>IEGM 271 Electrical and Mechanical Properties of Materials</td>
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<td>MET 256</td>
<td>Statics</td>
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<td>EET 330 AC Machines</td>
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<tr>
<td>EET 320</td>
<td>Electronic Devices</td>
<td>4</td>
<td>EET 360 Transmission Lines and Fields</td>
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<td>EET 310</td>
<td>Electrical Circuit Analysis</td>
<td>4</td>
<td>MET 355 Dynamics</td>
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<td>EET 420 Industrial Electronics</td>
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<td>EET 460</td>
<td>Communication Electronics¹</td>
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<td>ENGT 440 Measurement and Instrumentationⁱ</td>
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<td>MET 330 Thermo-Fluid Dynamics</td>
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<td>EET 450</td>
<td>Digital Circuits and Systems¹</td>
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<td>EET 470 Servomechanismsⁱ</td>
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</table>

1. B ED 142, ENG 105 a or b may be substituted.
2. Counselors may approve PHYS 110 and 111 as substitutes.
3. ECON 201 and 202 may be substituted.
4. ENGT 541, 542, 545 or four hours of upper-class ENGT courses may be substituted for any one of these courses with the approval of the departmental counselor.
Academic Counselors (located in Room 2038, Industrial and Engineering Technology Building) are available for recommending and approving electives appropriate to your educational objectives.

## COURSE DESCRIPTIONS

### ELECTRICAL ENGINEERING TECHNOLOGY

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title and Description</th>
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<tbody>
<tr>
<td>100 (140)*</td>
<td>Fundamentals of Circuits and Electronics</td>
</tr>
<tr>
<td>101 (141)</td>
<td>Fundamentals of Electronics and Machines</td>
</tr>
<tr>
<td>210 (240)</td>
<td>Electrical Circuits</td>
</tr>
<tr>
<td>220 (241)</td>
<td>Electronic Circuits</td>
</tr>
<tr>
<td>230 (242)</td>
<td>DC Machines and Transformers</td>
</tr>
<tr>
<td>250 (243)</td>
<td>Basic Logic Circuits</td>
</tr>
</tbody>
</table>

*Numbers in parentheses refer to courses listed in the 1972-73 undergraduate catalog as Engineering and Technology (ENGT) courses.
310 (344) Electrical Circuit Analysis 4 hrs. Fall, Winter, Spring
A rigorous treatment of steady state AC analysis including three-phase power, resonance, and important network theorems using differential equations and a digital computer. Solutions of complete circuit response using differential equations. Prerequisites: EET 210 (ENGT 240), Math 106, 123.

320 (340) Electronic Devices 4 hrs. Fall, Winter
Analysis, design and construction of modern electronic circuits using solid-state devices and integrated circuits. Prerequisites: EET 220, 310 (ENGT 241, 344) (EET 310 may be taken concurrently).

330 (342) AC Machines 4 hrs. Fall, Winter

360 (345) Transmission Lines and Fields 3 hrs. Fall, Winter
Basic field theory and the study of transmission lines at radio frequencies and power frequencies. Prerequisite: EET 310 (ENGT 344).

420 (341) Industrial Electronics 4 hrs. Winter, Spring
Analysis and design of industrial electronic systems, power sources, motor controls, timing and sequencing circuits. Industrial applications of solid-state devices. Laboratory analysis of industrial equipment. Prerequisites: EET 250, 320 (ENGT 243, 340).

440 Measurements and Instrumentation 4 hrs. Fall, Winter
Theory, calibration, and application of electronic instruments used in the measurement of electrical, magnetic and nonelectrical quantities. Design, construction and standardization of electronic instruments used in measurement and control. Prerequisites: EET 250, 320 (ENGT 243, 340).

450 (443) Digital Circuits and Systems 4 hrs. Fall, Winter
Electronic, logic and linguistic aspects of the design of computers, input-output interfaces and other digital systems. Prerequisites: EET 250, 320 (ENGT 243, 340).

460 (441) Communication Electronics 4 hrs. Fall, Summer
Introduction to linear systems. Analysis of amplitude, angle and pulse modulation systems and noise effects. Analysis and design of common communication circuits. Prerequisites: EET 320, 360 (ENGT 340, 345).

470 (442) Servomechanisms 4 hrs. Winter, Spring
Analysis and synthesis of linear feedback systems by the use of Laplace transforms, Bode diagrams, Nyquist plots, Nichols charts and Root-Locus plots. Computer-aided analysis. Prerequisite: EET 310 or MET 360 (ENGT 344 or 360).

490 Independent Research and Development 1-4 hrs.
Individual research or special project in electrical engineering and technology. Open only to juniors and seniors having the approval of the faculty member under whom the student will work and the approval
of the department chairman. Students may register more than once, not to exceed 4 hrs.

498 Readings in Electrical Engineering Technology 1-4 hrs.
A course in which advanced students may elect to pursue a program of readings in areas of special interest. Prerequisite: Permission of the instructor with whom the student wishes to work.

499 Studies in Electrical Engineering Technology 1-4 hrs.
A program of independent study to provide advanced students with the opportunity to explore a topic of interest under the guidance of a faculty member. Prerequisite: Permission of the instructor with whom the student wishes to work.

510 (542) Advanced Circuits 3 hrs. Winter
Advanced circuit analysis, steady-state and transient responses, writing and solving integro-differential equations by classical methods using Laplace transforms, network theorems, Fourier series analysis, complex frequency, poles and zeros. Prerequisite: EET 310 (ENGT 344).

530 (545) Electrical Power Systems 3 hrs. Spring
Engineering considerations of generating equipment, transmission and distribution systems, switch gear and industrial power distribution. Prerequisite: EET 330 (ENGT 342).

560 (541) Electrical Fields 3 hrs. Fall
Electrostatics including such topics as Coulomb's Law, Gauss's Law, Maxwell's equations, Laplace's and Poisson's equations, Faraday's Law, Stoke's Theorem and Ampere's Law. Use is made of vector calculus in rectangular, cylindrical and spherical coordinates. Prerequisite: EET 360 (ENGT 345).
Curricula offered by the Department of Engineering and Technology are designed primarily to prepare product and manufacturing oriented engineering personnel for industry. The programs provide extensive laboratory experience requiring application of engineering principles to such industrial functions as product design and improvement, production planning and control, manufacturing engineering, and plant engineering.

A bachelor of science degree in the curricula listed below can be earned only by completing one of the curricula offered by the department.

A minor may be secured upon approval of the department's counselor and by completing fifteen to twenty semester hours of work. No minor will be given in Industrial Supervision or Industrial Engineering. Minors for students enrolled in curricula in the Engineering and Technology Department may only be obtained from departmental offerings other than those in the engineering and technology curricula and transportation technology curricula.

Coop-Education

Students enrolled in any Engineering and Technology degree curriculum may pursue a cooperative plan of education, whereby alternate semesters are spent in industry, followed by a semester of study on the campus. Cooperative students work in such areas as manufacturing, product development, maintenance management, and field service divisions of major companies.

Academic Counseling

Students should contact an Engineering and Technology academic counselor as early as possible. The counselors are available to assist in individual program planning, recommend electives appropriate to a student's educational objectives, discuss employment opportunities, and help solve academic problems. Substitutions and transfer credit must be approved by Departmental counselors.

* A minor in Industrial Engineering is available only to students with a major in Statistics.
The following academic counselors are located in Room 2038, Industrial and Engineering Technology building:

Engineering Graphics Technology, Metallurgical Engineering Technology, Industrial Engineering and
Industrial Supervision ......................................................... Dr. W. A. Wichers
Manufacturing ................................................................. Dr. D. W. Nantz

Additional Information
General information regarding counseling, scholarships and special programs of interest to students in this Department may be found on pages 102-105.

The following curricula are offered:

FOUR YEAR CURRICULA—B.S. DEGREE
1. Industrial Engineering
2. Industrial Supervision
3. Engineering Graphics Technology
   (2-Year Certificate—Drafting and Design Technology)
4. Metallurgical Engineering Technology
5. Manufacturing

INDUSTRIAL ENGINEERING

Bachelor of Science in Engineering (Industrial) Degree

The Industrial Engineering curriculum provides the essential foundation, experience and understanding in science, mathematics, humanities and engineering so graduates may find gainful employment in industries or utilities. The Industrial Engineer is particularly responsible for the improvement and development of engineering management, production planning and control, plant organization, technical design related to manufacturing processes, inspection, plant safety and employee and employer relations.

A selection of one of two groups of courses provide the student an opportunity to concentrate on either the economics, management, and operating systems in industry or the design of products and technological systems used in operations.

A “C” average or better must be earned in the required technical courses.

A Bachelor of Science in Engineering Degree requires 128 semester hours.

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>S.H.</th>
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<tbody>
<tr>
<td>CHEM 103</td>
<td>General Chemistry 4</td>
<td>General Education 2</td>
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<td>General Education 4</td>
<td>Calculus II 4</td>
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<td>MATH 122</td>
<td>Calculus I 4</td>
<td>Mfrg. Process</td>
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<td>IEGM 100</td>
<td>Introduction to Industry 2</td>
<td>Elective 3</td>
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<tr>
<td></td>
<td>IEGM 102</td>
<td>Technical Communications* 3</td>
<td></td>
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<td></td>
<td>IEGM 131</td>
<td>Engineering Drafting 3</td>
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*ED 142, ENG 105 a or b may be substituted.
<table>
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<tr>
<td>ECON 201</td>
<td>Principles of Economics* 3</td>
<td>ECON 202</td>
<td>Principles of Economics* 3</td>
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<tr>
<td>MATH 272</td>
<td>Vector and Multivariate Calculus 4</td>
<td>MATH 230</td>
<td>Elementary Linear Algebra 4</td>
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<td>PHYS 210</td>
<td>Mechanics and Heat 4</td>
<td>PHYS 211</td>
<td>Electricity and Light 4</td>
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<td>IEGM 170</td>
<td>Metallurgy 4</td>
<td>MET 256</td>
<td>Statics 3</td>
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<td>MATH 360</td>
<td>General Education 4</td>
<td>EET 101</td>
<td>Fund. of Electronics and Machines 3</td>
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<td>EET 100</td>
<td>Statistical Methods 4</td>
<td>IEGM 310</td>
<td>Engineering Economy 3</td>
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<td>IEGM 305</td>
<td>Work Analysis 3</td>
<td>IEGM 308</td>
<td>Quality Control 3</td>
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<td>MET 353</td>
<td>Strength of Materials 3</td>
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<td>Dynamics 3</td>
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<th>Semester 8</th>
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<tbody>
<tr>
<td>IEGM 404</td>
<td>Material Handling and Layout 4</td>
<td>IEGM 402</td>
<td>Industrial Supervision 3</td>
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<td>IEGM 416</td>
<td>Operations Control in Manufacturing 4</td>
<td>IEGM 402</td>
<td>Technical Electives 10</td>
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<td>IEGM 410</td>
<td>Senior Seminar 1</td>
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All courses in either Group A or Group B technical electives must be completed to satisfy the requirements for a B.S. degree. The students must select either group A or B and inform their counselor in writing of their selection prior to registering for the equivalent of the sixth semester in the program.

**Technical Electives**

<table>
<thead>
<tr>
<th>Semester to Be Taken</th>
<th>Course</th>
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<tr>
<td></td>
<td><strong>Group A—Systems</strong></td>
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<td>7</td>
<td>ACTY 201 Accounting Concepts and Applications</td>
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<td>8</td>
<td>MET 330 Thermo—Fluid Dynamics</td>
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<td>7</td>
<td>IEGM 403 Industrial Labor Relations</td>
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<td>7</td>
<td>IEGM 405 Work Design</td>
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<td>8</td>
<td>IEGM 419 Introduction to Operations Research</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>IEGM 418 Report Preparation</td>
<td>3</td>
</tr>
</tbody>
</table>

*Satisfies General Education social and behavioral science requirement.*
Academic Counselors (located in Room 2038, Industrial and Engineering Technology Building) are available for recommending and approving electives appropriate to the student's educational objectives.

INDUSTRIAL SUPERVISION

Bachelor of Science Degree

The Industrial Supervision curriculum provides the essential academic background in humanities, social sciences and communications; the necessary technical subjects; and an involvement with the basic human relation skills used by industry when dealing with people. The Industrial Supervisor may direct production employees working on line operations or may direct staff personnel specifically assigned to assist the line in meeting its objectives.

A selection of one of the two groups of courses provides the student an opportunity to concentrate in either the supervision of line/manufacturing operations or the supervision of staff/management functions directly allied to the line.

A "C" average or better must be earned in the required technical courses.

A bachelor of science degree requires 128 semester hours.

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>S.H.</th>
<th>Semester 2</th>
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<tbody>
<tr>
<td>IEGM 102</td>
<td>Technical Communications*</td>
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<td>CAS 104</td>
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<td>MATH 100</td>
<td>Algebra</td>
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<td>IEGM 130</td>
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<td>IEGM 100</td>
<td>Introduction to Industry</td>
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<td>MATH 200</td>
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<td>CHEM 103</td>
<td>General Chemistry</td>
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<td>PE</td>
<td>Physical Education</td>
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<td>MATH 106</td>
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<tbody>
<tr>
<td>ECON 201</td>
<td>Principles of Economics**</td>
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<td>MATH 260</td>
<td>Elementary Statistics</td>
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<td>PHYS 111</td>
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<td>PHYS 110</td>
<td>General Physics</td>
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*B ED 142, ENG 105 a or b may be substituted.

**Satisfies General Education social and behavioral science requirement.
# College of Applied Science

<table>
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<tr>
<td>ACTY 210</td>
<td>Principles of Accounting</td>
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<td>IEGM 308</td>
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<td>BUS 340</td>
<td>Legal Environment</td>
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<td>IEGM 322</td>
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<td>IEGM 305</td>
<td>General Education</td>
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<td>IEGM 405</td>
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<td>IEGM 326</td>
<td>Work Analysis</td>
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<td>IEGM 403</td>
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<td>Production Control</td>
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<td>IEGM 326</td>
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<td>IEGM 402</td>
<td>Industrial Supervision</td>
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<td>PSY 540</td>
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<td>IEGM 404</td>
<td>Material Handling and Layout</td>
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</table>

### Spring of Last Year

IEGM 420 Modern Industrial Practices 6 hrs.

Twelve semester hours of selected courses, all in either Group A or Group B technical electives, must be completed to satisfy the requirements for a B.S. degree. The students must inform their counselor in writing of their selection prior to registering for the equivalent of the sixth semester in the program.

## Technical Electives

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td><strong>Group A—Line Supervision/Manufacturing</strong></td>
<td></td>
</tr>
<tr>
<td>IEGM 310 Engineering Economy</td>
<td>3</td>
</tr>
<tr>
<td>MET 220 Production Tooling</td>
<td>3</td>
</tr>
<tr>
<td>MET 320 Pressworking of Metals</td>
<td>3</td>
</tr>
<tr>
<td>MET 221 Industrial Welding</td>
<td>3</td>
</tr>
<tr>
<td>IEGM 380 Metal Casting II</td>
<td>3</td>
</tr>
<tr>
<td>EET 100 Fundamentals of Circuits and Electronics</td>
<td>3</td>
</tr>
<tr>
<td>EET 101 Fundamentals of Electronics and Machines</td>
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</tr>
</tbody>
</table>

Students will select 12 S.H. from the above listing.

| **Group B—Staff Supervisor/Management**     |      |
| IEGM 310 Engineering Economy               | 3    |
| IEGM 505 Methods Synthesis                  | 3    |
| IEGM 508 Advanced Quality Control           | 3    |
| ACTG 211 Principles of Accounting            | 3    |
| MGMT 300 Fundamentals of Management          | 3    |
| MKTG 270 Salesmanship                        | 3    |
| MKTG 370 Marketing                          | 3    |

Students will select 12 S.H. from the above listing.

Academic counselors (located in Room 2038, Industrial and Engineering Technology Building) are available for recommending and approving electives appropriate to the student’s educational objectives.
The Engineering Graphics Technology curriculum is a program in the field of symbolic communication related to the product and tooling activities of industry including the areas of communication methods, graphic science, and industrial processes and materials. The program prepares students to assume such leadership roles in design and drafting activities as section leader, checker, reprographics supervisor, standards administrator, and chief draftsman.

A "C" average or better must be earned in the required technical courses.

A bachelor of science degree requires 128 semester hours.

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>S.H.</th>
<th>Semester 2</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS 104 Bus. and Prof. Speech</td>
<td>3</td>
<td>IEGM 102 Technical Communications*</td>
<td>3</td>
</tr>
<tr>
<td>General Education</td>
<td>2</td>
<td>BUS 182 Beginning Typewriting</td>
<td>2</td>
</tr>
<tr>
<td>MATH 100 Algebra or</td>
<td></td>
<td>CHEM 103 General Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>MATH 122 Mathematics I</td>
<td>4</td>
<td>MATH 200 Analysis and Applications or Mathematics II</td>
<td>4</td>
</tr>
<tr>
<td>MET 120 Machining Metals</td>
<td>3</td>
<td>IEGM 136 Descriptive Geometry</td>
<td>3</td>
</tr>
<tr>
<td>IEGM 131 Engineering Drafting</td>
<td>3</td>
<td>PE Physical Education</td>
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<td>Physical Education</td>
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<tr>
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<th>S.H.</th>
<th>Semester 4</th>
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</thead>
<tbody>
<tr>
<td>MATH 106 Introduction to Computers</td>
<td>1</td>
<td>MATH 306 Intro. to Computer Language (FORTRAN)</td>
<td>2</td>
</tr>
<tr>
<td>PHYS 110 General Physics</td>
<td>4</td>
<td>EET 101 Fund of Electronics and Machines</td>
<td>3</td>
</tr>
<tr>
<td>EET 100 Fund of Circuits and Electronics</td>
<td>3</td>
<td>IEGM 330 Machine Drafting</td>
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<td>MET 250 Production Tooling</td>
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<td>MET 256 Statics</td>
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</table>

*B ED 142, ENG 105 a or b may be substituted.
TWO-YEAR CERTIFICATE PROGRAM IN
DRAFTING AND DESIGN TECHNOLOGY

Students may receive a two-year certificate in Drafting and Design Technology by completing 62 semester hours of approved courses. This program is designed specifically to train persons for industrial drafting careers in layout, detailing and engineering design activities. Upon successful completion students may transfer into the four-year Engineering Graphics Technology program and work toward a bachelor of science degree.

MANUFACTURING
Bachelor of Science Degree

The Manufacturing Curriculum is specifically designed for students who have completed an Associate Degree Program (or the equivalent) in Applied Sciences. It is made up of three parts:

PART I: MINIMUM LEVEL OF ACHIEVEMENT IN SIX AREAS
GRAPHICS: ability to make and read working drawings.
MATERIALS AND PROCESSING: basic machining operations and applications; one other manufacturing process including standard materials.
SCIENCE: principles of chemistry and physics.
ELECTRICAL: principles of circuits, electronics and machines as applied to manufacturing.
TECHNICAL ANALYSIS: elements of calculus, statistics, proficiency in a basic computer language, engineering mechanics for analysis of simple static force systems, and stresses in machinery, fasteners, and bearings.
MANUFACTURING MANAGEMENT: principles of manufacturing management, economics, accounting, human relations and communications.

NOTE: All students will enroll in IEGM 499, an independent study project, for 1 semester hour to determine the student's competence in each of the above areas.
PART II: MANUFACTURING DEGREE REQUIREMENTS

[A 48 semester hour program of study designed to develop a higher degree of proficiency in areas outlined in Part I; and development of an area of specialization selected by the student (Technical Electives). The student in conference with his counselor will select studies in the following areas with approximately the semester hours set forth:]

MATERIALS AND PROCESSING 6 S.H.
ELECTRICAL ENGINEERING TECHNOLOGY 9 S.H.
TECHNICAL ANALYSIS 9 S.H.
MANUFACTURING MANAGEMENT 9 S.H.
TECHNICAL ELECTIVES (Specialization) 15 S.H.

PART III: GENERAL EDUCATION

[12 semester hours of courses designed to establish individual awareness of social responsibilities in government, ecology, man-to-man relations, and history.]

The Manufacturing Program requires sixty semester hours at Western Michigan University in addition to the sixty semester hours completed in an Associate Degree Program, yielding a total of 120 semester hours required for a Bachelor of Science Degree. [Two semester hours of physical education are also required and may be completed during the Associate Degree Program or at Western Michigan University. They are in addition to the 120 semester hours required.]

METALLURGICAL ENGINEERING TECHNOLOGY

Bachelor of Science Degree

The Metallurgical Engineering Technology curriculum is a program of applied engineering in the areas of foundry and materials engineering involving process control, product development, production, and supervision.

This program prepares students for leadership roles in metal casting and other metal fabricating industries.

A “C” average of better must be earned in the required technical courses.

A bachelor of science degree requires 128 semester credit hours.

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>S.H.</th>
<th>Semester 2</th>
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<tbody>
<tr>
<td>IEGM 102</td>
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<td>CHEM 103</td>
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<td>MATH 122</td>
<td>Mathematics I</td>
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<td>MATH 123</td>
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<td>IEGM 105</td>
<td>Industrial Calculations</td>
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<td>IEGM 170</td>
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<td>IEGM 131</td>
<td>Engineering Drafting</td>
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</table>

*B ED 142, ENG 105 a or b may be substituted for the General Education Social and Behavioral Sciences requirement.
### Course Descriptions

**College of Applied Science**

#### Course Descriptions

(Course descriptions in italics are approved for General Education purposes.)

**General Engineering and Technology**

**102 (AAS 120)**

Technical Communications

3 hrs. Fall, Winter, Spring

Practical writing skills; bibliographical research; data analysis and presentation; format for problems, pages and outlines. Effective reading and listening.

**105 (150)**

Industrial Calculations

1 hr. Fall, Winter, Spring

Methods of calculation used in industry. Approximations, slide rule, calculator, and computers in relation to industrial calculations. Slide rule instruction. Prerequisite: Math 100 or H.S. trig. and logarithms.

*Numbers in parentheses refer to courses listed in the 1972-73 catalog as Engineering and Technology (ENGT) courses.*
378 Development of American Technology 4 hrs. Winter

The development of American technology is presented as a response to cultural factors and innovations by technologists. Case studies of successive styles of technology illustrate the technological/societal interaction.

490 Independent Research and Development 1-4 hrs. Fall, Winter, Spring, Summer

Individual research or special project in engineering and technology. Open only to juniors and seniors having the approval of the faculty member under whom the student will work and the approval of the department chairman. Students may register more than once, not to exceed 4 hours.

498 Readings in Engineering and Technology 1-6 hrs. Fall, Winter, Spring, Summer

Independent readings in engineering and technology. Open only to junior and seniors having the approval of the faculty member under whom the student will work and the approval of the department chairman. Students may register more than once, not to exceed 6 hrs.

499 Studies in Engineering and Technology 1-6 hrs. Fall, Winter, Spring, Summer

Independent studies in engineering and technology. Open only to students having the approval of the faculty member under whom the student will work and the approval of the department chairman. Students may register more than once, not to exceed 6 hrs.

INDUSTRIAL ENGINEERING

100 (101)* Introduction to Industry 2 hrs. Fall

The anatomy of manufacturing industries, operational responsibilities and relationships in companies of various sizes and using various processes. Includes a foundation in basic analytical methods.

305 Work Analysis 3 hrs. Fall, Winter, Spring

Methods engineering and measurement of human work systems. Techniques for operation analysis, work measurement and work sampling. Predetermined basic motion-time systems and standard data development are introduced. Prerequisites: IEGM 100 (101) or 105 (150), Math 260 or 360.

308 Quality Control 3 hrs. Fall, Winter, Spring

Methods for controlling the quality of materials in a production system. Principles and techniques of administration and the application of statistical methods. Use of standard practices in quality control measures: frequency distribution, control charts, sampling procedures, and continuing analysis. Prerequisites: IEGM 100 (101) or 105 (150), Math 260 or 360.

310 (307) Engineering Economy 3 hrs. Winter, Spring

Application of principles of engineering economy for establishment of equipment and system feasibility. Interest, equivalence, taxes, depreciation, uncertainty and risk, incremental and sunk costs, and replacement models. Prerequisite: Math 123 or 200.
College of Applied Science

326 (306) Production Control 3 hrs. Fall, Winter, Summer
Methods of controlling and coordinating production using production planning, scheduling, inventory control, and dispatching. Prerequisites: IEGM 100 (101) or 105 (150), Math 260. Not open to Industrial Engineering majors.

404 Material Handling and Layout 4 hrs. Fall, Winter, Spring
Planning and integrating an effective and economical interrelationship between men, equipment, and materials in the manufacture and distribution of any given product. Prerequisites: IEGM 305; 310 (307); 326 (306), or 416 (407). (May be concurrent.)

405 Work Systems Design 3 hrs. Fall, Winter
Concepts and strategies for the design and improvement of work systems in public and private organizations. Advanced techniques for systems analysis and the management of improvement programs. A supervised team project is required. Prerequisite: IEGM 305.

410 Senior Seminar 1 hr. Fall
A seminar for senior industrial engineering and supervision students. Topics for discussion will be centered about the role of the industrial engineer and supervisor at his place of work and his obligation to society. Prerequisite: Senior standing.

416 (407) Operations Control in Manufacturing 4 hrs. Fall
The function of production and inventory operations. Control of manufacturing production systems, modeling. Prerequisites: Math 360, IEGM 310 (307).

418 (439) Report Preparation 3 hrs. Winter
Techniques and procedures used as a basis for preparing a report. Planning, conducting, analyzing and communicating the results of a useful project. Prerequisites: Senior standing, IEGM 102 (120).

419 (409) Introduction to Operations Research 3 hrs. Winter
History and growth of operations research. The development of mathematical concepts and models concerned with industrial engineering problems. Topics include linear programming, queuing theory, game theory, and simulation. Prerequisite: Math 360.

505 Advanced Methods Engineering 3 hrs. Winter
Synthesis of effective work methods using a predetermined basic motion time system. Methods-Time Measurement, standard data system development and administration. Prerequisite: IEGM 305.

508 Advanced Quality Control 3 hrs. Fall
Analysis and application of new concepts in the fields of quality control. Tests of significance, probability studies and other uses of statistics as applied to quality control. Prerequisite: IEGM 308.

INDUSTRIAL SUPERVISION

322 (401)* Industrial Safety 2 hrs. Fall, Winter, Spring
Importance of safety in industry. Cost of accidents, fundamentals of

*Numbers in parentheses refer to courses listed in the 1972-73 undergraduate catalog as Engineering and Technology (ENGT) courses.
accident prevention; elements of effective safety programs, accident investigation, and OSHA. Prerequisite: Upperclass standing.

402 Principles of Industrial Supervision 3 hrs. Fall, Winter, Spring
Supervisory duties and responsibilities of foremen, engineers, and technicians in industry. Prerequisite: Senior standing.

403 Industrial Labor Relations 3 hrs. Fall, Winter, Summer
Relationships between government agencies, labor organizations and management. Emphasis on development of collective bargaining procedures. Prerequisite: Senior standing.

420 (400) Modern Industrial Practices 6 hrs. Spring, Summer
Students will observe and analyze actual supervisory and managerial functions in industrial and service establishments. Conference procedures will be used in exploring many facets of supervisory and managerial practices and procedures. A charge of $20 for transportation is required. Prerequisite: IEGM 308, 326 (401), 402, 403, 404, 405 or consent.

422 (406) Conference Leadership 3 hrs. Fall, Winter
Basic methods of planning and presenting an industrial conference. Techniques of leadership with opportunity for practical application of these techniques. Prerequisite: CAS 104, upperclass.

500 Labor Management Relations 3 hrs. Winter
Interplay among government agencies, labor organizations, and management. Particular emphasis is placed on collective bargaining procedures, issues, and applications through case studies. Not open to students with credit in IEGM 403.

502 Industrial Supervision 3 hrs. Fall
The supervisor's duties, obligations and responsibilities in his industrial role. The practical application of behavioral science principles to the industrial environment. Not open to students with credit in IEGM 402.

ENGINEERING GRAPHICS TECHNOLOGY

130 (132)* Technical Drafting 2 hrs. Fall, Winter, Summer
Basic principles and techniques of engineering drafting as related to industrial manufacturing processes. Open only to students having had no drafting in high school.

131 (230) Engineering Drafting 3 hrs. Fall, Winter, Summer
Essentials of drafting-lettering, instrument usage, applied geometry, sketching, orthographic projections, auxiliaries and sections, dimensioning practice, detail and assembly drawing, and standard drafting practices. Pictorial drawing, charts and graphs. Prerequisite: IEGM 130 (132) or equivalent.

136 (231) Descriptive Geometry 3 hrs. Fall, Winter, Summer
Space concepts using points, lines, planes and solids. Measurements of distances and angles, intersections, true sizes and shapes of plane

*Numbers in parentheses refer to courses listed in the 1972-73 catalog as Engineering and Technology (ENGT) courses.
areas and development of curved surfaces. Analytical procedures and systematic notation in graphical solutions. Prerequisite: IEGM 131 (230).

**236 (235) Graphical Solutions**  
2 hrs. Winter  

**330 Machine Drafting**  
3 hrs. Fall, Winter, Spring  
Elementary design of machine components. Motion and power transmission devices are analyzed from product function and manufacturing feasibility aspects. Dimensions, including geometric tolerancing, in layout, detail and assembly drawings. Design using standard parts. Prerequisite: IEGM 131 (230).

**331 Production Drafting**  
3 hrs. Fall, Spring  
Engineering documentation as it relates to product drafting. Drawings of product components and assemblies, and associated lists are analyzed. Microfilming and reproduction of engineering documents, checking, and standards administration. Prerequisite: IEGM 330 (330).

**332 (334) Design of Production Tooling I**  
2 hrs. Fall  
Principles of tooling practice. Elements of jigs and fixtures and their applications to product component manufacturing. Fixturing for numerical control omni-directional machining operations. Prerequisite: MET 121 (152), 220 (250); IEGM 330.

**333 (335) Design of Production Tooling II**  
2 hrs. Winter  
Principles of production tooling as related to the design of stamping and extruding dies and injection molds for metal and plastics industries. Cost analysis, production processing, and material considerations in design. Prerequisite: IEGM 332 (334).

**431 (553) Industrial Drafting Practices**  
2 hrs. Winter, Summer  
Organization, administration, procedures and methods involving personnel, planning, equipping, and systematizing an industrial drafting department. Prerequisite: IEGM 331.

**434 (552) Technical Illustration**  
3 hrs. Winter  
Techniques of illustrating for technical publications such as engineering reports, technical and service manuals and parts catalogs. Prerequisite: IEGM 131 (230).

**436 (455) Computer Graphics**  
2 hrs. Winter, Summer  
A study of the use of computers in engineering graphics. Use of the digital plotter in completing engineering documents using existing and student-originated sub-routines and programs. Investigation of and study in the newly developing areas of computer graphics and their applications. Prerequisites: IEGM 331, Math 306 (FORTRAN).

**438 (430) Industrial Design**  
3 hrs. Winter  
Design and development of manufactured products through a study of basic elements of industrial design. Models, mock-ups and prototypes will be constructed of students’ designs. Prerequisite: IEGM 131 (230).
538 (544) Product Design and Development 3 hrs. Summer
The conceptual design and development of a product including the preparation of a working model. Product proposal, engineering documentation and engineering analysis of the product. Prerequisite: IEGM 438 (430) or consent of instructor.

METALLURGICAL ENGINEERING TECHNOLOGY

170 (252)* General Metallurgy 4 hrs. Fall, Winter, Summer
Mechanical properties of metals. Effect of geometry of loading, strain rate, and fatigue on the behavior of metals. Selection and heat treatment of alloys with emphasis on the ferrous based alloys.

271 Electrical and Mechanical Properties of Materials 3 hrs. Winter, Spring
Principles of physical metallurgy emphasizing electrical and magnetic properties of materials.

280 (254) Metal Casting I 3 hrs. Fall, Winter, Spring
Introduction to cast metals technology and laboratory experience in industrial casting processes. Prerequisite: IEGM 170 (252) or IEGM 271 or IEGM 371.

371 Metallurgy and Materials Failure 4 hrs. Fall, Winter, Spring
Physical metallurgy, applications, and analysis of service of ferrous metals and high strength alloys used in the aviation industry.

372 Chemical Metallurgy 3 hrs. Fall
Introduction to chemical thermodynamics. Thermodynamic properties of the solid state, extractive metallurgy, solidification of alloys, solid state diffusion, oxidation and corrosion of metals. Prerequisites: Chemistry 103 and Math 123.

373 Physical Metallurgy 4 hrs. Winter
Introduction to the defect structure of metals and alloys, and simple theories of deformation and fracture. Structure insensitive properties of metals are considered relative to the defect structure of metals. Prerequisites: Chemistry 103, Math 123, and Physics 110.

376 (351) Metallurgy 3 hrs. Fall
Corrosion, physical properties, principles of alloying, and fabrication of metals. Not open to metallurgy majors. Failure analysis of materials. Prerequisite: IEGM 170 (252) or 371.

380 (370) Metal Casting II 3 hrs. Summer
Theory and application of the metallurgy of casting alloys, gray iron, ductile and malleable iron, steel, brass, bronze and aluminum alloys. Melting, casting and heat treating processes will be analyzed for each alloy. Basic theory of the solidification of metals. Prerequisite: IEGM 280 (254).

*Numbers in parentheses refer to courses listed in the 1972-73 catalog as Engineering and Technology (ENGT) courses.
College of Applied Science

470 (570) Metal Fabrication 3 hrs. Winter
Fundamentals of elasticity, plasticity and the mechanical forming methods and industrial processes of metal fabrication: rolling, forging, extrusion, drawing and powder metallurgy. Prerequisites: IEGM 373 or 376 (351) and MET 354.

485 (575) Die Casting 3 hrs. Winter
Production of die casting, including design, melting, casting and finishing processes emphasizing production of quality castings economically. Prerequisite: IEGM 280 (254).

572 X-Ray Diffraction 3 hrs. Fall
X-ray methods of crystal structure determination are applied to non-destructive testing, cold working, age hardening and phase changes in metal alloys. Prerequisites: Math 123, Phys. 210.

573 Engineering Materials 3 hrs. Spring
Material selection for resistance to both load and environment. Design parameters for material selection and various metal systems. Corrosion, service failures and mechanical behavior of engineering alloys at high and low temperatures. Prerequisite: IEGM 376 (351) or 373.

574 (574) Casting Design 3 hrs. Fall
Engineering design of castings based on stress analysis and capabilities of production casting processes. Prerequisites: IEGM 280 (254), MET 256.

589 (579) Studies in Cast Metals Technology 1-3 hrs. Fall, Winter, Spring
Metallurgy of ferrous castings and melting. Solidification, risering, gating, ferrous castings, control and sand cases. Prerequisite: Consent of instructor.
Home Economics

Frances J. Parker, Chairman

Irene Bibza
Margaret Jane Brennan
Julian Dugger
Beverly Gillette
Gail Havens

David Holland
Alice Kavanaugh
Phyllis Seabolt
Isabelle Smith
Betty Taylor

Darrell Thomas
Florence Tooke
Donna vanWestrienen
Diane Williamson

Home Economics strives to maintain a central focus on human beings involved in normal developmental processes. The development of a positive orientation to human growth requires explicit attention to conceptualize and to implement just as the development of a stance oriented to the problematic and the pathological requires special training. The scope of Home Economics at WMU has expanded with increased attention to the realization of personal, interpersonal, familial, and social potential.

The fundamental premises of our instructional philosophy are that people continue to grow throughout life and that the direction of this growth is positive unless it is interfered with in destructive ways. Learning experiences are designed to relate to current living and to provide a basis for future careers. Thus Home Economics at the undergraduate level prepares for professional functioning in social, economic, aesthetic, managerial, biological and ethical areas of family relations, child development, foods, clothing and housing.

The Home Economics Department offers four-year programs leading to a B.S. degree. Major areas in Home Economics include:

DIETETICS
HOME ECONOMICS IN BUSINESS
HOME ECONOMICS EDUCATION
HOME ECONOMICS—GENERAL DEGREE

The following courses are open to students from other curricula for a minor of 20 semester hours in Home Economics providing they meet the prerequisites for the courses: 101, 120, 201, 212, 220, 254, 304, 406, 340, 350, 352, 520.

HOME ECONOMICS CURRICULA

The Home Economics Department offers four-year programs leading to a B.S. degree for teachers, dietitians, and home economics for business personnel. A student who has a major in home economics and meets the requirements of the Department of Public Instruction for a certificate may teach home economics.
DIETETICS
Bachelor of Science Degree

A student completing a Bachelor of Science in Dietetics is eligible for an internship in a hospital, food clinic or industrial food service as approved by the American Dietetics Association.

The dietitian after the internship is eligible for positions in hospitals as food administrator, therapeutic dietition or teaching dietitian. She is also qualified for positions in commercial food establishments as restaurants, hotels, airlines, and industrial feeding. Other areas open to her are school cafeterias, community nutrition positions and food service in the Armed Forces. A minimum of 30 S.H. in Home Economics is required.

<table>
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<th>First Year</th>
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<td>H.Ec. 114</td>
<td>Food Preparation and Meal Planning 5</td>
<td>H.Ec. 210</td>
<td>Nutrition 3</td>
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<td>H.Ec. 120</td>
<td>Transitions to Adulthood 3</td>
<td>Chem. 365</td>
<td>Organic Chemistry 4</td>
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<td>Chem. 101 or 102 Chemistry 4</td>
<td>H.Ec. 101</td>
<td>Textiles 3</td>
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<td>Chem. 120</td>
<td>Qualitative Analysis 4</td>
<td>H.Ec. 201</td>
<td>Clothing 3</td>
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<td>H.Ec. 312</td>
<td>Quantity Foods 3</td>
<td>Chem. 450</td>
<td>Biochemistry 3</td>
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<tr>
<td>Biol. 219</td>
<td>Human Physiology 4</td>
<td>TEED. 250</td>
<td>Human Development and Learning 4</td>
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<tr>
<td>Biol. 412</td>
<td>Microbiology 4</td>
<td>General Education 4</td>
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<td>Mgmt. 352</td>
<td>Manpower Management or Acty. 201</td>
<td>Accounting 4</td>
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<td>Mgmt. 300</td>
<td>Fundamentals of Management 3</td>
<td>H.Ec. 518</td>
<td>Advanced and Experimental Foods 4</td>
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<td>General Education 4</td>
<td>H.Ec. 512</td>
<td>Institutional Management 3</td>
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<td>H.Ec. 410</td>
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<td>Electives 9</td>
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HOME ECONOMICS IN BUSINESS
Bachelor of Science Degree

A student completing a Bachelor of Science degree in the Home Economics in Business Curriculum is eligible for positions in many types of business. Some of these are: retailing and buying clothing and home furnishings, writing for a newspaper or magazine, designing and producing clothing, radio and television production, home service repre-
sentative for a public utility, appliance and laundry product companies, for the testing of recipes and goods, and many others.

General Education and Physical Education requirements must be met.

**FASHION MERCHANDISING**

For those students interested in pursuing careers in the fashion fields, this is a well rounded course study providing emphasis on fashion oriented merchandising. Students will find vocational opportunities in fashion related fields such as fashion departments of large department stores, specialty stores, or boutique operations. Manufacturers, fabricators, as well as communications related businesses would be areas of interest for students with this type of fashion merchandising orientation.

**First Year**

<table>
<thead>
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<th>Course</th>
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<tr>
<td>H. Ec. 100 Design</td>
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<td>H. Ec. 101 Textiles</td>
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<td>H. Ec. 103 Line and Design</td>
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<td>Chem. 140 Chemistry or 101 or 102 English—writing option</td>
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<td>English Writing Option</td>
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**Second Year**

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<td>Accty. 210 Accounting</td>
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<td>H. Ec. 201 Clothing</td>
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<td>Econ. 201 Economics</td>
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<tr>
<td>H. Ec. 206 Introduction to Fashion Merchandising</td>
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<td>H. Ec. 207 Textile Products Composition</td>
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<td>Mgmt. 102 Computer Usage</td>
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<td>H. Ec. 352 Consumer Education</td>
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<td>H. Ec. 304 Consumer Problems of Clothing</td>
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<td>H. Ec. 350 Home Furnishing or Housing</td>
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<td>H. Ec. 306 History of Costume</td>
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**Fourth Year**

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<tr>
<td>H. Ec. 504 Socio-Psychological Aspects of Clothing</td>
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<tr>
<td>H. Ec. 420 Display</td>
<td>2</td>
</tr>
<tr>
<td>Mgmt. 300 Fundamentals of Management</td>
<td>3</td>
</tr>
<tr>
<td>H. Ec. 375 Co-ordinated Work Experience*</td>
<td>2-6</td>
</tr>
</tbody>
</table>

*Recommended.

The Fashion Merchandising Program requires 33 hours in major, 20 hours Communication Arts minor, and 15 hours Retailing minor. General Education and Physical Education requirements must be met.

**CLOTHING-TEXTILE EMPHASIS**

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>H. Ec. 103 Line and Design</td>
<td>2</td>
</tr>
<tr>
<td>H. Ec. 100 Design</td>
<td>2</td>
</tr>
<tr>
<td>H. Ec. 101 Textiles</td>
<td>3</td>
</tr>
</tbody>
</table>
Chem. 101 Chemistry partially meets General Education requirement in Science and Mathematics 4
Biol. 107 Biological Science 4
Cas. 104 Business and Professional Speech or
Cas. 170 Interpersonal Communication I 3

**Second Year**
Acty. 210 Accounting 3
Eng. English—Writing Option 4
H. Ec. 201 Clothing Construction 3
Econ. 201 Economics 3

**Third Year**
H. Ec. 356 Demonstration Techniques 2
Cas. 240 Broadcast Communication 3
H. Ec. 304 Consumer Problems of Clothing 3
H. Ec. 306 History of Costume 3
H. Ec. 352 Consumer Education 3
H. Ec. 350 Home Furnishings 3

**Fourth Year**
H. Ec. 420 Display 2
Select 4 hours of the following:
H. Ec. 406 Tailoring 3
H. Ec. 500 Advanced Textiles 2
H. Ec. 504 Sociological and Psychological Aspects of Clothing 2
H. Ec. 508 Flat Pattern Design 2

Minors: Retailing (Required)
Communication Arts—20 hours (Recommended)

**FOOD EMPHASIS**

<table>
<thead>
<tr>
<th>First Year</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>H. Ec. 100</td>
<td>Design</td>
</tr>
<tr>
<td>H. Ec. 114</td>
<td>Food Preparation and Meal Planning</td>
</tr>
<tr>
<td>H. Ec. 101</td>
<td>Textiles</td>
</tr>
<tr>
<td>Chem. 101</td>
<td>General Chemistry</td>
</tr>
<tr>
<td>Chem. 120</td>
<td>Qualitative Analysis</td>
</tr>
<tr>
<td>Cas. 104</td>
<td>Business and Professional Speech (or)</td>
</tr>
<tr>
<td>Cas. 170</td>
<td>Interpersonal Communication I (or)</td>
</tr>
<tr>
<td>Cas. 130</td>
<td>Public Speaking</td>
</tr>
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</table>

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Biol. 107</td>
<td>Biological Science</td>
</tr>
<tr>
<td>Eng.</td>
<td>English—Writing Option</td>
</tr>
<tr>
<td>H. Ec. 210</td>
<td>Nutrition</td>
</tr>
<tr>
<td>Econ. 201</td>
<td>Economics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>H. Ec. 356</td>
<td>Demonstration Techniques</td>
</tr>
<tr>
<td>Cas. 240</td>
<td>Broadcast Communication</td>
</tr>
<tr>
<td>H. Ec. 312</td>
<td>Quantity Foods</td>
</tr>
<tr>
<td>Mgmt. 352</td>
<td>Manpower Management</td>
</tr>
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</table>
Biol. 412 Microbiology ........................................ 4
Chem. 365 Organic Chemistry ................................. 4
H. Ec. 520 Equipment ......................................... 2

Fourth Year
H. Ec. 510 Advanced Nutrition ................................ 3
H. Ec. 512 Institutional Management ......................... 3
H. Ec. 518 Advanced and Experimental Foods ............... 4
H. Ec. 519 Experimental Foods ............................... 2

Suggested Minor: Communication Arts—20 hours

HOME ECONOMICS EDUCATION

Bachelor of Science Degree

Western Michigan University prepares students to qualify as teachers of Vocational Home Economics in Michigan under the provisions of the State plan for vocational education. Courses are planned in the Department for a major in home economics and minor outside the curriculum or Family Life Education minor in the Department. Provision is also made for meeting the requirements for a vocational certificate in Michigan. Only persons holding this certificate can teach in the reimbursed homemaking departments in Michigan public schools.

<table>
<thead>
<tr>
<th>First Year</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>H. Ec. 114</td>
<td>Food Preparation and Meal Planning 5</td>
</tr>
<tr>
<td>H. Ec. 100</td>
<td>Elementary Design 2</td>
</tr>
<tr>
<td>H. Ec. 101</td>
<td>Textiles 3</td>
</tr>
<tr>
<td>H. Ec. 201</td>
<td>Clothing 3</td>
</tr>
<tr>
<td>H. Ec. 254</td>
<td>Human Growth 4</td>
</tr>
<tr>
<td>H. Ec. 100</td>
<td>Elementary Design 2</td>
</tr>
<tr>
<td>H. Ec. 101</td>
<td>Textiles 3</td>
</tr>
<tr>
<td>H. Ec. 201</td>
<td>Clothing 3</td>
</tr>
<tr>
<td>H. Ec. 254</td>
<td>Human Growth 4</td>
</tr>
<tr>
<td>H. Ec. 114</td>
<td>Food Preparation and Meal Planning 5</td>
</tr>
<tr>
<td>H. Ec. 100</td>
<td>Elementary Design 2</td>
</tr>
<tr>
<td>H. Ec. 101</td>
<td>Textiles 3</td>
</tr>
<tr>
<td>H. Ec. 201</td>
<td>Clothing 3</td>
</tr>
<tr>
<td>H. Ec. 254</td>
<td>Human Growth 4</td>
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<td>H. Ec. 114</td>
<td>Food Preparation and Meal Planning 5</td>
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<tr>
<td>H. Ec. 100</td>
<td>Elementary Design 2</td>
</tr>
<tr>
<td>H. Ec. 101</td>
<td>Textiles 3</td>
</tr>
<tr>
<td>H. Ec. 201</td>
<td>Clothing 3</td>
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<tr>
<td>H. Ec. 254</td>
<td>Human Growth 4</td>
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<table>
<thead>
<tr>
<th>Second Year</th>
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</thead>
<tbody>
<tr>
<td>H. Ec. 304</td>
<td>Consumer Problems of Clothing 3</td>
</tr>
<tr>
<td>H. Ec. 210</td>
<td>Nutrition 3</td>
</tr>
<tr>
<td>H. Ec. 298</td>
<td>Mate Selection and Marriage 3</td>
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<tr>
<td>H. Ec. 340</td>
<td>Home Economics Educ. 4</td>
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<tr>
<td>H. Ec. 350</td>
<td>Home Furnishings or 238 Housing 3</td>
</tr>
<tr>
<td>H. Ec. 352</td>
<td>Consumer Educ. 3</td>
</tr>
<tr>
<td>H. Ec. 354</td>
<td>Home Management 2</td>
</tr>
<tr>
<td>H. Ec. 356</td>
<td>Demonstration 2</td>
</tr>
<tr>
<td>TEED 300</td>
<td>Teaching and Learning in Junior-Senior High School 3</td>
</tr>
<tr>
<td>TEED 300</td>
<td>Teaching and Learning in Junior-Senior High School 3</td>
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<table>
<thead>
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<th>Third Year</th>
<th>S.H.</th>
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<tr>
<td>H. Ec. 304</td>
<td>Consumer Problems of Clothing 3</td>
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<tr>
<td>H. Ec. 210</td>
<td>Nutrition 3</td>
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<tr>
<td>H. Ec. 298</td>
<td>Mate Selection and Marriage 3</td>
</tr>
<tr>
<td>H. Ec. 340</td>
<td>Home Economics Educ. 4</td>
</tr>
<tr>
<td>H. Ec. 350</td>
<td>Home Furnishings or 238 Housing 3</td>
</tr>
<tr>
<td>H. Ec. 352</td>
<td>Consumer Educ. 3</td>
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<tr>
<td>H. Ec. 354</td>
<td>Home Management 2</td>
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<td>H. Ec. 356</td>
<td>Demonstration 2</td>
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<tr>
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<td>Teaching and Learning in Junior-Senior High School 3</td>
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<table>
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<th>Fourth Year</th>
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<tbody>
<tr>
<td>H. Ec. 520</td>
<td>Equipment 2</td>
</tr>
<tr>
<td>TEED 410</td>
<td>Seminar 2</td>
</tr>
<tr>
<td>TEED 450</td>
<td>Directed Teaching School and Society 3</td>
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<tr>
<td>TEED 471</td>
<td>Teaching 9</td>
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<td>Teaching and Learning in Junior-Senior High School 3</td>
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</table>

<table>
<thead>
<tr>
<th>Suggested Minor: Communication Arts—20 hours</th>
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</table>

32
HOME ECONOMICS—GENERAL CURRICULUM

Bachelor of Science Degree

A student completing a Bachelor of Science degree in the Home Economics General Curriculum will take additional work in one of the major home economics areas. This curriculum is broad in scope and may be used as a base for advanced course work in a specialized area. A minimum of 30 hrs. in Home Economics is required.

Recommended minors: Art, Sociology, Science.

<table>
<thead>
<tr>
<th>First Year</th>
<th>S.H.</th>
<th>Second Year</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>H. Ec. 100</td>
<td>2</td>
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<tr>
<td>H. Ec. 101</td>
<td>3</td>
<td>H. Ec. 254</td>
<td>4</td>
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<tr>
<td>H. Ec. 114</td>
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<td>H. Ec. 304</td>
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<td>H. Ec. 120</td>
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<td>General Education</td>
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<td>Physical Education</td>
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<td>Electives</td>
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<td>Third Year</td>
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<tr>
<td>H. Ec. 238</td>
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<td>H. Ec. 356</td>
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<td>H. Ec. 350</td>
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<td>H. Ec. 520</td>
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<td>H. Ec. 352</td>
<td>3</td>
<td></td>
<td>2</td>
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<tr>
<td>H. Ec. 354</td>
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<tr>
<td>H. Ec. 406</td>
<td>4</td>
<td></td>
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<tr>
<td>Tailoring General</td>
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<td>Elective (H. Ec.)</td>
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<td>Electives (Minor)</td>
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<table>
<thead>
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<th>Fourth Year</th>
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<tbody>
<tr>
<td>H. Ec. 356</td>
<td></td>
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<tr>
<td>Demonstration</td>
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<td>Techniques</td>
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<td>Equipment</td>
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<td>General Education</td>
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<td>Electives</td>
<td>7</td>
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<td></td>
<td>33</td>
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</tbody>
</table>

CLOTHING/TEXTILE MINOR*

The Clothing/Textile minor is offered for the benefit of those students outside the Home Economics department who wish to complement their major in a needed specialty area. The minor consists of 15 hours with three basic courses (8 hours) required. The remaining 7 hours will be elected according to the need of the individual.

**REQUIRED COURSES**

<table>
<thead>
<tr>
<th>S.H.</th>
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<tbody>
<tr>
<td>H. Ec. 100 Design</td>
</tr>
<tr>
<td>H. Ec. 101 Textiles</td>
</tr>
<tr>
<td>H. Ec. 201 Clothing Construction</td>
</tr>
</tbody>
</table>

*Home Economics majors are not eligible for this minor.
**ELECTIVE COURSES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>H.Ec. 304</td>
<td>Consumer Problems of Clothing</td>
<td>3</td>
</tr>
<tr>
<td>H.Ec. 306</td>
<td>History of Costume</td>
<td>3</td>
</tr>
<tr>
<td>H.Ec. 350</td>
<td>Home Furnishings</td>
<td>3</td>
</tr>
<tr>
<td>H.Ec. 356</td>
<td>Demonstration</td>
<td>2</td>
</tr>
<tr>
<td>H.Ec. 406</td>
<td>Tailoring</td>
<td>3</td>
</tr>
<tr>
<td>H.Ec. 420</td>
<td>Display</td>
<td>2</td>
</tr>
<tr>
<td>H.Ec. 500</td>
<td>Advanced Textiles</td>
<td>2</td>
</tr>
<tr>
<td>H.Ec. 504</td>
<td>Sociological and Psychological Aspects of Clothing</td>
<td>2</td>
</tr>
<tr>
<td>H.Ec. 508</td>
<td>Flat Pattern Design</td>
<td>2</td>
</tr>
</tbody>
</table>

**FAMILY LIFE EDUCATION MINOR**

This minor is offered in the Home Economics Departments and it is open to all students; especially those specializing in Elementary, Secondary, and Special Education with majors in such areas as Home Economics, Biology, Sociology, Physical and Health Education; and Psychology. The minor consists of a minimum of twenty-four hours. Twelve of the hours are required, and the other twelve are elective. Because Family Life is a multidisciplinary program, students should not elect more than two courses in any one department exclusive of required courses.

**REQUIRED COURSES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>H.Ec. 298</td>
<td>Mate Selection and Marriage</td>
<td>3 hrs.</td>
</tr>
<tr>
<td>H.Ec. 220</td>
<td>Sex Education—An Introduction to Human Sexuality</td>
<td>3</td>
</tr>
<tr>
<td>Soc. 200</td>
<td>Principles of Sociology</td>
<td>3</td>
</tr>
<tr>
<td>H.Ec. 450</td>
<td>Teaching Sex Education in the Schools*</td>
<td>2</td>
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</tbody>
</table>

**ELECTIVE COURSES**

**Minimum—13 hrs.**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>Anth. 220</td>
<td>Introduction to Cultural Anthropology</td>
<td>3 hrs.</td>
</tr>
<tr>
<td>Biol. 101</td>
<td>Animal Biology</td>
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<tr>
<td>Biol. 219</td>
<td>Human Physiology</td>
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</tr>
<tr>
<td>Biol. 205</td>
<td>The Human Body in Health and Disease</td>
<td>4</td>
</tr>
<tr>
<td>Comm. 170</td>
<td>Interpersonal Communication I</td>
<td>3</td>
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<tr>
<td>Comm. 270</td>
<td>Interpersonal Communication II</td>
<td>3</td>
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<tr>
<td>Comm. 236</td>
<td>Social Issues and Action Laboratory</td>
<td>1</td>
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<tr>
<td>Comm. 570</td>
<td>Studies in Communication</td>
<td>3</td>
</tr>
<tr>
<td>Coun. 580</td>
<td>Principles and Philosophy of Guidance</td>
<td>2</td>
</tr>
<tr>
<td>H.Ec. 254</td>
<td>Human Growth and Development***</td>
<td>4</td>
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<tr>
<td>H.Ec. 212</td>
<td>Food for Man***</td>
<td>3</td>
</tr>
<tr>
<td>Psych. 150</td>
<td>Introduction to the Science of Behavior</td>
<td>3</td>
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<tr>
<td>Psych. 160</td>
<td>Personality and Developmental Psychology</td>
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<td>Psych. 510</td>
<td>Advanced General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Phil. 201</td>
<td>Introduction to Ethics</td>
<td>4</td>
</tr>
</tbody>
</table>

*Prerequisite 220, or approval of the instructor; 450 is a special sequence course designed for the teacher.
**Because Family Life is a multi-disciplinary program, students should not elect more than two courses in any one department, exclusive of required courses.
***Home Ec. majors may not elect these classes.
College of Applied Science

Soc. 210 Modern Social Problems .................................................. 3
Soc. 320 Introduction to Social Psychology ...................................... 3
Soc. 390 Marriage and Family Relations ........................................ 3
Soc. 592 Family Life Education and Counseling ............................... 2
TEED. 555 Alcohol Education ..................................................... 2
TEED. 508 Parent Education ....................................................... 2
TEED. 535 Introduction to Teaching the Disadvantaged .................... 3
TEED. 560 Practicum: Sociological and Psychological Foundations of Teaching the Disadvantaged .............. 2

COURSE DESCRIPTIONS

FAMILY AND CHILD DEVELOPMENT

120 Transitions to Adulthood .................................................... 3 hrs. Fall, Winter
A study of communication, interpersonal relationships, and development of the person during later adolescence and early adulthood.

220 Sex Education—An Introduction to Human Sexuality .................. 3 hrs. Fall, Winter
The course is designed to cover various concepts of human sexuality, sexual behavior and morality, trends in moral values and behavior patterns, anatomy and physiology of human reproduction, maternal health and current issues in sex education.

254 Human Growth and Development .......................................... 4 hrs. Fall, Winter
This course involves study of the physical, social, emotional, and intellectual growth and development of children and adolescents. Nursery Laboratory 9 hrs. required per semester. Hours to be arranged. Home Economics Nursery Laboratory offers participation experience with 2-4 year old children.

298 Mate Selection and Marriage ................................................. 3 hrs. Fall, Winter
Integration of information on love, mate selection, marital communication, problem solving, and sexuality.

450 Teaching Sex Education in the School .................................... 3 hrs. Fall, Winter
In this course, consideration is given to the problems of establishing a sex education program in the school program with focus upon methods, materials and curriculum development at various grade levels. Prerequisite: H. Ec. 220, or approval of instructor.

515 Marriage and Family in Maturity .......................................... 3 hrs. Fall or Winter
A study of marital and family interaction in middle and later years.

FOODS AND NUTRITION

114 Food Preparation and Meal Planning ..................................... 5 hrs. Fall, Winter
Basic principles of food preparation. Planning and serving of meals with emphasis on management. Majors.
116 Family Foods (Supermarket) 2 hrs. Fall
A study of foods with reference to processing, marketing and use in the home, and the basic principles of nutrition.

210 Nutrition 3 hrs. Fall, Winter
A study of the essential nutrients and their function in the human body. Prerequisite: Science 8 or 9 hours.

212 Food for Man 3 hrs.
A study of the nutritional needs of all age groups. The effect of man's environment on the problems of world-wide feeding and consumerism. Elective.

312 Quantity Foods 3 hrs. Winter

410 Diet and Disease 2 hrs. Fall

510 Advanced Nutrition 3 hrs. Fall

512 Institutional Management 3 hrs. Winter
Study of institutional administration, job analysis, labor policies, personnel problems and cost control in different types of food-service institutions. Prerequisite: H.Ec. 210.

518 Advanced and Experimental Foods 4 hrs.

519 Experimental Foods 2 hrs.
Individual research in chemical and physical properties of foods. Development of research studies, writing and reporting techniques. Prerequisite: H.Ec. 518.

HOME ECONOMICS EDUCATION

340 Home Economics Education 4 hrs. Fall, Winter
Course designed to acquaint students with the teaching field of home economics. Includes basic philosophy of home economics education, observations, unit planning, effective teaching materials as a basis for special methods and student teaching. Planning local programs of homemaking education in high school equipment and the organization of homemaking departments, developing home experiences programs, and methods of teaching for junior and senior high schools as well as adult homemaking classes. Prerequisite: H.Ec. 254 or TEED 250 and 300 or permission of instructor.
College of Applied Science

341 Occupational Education in Home Economics 2 hrs.
Designed to familiarize the student with occupational education. Skills related to Home Economics, analysis, and methods of job preparation will be emphasized. Consideration will be given to formulating job descriptions. Stress will be on the application of techniques and methods or organizing instruction into job clusters for a functional instructional plan. Prerequisite: 340.

375 Coordinated Field Experience Variable 2 to 4 hours.
Field experience under the supervision of the Home Economics Department and the cooperating organization. This program involves a pre-planned, supervised experience. A statement of objectives, written materials and a performance appraisal will be required. May be repeated for a maximum of twelve semester hours credit. Permission of instructor.

HOME MANAGEMENT AND ART

100 Elementary Design 2 hrs. Fall, Winter
A study of the elements and principles of design composition and organization. The experience of design composition through individual projects.

238 Housing 3 hrs.
A course designed to give an overview of the basic principles, planning, methods and materials used in residential construction; financial and sociological aspects, zoning ordinances and building codes considered.

350 Home Furnishings 3 hrs. Fall, Winter
Basic study of the elements and principles of furnishing a home. Prerequisite: H. Ec. 100 or permission of instructor.

352 Consumer Education 3 hrs.
A study of the functions of consumers in our economy with emphasis on money management and decision making.

354 Home Management 2 hrs.
A study of the theory and the principles of management in the home.

356 Demonstration Techniques 2 hrs.
Demonstration principles and techniques as used in Home Economics teaching and business careers.

420 Display 2 hrs.
A study of the visual presentation of merchandise theories and techniques.

520 Equipment 2 hrs. Fall, Winter
A study of principles of equipment applications to the areas of Home Economics in business and education.

552 The Homemaking Center and the Equipment 2 hrs.
Consideration of fundamentals in planning laboratory and living area in terms of needs with special emphasis on built-ins, furnishings and equipment. Selected problems to be chosen by the individual.
TEXTILES AND CLOTHING

101 Textiles 3 hrs. Fall, Winter
A study of basic textiles from the consumer's point of view to provide a knowledgeable use of fibers.

103 Line and Design 2 hrs. Fall, Winter
An in depth study of color, line, design and texture as related to clothing for the human figure and personality types. Case studies and personal problems are analyzed.

201 Clothing Construction 3 hrs. Fall, Winter
Three areas are included in this course: basic construction techniques, pattern alteration and fitting, and the study of line design as related to clothing.

206 Introduction to Fashion Merchandising 3 hrs. Fall, Winter
A presentation of principles of merchandise selection, sources of buying information, responsibilities of buyers in various types of firms. Fashion trends and consumer activity are placed in perspective as an essential in conjunction with product knowledge and development in both apparel and non-apparel fashions.

207 Textile Products Composition 2 hrs. Fall
Comprehensive study and evaluation of the properties of natural and man-made textile fibers used to produce clothing and household fabrics including floor covering. Course presentation is an integration of product, usage, and sales planning. Prerequisite: H. Ec. 101.

208 Fashion Accessories 2 hrs. Winter
A study of quality, craftsmanship, and design as they relate to non-textile merchandise such as leather goods, furs, jewelry, ceramics, glassware, silver and furniture. Includes technical terminology, sources, manufacturing processes and uses important to selection, buying and merchandising.

304 Consumer Problems of Clothing 3 hrs. Fall, Winter
Includes selection of appropriate clothing for individual family members. Emphasis is given to the planning and purchasing of clothing in terms of family resources and the family life cycle. Prerequisites: 101 and 201.

306 History of Costume 3 hrs. Fall, Winter
Survey of the development of costume from ancient to modern times with its application to contemporary dress. The course covers social, political, religious and cultural influence on design.

309 Fashion Promotion 3 hrs. Fall, Winter
Imagination, planning, and coordination are incorporated into a program of sales promotion for textile and non-textile merchandise. Students complete assigned projects planned to develop creativity and sound sales promotion techniques. Prerequisites: Intro. to Fashion Mdse., Textile Products and Fashion Accessories.
406 Tailoring
Principles and practices involved in the custom method of constructing tailored suits or coats; fitting, handling, pressing and custom finishing of wool fabrics. Prerequisites: H. Ec. 101, 201 and 304.

500 Advanced Textiles

502 Textile Clinic
A workshop type program. Specialists and visual aids will present the newest information on textiles. To be followed by a study of methods implementing the new learnings. Prerequisite: H. Ec. 101 or permission of instructor.

504 The Socio-Psychological Aspects of Clothing
A study of the social and psychological implication of clothing for the individual and the family. This course brings together some of the pertinent findings of these two fields as they relate to the total area of clothing, ranging from the individual's selection of clothing as an expression of personality and social status to the impact of the clothing and fashion industries on the national economy.

508 Flat Pattern Design
A study of the drafting techniques employed in the flat pattern method for designing clothing. Prerequisites: H. Ec. 101 and 304 or permission of instructor.
Industrial Education

John L. Feirer, Head

Michael B. Atkins  Wallace F. Fillingham  John R. Lindbeck
John L. Bendix       W. Lloyd Gheen       William K. Purdy
Phillip L. Bruce    Rex E. Hall         Erwin W. Rayford
Arvon D. Byle       Gilbert R. Hutchings   Charles G. Risner
Dennis Darling      Gordon O. Johnson    Walter Schwersinske
Lindsay G. Farnan    Waldemar E. Klammer  James L. Ulmer

The Industrial Education Department offers technical and professional courses for five purposes: (a) to educate teachers and supervisors of industrial arts who will teach general industrial arts in all levels of the public schools; (b) to educate teachers who will be qualified to teach vocational-technical subjects in the secondary schools, or community college; (c) to educate students who wish a broad background in industrial subjects; (d) to educate students in Printing Management; and (e) to educate teachers who will be qualified to teach in Industrial Arts therapy programs.

Industrial Arts—A student must elect one major sequence and one minor sequence shown on page 150. A student preparing for general industrial arts teaching, and also as a unit area teacher, must major in general industrial arts, and minor in technical sequence. Students preparing for unit shop teaching must complete a major technical sequence, and a minor sequence in a different technical area, or general industrial arts. A student may not elect a major and a minor sequence in the same technical area.

For students not majoring in Industrial Education a general Industrial Arts teaching minor can be taken plus the professional courses: I ED 342 Course Construction, and I ED 344 Teaching of Industrial Education. A nonteaching major or minor can be taken in any general or technical area as specified in the Industrial Education sequence. A teaching minor in career education is available through the Industrial Education Department for students in the elementary education curriculum.

Vocational-Technical Education—A fifty hour combined major and minor sequence leading to

Option I—Vocational Education—Teaching Certificate
Option II—Cooperative Training—Teaching Certificate
Option III—Technical Education—Without Teaching Certificate

These curricula meet the needs of students specializing in the fields of Industrial Arts, Printing Management, and Vocational-Technical Education, providing a background to enter business, industry, or teaching.
Students should contact an Industrial Education curricular counselor in the Industrial and Engineering Technology Building as early as possible:

- **Industrial Arts**
  - Dr. John L. Bendix
  - Room 2038
- **Vocational-Technical Education**
  - Dr. Gordon O. Johnson
  - Room 2036
- **Printing Management**
  - Dr. Erwin W. Rayford
  - Room 1057

Students enrolled in community college technical programs can apply technical courses to an Industrial Education major and/or minor sequence with the approval of the curricular counselor.

**INDUSTRIAL EDUCATION CURRICULA**

**INDUSTRIAL ARTS**

Bachelor of Science Degree

The Industrial Arts student is prepared to teach in a comprehensive general shop or in a general unit shop at the junior or senior high school level. Teaching in a comprehensive general shop will require basic competence in, and an understanding of, the various areas encompassed by the broad field of industrial arts, plus a minor concentration in one technical area.

Teaching in a general unit shop requires superior competence in two areas of industrial arts through a major concentration in one technical area, and a minor concentration in one other technical area. Fifty percent of the technical work for a major and minor must be taken in the Industrial Education Department.

Minimum hours required for this curriculum: 122 hrs.

- General Education* See Requirements, Page 26
- Technical major in one of the following areas: 30
- General Industrial Arts
- Drawing
- Electricity-Electronics
- Graphics Arts
- Metalworking
- Power-Automechanics
- Woodworking
- Technical minor in any one of the above areas other than the major: 20

**Education**: 21

- Professional I ED Courses: 6
  - I ED 342 Course Construction: 3
  - I ED 344 Teaching of Ind. Ed.: 3
- Physical Education: 2

*IEGM 102 (AAS 120) Technical Communications and Math 100 Algebra are required.
VOCATIONAL-TECHNICAL EDUCATION

Bachelor of Science Degree

Western Michigan University has been approved by the State Board of Control of Vocational Education to prepare vocational-industrial and technical teachers for the secondary and post-secondary schools. In order to be eligible for a vocational certificate, the prospective teacher must have completed a B.S. degree, including required courses in education and in addition, (a) have completed two years of industrial experience in the shop area to be taught, or (b) if less than two years, pass a trade competency examination in the shop area to be taught. Each student, in consultation with his major adviser, will work out a fifty hour combined major and minor sequence of vocational-technical courses which will prepare him for teaching in the trade or industrial field of his choice. Credit may be earned for work experience through appropriate state competency examination. Option I is designed to prepare graduates as teachers in secondary vocational programs. Option II is designed to prepare graduates as coordinators of vocational-industrial cooperative education programs in secondary schools and community colleges. Option III will prepare a person for employment as an instructor in a technical institute or community college or for employment in the training divisions of industry.

A. Minimum hours required for this curriculum .................. 122 hrs.

B. Course Requirements

1. General Education Requirements (see page 26)
2. Mathematics (6 hrs. of which may be counted for General Education requirements in Natural Science and Mathematics) .................. 8 hrs.
3. Technical Major .................................................. 30 hrs.
4. Technical Minor .................................................. 20 hrs.
5. Option I (Vocational-Industrial Education leading to Secondary Teaching Certificate) .................. 27 hrs.
   Education requirements (See College of Ed.) ................. 21
   I ED 342 Course Construction ................................... 3
   I ED 344 Teaching of Ind. Education ........................... 3
6. Option II (Industrial Cooperative Education) leading to Secondary Teaching Certificate .................. 31 hrs.
   Education requirements (See College of Ed.) ................. 21
   D ED 572 Teaching Tech. in Coop. Education ................. 2
   D ED 473 Coord. Techs. in Coop. Education .................. 2
   I ED 342 Course Construction ................................... 3
   I ED 344 Teaching of Ind. Education ........................... 3
7. Option III (Technical Education) without teaching certificate .................. 30 hrs.
   I ED 342 Course Construction ................................... 3
   D ED 573 Coord. Techs. in Coop. Education .................. 2
   IEGM 422 Conference Leadership ................................ 3
   IEGM 402 Principles of Ind. Supervision ...................... 3
   AAS 520 Prin. of Prac. Arts and Voc. Education ............. 3
   PSYCH Psychology .................................................. 3
   Electives ......................................................... 13
8. Physical Education ............................................... 2 hrs.

C. Degree—Major consists of one or two options:
   Vocational-Industrial Education (Certificate)
   Technical Education (Non-Certificate)
A. Minimum hours required for this curriculum ........................................ 122 hrs.
B. Course Requirements
   1. General Education Requirements as described in the catalog must be met (MATH 100 and ECON. 201 required in this curriculum.)
   2. Graphic Arts ........................................ 35 hrs.
      I ED 150 Graphic Arts ................................ 3
      I ED 152 Letterpress Presswork ..................... 3
      I ED 250 Typographic Design ......................... 3
      I ED 254 Machine Composition ....................... 3
      I ED 350 Photolithographic Techniques ............. 3
      I ED 351 Lithographic Presswork ................. 3
      I ED 450 Advanced Presswork ....................... 3
      I ED 452 Estimating ................................ 3
      PAPR 550 Paper Industry Processes ................. 2
      I ED 551 Halftone Photo Processes ................. 3
      I ED 552 Estimating ................................ 3
      I ED 553 Printing Production Management ....... 3
   3. Industrial Supervision ................................ 12 hrs.
      IEGM 105 (ENGT 150) Industrial Calculations .... 1
      IEGM 305 (ENGT 305) Work Analysis ................ 3
      IEGM 322 (ENGT 401) Industrial Safety ............ 2
      IEGM 402 (ENGT 402) Principles of Industrial 3
      Supervision .......................................... 3
      IEGM 403 (ENGT 403) Industrial Labor Relations 3
   4. Business and Management ................................ 15 hrs.
      MGMT 200 Statistics ................................ 3
      ACTY 201 Accounting Concepts and Applications .... 3
      MGMT 300 Fundamentals of Management ............. 3
      BUS 340 Legal Environment .......................... 3
      MGMT 554 Introduction to Management Science .... 3
   5. Data Processing ...................................... 6 hrs.
      MGMT 102 Computer Usage ............................ 3
      MATH 106 Introduction to Computers ............... 1
      MATH 306 Introduction to Computer Languages ..... 2
   6. MATH 100 Algebra .................................... 4 hrs.
   7. ECON 201 Principles of Economics ................ 3 hrs.
   8. IEGM 102 (AAS 120) Technical Communications or 3 hrs.
      BUS 142 Business Communications ................. 3 hrs.
   9. Physical Education .................................. 2 hrs.
   10. Electives ........................................... 9 hrs.
C. Students must pursue a major sequence of courses in Printing and Graphic Arts and meet requirements of the curriculum.
OTHER OPTIONS

Industrial Education General Curriculum—Students wishing to secure a broad general industrial background can major in Industrial Education. The exact combination of courses will be determined by the needs of the student.

Industrial Arts Therapy—Students must pursue a major sequence of courses in Industrial Education, selected courses in Special Education, and spend one semester in participation at an approved veteran’s hospital.

COURSE DESCRIPTIONS

DRAWING (INDUSTRIAL GRAPHICS)

120 Survey of Drafting 3 hrs.
A survey course in general drawing predicated on man’s ability to symbolize graphically in life and industry. Emphasis is placed on the underlying concepts involved in freehand perspective, flat drawing, elementary shading, technical sketching, multiview drawing, sectional views, size description, pictorial drawing, and basic graphic analysis.

226 Industrial Graphics 3 hrs.
An extension of 120 emphasizing standardized and industrial graphic practices. Course content encompasses view analysis by direct and orthogonal methods, sections, primary, and secondary auxiliaries, precision measurements, fasteners, pictorials, surface development and basic principles of descriptive geometry. New developments and studies in graphics and drafting are presented as they relate to industry. Drawings and intermediates will be reproduced on white print equipment. Prerequisite: I ED 120 or consent of instructor.

227 Technical Sketching 3 hrs.
A study of freehand and mechanical methods of illustrating. Primary consideration is given to angular, parallel, and oblique perspective as a basis for freehand illustration. Emphasis is then placed on various types of paraline drawings, techniques of shades and shadows, shading films, and pencil and ink renderings for reproduction. Selected problems in surface treatment and textures, still life, and chalkboard practice. Prerequisite: I ED 120.

326 Advanced Industrial Graphics 3 hrs.
Advanced technical work for the specialist desiring to teach drafting. Included are applications of descriptive geometry, gears, cams, linkages, research problems, and checking. Current developments in the field of graphics and their impact will be discussed. Prerequisite: I ED 226.

520 Architectural Graphics 3 hrs.
A graphical study of architectural details and methods of construction relative to frame and masonry veneer residential dwellings. Emphasis placed on residential planning and design principles. Each student required to design a single-family dwelling including preliminary studies, floor plans, elevations, all necessary details, plot plan, specifications, and cost estimate. Drawings will be reproduced. Prerequisites: I ED
College of Applied Science

120 Survey of Drafting, or equivalent, and I ED 405 Introduction to Building Practices (can be taken simultaneously).

522 Laboratory Practices in Drafting 2 hrs.
A course in the methods and problems of teaching drafting and graphics on the secondary and post-secondary level. In addition, emphasis is placed on a review of secondary and collegiate texts, resource materials, problem design, and checking of drawings. Prerequisite: 12 hrs. in Drafting and Junior classification.

524 Commercial Architectural Design 2 hrs.
A course designed to give basic experience in designing light commercial structures. Emphasis will be placed on planning, traffic flow, exterior design, materials, and structural details. Prerequisite: I ED 520 or equivalent.

525 Architectural Perspective and Rendering 2 hrs.
An intensive study of angular and parallel perspective. Emphasis will be placed on entourage and rendering techniques in preparing architectural presentation drawings. Prerequisite: I ED 520 or equivalent.

ELECTRICITY-ELECTRONICS*

160 Basic Electricity 3 hrs.
This course provides both theoretical and practical applications of basic electrical principles. The cause, effects, and control of electrical currents in circuits will be discussed and demonstrated. Practical experiences will include wiring, experimentation, repair, and maintenance of electrical equipment.

360 Electronic Servicing Techniques 3 hrs.
A course designed to round out technical competencies of students to service electronic equipment. Laboratory problems will point toward fundamental applications of electronic test instruments in diagnosing malfunctions and servicing radio, TV, and other electronic devices. Also included are fundamentals of ham radio. Prerequisite: 3 hrs. of electricity-electronics.

460 Laboratory Practices in Electricity-Electronics 3 hrs.
Designed for laboratory teachers of electricity-electronics. Emphasis will be placed on textbook selections, course materials, methods, and instructional devices. Laboratory practice will be provided in applying techniques and developments to teaching.

560 Electricity-Electronics for Teachers 2 hrs.
Designed for junior and senior high school shop and laboratory teachers of electricity and electronics. Emphasis will be placed on new methods and materials. Laboratory practice will be provided in applying new techniques and development of teaching projects in electricity and electronics. Industrial Arts and science teachers should find this workshop quite valuable in the light of our increasing technological development.

*Note: Additional courses in Electricity-Electronics can be obtained from the Engineering and Technology Department or by transfer from community colleges.
GENERAL INDUSTRIAL ARTS

170 Industrial Crafts Techniques 3 hrs.
An introductory course for industrial arts teachers in the crafts area, including ceramics, jewelry, art metal, leather, and plastic. Industrial applications and procedures will be stressed.

174 General Plastics 3 hrs.
A study of plastics to develop an understanding of plastic materials, their properties, applications, and processes. Technical information and laboratory experiences based on the cutting, shaping, forming, molding, and casting of thermoplastic and thermosetting materials. Emphasis will be placed on the application of plastics in the junior-senior high school programs.

274 Plastics Production Processing 3 hrs.
Experiences in forming processes such as injection, compression, vacuum and rotational molding. Effects of mold design on flow and stress characteristics, heat and pressure on dimensional accuracy, and process on product function and economy. Prerequisite: I ED 174.

276 Industrial Arts Design 2 hrs.
A laboratory course dealing with functional, material, and visual requirements for products. Emphasis is upon design practices as they relate to projects and products in a variety of material areas.

370 Modern Manufacturing 2 hrs.
A study of the essentials and elements of industry as they pertain to modern manufacturing. Related issues of man and his relationships to technology and ecology are also examined. Laboratory experiences include the development and production of school related product.

570 Arts and Crafts Techniques 2 hrs.
Advanced laboratory experiences in the fields of internal plastic carving, leather work, model work, archery, photography, and related crafts in conjunction with a study of current technical literature in these areas. Written reports will be required. Course content will be adapted to individual needs.

573 Mechanics and Conditioning of Equipment 2 hrs.
A study of the principles of machining wood, metal, and synthetic materials. Practice in installation, adjustment, preventive maintenance and conditioning of power equipment will be included. Particular emphasis will be given the relationship between proper installation and condition to efficient machine operation.

575 General Industrial Arts Laboratory Organization 2 hrs.
Practical experience in drawing and planning, woodworking, metalworking, electricity, and craftwork will be required. Course will include selection, development and preparation of materials and instructional media for multiple activities instruction at the junior and senior high school levels. Prerequisite: 15 hours in Industrial Education Technology.

578 Plastics Technology 2 hrs.
A comprehensive study of plastic materials and processes encompassing applications of thermoplastic, thermosetting and other selected
synthetic materials. Product development with emphasis on vacuum forming, compression, extrusion, injection, blow molding, lamination, casting, reinforcing, foaming, coating, and general fabrication.

**GRAPHIC ARTS AND PRINTING MANAGEMENT**

**150 Graphic Arts**

An introductory course in which the student will have an opportunity to become familiar with the large area of graphic arts. Work is undertaken in hand composition, presswork, bindery, screen, and offset printing, etc. A thorough study of all graphic arts processes used in industry is undertaken. Advantages and best uses as well as disadvantages and limitations are considered for each process.

**152 Letterpress Presswork**

This course includes cylinder and automatic platen presswork. Emphasis is placed on forms requiring special preparation such as numbering, perforating, and envelope cut-outs. The various types of makeready techniques and impositions receive special consideration. Related information on letterpress inks and paper is included. Prerequisite: I ED 150.

**250 Typographic Design**

A lecture-laboratory course in which the principles of design and typography are studied and applied to the completion of a printed job. Practical experience in the elements of design, tools, and methods used by the artist are included. Prerequisite: I ED 150.

**253 Science for the Graphic Arts**

A study of the principles of science involved in such things as printability tests, inks, photographic chemicals, paper, etc.

**254 Machine Composition**

A combined lecture-lab course designed to explore and study the total field of machine composition. Advantages, uses, limitations, and operation of composition methods and equipment will be stressed. Economic, operational, and social implications of each area will also be explored. Prerequisite: I ED 150.

**350 Photolithographic Techniques**

A laboratory course designed to acquaint the student with the fundamentals of reproduction photography. Darkroom techniques, photo processes, stripping techniques, and platemaking will be stressed. Information relating to line and still photography, film, lenses, copy preparation, chemistry, and related equipment will also be presented. Prerequisite: I ED 150.

**351 Lithographic Presswork**

Experience will be given on basic offset equipment regarding lithographic principles, press operations, mechanical adjustments, simple chemical reactions, as well as the advantages and disadvantages of lithography. Other areas to be studied are multi-color processes, inks, and papers. Prerequisite: I ED 150.

**356 Printing Machine Maintenance**

This course is designed to acquaint the student with the problems of
care and maintenance of printing machinery including the Linotype. Simple adjustments are made on the various machines.

450 Advanced Presswork 3 hrs.
This course is designed to provide the student with practical problems in makeready and reproduction of various types of forms for both letterpress and lithographic presses, and to provide an introduction to the gravure and flexographic printing processes. Prerequisites: I ED 152 and 351.

451 Printing Processes 2 hrs.
A course designed to provide Paper Science and Engineering students with a working knowledge of the various printing processes and their relation to the manufacture of paper. Open only to students enrolled in Paper Science and Engineering.

452 Estimating 3 hrs.
Study of methods used in estimating the price of printed matter before manufacture, and in the final pricing of that printed matter after manufacture.

455 Bindery Operations 2 hrs.
Bindery and finishing operations are studied. Work in bookbinding, folding machines, stitching, plastic binding, punching, perforating, etc., is taken up.

551 Halftone Photo Processes 3 hrs.
A laboratory course stressing halftone reproduction and related photo techniques. Posterization, duotones, basic color, and mechanical dropouts will be included. Prerequisite: I ED 350.

552 Estimating 2 hrs.
Continuation of Estimating 452 with special emphasis on the use of Printing Industry Production Standards in the pricing of printed materials. Prerequisite I ED 452.

553 Printing Production Management 3 hrs.
A study of the managerial procedures used in the printing industries to forecast, plan, schedule and record production and to control production costs. Hourly costs for various types of printing machines will be developed by students in this course.

METAL WORK

130 General Metals 3 hrs.
A comprehensive course in the technology of modern metalworking principles and practices; encompassing the areas of hot and cold cutting, joining, forming, fabricating, and finishing techniques utilizing both hand and machine processes.

234 Machine Shop 3 hrs.
A basic course in modern metal machining techniques involving theory and practice in the application of Machine Tool Metalworking principles.
235 **Machine Tool Metalworking** 3 hrs.
Advanced theory and practice in the application of machine tool metalworking processes and procedures. Special problems involving principles of Numerical Control tooling material for production using jigs and fixtures and the use of tables and handbooks. Prerequisite: I ED 234.

332 **Tooling and Production Metalworking** 3 hrs.
An advanced course in numerical control machining and programming. A study of the "state of the art" of the metalworking industry, its economic, social, and educational implications. Prerequisite: I ED 234.

334 **Metal Forming and Finishing** 3 hrs.
Basic principles and practices in forming and fabricating of sheet metal products. Included are standard sheet metal practices, press brake and punch press operation and set-ups; metal finishing with standard spray equipment and materials testing. Prerequisite: I ED 130.

335 **Patternmaking and Foundry** 3 hrs.
Basic principles, techniques, and materials used in pattern construction. Theory and practice in metal casting principles and procedures using green sand, CO2, investment, centrifugal, and shell processes.

336 **Hot Metalworking** 3 hrs.
A basic course in the joining of metals by fusion welding and brazing low temperature surface alloying materials. Included are principles and practices in the use of materials, tools, and equipment for S.M.A., S.T.A., and G.M.A. welding. Gas welding, brazing, off-hand and automatic flame cutting of ferrous metals, heat treating are also included. Prerequisite: I ED 130.

338 **Advanced Metalworking** 3 hrs.
Principles and practices in art metalworking and nonconventional metalworking processes. Prerequisite: I ED 130.

538 **Problems in Metalworking** 2 hrs.
Practical laboratory experiences in forging, foundry, heat treating, machine shop, and arc and acetylene welding. Course will emphasize methods of selecting and developing course materials for junior and senior high school students. Course content will be adapted to meet the needs of individual students. Prerequisite: I ED 234.

**POWER MECHANICS-AUTOMOTIVE***

180 **Power Mechanics** 3 hrs.
Deals with energy sources, power production and transmission. Emphasis on small Otto cycle engines.

280 **Applied Energy and Power** 3 hrs.
Historic development, economic and ecologic implications of applied energy and power. Emphasis on transportation, production and service applications. Prerequisite: I ED 180.

*Courses in Auto Mechanics can be obtained from the Transportation Technology Department or by transfer from community colleges.
384 Automechanics for Teachers 3 hrs.
Advanced laboratory course for high school and community college automotive teachers. Emphasis on instructional materials and evaluation instruments. Prerequisites: I ED 342, TRAN 121, TRAN 126, and TRAN 226.

582 Applied Fluid Power 2 hrs.
Deals with fluid power development transmission and control systems. Laboratory experience requires application of fluid power to a manual or electrically powered machine.

584 Automotive Technology for Teachers 3 hrs.
Deals with recent technical developments, and current practices in automotive instruction.

585 Advanced Automotive Technology for Teachers 3 hrs.
Designed for automotive teachers and advanced undergraduates. Deals with advanced technical developments, and practices and problems unique to automotive instruction.

586 Laboratory Practices in Automechanics 3 hrs.
Designed for technical school and/or community college transfer students. Emphasis on course development, teaching and evaluation methods, instructional materials and equipment selection. Includes laboratory practice applying teaching techniques. Prerequisites: I ED 584 and I ED 585 or equivalent.

588 Power Laboratory Techniques 2 hrs.
Advanced course treating recent applications of energy and power. Emphasis on laboratory planning and equipping, and instructional material evaluation and application to instruction. Prerequisite: I ED 180, or consent.

WOODWORKING

100 General Woodworking 3 hrs.
A survey course of the woodworking field with laboratory experiences and the development of skills and knowledge in planning and layout; lumber and lumbering; purchasing and measuring lumber and plywood; methods of fastening and adhering wood; preparation of wood for a finish; elementary finishing methods; and sizing stock and wood joinery, with hand tools; electric portable tools and machines.

200 Machine Woodwork 3 hrs.
An introduction to furniture making including design, construction, and finishing. Laboratory experiences in the development of skills and knowledge will be provided on advanced joinery using industrial machines and methods with discussion on the function of the various machines and the planning and purchasing of this type of equipment. Prerequisite: I ED 100 General Woodworking.

201 Wood Finishing 2 hrs.
Principles of wood finishing; finishing materials and their characteristics; equipment and methods of application; finishing schedules; and
finishing characteristics of different species of wood. Prerequisites: I ED 100 General Woodworking, and I ED 200 Machine Woodwork.

300 Upholstering and Woodturning 3 hrs.
Mass production of chair frames and upholstering which will include springing, padding, and the application of the final cover. The development of skills and knowledge in advanced techniques of woodturning will also be covered including chucking, plug turning, mandril turning, and other special applications. Prerequisites: I ED 100 and/or 200.

405 Introduction to Building Practices 2 hrs.
Introduction to basic structures, building materials, and techniques. Emphasis placed on surveying practices, blueprint reading, building and material specifications, estimating, national and local building codes, financing, utilities, and environmental control.

500 Furniture Production 2 hrs.
Design and production of furniture, including the development of all phases of tooling and jig and fixture design necessary for the mass production of a piece of furniture. Prerequisite: I ED 200.

502 Wood Technology 2 hrs.
Experience in and study of the technical aspects of cellulose materials and their use in construction and manufacture. Included will be a study of the characteristics of lumber, man-made wood products, the materials related to the fabrication of wood products, applied research done by the Forest Products Laboratory and testing of materials. Prerequisite: I ED 100.

506 (306) Residential Building Construction 3 hrs.
A course designed to cover rough framing of a residential building including prefabrication methods as well as on-site building. Classroom work and laboratory experiences to familiarize students with excavating, foundations, floor, and roof framing, exterior doors, windows, roofing, siding and preparation for interior wall coverings, trim and cabinets. Prerequisites: I ED 100 or 200, and I ED 405 (can be taken simultaneously).

507 (501) Finish Carpentry and Cabinetmaking 3 hrs.
This course is designed to include finished carpentry such as built-in cabinets, and the installation of prefabricated cabinets. It will also include wall coverings, finished flooring, floor coverings, fitting and hanging doors, interior trim and interior painting and finishing. Prerequisites: I ED 100 and/or 200.

508 Related Building Trades 3 hrs.
Covers areas related to residential building construction, masonry, concrete work, ceramic tile installation, electrical wiring, plumbing, building sheet metal work, and environmental control. Prerequisite: I ED 506.

PROFESSIONAL COURSES IN INDUSTRIAL EDUCATION

342 Course Planning and Construction 3 hrs.
Principles of analyzing, selecting and arranging instructional mate-
rial for instruction purposes. (Lesson plans, unit plans and complete courses of study.)

344 Teaching of Industrial Education 3 hrs.
This course deals with the many aspects of teaching the practical subjects. Included will be the role of the teacher, instructional material, lesson presentation, evaluation and classroom and lab management and administration. Prerequisite: I ED 342.

444 Independent Study in Industrial Education 1-4 hrs.
Open to advanced students in the Industrial Education area with good scholastic records. An independent study program arranged in consultation with a study supervisor. Approval of study program required prior to registration. Prerequisite: 9 hrs. of major area and instructor's permission.

540 Technical Education Methods 3 hrs.
A course dealing with an analysis and methods of organizing instruction in technical education. Methods of determining objectives, making analysis of instructional units, and developing them into a teaching plan will be emphasized. Consideration will be given to organizing educational programs within industry.

545 Safety Education for Industrial Teachers 2 hrs.
A basic course covering the fundamentals of accident prevention in industrial education laboratories, treating legal responsibility of teachers, safety requirements in relation to equipment, safe guarding, and safe operation.

548 History and Philosophy of Industrial Education 2 hrs.
Industrial education in America, with special attention to European influences, experiments, industrial developments and theories. Emphasizes developments leading to modern practices in industrial arts and vocational industrial education.

598 Readings in Industrial Education 2-4 hrs.
Directed individual or small group study of topics or areas not otherwise treated in departmental courses. Graduate standing and head of department consent required.

SERVICE COURSES

190 Industrial Arts for Elementary Teachers 3 hrs.
This course is planned for prospective elementary school teachers and will include a study of Industrial Arts for grades one through six. Basic constructional techniques in the areas of sketching, woods, metals, leather, graphic arts, electricity, textiles, ceramics, and plastics will be included. An understanding of how industrial arts activities may be correlated with the elementary program will be emphasized. Special Education students may take this course for four hours of credit by arrangement.

191 O.T. General Shop 3 hrs.
A course designed exclusively for individuals preparing for occupational therapy. This course will cover the fundamentals of sketching, drawing, plastics, art metals, and elementary electricity.
192 Related Arts and Crafts 3 hrs. (Extension only)
A general course in arts and crafts including work in leather, plastic, wood, and other related craft activities.

193 Related Arts and Crafts 3 hrs. (Extension only)
A course in arts and crafts including work in graphic arts, art metal, basketry, and other crafts not previously included.

196 O.T. Printing 3 hrs.
This course is intended to acquaint the student with the various tools and equipment of a graphic arts shop. Studies are undertaken in such areas as typography, presswork, silk screen, block cutting, bookbinding and etching. Limited to students enrolled in the Occupational Therapy curriculum.

198 O.T. Woodworking 3 hrs.
A basic course in shop fundamentals, including the use of hand tools and machines, construction design, fastening devices, and finishing. Limited to students enrolled in the Occupational Therapy curriculum.

572 SI Metric Mathematics 3 hrs.
A study of base ten units used in the SI Metric System of measurement. Included will be the mathematics used for the base units of metre, kilogram, celsius, mole, second, ampere, and candela, as well as the derived units of the newton, joule, pascal, watt, etc. Conversion from the customary inch-pound system to the SI Metric System will be emphasized.

590 Industrial Arts for the Elementary Schools 2 hrs.
This course is concerned with the problems of organizing, correlating and teaching constructional activities in the elementary grades. Course materials, techniques, and materials in the industrial and craft areas will be stressed through the construction of a teaching unit.

592 Aerospace for Classroom Teachers 2 hrs.
A course dealing with the educational, social, economic, and political implications of aerospace in the modern world. A study will be made of basic aerospace materials and activities that are appropriate for different grade levels. Consideration will be given to aerospace literature and visual aids suitable for youngsters. Opportunities will be provided for participation in a variety of aerospace experiences. This course is open to elementary and secondary education students.

593 Arts and Crafts for Special Education Teachers 2 hrs.
This course will cover craft techniques in areas of sketching, leather, wood, and other related experiences. Emphasis will be placed on teaching procedures, methods, and materials.

594 Home Mechanics for the Blind 2 hrs.
A course to fulfill the needs for general knowledge and basic skills in home mechanics in the areas of woodworking, electricity, plumbing, and general maintenance. Prerequisite: Blind Rehabilitation Program students only.
The Mechanical Engineering Technology Curriculum is an applied engineering program in the following fields: Manufacturing, Product Development, Energy Conversion, and Construction. Electives may be used to broaden the program to include an area such as supervision/administration, industrial marketing, testing and development.

A Bachelor of Science degree requires 128 semester credit hours. A minor may be secured upon approval of the department's chief counselor and by completing fifteen to twenty semester hours of work. Minors for students enrolled in curricula in the Mechanical Engineering Technology Department may only be obtained from departmental offerings other than those in the engineering and technology curricula and Transportation Technology curricula.

Coop-Education

Students enrolled in Mechanical Engineering Technology may pursue a cooperative plan of education, whereby alternate semesters are spent working for compensation in industry, followed by a semester of study on the campus. Cooperative students work in such areas as manufacturing, product development, maintenance management, and field service divisions of major companies.

Academic Counseling

Students should contact the Mechanical Engineering Technology academic counselor as early as possible. The counselor is available to assist in individual program planning, recommend electives appropriate to a student's educational objectives, discuss employment opportunities, and help solve academic problems. Substitutions and transfer credit must be approved by departmental counselors.

The academic counselor, Dr. D. W. Nantz, is located in Room 2038, Industrial and Engineering Technology building.

Additional Information

General information regarding counseling, scholarships and special programs of interest to students in this Department may be found on pages 102-105.

A "C" average or better must be earned in the required technical courses.
## Bachelor of Science Degree

<table>
<thead>
<tr>
<th>Semester 1 S.H.</th>
<th>Semester 2 S.H.</th>
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<tbody>
<tr>
<td>IEGM 102 Technical Communications(^1)</td>
<td>CHEM 103 General Chemistry 4</td>
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<tr>
<td>MATH 122 Calculus I</td>
<td>MATH 123 Calculus II 4</td>
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<tr>
<td>IEGM 105 Industrial Calculations 1</td>
<td>IEGM 136 Descriptive Geometry 3</td>
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<td>MET 120 Machining Metals 3</td>
<td>PEM Physical Education 1</td>
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<td>IEGM 131 Engineering Drafting 3</td>
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<tr>
<td><strong>General Education 4</strong></td>
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<td><strong>Fund. of Electronics and Machines 3</strong></td>
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<td>EET 101 Statics 3</td>
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<td>PHYS 210 Mechanics and Heat 4</td>
<td>MET 256 Statics 3</td>
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<tr>
<td>EET 100 Fund. of Circuits and Electronics 3</td>
<td>IEGM 330 Machine Drafting 3</td>
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<td>MET 221 Industrial Welding 3</td>
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<td>IEGM 280 Metal Casting I 3</td>
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<td>MET 220 Production Tooling 3</td>
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<td>MET 355 Dynamics 3</td>
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<td>MET 360 Control Systems 3</td>
<td>MET 320 Pressworking of Metals or Prod. 3</td>
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<td>MET 430 Fluid Mechanics 3</td>
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<tr>
<td>MET 453 Product Engrg. 4</td>
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<tr>
<td><strong>Semester 7 S.H.</strong></td>
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<td><strong>Semester 8 S.H.</strong></td>
<td><strong>Machine Drafting 3</strong></td>
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120 (141)* Machining Metals 3 hrs. Fall, Winter, Spring

Theory and laboratory experience in the basic techniques used in metal removal. Introduction to layout, measurement, machine use and cutting tool geometry. Consideration of numerical control and electro discharge machining.

\(^1\)ED 142, ENG 105 a or b may be substituted.

*Numbers in parentheses refer to courses listed in the 1972-73 catalog as Engineering and Technology (ENGT) courses.
121 (152)* Manufacturing Processes 3 hrs. Fall, Winter, Spring
Analysis of processes and controls used in manufacturing products of various materials. Laboratory experience and field trips.

220 (250) Production Tooling 3 hrs. Fall, Winter
Design and fabrication of jigs, fixtures and gauges used in production. Methods, processing and cost considerations in relation to production tooling. Prerequisites: IEGM 130, MET 120.

221 (251) Industrial Welding 3 hrs. Fall, Winter
The processes, techniques, and materials used to fabricate metal products by welding. Laboratory experience in application, design, and mechanical properties.

256 Statics 3 hrs. Fall, Winter, Spring, Summer
Mathematical and graphical techniques for ascertaining the magnitude of forces acting on structural bodies under static loads. Concepts of vectors, free body analysis and centroids. Prerequisites: Math 122 or 200, IEGM 100 or 105.

320 (350) Pressworking of Metals 3 hrs. Fall, Winter
Standard pressworking methods are analyzed in the construction and use of dies for blanking, shaving, bending, forming and stamping metals in standard power presses and brakes. Prerequisites: MET 120, IEGM 131.

321 (359) Numerical Control of Production 3 hrs. Winter, Spring
Use-oriented approach to the majority of the point-to-point processes used in industry. Problems in efficient processing, programming and computer applications. Prerequisite: MET 220.

330 (357) Thermo-Fluid Dynamics 4 hrs. Winter, Summer
Introduction to the fundamentals of fluid mechanics, thermodynamics, and heat transfer using a unified approach. Prerequisite: Math 123. (Not open to Mechanical Engineering Technology majors.)

332 (352) Thermodynamics 3 hrs. Fall, Winter, Spring
Fundamental laws of thermodynamics, including gas and vapor processes, both non-flow and steady-flow, and thermodynamic cycles. Prerequisite: Math 123.

338 Thermal Pollution and Energy Resources 3 hrs. Fall, Winter
This course is designed to provide an insight into the problems of thermal pollution and energy resources for General Studies and environmental programs. Not open to students with credit in a thermodynamics course. Prerequisite: Junior standing.

353 Strength of Materials 3 hrs. Fall, Winter, Spring, Summer
Compression, tension, shear, torsion, and bending forces in structural members, including distribution of stress, deflections, buckling, and fatigue on engineering materials. Prerequisites: MET 256 and Math 123.

354 Testing of Materials 3 hrs. Fall, Winter, Spring
Principles and methods of destructive and non-destructive testing for determining the mechanical properties of materials. Planning of test procedures, interpretation of test results. Prerequisite: MET 353.
358 Mechanism Analysis 3 hrs. Fall, Winter

Analysis of displacement, velocity, and acceleration in mechanisms by analytical and graphical methods. Introduction to mechanism synthesis. Prerequisites: MET 256 and Math 123.

360 Control Systems 3 hrs. Fall, Winter, Spring

Theory and analysis of linear closed-loop control systems containing electronic, electro-magnetic, and mechanical components. Prerequisites: EET 100, MET 256, and Math 123.

420 Computer Aided Manufacturing 3 hrs. Winter

A study and application of Computer Programming for Machine tools. Prerequisites: MET 120 or 121, Math 122.

430 (356) Fluid Mechanics 3 hrs. Fall, Winter, Spring

Static fluids and hydrostatic pressure on plane and curved surfaces. Analysis of the flow of fluids based on Bernoulli’s theorem. Flow orifices, pipe systems, and open channels. Prerequisites: MET 256 and Math 123.

431 (451) Heat Transfer 3 hrs. Fall, Winter, Summer

Steady state and transient conduction, emissivity, radiation, functions, radiation networks, natural and forced convection, and design of heat exchangers. Prerequisites: MET 332 and 360.

433 (450) Air Conditioning 3 hrs. Fall, Winter

Theory of the conditioning of air. Applications related to air purification, humidity control, temperature control, distribution of air, and ventilation. Prerequisite: MET 332.

435 (452) Mechanical Engineering Laboratory 3 hrs. Fall, Winter, Spring

Principles of measurement, testing and evaluation of mechanical engineering systems. Prerequisites: MET 332, 353, and 430. Two of these courses may be taken concurrently with the laboratory.

453 Product Engineering 4 hrs. Fall, Winter, Spring

The application of engineering concepts to technical design. Scope of design, analysis and synthesis of design parameters, evaluation of performance, and other factors related to product development. Prerequisites: IEGM 131, MET 353.

490 Independent Research and Development 1-4 hrs.

Individual research or special project in Mechanical Engineering Technology.

498 Independent Readings 1-6 hrs.

An independent readings assignment, the description and purpose of which will be set forth in a form available at the departmental office.

499 Independent Studies 1-6 hrs.

An independent studies assignment, available only by special arrangement with an instructor and approved by the departmental chairman.
521 (551) Welding Design Analysis 3 hrs. Winter
Production methods and design using modern techniques of electron beam welding, inertia welding, and application of lasers for welding. Use of various protective enclosures, plasma arc welding, automated electronic welding. Weld testing techniques. Prerequisite: MET 221.

553 (557) Advanced Product Design 3 hrs. Fall
An engineering design project from concept to adoption. Static and dynamic analysis. Mechanical systems design and layout. Prerequisites: MET 360, 453. (Offered alternate years.)

555 Mechanism Synthesis 3 hrs. Fall
Type, number and dimensional synthesis of planar mechanisms by graphical and analytical methods. Computer design using optimization methods. Prerequisite: MET 358. (Offered alternate years.)

558 Mechanical Vibrations 3 hrs. Winter
A study of the oscillatory motion of physical systems with emphasis on the effects of vibrations on the performance and safety of mechanical systems. Prerequisites: MET 355 and 360 or Math 223.

559 Sound, Noise and Vibration Control 3 hrs. Fall
The effects of acoustical energy on the environment, methods of measurement, and governmental regulations are studied. No prerequisites.

560 (556) Engineering Analysis 3 hrs. Fall
Application of vector analysis and differential equations to the solution of complex engineering problems. Prerequisite: MET 360 or equivalent.
The Department of Military Science offers students at Western Michigan University courses intended to: (1) develop leadership and managerial skills, (2) broaden students' knowledge of the role of the military in society, and (3) prepare students to become officers in the Army of the United States upon completion of the program. Students enrolled in this program are eligible for a 1D draft deferment, ROTC scholarships, membership on the Smallbore Rifle Team, Flight Training during the senior year (student must pass required written and physical examinations), and a commission as a second lieutenant in the United States Army.

The Head of the Department and all instructors are officers of the United States Army assigned to the University by permission of the University. They administer the Military Science Program and conduct all classes offered by the department. The government provides uniforms and textbooks for all students, with financial assistance for those in the last two years of the program (advanced course).

An activity fee of $2.00 per semester is charged for support of Military Science activities such as rifle team, military social events, and suitable achievement awards.

Minors in Military Science are available as shown here.

### Military Science Minors

**A. Military Science 300-401**
- General Education .......................... 4 hours
- Management 352 ............................ 3 hours
- History 519 or 594 ......................... 3 hours
- Elective* .................................. 2 or 3 hours

Total 8 hours

**B. Military Science 100-401**

Total 19 hours

A department minor slip is required.

### FOUR YEAR PROGRAM

The four year Military Science Program is divided into a Basic Course (first two year) and an Advanced Course (last two years). General

*An elective of two or more hours will be chosen by the student from any one of the following areas: Anthropology, Geography, Sociology, or Political Science. This elective must have a course number of 200 or higher and be approved by the student's minor advisor.

**This minor is open only to those students interested in pursuing a career in the military as a commissioned officer, and who have evidenced superior academic and leadership performance prior to the time they request admittance into this program. A minimum grade point average of 2.75 in department subjects must be maintained.
Military Science

Instruction relevant to these two divisions of instruction and specific course offerings are as noted below.

**BASIC COURSE**

The basic course is designed to furnish a background of basic military subjects necessary to pursue the classes offered in the advanced course, and to provide a general knowledge of military affairs to those students who do not enter the advanced program. Students in the basic course are expected (1) to be physically qualified, (2) be of good moral character, and (3) sign an oath of loyalty to the United States. Students who have had three years of Junior R.O.T.C. (high school R.O.T.C.), or more than one year of active military service may substitute their prior training for the first two years of classes by securing the approval of the Professor of Military Science. Students who have completed the Basic Summer Camp are not required to attend basic course classes. Students thus excused will normally begin the advanced course classes at the start of their junior year. Records of students transferring from other institutions who have started either Army or Air Force Military Science Programs will be reviewed by the Professor of Military Science to determine proper placement in the Military Science Program. Basic Course classes meet for two hours of classroom work and one hour of Leadership Laboratory each week of the semester/term in session.

(Course descriptions in italics are approved for General Education purposes.)

100 Contemporary Problems in National Defense 2 hrs.*

Subjects of current national military implication and interest are studied. Subject material selected involves rules of international land warfare; citizens' rights and the uniform; military involvement around the world; and other topics of current U.S. military/civilian interest. Students must enroll in Leadership Laboratory 001.

101 Military Aspects of National Power 2 hrs.*

A study of the factors that contribute to international power; an insight into the causes of war; organization of the United States for defense, and an introduction to leadership and management theory. Students must enroll in Leadership Laboratory 002.

200 Principles of Cartology 2 hrs.*

A study of military terrestrial navigation including practical field experience in terrain identification, intersection and resection techniques and profiles. The use of aerial photos as map supplements will also be studied. Students must enroll in Leadership Laboratory 003.

201 Human Behavior and Fundamentals of Tactical Employment 2 hrs.*

A study of the tactical considerations and employment of small military units to include their organization in offensive and defensive warfare. Emphasis is placed on the role of the individual, group interaction and motivation in stress situations. Students must enroll in Leadership Laboratory 004.

*See Leadership Laboratory p. 171.
ADVANCED COURSE

The selection of students for enrollment in the Advanced Course is on a competitive basis. Special attention is given to maintenance of high standards of conduct and academic achievement both before and after enrollment in the Advanced Course. The major emphasis of the Advanced Course is on the development of individual leadership and a sense of responsibility. For admittance to the Advanced Course for purpose of attainment of a commission, a student must have completed either the Basic Course or Basic Summer Camp, be selected by the Professor of Military Science, be 25 years of age or under at time of enrollment, execute a contract with the government to finish the course, attend a six week summer camp, and accept a commission if tendered. Students who have had one or more years active service with one of the Armed Forces and students who are transferring from another institution with credit for the Basic Course may be authorized to register for the Advanced Course in phase with their collegiate academic standing. Advanced Course classes meet for two or three hours of classroom work and one hour of lab weekly. Students accepted for the Advanced Course receive payment of $100 per month. Students attending summer camp are fed and quartered at the expense of the Government, paid at the rate of approximately $283.05 monthly while in camp, and are given a travel allowance to the summer camp and return.

A program of flight instruction in connection with R.O.T.C. is of special interest to the advanced course student. Under this plan the Army will pay for flight training of selected seniors who request such instruction and pass required written and physical examinations. Completion of this training may qualify the student for the award of an FAA pilot’s license. It further qualifies the advanced course student upon receiving his commission for advanced Army flight training.

300 Leadership, International Relations and Military Logistics 3 hrs.*

This course surveys patterns and causes of international behavior, United States treaty agreements and modern governmental stability operations. Also studied is the military logistical system; administrative behavior; the planning concepts and use of the military staff in the decision making process. One overnight field problem is required during the semester. Prerequisite: Permission of PMS. Students must enroll in Leadership Laboratory 005.

301 Advanced Concepts of Tactical Employment 2 hrs.*

A study of the tactical considerations of employment of military units with emphasis on the military estimate, planning techniques and coordination. Military communications methodology as means of control in both conventional and unconventional warfare. Prerequisite: MS 300 or permission of Professor of Military Science. One overnight field problem is required during the semester. Students must enroll in Leadership Laboratory 006.

400 3 hrs.*

Students will enroll in either History 519 (United States Military History) or History 594 (Problems in Modern Warfare).

NOTE: Students must enroll in Leadership Laboratory 007.

*See Leadership Laboratory p. 171.
401 Military Administrative Leadership and Management 3 hrs.*

A comprehensive course in the fundamentals of military administrative management including military law, personnel management, counter-intelligence, and military leadership. Prerequisites: MS 300-MS 400 or permission of the Professor of Military Science. Students must enroll in Command and Staff 008.

Leadership Laboratory

Leadership laboratory is elected by R.O.T.C. students at all levels. It is taken each semester as an adjunct to the courses above and does not offer separate or additional credit hours. This Laboratory is designed to reinforce the study of theoretical, managerial, and leadership situations presented in the classroom environment by practical experience in the leadership of small groups. Selected classes will be presentations by guest lecturers from both within and outside the academic community on subjects of significant interest which will reinforce previous study or serve as the basis for future study.

NOTE: Students taking 100 and 101 for General Education equivalency credit only are not permitted to wear a uniform during Leadership Laboratory. They are not eligible for draft deferments, Army scholarships, and credit towards commissioning.

001 Practical Exercise in Leadership 0 hrs.

Classes on how to lead and teach small groups with practical exercises. All students will receive several opportunities to play the role of leader and selected students will aid in the presentation of instructions.

002 Military Instructional Techniques 0 hrs.

Introduction to the principles of planning, preparation, presentation and evaluation of military instruction under varied environmental and classroom situations. Prerequisite: 001 or permission of PMS.

003 Leadership in Stress Situations 0 hrs.

Practical exercise and teaching experiences. Some students will present new materials and others will be given short practical exercises involving the whole group. Practical exercises will stress logical thought processing techniques which include task identification, estimate of the situation, etc. Prerequisites: 001 and 002 or permission of PMS.

004 Principles of Leadership 0 hrs.

A study of the traits and characteristics of leaders. Tapes, films, and personal experiences of great leaders of the past will be interwoven to teach accepted principles of leadership. Prerequisites: 001 thru 003 or permission of PMS.

005 Leadership of Small Groups 0 hrs.

A series of situations oriented toward preparation for summer camp will be presented by the students. Examples of these situations include physical training, battle drill, use of vehicles, etc.

006 Leadership of Small Groups 0 hrs.

This class is a continuation of "Leadership of Small Groups 005." Emphasis will be placed on familiarity with weapons, techniques of fire, tactical testing procedures, etc. Prerequisite 005 or permission of PMS.

*See Leadership Laboratory on this page.
007 Command and Staff  0 hrs.
The students will be placed in actual Command and Staff positions and will supervise activities such as Open House, Award Ceremonies, etc. Prerequisites: 005 and 006 or permission of Professor of Military Science.

008 Command and Staff  0 hrs.
This course is a continuation of "Command and Staff 007" with the military social event and the Winter Field Training Exercise being the principle teaching tools for learning Command and Staff actions and relationships. Prerequisites: 005 thru 007 or permission of PMS.

TWO YEAR PROGRAM

For the students transferring into the University and currently enrolled students who have not taken Military Science classes because of class conflicts, work schedules, etc., a two year program is available. Students enter this program by applying for attendance at a Basic Summer Camp of 6 weeks duration. Deadline for applications is April 30th. Attendance and successful completion of this Basic Summer Camp then is substituted for the Basic Course classes; therefore, the student has only to complete the Advanced Course classes (Courses 300-401 and Laboratories 005-008) while he is finishing his overall degree requirement in order to be eligible for a commission. The two year program student is eligible for scholarships, financial assistance ($100 per month), draft deferments, and free textbooks for Military Science classes. See the paragraph on the Advanced Course for further information.

While at the Basic Summer Camp the student will be trained, fed and housed at the expense of the government. He will also receive travel pay and a salary of approximately $307.20 per month. See the Professor of Military Science for details of this program.

R.O.T.C. SCHOLARSHIPS

R.O.T.C. scholarships that provide for tuition, fees, books, and an allowance of $100 per month are available. See Military Science on page 68 in the Scholarships portion of this catalog.
Occupational Therapy

Dean Tyndall, Chairman

Joy Anderson  Rosalia Kiss  Geraldine Richardson
Sandra Bornstein  Alice Lewis  Harriet Schmid
Lois Hamlin  Shirley Lukens  Mabel ValDez

The curriculum is designed to prepare students to treat patients in various disability areas and to complete requirements established by the American Medical Association in cooperation with the American Occupational Therapy Association. It includes a minimum of six months of clinical affiliation in selected hospitals providing experience with patients with a wide range of physical and psychosocial dysfunction.

The student who wishes to prepare for the profession of Occupational Therapy must take the following steps:

1. He will declare his intention to follow the Occupational Therapy curriculum at the time of application to the University, or, if he decides to transfer at a later date, he must confer with the departmental counselor.

2. The student will apply for admission to clinical affiliation early in the semester in which he will have earned credits equal to 60 semester hours. Applications are made in the departmental office. To enroll for clinical affiliation the student must hold a point hour ratio of 2.00 or above with no grade less than a “C” in courses in the major sequence. In addition, the students shall receive satisfactory recommendations from departmental faculty as to physical and emotional health, academic and general competency.

Transfer students with 60 or more credit hours or students holding Baccalaureate degrees will apply for clinical affiliations before the end of the first month in the curriculum.

The department may refuse to permit a student to continue in the curriculum if at any time it is deemed that physical or emotional disability will jeopardize his success professionally. Academically, no grade less than “C” will be accepted in courses in departmental offerings.

The following courses are offered on a credit/no credit basis only: OT 236, 440, 441, 450.

OCCUPATIONAL THERAPY

Bachelor of Science Degree

A. Minimum hours required for this Curriculum ............. 128 hrs.

B. Course Requirements:
   1. General Education Requirements
   2. Behavioral Science ................................. 10
      Psy.  150  Psychology I  ....................... 3
      Psy.  160  Personality and Developmental Psy.  ... 3
      TEED  250  Human Development and Learning  .... 4
3. Science
*Bio. 101 Animal Biology .............................. 16
Bio. 219 Human Physiology ............................ 3
O.T. 221 Gross Human Anatomy ...................... 4
O.T. 520 Kinesiology ................................. 6

4. Practical Arts
O.T. 103 Ceramics .................................... 3
O.T. 110 General Crafts ............................... 3
L.Ed. 198 O.T. Woodworking .......................... 3

5. General Pathology
O.T. 322 Psychiatric Conditions .................... 7
O.T. 524 Medical and Orthopedic Conditions ....... 4

6. Occupational Therapy
O.T. 111 Therapeutic Media I ...................... 39
O.T. 210 Therapeutic Media II ...................... 3
O.T. 235 Developmental Assessment ................. 3
O.T. 323 Clinical Neurology ......................... 3
O.T. 332 Application in Psychiatry ................. 4
O.T. 333 Clinical Instruction in Psychiatry ...... 2
O.T. 410 Application in Physical Dysfunction—Techniques
O.T. 430 Organization for Patient Services ....... 4
O.T. 440 Clinical Affiliation ......................... 3
O.T. 441 Clinical Affiliation ......................... 3
O.T. 442 Application in Physical Dysfunction—Treatment
O.T. 443 Clinical Instruction in Physical Disabilities
O.T. 450 Senior Seminar ............................. 2

7. Physical Education ................................. 2

8. Electives to make 128 hours

COURSE DESCRIPTIONS

103 Ceramics 3 hrs.
Basic course in ceramic methods—covering pinch pots, slabs, tall pots, decorative slabs, simple sculpture, basic underglaze techniques, molds, glazing methods, kiln preparation, stacking and firing. Prerequisite: Occupational Therapy major.

110 General Crafts 3 hrs.
To acquaint students with a wide variety of media applicable in the field of O.T. for treatment assignments with patients/clients. Emphasis on understanding of the basic techniques involved in each craft area. Prerequisite: Occupational Therapy major.

111 Therapeutic Media I 3 hrs.
Designed to assist the student in gaining knowledge and understanding of specific skills and techniques needed to make a selective occupational placement of a worker with a disability. Prerequisite: Occupational Therapy major.
210 Therapeutic Media II
Designed to develop skill in selection and use of various media for therapeutic application, and in relation to developmental level. Prerequisite: Occupational Therapy major.

221 (321) Gross Human Anatomy
A study of the structure and function of the various systems of the body. Lecture and laboratory. Prerequisites: Biology 101 or equivalent, Occupational Therapy major.

225 Growth, Development, and Aging
A study of physical, mental, emotional, and social patterns of growth, development, and aging. Aspects to be given special emphasis for the occupational therapy student will be motor development, physiology of aging, growth deterents, and functional pathology in any of the above aspects. Prerequisites: Psychology 150, 160. Not offered in 1973-74.

235 Developmental Assessment
A course in theory and methodology of developmental assessment through children's activities, developmental schedules, test batteries for evaluating perceptual and motor development. Experience in assessment of young children will be a part of the laboratory experience. Prerequisite: TEED 250 or consent, Occupational Therapy major.

236 Field Experience
Participation in a health service or agency to provide experience with hospital procedure and an orientation to patient groups. A daily log is required. Student must submit a proposal for the course for departmental approval prior to registration. Occupational Therapy major.

322 Psychiatric Conditions
A series of lectures and discussion periods designed to assist the occupational therapy student to identify and characterize psychiatric conditions, to identify various treatment modalities, to trace the growth of the field of psychiatry, and to identify concepts of the law as applied to the psychiatric patient. Prerequisites: Psych. 150, 160; TEED 250 or concurrently; Occupational Therapy major.

323 Clinical Neurology
Functional neuroanatomy, neuropathology will be presented. Case presentations and demonstrations of neurological examination will be included. Prerequisites: Biology 219, OT 221.

332 Application in Psychiatry
A study of the philosophy and application of occupational therapy in the psychiatric field. Specific emphasis on the conscious use of one's own personality as a therapeutic tool and acquainting the student with group processes used in occupational therapy situations. Prerequisite: OT 322 or concurrently.

333 Clinical Instruction in Psychiatry
Clinical experiences designed to develop skill in application of evaluation and treatment techniques to patients and clients in local hospitals and community agencies. Prerequisite: OT 332 or concurrent.
410 Application in Physical Dysfunction—Techniques 4 hrs.
The objectives of occupational therapy in general medicine and rehabilitation serve as a basis for studying treatment techniques. Pre-requisites: OT 235, 323, 520, 524. Must be taken concurrently with OT 442.

430 Organization for Patient Services 3 hrs.
Designed to assist the student in applying knowledge gained about the public health program to the field of rehabilitation, and to assist the student in gaining knowledge of supervision and administration principles. Prerequisites: OT 442 or concurrently; Occupational Therapy major.

436 Independent Study in Occupational Therapy 2-4 hrs.
Designed to allow outstanding students to work independently under faculty supervision. Consent of departmental head. Credit variable.

440 Clinical Affiliation 3 hrs.
A three month affiliation in hospitals or agencies providing the student experience in designated areas of Occupational Therapy. Departmental consent only. Prerequisite: Occupational Therapy 332, 333 or 442, 443.

441 Clinical Affiliation 3 hrs.
A three month affiliation in hospitals or agencies providing the student experience in designated areas of Occupational Therapy. Departmental consent only. Prerequisite: Completion of all academic work.

442 Application in Physical Dysfunction—Treatment 4 hrs.
A continuum course. Emphasis is placed on the process of evaluation, interpretation, planning and implementation as applied to occupational therapy. Prerequisites: OT 235, 323, 520, 524. Must be taken concurrently with OT 410.

443 Clinical Instruction in Physical Disabilities 2 hrs.
Clinical experiences designed to develop skill in evaluation and treatment techniques to patients and clients in local hospitals and community agencies. Prerequisite: OT 442 or concurrent.

450 Senior Seminar 2 hrs.
The primary objective of the seminar is to serve an integrative function, bringing together knowledge and skills the student has developed during his or her professional program for analysis evaluation and solution of health problems.

470 Functioning of the Older Adult 3 hrs.
The objective of this course is to provide understanding of the basic psychological and physiological changes characteristic of human aging and pathological conditions which have consequences for function and behavior.

510 Arts and Crafts for Home Teachers of the Blind 2 hrs.
Includes methods and techniques of teaching needlework, ceramics, and leatherwork to visually handicapped adults. Prerequisite: Occupational Therapy majors must have consent of Department Chairman.
520 Kinesiology

Course includes an investigation of prerequisites and characteristics of normal voluntary movement, kinesiology of normal and abnormal upper extremity function, posture and gait, range of motion and muscle strength evaluation, activity analysis and an introduction to therapeutic exercise. Prerequisites: Bio. 219, OT 221.

524 Medical and Orthopedic Conditions

A series of lectures providing an overview of medical and orthopedic conditions. Psychosocial aspects of disease and disability are discussed and an introduction to occupational treatment goals is provided. Prerequisite: Bio. 219.
The Department of Paper Science and Engineering offers two B.S. and M.S. programs which provide extensive foundational scientific and technical education to prepare graduates for professional employment in the research and development, technical-manufacturing, and technical-marketing areas of the paper, pulp, and related industries. The breadth and depth of the program is such that a significant number of graduates have progressed into management positions and to graduate school in the sciences.

The academic programs leading to B.S. degrees are intended to challenge students with interest and aptitude in engineering, science, and mathematics as applied to the third fastest growing industry in the U.S. Two program options are offered so that the student may select either option during or following his sophomore year.

The PAPER SCIENCE OPTION meets the needs of students desiring to major in a science (chemistry) and who will likely seek careers in research, development, and eventually research administration. This program should be selected by those who want to study for advanced degrees in chemistry or paper science.

The PAPER ENGINEERING OPTION is oriented toward engineering, mechanics, and electricity, with less emphasis on chemistry than the Paper Science option. This program will better serve those students seeking to enter industry in the operational areas of manufacturing, technical service, process control and, eventually industrial management.

### COMPARISON OF OPTIONS

<table>
<thead>
<tr>
<th>COURSE TYPE</th>
<th>Paper Science Option</th>
<th>Paper Engineering Option</th>
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<tbody>
<tr>
<td>Paper Science</td>
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<tr>
<td>Chemistry</td>
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<td>Engineering and Related</td>
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<tr>
<td>Mathematics</td>
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<td>Physics</td>
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<td>Technical or Science electives</td>
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<tr>
<td>Physical Education</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>136 semester hours</strong></td>
<td><strong>136 semester hours</strong></td>
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</table>
Industrial experience in both options is provided through employment by paper or related companies for at least two out of the three summers, as well as through operation of the outstanding pilot plant papermaking and coating machines of the department. The pilot plant and laboratory facilities are among the best in the world.

Close cooperation with the paper industry is maintained through committees of the Paper Technology Foundation, Inc. An extensive scholarship program is made possible through the membership of the Foundation. Information about these scholarships may be found in the scholarship section of this catalog.

Students should contact a Paper Science academic counselor as early as possible. The counselors assist in individual program planning, recommend electives appropriate to a student's educational objectives, discuss employment opportunities, and help solve academic problems. Substitutions and transfer credit must be approved by Departmental Chairman.

A MAJOR in Paper Science or in Paper Engineering may be earned only by meeting all the requirements of one of the options.

A MINOR in Paper Science may be earned by completing the following 19 semester hours of departmental courses: 100, 202, 305, 333, and 442. A MINOR in Paper Engineering may be earned by completing the following 17 semester hours: 100, 202, 305, 442, and 590. Prerequisites for the above courses must be completely satisfied except minors only may substitute Physics 106 for 210 and Organic Chemistry 365 for 360 and 361.

### PAPER SCIENCE

**Bachelor of Science Degree**

<table>
<thead>
<tr>
<th>Semester 1</th>
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<th>Semester 2</th>
<th>S.H.</th>
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<tbody>
<tr>
<td>PAPR 100</td>
<td>Intro. to Pulp and Paper Mfg. 3</td>
<td>PAPR 202</td>
<td>Paper Manufacture 4</td>
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<td>MATH 122</td>
<td>Calculus I 4</td>
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<td>Calculus II 4</td>
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<td>General Chemistry 4</td>
<td>CHEM 120</td>
<td>Qualitative Analysis 4</td>
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<td>IEGM 102</td>
<td>Technical Communication 3</td>
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<th>Semester 3</th>
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<th>Semester 4</th>
<th>S.H.</th>
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<tbody>
<tr>
<td>PAPR 203</td>
<td>Pulp Manufacture 4</td>
<td>PAPR 305</td>
<td>Mechanics and Optics of Fiber Systems 4</td>
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<tr>
<td>MATH</td>
<td>Mathematics¹ 4</td>
<td>MATH 350</td>
<td>Mathematics³ 4</td>
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<td>PHYS 210</td>
<td>Mechanics and Heat 4</td>
<td>PHYS 211</td>
<td>Electricity and Light 4</td>
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<td>CHEM 360</td>
<td>Organic Chemistry 4</td>
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PAPR 210  Summer Mill Practice², 2 S.H.

¹Mathematics or statistics classes chosen by conference with Paper Science Counselor.
²Choose at least one summer of mill practice for credit. Other summers are optional for professional elective credit.
## College of Applied Science

### Semester 5 S.H.

<table>
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<tr>
<th>Course Code</th>
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<tr>
<td>CHEM 222</td>
<td>Quantitative Analysis</td>
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<tr>
<td>PAPR 306</td>
<td>Process Engineering I</td>
<td>4</td>
</tr>
<tr>
<td>PAPR 442</td>
<td>Coating and Converting of Paper</td>
<td>4</td>
</tr>
<tr>
<td>I ED 451</td>
<td>Printing Processes</td>
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<tr>
<td>ECON 201</td>
<td>Economics</td>
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<td>PAPR 310</td>
<td>Summer Mill Practice(^1), 2 S.H.</td>
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<td>PAPR 470</td>
<td>Senior Thesis</td>
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<td>PAPR 530</td>
<td>Polymer Chemistry</td>
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<tr>
<td>CHEM 430</td>
<td>Physical Chemistry(^2)</td>
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<td>PAPR 440</td>
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<td>Prof. Elective(^3)</td>
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<td>PAPR 307</td>
<td>Process Engineering II</td>
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<td>PAPR 333</td>
<td>Chemistry of Wood and Pulp</td>
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<tr>
<td>PAPR 351</td>
<td>Environmental Engineering of Industrial Wastes</td>
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<tr>
<td>MATH 360</td>
<td>Statistical Methods</td>
<td>4</td>
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### Semester 7 S.H.

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<td>CHEM 430</td>
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### Semester 8 S.H.

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<td>PAPR 471</td>
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### PAPER ENGINEERING

Bachelor of Science Degree

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<tr>
<td>PAPR 100 Intro. to Pulp and Paper Mfg.</td>
<td>PAPR 202 Paper Manufacture</td>
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<td>CHEM 120 Qualitative Analysis</td>
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<td>CHEM 102 General Chemistry</td>
<td>MATH 123 Calculus II</td>
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<td>MATH 122 Calculus I</td>
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<td>AS 120 Technical Communications</td>
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1. Choose at least one summer of mill practice for credit. Other summers are optional for professional elective credit.

2. Students not desiring research positions or not going to graduate school in sciences may elect CHEM 535 (in Semester 7) and an elective (in Semester 8) approved by Dept. Chairman. This approach will not qualify the student for a Chemistry Major.


4. General Studies Electives should be Senior level.
### Paper Science

#### Semester 3 S.H.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>PAPR 203</td>
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<tr>
<td>CHEM 365</td>
<td>Intro. to Organic Chemistry</td>
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<td>MET 256</td>
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<td>PHYS 210</td>
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<td>MATH 106</td>
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#### Semester 4 S.H.

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<td>Mechanics and Optics of Fiber Systems</td>
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<td>CHEM 222</td>
<td>Quantitative Analysis</td>
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<td>MATH</td>
<td>Electricity and Light</td>
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<td>PHYS 211</td>
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#### Semester 5 S.H.

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<td>PAPR 590</td>
<td>Instrumentation and Process Control</td>
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<td>PAPR 442</td>
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<td>ECON 201</td>
<td>Principles of Economics</td>
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<td>PAPR 591</td>
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<td>PAPR 351</td>
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#### Semester 7 S.H.

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<td>PHYS 342</td>
<td>Elec. Meas. and Electronics</td>
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<td>PAPR 440</td>
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#### Semester 8 S.H.

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### COURSE DESCRIPTIONS

#### 100 Introduction to Pulp and Paper Manufacture 3 hrs.

A lecture-laboratory consideration of the fundamentals of papermaking processes and equipment. Some time will also be spent on coating, printing and other uses of paper. In this the student should acquire a
basic understanding of the nature and scope of the paper industry. Prerequisites: High school chemistry, general chemistry 101 or 102 concurrent.

150 Environmental Engineering Fundamentals 4 hrs.
Designed for non-science majors to present the major concepts and tools of environmental control as they relate to industrial and municipal air, water, and solid waste problems. Topics covered include nature and effects of pollution, reduction of effluents, processes of treatment, measuring of characteristics, governmental regulations and economics.

202 Paper Manufacture 4 hrs.
Study of the theories and practices of stock preparation, sheet formation, wet pressing, and drying of paper is made by emphasizing the latest equipment available to the industry. Surface treatment of papers and the influence of furnish additives such as size, fillers, colors, and wet and dry strength additives are studied to show their effects on the paper produced. The lectures are augmented by laboratory work and pilot machine exercises. Prerequisites: Paper 100 and 101.

203 Pulp Manufacture 4 hrs.
An advanced study of various pulping processes, pulp bleaching, heat, and chemical recovery, and by-product utilization is made from the chemical and engineering standpoint. Lecture studies are augmented by laboratory exercises. Prerequisites: Organic Chemistry 360, Paper 100, and Organic Chemistry 360 or 365 concurrent.

305 Mechanics and Optics of Fiber Systems 4 hrs.
Lecture and laboratory study of the fundamental properties of fibers and fiber systems. Theories and techniques for evaluating paper properties are discussed. Subjects include mechanical strength testing, stress-strain behavior of fiber systems, basic of color measurement and light scattering and the use of the Kubelka-Munk theory. Prerequisites: Paper 202 and Physics 210.

306 Process Engineering I 4 hrs.
An introduction to engineering principles as applied in the physical and chemical processes of pulp and paper manufacturing. Emphasis will be on material and energy balance problem solving. Prerequisites: Paper 203, Mathematics 123, Chemistry 102, Mechanics and Heat 210.

307 Process Engineering II 4 hrs.
A continuation of 306 with concentration on concepts and calculations of fluid mechanics, heat transfer, evaporation, drying, humidification, and other unit operations. Prerequisite: Paper 306.

310 Summer Mill Practice 2 hrs. Spring and/or Summer
Full time employment in a pulp and/or paper mill or related industry in order to provide first-hand industrial experience. Typed report required. Only open to departmental majors.

333 Chemistry of Wood and Pulp 4 hrs.
A combined lecture-laboratory consideration of the chemistry of wood, pulp, and pulping by-products. Included topics are cellulose, lignin, accessory carbohydrates, extractives, and spent liquor utilization. Prerequisites: Chemistry 360, 361 or 365 (concurrent).
Paper Science

351 Environmental Engineering for Industrial Wastes 4 hrs.
A lecture and laboratory consideration of the causes, controls, and solutions of water and air pollution problems faced by most industrial and municipal concerns. Procedures for evaluating liquid and gaseous effluents are reviewed. Legislation and economics of pollution is also considered.

440 Current Topics in Paper and Pulp 1 hr.
This course will be handled on a seminar basis utilizing guest speakers, University staff, and students. Its purpose is to add depth and breadth to the background of students.

442 Coating and Converting of Paper 4 hrs.
A lecture-laboratory course dealing with the fundamentals of pigmented and functional coating of paper, coating rheology, folded and corrugated carton manufacture and packaging. Laboratory study involves preparation, application, and evaluation of various coatings, and printing evaluation. Prerequisites: Paper 202 and 305.

470 Senior Thesis 3 hrs.
This course is designed to increase the student’s ability to develop a research or technical problem; to critically analyze the available information on this problem; to use this analysis to plan an experimental investigation; to carry out the experiments, and, finally, to present the completed program effectively both in writing and orally. About one-half of the semester is spent on developing the problem and completing the literature search. The second half is devoted to planning and initiating the experimental work.

471 Senior Thesis 3 or 4 hrs.
A continuation of 470, including completion of the laboratory work and preparation of the final typed paper in duplicate. Oral presentation will be arranged.

499 Independent Studies Variable, 1 to 6 hrs.
Offers paper science and engineering majors with good scholastic records a program of independent study in an area arranged in consultation with the instructor. One to three hours credit per semester, cumulative to six hours.

530 Polymer Chemistry 2 hrs.
A study of the molecular structure and polymerization reactions of high molecular weight compounds in relation to mechanical and rheological behavior and chemical properties. Methods for characterization of bulk and solution properties of polymers are considered in detail. Prerequisite: Chemistry 361 or 365.

550 Paper Industry Processes 3 hrs.
Offered primarily for students in graphic arts and printing management programs in order to provide a basic understanding of the major aspects of the science and technology of pulping, papermaking, coating, and evaluation of materials, especially as they relate to printing.

560 Advanced Topics in Pulp and Paper Engineering 3 hrs.
A unified consideration of the pulp and paper plant and its subsystems stressing operating efficiencies from the engineering viewpoint.
Includes design considerations, material and energy balances, power distribution, evaluation of equipment performance, and typical operating costs. Prerequisites: Paper 202, 203 and 307.

590 Instrumentation and Process Control 3 hrs.
A detailed consideration of the theory and practice of electronic and pneumatic sensing instruments and process control. Simulation of process dynamics and computer application will be emphasized.

591 Instrumentation and Process Control 3 hrs.
Continuation of Course 590.
Transportation Technology

Harley D. Behm, Chairman

John W. Cummings  LaVerne M. Krieger  Curtis N. Swanson
Charles E. Dee     Herman W. Linder   James VanDePolder
Herbert E. Ellinger Gary L. Roberts   Clarence N. VanDeVenter
Forrest O. Hutchins Ronald L. Sackett  Edward Walker, Jr.
Jon C. Kabbe       Pat D. Schiffer

The Department of Transportation Technology offers programs designed to provide graduates with the background necessary to successfully assume a variety of positions in transportation-related industries. Bachelor of Science degree curricula are offered in Automotive Engineering Technology, Automotive Management and Service, Aviation Engineering Technology, Aviation Technology and Management, and Flight Technology. A two-year curriculum in Aircraft Technology is also available. The combination of specialized and general training is intended to allow employment flexibility, although most graduates are placed in the automotive or aviation industries.

A Bachelor of Science degree in the curricula listed on the following pages can be earned only by completing one of the curricula offered by the Department. A student may not graduate from any Transportation Technology curriculum having received the grade of “D” in more than two required subjects in the curriculum.

A minor may be secured upon approval of the Department counselor and by completing fifteen to twenty semester hours of work. Minors for students enrolled in curricula in the Transportation Technology Department may only be obtained from Departmental offerings other than those in the engineering and technology curricula and Transportation Technology curricula.

All of the aviation curricula permit students to qualify for the Federal Aviation Administration Airframes and Powerplants license with some additional course work. The equivalent of the Aircraft Technology curriculum must be completed prior to taking the FAA examination.

Enrollment in flight courses is subject to a waiting list.

Students will be permitted to enroll in advanced flight courses on the basis of results of the Department’s Pilot Profile Analysis program. Participation in this program is required of all flight students.

Cooperative Education

Students enrolled in any Transportation Technology degree curriculum may pursue a cooperative plan of education, whereby alternate semesters are spent in industry, followed by a semester of study on the campus. Cooperative students work in such areas as manufacturing, product development, maintenance management, and field service divisions of major companies.
Academic Counseling

Students should contact a Transportation Technology academic counselor as early as possible. The counselors are available to assist in individual program planning, recommend electives appropriate to a student’s educational objectives, discuss employment opportunities, and help solve academic problems. Substitutions and transfer credit must be approved by Departmental counselors.

The following academic counselors are located in Room 2038, Industrial and Engineering Technology Building:

Automotive Curricula  
Aviation Curricula

Mr. Herbert E. Ellinger
Mr. C. N. VanDeventer

Additional Costs

Special lab fees are in effect for flight courses to cover the cost of airplane operation. The fee varies from $300 to $450, depending on the course.

Each student is required to have his own tools for aviation courses in airframes and powerplants. A basic list of required tools may be purchased for less than $100.

Additional Information

General information regarding counseling, scholarships and special programs of interest to students in this Department may be found on pages 102-105.

AUTOMOTIVE ENGINEERING TECHNOLOGY

Bachelor of Science Degree

The Automotive Engineering Technology curriculum is an applied engineering program leading to positions in design, development, testing, manufacturing, or service engineering within automotive-related industries.

A bachelor of science degree requires 128 semester credit hours.

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<th>Semester 1</th>
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<td>TRAN 122 Automatic Transmissions</td>
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*B ED 142, ENG 165 a or b may be substituted.
### Transportation Technology

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<td>Mechanics and Heat</td>
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### AUTOMOTIVE MANAGEMENT AND SERVICE

Bachelor of Science Degree

The Automotive Management and Service curriculum prepares students for positions in supervision or management, sales, and service where technical knowledge of automobile construction and operation is necessary.

A bachelor of science degree requires 128 semester credit hours.
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*B ED 142, ENG 105 a or b may be substituted.
AVIATION ENGINEERING TECHNOLOGY

Bachelor of Science Degree

The Aviation Engineering Technology curriculum is an applied engineering program offering preparation for careers in the aircraft industry in manufacturing, product development, technical sales, and other areas requiring application of technical skills and knowledge.

A bachelor of science degree requires 128 semester credit hours.

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<th>Semester 1</th>
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<td>PHYS 210</td>
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*B ED 142, ENG 105 a or b may be substituted.
AVIATION TECHNOLOGY AND MANAGEMENT

Bachelor of Science Degree

The Aviation Technology and Management curriculum offers preparation for careers in the business and operations facets of the aviation industry as well as for supervision or management positions where technical knowledge of aircraft construction, operation and repair is an asset.

A bachelor of science degree requires 128 semester credit hours.

<table>
<thead>
<tr>
<th>Semester 1 S.H.</th>
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<tr>
<td>PHYS 106 Elementary Physics 4</td>
<td>IEGM 102 Technical Communications* 3</td>
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<td>TRAN 110 Introduction to Aviation 3</td>
<td>IEGM 105 Industrial Calculations 1</td>
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<td>TRAN 113 Airframe Structures 5</td>
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<td>IEGM 130 Technical Drafting 2</td>
<td>TRAN 115 Aircraft Carburetion and Fuel Systems 4</td>
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<tr>
<td>MET 121 Manufacturing Processes 3</td>
<td>EET 100 Fundamentals of Electric Circuits and Electronics 3</td>
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<td>TRAN 212 Powerplant Evaluation and Systems 4</td>
<td>CHEM 103 General Chemistry 4</td>
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<td>TRAN 213 Airframe Hydraulic, Pneumatic and Auxiliary Systems 4</td>
<td>MET 120 Machining Metals 3</td>
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<td>PEM Physical Education 1</td>
<td>TRAN 215 Aircraft Turbine Powerplants 5</td>
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*B ED 142, ENG 105 a or b may be substituted.
### Transportation Technology

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### FLIGHT TECHNOLOGY

Bachelor of Science Degree

This Professional Pilot program is oriented toward career-pilot positions in general aviation. Appropriate electives allow broadening to such fields as aircraft operations and airport management.

A bachelor of science degree requires 128 semester credit hours.

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<td>Industrial Calculations</td>
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<td>Introduction to Aviation</td>
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<td>Airframe Structures</td>
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<td>IEGM 130</td>
<td>Technical Drafting</td>
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<td>Reciprocating Powerplants</td>
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<td>GEOG 225</td>
<td>Intro. to Meteorology and Climatology</td>
<td>4</td>
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<tr>
<td>Electives</td>
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### Semester 5
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<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>EET 100</td>
<td>Fundamentals of Electric Circuits and Electronics</td>
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<tr>
<td>TRAN 215</td>
<td>Aircraft Turbine Powerplants</td>
<td>5</td>
</tr>
<tr>
<td>TRAN 300</td>
<td>Intermediate Pilot Ground School</td>
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<td>TRAN 301</td>
<td>Intermediate Flight</td>
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### Semester 6
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<tr>
<td>TRAN 213</td>
<td>Airframe Hydraulic, Pneumatic and Auxiliary Systems</td>
<td>4</td>
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<td>TRAN 217</td>
<td>Airframe Electrical Systems</td>
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<td>TRAN 217</td>
<td>General Education</td>
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<tr>
<td>TRAN 303</td>
<td>Commercial Flight</td>
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<tr>
<td>TRAN 400</td>
<td>Advanced Pilot Ground School</td>
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<tr>
<td>ECON 201</td>
<td>Principles of Economics</td>
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<tr>
<td>ACTY 201</td>
<td>Accounting Concepts and Applica-tions</td>
<td>3</td>
</tr>
<tr>
<td>TRAN 222</td>
<td>Fuels and Lubricants</td>
<td>2</td>
</tr>
<tr>
<td>IEGM 371</td>
<td>Metallurgy and Mat. Failure</td>
<td>4</td>
</tr>
<tr>
<td>TRAN 401</td>
<td>Instrument Flight</td>
<td>3</td>
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### Semester 8
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ECON 202</td>
<td>Principles of Economics</td>
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<tr>
<td>TRAN 403</td>
<td>Flight Instructor Fund.</td>
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<tr>
<td>Elective</td>
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</table>

## AIRCRAFT TECHNOLOGY

Two-Year Certificate Curriculum

FAA Approved Technical School No. 3304
FAA Approved Airman Agency No. CE-08-1

The Aircraft Technology curriculum is intended for students who wish to qualify for the Federal Aviation Administration Airframe and
Transportation Technology

Powerplant Mechanics license. Students may transfer into a B.S. degree program upon completion of this curriculum and the recommendation of his academic counselor.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MATH 100</td>
<td>Algebra</td>
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<td>IEGM 102</td>
<td>Technical Communication*</td>
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<td>CHEM 103</td>
<td>General Chemistry</td>
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<td>PHYS 106</td>
<td>Elementary Physics</td>
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<td></td>
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<tr>
<td>PEM</td>
<td>Physical Education</td>
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<tr>
<td>EET 100</td>
<td>Fundamentals of Electric Circuits and Electronics</td>
<td>3</td>
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<tr>
<td>TRAN 110</td>
<td>Introduction to Aviation</td>
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<td>TRAN 113</td>
<td>Airframe Structures</td>
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<td>TRAN 114</td>
<td>Reciprocating Powerplants</td>
<td>4</td>
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<tr>
<td>TRAN 115</td>
<td>Aircraft Carburetion and Fuel Systems</td>
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<td>TRAN 116</td>
<td>Aircraft Propellers</td>
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<td>MET 120</td>
<td>Machining Metals</td>
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<tr>
<td>IEGM 130</td>
<td>Technical Drafting</td>
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<tr>
<td>TRAN 211</td>
<td>Powerplant Servicing</td>
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<tr>
<td>TRAN 212</td>
<td>Powerplant Evaluation and Systems</td>
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<td>TRAN 213</td>
<td>Airframe Hydraulic, Pneumatic and Auxiliary Systems</td>
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<td>TRAN 214</td>
<td>Aircraft Welding</td>
<td>3</td>
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<tr>
<td>TRAN 215</td>
<td>Aircraft Turbine Powerplants</td>
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<td>TRAN 217</td>
<td>Aircraft Electrical Systems and Components</td>
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<td>TRAN 218</td>
<td>Aircraft Servicing</td>
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<tr>
<td>TRAN 219</td>
<td>FAA Maintenance Regulations</td>
<td>4</td>
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<tr>
<td>TRAN 222</td>
<td>Fuels and Lubricants</td>
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</tr>
<tr>
<td>IEGM 371</td>
<td>Metallurgy and Material Failure</td>
<td>4</td>
</tr>
<tr>
<td>EET 101</td>
<td>Fundamentals of Elect. and Mechanics</td>
<td>3</td>
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</tbody>
</table>

Total semester credit hours required 86

COURSE DESCRIPTIONS

AUTOMOTIVE

121 Automotive Chassis 3 hrs.

Study of the design, operation, and service of automotive suspension, wheel alignment, steering, brakes, clutches, standard transmissions, drivelines, differentials, and air conditioning units. Laboratory work will involve disassembly, inspection, calculating loads, and operations needed to restore to service.

122 Automatic Transmissions 3 hrs.

A study of torque converters, pumps, controls, gear trains, and holding devices used in automatic transmissions. Emphasis will be placed on principles of design, operation, application, and service of major components as well as limitations and requirements relating to lubrication, sealing and bearings. Laboratory work will involve disassembly, inspection, service operations, calculation of torque capacities, and plotting of test results on an operating unit.

*B ED 142, ENG 105 a or b may be substituted.
126 Automotive Carburetion and Electricity 4 hrs.
Theory and practice in diagnosing, adjusting and tuning modern automotive engines and electrical accessories. Laboratory practice is provided using oscilloscopes, distributor testers, generator test benches, and other engine and electrical testing equipment. Prerequisite: EET 100 or I ED 160.

222 Fuels and Lubricants 2 hrs.
A study of petroleum products and their application to the fuel and lubricant requirements of automobiles and aircraft. Laboratory tests are conducted to ascertain octane requirements, octane numbers, viscosity, volatility, flash and fire point, grease penetration, API degree, and dropping point of grease.

226 Automotive Engines 4 hrs.
A study of the design, dynamic characteristics, elementary thermodynamics, and basic service techniques of automotive engines. Theory is supplemented with laboratory work involving disassembly, visual and mechanical inspection of parts, plotting charts and graphs of engine characteristics, performing service operations, assembly, and engine operation. Prerequisite: MATH 100 or equivalent.

322 Automotive Service Management 2 hrs.
Principles involved in management of automotive repair shops including establishing objectives, organizational problems, controls, personnel management, merchandising, pricing, and customer relations.

325 Automotive Testing 4 hrs.
Theory and application of the basic principles of engineering measurements, as applied to automotive testing. Laboratory assignments involve calibration of instruments, obtaining data, dynamometer operation, engine testing, and evaluation of engine performance. Written reports of laboratory assignments are required. Prerequisites: TRAN 121, 122, 126, 222 and 226, MATH 122, 106.

326 Automotive Diagnosis 3 hrs.
Procedures and techniques used in evaluating performance and identifying malfunctions in automotive systems. Laboratory equipment as well as service shop test equipment will be used in diagnostic procedures. Prerequisites: TRAN 121, 122, 126, 222 and 226.

421 Automotive Analysis 3 hrs.
Analysis of current designs of major automotive systems concentrating on rationale for various design approaches and combinations used when considering engineering parameters such as standards, operating limitations, manufacturing restrictions, and repairability. Prerequisite: TRAN 326.

423 Automotive Engineering Problems 4 hrs.
Individual and group design projects will be selected on subjects relating to automotive testing, development, or modification. The student will design, build, test, develop and evaluate his project. Written reports including project request, progress reports, and final reports are required. Prerequisite: TRAN 325 and MET 435 or approval of instructor.
Transportation Technology

498 Studies in Transportation Technology 1-4 hrs.
An individual study program arranged in consultation with a study supervisor. Approval of study program required prior to registration. May be repeated up to a maximum of four hours.

AVIATION

110 Introduction to Aviation 3 hrs.
A first course in aviation including a review of aviation history, theory of flight and elementary aerodynamics, weight and balance, powerplants, structures, and helicopter theory.

113 Airframe Structures 5 hrs.
Theory and laboratory experience relating to fabric and metal covered structures, honey-comb construction, and plastics. Prerequisite: TRAN 110.

114 Reciprocating Powerplants 4 hrs.
Study of aircraft reciprocating powerplants. Classroom and laboratory experiences involving principles of operation, nomenclature, inspection, and overhaul procedures. Prerequisite: TRAN 110.

115 Aircraft Carburetion and Fuel Systems 4 hrs.
Basic principles of carburetion and induction systems including operation, installation, inspection, adjustment, and service of float-type and pressure-operated carburetors, direct fuel injection units, superchargers, and turbochargers.

116 Aircraft Propellers 2 hrs.
Theory, operation, troubleshooting, and servicing of aircraft propeller systems for reciprocating and turbine engines. Prerequisite: TRAN 110.

200 Private Pilot Ground School 4 hrs.
A beginning course for students engaged in primary flight training, or interested in such training. Topics covered include flight theory, Federal Air Regulations, aviation weather, navigation, performance factors, and weight and balance. Upon completion, the student will take the Federal Aviation Administration written examination for private pilots.

201 Introduction to Flight 2 hrs.
A course for any full-time University student. Familiarization with the airplane and its control in all flight situations and maneuvers necessary for solo flight, basic instrument and cross-country flying experience. Approximately 20 hours of flight time. Prerequisite: Third-class medical certificate prior to enrollment and completed TRAN 200 or taking concurrently.

203 Primary Flight 3 hrs.
A continuation of 201 with emphasis on developing skill in executing flight maneuvers and cross-country flying. Successful students will qualify for the FAA private pilot license. Approximately 40 hours of flight time. Prerequisite: Faculty approval, TRAN 200 and 201.
211 Powerplant Servicing 4 hrs.
Principles and practices covering powerplant inspection and related FAA forms, regulations, and maintenance procedures. Designed to reinforce skills and knowledge acquired in previous powerplant courses. Prerequisites: TRAN 116, 212.

212 Powerplant Evaluation and Systems 4 hrs.
Classroom and laboratory work covering ignition systems, powerplant testing and diagnosis, and the operation of aircraft powerplants. Prerequisites: TRAN 114 and 115.

213 Airframe, Hydraulic, Pneumatic and Auxiliary Systems 4 hrs.
Classroom and laboratory study of aircraft hydraulic and pneumatic components and systems, air conditioning and pressurization, fire detection and extinguishing systems and other auxiliary systems. Prerequisite: TRAN 110.

214 Aircraft Welding 3 hrs.
Welding theory and practice involving steel and aluminum structural parts. Practice in completing repairs in a manner approved by the FAA, using oxyacetylene, electric arc, and shielded arc welding processes.

215 Aircraft Turbine Powerplants 5 hrs.
Reaction engine principles, gas turbine engine construction, operation, and servicing. Jet aircraft systems and their operation. Prerequisites: TRAN 110, 212.

217 Aircraft Electrical Systems and Components 4 hrs.
A review of basic electricity and study and laboratory practice in aircraft electrical components and systems, electrical instrumentation, and auto pilot systems. Prerequisites: TRAN 110, EET 100.

218 Aircraft Servicing 5 hrs.
Provides the student with an opportunity to conduct 100 hour and annual inspections, routine and preventive maintenance, minor repairs on certificated flying aircraft, and a review of FAA publications. The student will also have the opportunity to learn servicing of aircraft and the management of a small airport. Required for all students who plan to qualify for the FAA Airframe and Powerplant Mechanics Certificate. Prerequisites: TRAN 113, 114, 115.

219 FAA Maintenance Regulations 4 hrs.
Designed to prepare the students for the A & P written and practical examination administered by the Federal Aviation Administration. This is the final course for students applying for the FAA Airframes and Powerplants Mechanics Certificate. Students electing this course must have completed or be taking concurrently all courses required in the two-year Aircraft Technology curriculum.

300 Intermediate Pilot Ground School 2 hrs.
A continuation of TRAN 200 in which advanced systems and methods for commercial and instrumental flying are explored. This course includes the Federal Aviation Administration Commercial Pilot written examination. Prerequisites: TRAN 200, 201 or Private Pilot License.
301 Intermediate Flight 3 hrs.
Intensive practice in advanced flight maneuvers, student will master control of airplane under a variety of conditions. Approximately 50 hours of flight time. Prerequisite: TRAN 203.

303 Commercial Flight 3 hrs.
Additional dual and solo instruction with appropriate refresher work to develop a student's skills to commercial pilot standards. Transition to transportation type aircraft is included. Upon completion, a student may become eligible for certification as a commercial pilot. Approximately 50 hours flying time. Prerequisites: TRAN 301 and completed or taking TRAN 300 concurrently.

340 Airport Management 3 hrs.
An introduction to airport operation and the duties of the airport manager. Topics studied will include the relationship between airport and community; legislation affecting airports; planning, organizing, financing, and developing programs and services. Prerequisite: Junior standing in aviation curricula or approval of instructor.

400 Advanced Pilot Ground School 2 hrs.
A study of concepts, systems and techniques related to instrument flying and instrument flight planning. Methods and techniques for both flight and ground instruction are studied, along with a review of information and materials currently in use. Some opportunity for practical application is provided. Prerequisite: TRAN 300 or consent of instructor.

401 Instrument Flight 3 hrs.
Basic instrument flying, cross-country navigation and communication, and instrument approach procedures. Successful completion will qualify the student for an instrument rating. Approximately 40 hours flight time. Prerequisites: TRAN 303, 400.

402 Multi-Engine Flight 1 hr.
Principles of flight in multi-engine airplanes. Provides transition from complex single-engine airplane to procedures and techniques peculiar to multi-engine operation. Approximately 10 hrs. flight time and 10 hours observing. Prerequisites: TRAN 303, 401.

403 Flight Instructor Fundamentals 2 hrs.
A study of performance skills, critical situations, airplane type differences, and flight instruction skills. Practice in actual flight instruction is included. Approximately 25 hours flight time. Prerequisite: TRAN 401 or consent of instructor.

404 Instrument Flight Instructing 1 hr.
Techniques of flight instruction applied to instrument flying. Includes flight planning, enroute procedures, approaches and landings, emergencies, and critical weather analysis. Approximately 14 hrs. flight time. Prerequisites: TRAN 401, 403.

498 Studies in Transportation Technology 1-4 hrs.
An individual study program arranged in consultation with a study supervisor. Approval of study program required prior to registration. May be repeated up to a maximum of 4 hours.
College of Arts and Sciences

CORNELIUS LOEW, Dean
TILMAN C. COTHran, Associate Dean
JAMES P. ZIETLOW, Associate Dean

Departments:
- Anthropology
- Biology
- Chemistry
- Communication Arts and Sciences
- Economics
- English
- Geography
- Geology
- History
- Languages, Modern and Classical
- Linguistics
- Mathematics
- Philosophy
- Physics
- Political Science
- Psychology
- Religion
- Sociology
- Speech Pathology and Audiology

Institute of International and Area Studies
School of Social Work
The Medieval Institute
Black Americana Studies
The College of Arts and Sciences offers a variety of subjects that combine to develop a student who will be at home in the world of ideas, and whose experience of living will be deepened by an understanding of his cultural heritage. It aims to offer him training in thinking objectively, critically, and creatively. Its offerings serve not only the special student of the sciences and humanities but also provide a background of liberal education for students in the other Colleges of the University and for those in the pre-professional courses.

I. LIBERAL ARTS CURRICULUM

Bachelor of Arts Degree

A. Sixty hours work in the College of Arts and Sciences of which sixteen hours should be distributed as follows: four hours in each of the two divisions of Science and Mathematics, and of Social Sciences. Also, four hours from the area of literature, speech, philosophy and religion, and four hours from the area of fine arts.

B. General Education requirements.

C. Thirty hours of work in 300, 400 and 500 courses exclusive of General Education.

D. Twelve hours of college work in a foreign language (or 3 years of high school preparation in a foreign language).

E. Four hours of college mathematics (or two years of high school preparation from the following: algebra, geometry, and/or trigonometry).

F. Physical education, two hours.

G. Completion of a major and minor in the College of Arts and Sciences and electives to make a total of 122 hours.

II. THE GENERAL CURRICULUM

Bachelor of Arts or Bachelor of Science Degree

In this curriculum a student may satisfy the requirements for pre-professional curriculum. If 122 hours are completed in this program the student will be eligible for a degree of Bachelor of Arts or Bachelor of Science.

A. General Education Requirements (see page 26 of this catalog).

B. Physical Education .............................................. 2-8 hrs.

C. A major in one of the Departments of the College of Arts and Sciences.

D. University courses to complete a minor.

E. University electives to make a total of 122 hours.

F. Eight hours of college work in a foreign language or 2 years of high school preparation in a foreign language (for B.A. degree only).

ALL COLLEGE COURSE

399 Field Experience (Community Participation) .......................... 2-8 hrs.

A program of independent study combining academic work with social, environmental, civic or political field work. May be used as elective credit only. Prerequisites: A written outline of the student's project, approved by a faculty supervisor, and approval from the office of the dean.
Inter-Disciplinary Programs

1. Institute of International and Area Studies
2. The Medieval Institute
3. Black Americana Studies
4. Environmental Studies
5. Foreign Studies Seminars and Institutes
6. American Studies
7. Group Majors and Minors
8. Medical Technology
9. Physicians’ Assistants
Institute of International and Area Studies

Fredric J. Mortimore, Director

The Institute of International and Area Studies (IIAS) was established by the Trustees and Administration of Western Michigan University to design, coordinate, and administer interdisciplinary programs devoted to the study of cultures located geographically outside the continental United States. Pursuant to this mandate, the Institute—in subsequent years—has (1) facilitated the formation of African, Asian, Comparative/Cross Cultural, Latin American and Slavic Studies programs at the University, (2) encouraged by various means curricular and staff development in the fields of both comparative/cross-cultural and area studies, (3) coordinated—with the active support of participating departments—undergraduate- and graduate-level programs leading to minor and major concentrations in various area and comparative/cross-cultural fields, (4) cooperated with governmental agencies in visiting leader and student exchange programs, and (5) conducted conferences, seminars, symposia and lecture series which had as their focus comparative and area concerns. In general, the Institute coordinates activities of an international character sponsored by Western Michigan University.

The Institute administers numerous programs which should be of great interest to undergraduate students; a detailed description of each will be found on the following pages of this catalog. In broad outline, these programs of study fall within two categories: (1) undergraduate minors (20 semester hours) permitting concentrations in (a) African Studies, (b) Asian Studies, (c) Latin American Studies, (d) Slavic Studies, (e) Comparative/Cross-Cultural Studies; and (2) undergraduate curricula permitting more intensive study (60 semester hours during the junior and senior years) with major emphasis possible in (a) African Studies, (b) Asian Studies, (c) Comparative/Cross-Cultural Studies and (d) Latin American Studies.

INTERNATIONAL AND AREA STUDIES

Four area-related programs and one comparative/cross-cultural program have been established within the Institute of International and Area Studies to design and coordinate curricular offerings; these are:

- African Studies Program
- Asian Studies Program
- Comparative/Cross-Cultural Studies Program
- Latin American Studies Program
- Slavic Studies Program

The Institute regularly publishes a pre-registration listing of available core courses for the various programs. This list occasionally contains courses in addition to those included below. Students should consult the pre-registration listing for each semester or session.
506 Studies in the Non-Western World
2-3 hrs.

The content of this course varies by semester but is designed to explore some facets of the problems and prospects facing Third World regions or countries.

AFRICAN STUDIES PROGRAM

African Studies Curriculum

The African Studies Curriculum is designed for those undergraduate students who anticipate careers which require a comprehensive understanding of Africa, and for those who plan to enter graduate programs which provide an African concentration. Students successfully completing this curriculum and other requirements listed below will be awarded a Bachelor of Arts or Bachelor of Science degree.

1. Completion of University requirements for a B.A. or B.S. degree—122 semester hours of course work.

2. Completion of General Education requirements.

3. Completion of departmental requirements for a major in one of the following disciplines:

   Anthropology  Economics  History
   Geography  Sociology  Political Science

4. Completion of the African Studies concentration, consisting of no less than 24 semester hours selected from the list of African Studies Core Courses, among which must be included:

   History 386  Introduction to African History and Civilization ... 3 hrs.
   Social Science 506  Studies in the Non-Western World ........ 2-3 hrs.

5. The African Studies Program strongly recommends the study of African languages or European languages widely spoken on the continent, e.g. French. Students must demonstrate intermediate proficiency in a language meeting the above criteria or have taken the Black Americana Studies core sequence currently listed as Arts and Sciences 200, 300 and 500.

Advisement

Students in this curriculum will be aided in the selection of African Studies Core Courses by the Adviser; those who wish to enroll in the African Studies Curriculum are required to make this intention known to the Adviser no later than the first semester of their junior year—and preferably earlier.

African Studies Minor

Twenty semester hours (24 for students enrolled in Education curricula) taken from the list of African Studies Core Courses are required for completion of a minor concentration in African Studies.

Students wishing to enroll in the African Studies minor are required to make this desire known to the Adviser; records of the minor are maintained and verified by the African Studies Program.

All students enrolled in the African Studies minor must complete the following course:

   History 386  Introduction to African History and Civilization ... 3 hrs.
In addition, students enrolled in this minor must also elect at least three of the following four courses:

**Anthropology**
- 335 Cultures of Africa ........................................ 3 hrs.

**Geography**
- 386 Sub-Saharan Africa: Man, Environments, Resources 3

**Political Science**
- 341 African Political Systems .................................. 4

**Sociology**
- 557 Changing Social Systems: Sub-Saharan Africa ...... 3

### African Studies Core Courses

**Anthropology**
- 334 Cultures of North Africa and the Middle East ....... 3
- 335 Cultures of Africa ........................................... 3
- 525 Modern African Cultures ................................... 3
- 545 Topics in Ethnology* ....................................... 3

**Arts and Sciences**
- 200 Black Presence ............................................. 4
- 300 Black Experience ........................................... 4
- 500 Black Humanism ............................................. 4

**Economics**
- 585 The Economics of Sub-Saharan Africa ................. 3

**Geography**
- 309 Studies in Regional Geography* ......................... 2-3
- 386 Sub-Saharan Africa: Man, Environments, Resources .. 3
- 387 The Middle East and North Africa ....................... 3

**History**
- 386 Introduction to African History and Civilization .... 3
- 587 Ancient and Medieval Africa ............................. 3
- 588 Modern Africa ............................................... 3

**Liberal Arts**
- 504 Social Studies Seminar: East Africa ................... 6

**Linguistics**
- 505 Basic Critical Languages .................................. 4
  - Swahili .................................................................. 4
  - Arabic ............................................................... 4
- 506 Intermediate Critical Languages ......................... 4
- 507 Advanced Critical Languages ............................... 4
- 508 Reading Critical Languages ................................ 4
- 509 Writing Critical Languages ................................ 4

**Political Science**
- 341 African Political Systems .................................. 4
- 549 Problems of Foreign Political Systems* ................ 3-4

**Religion**
- 307 The Islamic Tradition ...................................... 4
- 500 Historical Studies in Religion* ........................... 4

**Social Science**
- 506 Studies in the Non-Western World ....................... 2-3

*Courses marked with an asterisk may be included in the student's program when they concentrate on Africa or some subdivision thereof.
Asian Studies Program

Head: Robert L. Shafer

Asian Studies Curriculum

Adviser: Robert L. Shafer

The Asian Studies Curriculum is designed for those undergraduate students seeking a liberal education who anticipate careers which require an understanding of Asia, and for those who plan to enter graduate programs which offer opportunities for Asian concentration. Students successfully completing this Curriculum and the other requirements listed below will be awarded a Bachelor of Arts or Bachelor of Science degree.

1. Completion of University requirements for a B.A. or B.S. degree—122 semester hours of course work.

2. Completion of General Education requirements.

3. Completion of departmental requirements for a major in any one of the departments comprising the College of Arts and Sciences.

4. Foreign language and/or linguistics competence as dictated by major disciplinary concentration, career objectives and Asian interests. (Six to eight semester hours in approved foreign language and/or linguistics courses will be accepted toward satisfaction of the 30 semester hour Asia Studies requirement; see Linguistics 500, 505, 506, 507, 508, 509.)

5. In consultation with the Asian Studies Adviser, selection of no less than 30 semester hours of Asian Studies Core Courses.

Twenty-one of this 30 semester hour requirement may be devoted to courses dealing more specifically with either South Asia or East Asia.

Advisement

Students enrolled in the Asian Studies Curriculum will be aided in the selection of appropriate Asian Studies Core Courses by the Asian Studies Adviser.

Students who wish to enroll in the Asian Studies Curriculum are required to make this intention known to the Adviser no later than the first semester of their junior year—and preferably earlier.

Asian Studies Minor

Adviser: Robert L. Shafer

Twenty semester hours (24 for students enrolled in Education curricula), taken from the list of Asian Studies Core Courses, are required for completion of a minor concentration in Asian Studies.

Students wishing to enroll in the Asian Studies Minor are required to make this desire known to the Adviser before enrolling in courses

*Courses marked with an asterisk may be included in the student’s program when they concentrate on Africa or some subdivision thereof.
appropriate to the program; records of the minor are maintained and verified by the Asian Studies Adviser.

**Asian Studies Core Courses**

### Anthropology
- 336 Cultures of Asia ........................................ 3 hrs.
- 500 Topics in Archaeology* .................................. 3
- 545 Topics in Ethnology* ...................................... 3

### Economics
- 587 Studies in Asian Economics ............................. 3

### English
- 519 Non-Western Literature in Translation* .............. 4
- 555 Studies in the Art and Thought of Major Writers* .. 4

### Geography
- 309 Studies in Regional Geography* ....................... 2-3
- 361 Population: The Crowding World* ..................... 3
- 385 The Pacific Realm ....................................... 3
- 389 Conflict Resolution in Southeast Asia ............... 3
- 390 The Indian Subcontinent in Transition ............... 3

### History
- 380 Introduction to Asian History and Civilization ...... 3
- 381 The Modern Far East .................................... 3
- 580 Traditional China ....................................... 3
- 581 Modern China ........................................... 3
- 582 Japan's Transition from a Feudal State to a Modern Nation ........................................ 3
- 583 Modern Japan ............................................ 3
- 584 Modern Korea ............................................ 3
- 585 Southeast Asia in the Twentieth Century ............ 3

### Linguistics
- 505 Basic Critical Languages ............................... 4
  - Chinese ................................................... 4
  - Hindi-Urdu .............................................. 4
  - Japanese ................................................ 4
  - Korean .................................................. 4
- 506 Intermediate Critical Languages ..................... 4
- 507 Advanced Critical Languages ......................... 4
- 508 Reading Critical Languages ........................... 4
- 509 Writing Critical Languages ............................ 4

### Philosophy
- 306 Asian Thought: China .................................. 4

### Political Science
- 342 Asian Political Systems ............................... 4
- 345 Politics in India, Pakistan and Bangladesh .......... 3
- 346 Case Studies in East Asian Politics .................. 3
- 544 The Military and Political Systems* ................. 3
- 545 Theories of Political Development* .................. 3
- 548 Asian Communism ...................................... 3
- 549 Problems of Foreign Political Systems* ............. 3

*Courses marked with an asterisk may be included in the student's program when they concentrate on Asia or some subdivision thereof.
COMPARATIVE/CROSS-CULTURAL STUDIES PROGRAM

Head: F. J. Mortimore

Comparative/Cross-Cultural Studies Curriculum

Adviser: F. J. Mortimore

The Comparative/Cross-Cultural Studies Curriculum is designed for those undergraduate students who plan to pursue careers in teaching or other fields, success in which would be enhanced by an understanding of people whose values, traditions, customs and institutions differ markedly from those with which they are familiar. This curriculum is intended to accommodate those students who desire to examine that broad range of problems which requires both cross-disciplinary and cross-cultural perspectives. Students successfully completing this Curriculum and the other requirements listed below will be awarded a Bachelor of Arts or Bachelor of Science degree.

1. Completion of University requirements for a B.A. or B.S. degree—122 semester hours of course work.
2. Completion of General Education requirements.
3. Completion of departmental requirements for a major in one of the following disciplines:
   - Anthropology
   - Economics
   - Geography
   - History
   - Languages
   - Political Science

4. Completion of the Comparative/Cross-Cultural Studies concentration consisting of no less than 30 semester hours selected from the list of Comparative/Cross-Cultural Studies Core Courses—but including in each case:
   a. one of the following three courses:
      - Anthropology
      - 534 Peasant Societies in Cross-Cultural Perspective 3 hrs.
      - 536 Cultural Evolution 3
      - 540 Cultural Ecology 3
   b. Economics 588 Economic Development 4

*Courses marked with an asterisk may be included in the student's program when they concentrate on Asia or some subdivision thereof.
Advisement

Students enrolled in this Curriculum will be aided in the selection of Comparative/Cross-Cultural Studies Core Courses by the Adviser; those who wish to enroll in the Comparative/Cross-Cultural Curriculum are required to make this intention known to the Adviser no later than the first semester of their junior year—and preferably earlier.

Comparative/Cross-Cultural Studies Minor

Adviser: F. J. Mortimore

Twenty semester hours (24 for students enrolled in Education curricula), taken from the list of Comparative/Cross-Cultural Studies Core Courses, are required for completion of a minor concentration in Comparative/Cross-Cultural Studies.

Students wishing to enroll in this minor are required to make this desire known to the Adviser before courses employed to satisfy this program are taken; records of the minor are maintained and verified by the Comparative/Cross-Cultural Studies Program.

Comparative/Cross-Cultural Studies Core Courses

**Anthropology**

- 220 Introduction to Anthropology: Cultural Anthropology 3 hrs.
- 331 Art and Culture 3
- 370 Language in Culture 3
- 520 History of Ethnological Theory 3
- 532 Culture and Personality 3
- 534 Peasant Societies in Cross-Cultural Perspective 3
- 535 The Anthropology of Religion 3
- 536 Cultural Evolution 3
- 537 Political Anthropology 3
- 538 Legal Anthropology 3
- 539 Economic Anthropology 3
- 540 Cultural Ecology 3
- 575 Studies in Languages of the World 4

**Economics**

- 480 International Economics 4 hrs.
- 580 International Trade: Theory and Policy 3
- 583 Studies in Economic Planning 3
- 584 Comparative Economic Systems 4
- 588 Economic Development 4

**Geography**

- 105 Physical Geography 4 hrs.
- 205 Introduction to Human Geography 3
- 244 World Patterns of Economic Activity 3
- 309 Studies in Regional Geography* 3
- 361 Population: The Crowding World* 3
- 540 Studies in Political Geography: Principles of Political Geography 3
- 540 Studies in Political Geography: National Power 3
- 543 Cultural Geography 3
- 544 Studies in Economic Geography: Agriculture* 2-3
- 544 Studies in Economic Geography: Manufacture* 2-3
- 544 Studies in Economic Geography: Transportation* 2-3

*Courses marked with an asterisk may be included in the student's program when concentrating comparatively on the problems of economic, social and political development in Africa, Asia, Latin America and Eastern Europe.
Latin American Studies Program

Head: Leila Bradfield

Latin American Studies Curriculum

Adviser: Leila Bradfield

The Latin American Studies Curriculum is designed for those undergraduate students seeking a liberal education who anticipate careers which require an understanding of Latin America, and for those who plan to enter graduate programs which offer opportunities for Latin American concentration. Students successfully completing this Curriculum and the other requirements listed below will be awarded the B.A. or B.S. degree.

1. Completion of University requirements for a Bachelor of Arts or Bachelor of Science degree—122 semester hours of course work.
2. Completion of General Education requirements.
3. Completion of departmental requirements for a major in one of the following disciplines:
   - Anthropology
   - Economics
   - Geography
   - History
   - Language (Spanish)
   - Political Science
   - Sociology
4. Completion of the Latin American Studies concentration consisting of no less than 30 semester hours selected from the list of Latin American Core and Cognate courses.
5. Demonstration of intermediate-level proficiency in Spanish.

Advisement

Students in this Curriculum will be aided in the selection of Latin American Studies Core Courses by the Adviser; students who wish to
enroll in the Latin American Studies Curriculum are required to make this wish known to the Adviser no later than the first semester of their junior year—and preferably earlier.

Latin American Studies Minor

Adviser: Leila Bradfield

Twenty semester hours (24 for students enrolled in Education curricula) taken from the list of Latin American Studies Courses are required for completion of a minor concentration in Latin American Studies; a minimum of 12 semester hours must be selected from the list of Core Courses. Students enrolled in this minor are strongly urged to acquire proficiency in Spanish.

Summer programs of a special nature may be offered, providing qualified students an opportunity to undertake study and/or research in Latin America. Credit for participation in such programs may—with certain limitations—be counted toward completion of a Latin American Studies minor.

Students wishing to enroll in this minor are required to make this desire known to the Adviser before courses employed to satisfy this program are taken; records of the minor are maintained and verified by the Latin American Program.

Latin American Studies Core Courses

Anthropology

337 Indian Cultures of Mexico, Central and South America 3 hrs.
501 Rise of Civilization: Mesoamerica 3
545 Topics in Ethnology* 3

Geography

309 Studies in Regional Geography* 2-3
381 South America 3
382 Mexico and the Caribbean 3
550 Studies in Historical Geography* 3

History

370 History of Latin America 3
371 Contemporary Latin America 3
571 Mexico: The Building of a Nation 3
572 The Plata Region: Argentina, Paraguay, Uruguay 3

Language

323 Life and Culture of Latin America 3
329 Introduction to Spanish-American Literature 3
560 Studies in Spanish Literatures: Spanish-American Short Story 3
560 Contemporary Spanish-American Novel 3

Political Science

343 Latin American Political Systems 4
549 Problems of Foreign Political Systems* 3-4

Sociology

559 Studies in Ethnic Relations* 3
571 Studies in Social Change* 3

*Courses marked with an asterisk may be included in the student’s program when they concentrate on Latin America or some subdivision thereof.
The Slavic Studies Curriculum is designed for those undergraduate students seeking a liberal education and who anticipate careers which require a broad understanding of Slavic affairs, or for those who plan to enter graduate programs leading to advanced degrees in Slavic Studies. The Curriculum, which leads to a Bachelor of Arts or Bachelor of Science degree, consists of five parts:

1. Completion of University requirements for a B.A. or B.S. degree—122 semester hours of course work.
2. Completion of General Education requirements.
3. Completion of departmental requirements for a major in one of the following disciplines: anthropology, economics, geography, history, Russian, political science or sociology.
4. Completion of a Slavic Studies concentration consisting of no less than 30 semester hours selected from the list of Slavic Studies Core and Cognate Courses. (No less than 24 semester hours may be taken from the list of Core Courses.)
5. Demonstration of intermediate-level proficiency in a Slavic language.

Slavic Studies Minor

Twenty semester hours (24 for students enrolled in Education curricula) taken from the list of Slavic Studies Courses are required for completion of a minor concentration in Slavic Studies; a minimum of 12 semester hours must be selected from the list of Core Courses.

Students wishing to enroll in the Slavic Studies minor are required to make this desire known to the Adviser before courses employed to satisfy this program are taken; records of the minor are maintained and verified by the Slavic Studies Program.

Slavic Studies Core Courses

Arts and Sciences
504 Foreign Studies Seminar: Slavic Area .......... 1-6 hrs.

Economics
386 Economics of the Soviet Union and Eastern Europe .. 3
501 Studies in Economic Theory* .................. 3
598 Readings in Economics* ........................ 1-3

*Courses marked with an asterisk may be included in the student's program when they concentrate on the Slavic Area or some subdivision thereof.
Geography
309 Studies in Regional Geography* ........................................ 3 hrs.
384 Soviet Peoples and Landscape: Continuity & Change ............. 3
550 Studies in Historical Geography* ..................................... 3
598 Readings in Geography* .................................................. 3

History
340 Tsarist Russia .................................................................... 3
341 The Soviet Union .............................................................. 3
344 Modern Eastern Europe ..................................................... 3
345 The Baltic Region .............................................................. 3
470 Independent Research in History: Slavic Area ..................... 2-3
540 Life in Tsarist Russia ........................................................ 3
541 The Soviet Union in World Affairs ..................................... 3
542 Nationalities in the Soviet Union ....................................... 3
594 War in the Modern World* ................................................. 3
595 History of War* .............................................................. 3
598 Independent Readings in History* ..................................... 2-3

Political Science
344 Soviet & East European Political Systems ......................... 4
346 Governments of the Soviet Union & Eastern Europe .......... 4
549 Problems of Foreign Political Systems* .............................. 3-4

Sociology
571 Studies in Social Change* .................................................. 3

Slavic Studies Cognate Courses
Economics
484 Comparative Economic Systems ....................................... 4
590 Contemporary Communism—A Survey ................................. 2

Geography
540 Studies in Political Geography: Principles of Political Geography ........................................ 3
540 Studies in Political Geography: National Power .................. 3

Language
200 Intermediate Russian ....................................................... 4
201 Intermediate Russian ....................................................... 4
310 Russian Civilization ......................................................... 3
316 Russian Composition ....................................................... 3
317 Russian Conversation ....................................................... 4
328 Introduction to Russian Literature .................................... 3
375 Russian Literature in English Translation ......................... 3
550 Independent Study in Russian .......................................... 1-3
552 Advanced Russian Composition & Conversation ............... 3
560 Studies in Russian Literature ............................................. 3

Linguistics
505 Basic Critical Languages .................................................. 4
506 Intermediate Critical Languages ....................................... 4
507 Advanced Critical Languages ............................................ 4
508 Reading Critical Languages .............................................. 4
509 Writing Critical Languages .............................................. 4

*Courses marked with an asterisk may be included in the student's program when they concentrate on the Slavic Area or some subdivision thereof.
Political Science
250 International Relations ........................................ 4
340 European Political Systems ..................................... 4
490 Political Science Honors Seminar ............................. 3
560 Comparative Political Ideology ................................ 4
The Medieval Institute

John R. Sommerfeldt, Director
George H. Demetrakopoulos, Assistant Director

Knowledge of medieval and Renaissance culture is being increasingly recognized as essential to an understanding of modern culture. The Medieval Institute was established by the University to develop and coordinate interdisciplinary programs in medieval studies. In addition to an undergraduate minor, the Institute offers a graduate program leading to an M.A. in Medieval Studies.

Western Michigan University has sufficient library resources and medieval specialists to provide a good academic environment for the study of the Middle Ages. The Institute hosts an annual Conference on Medieval Studies which has brought the University wide recognition throughout the world. Studies in Medieval Culture, a publication which includes many of the best papers presented at these conferences, also has gained an enviable reputation among medievalists here and abroad. In addition, the Institute sponsors a lecture series each year on campus on medieval and Renaissance culture and civilization.

The headquarters of the Medieval Institute is located at 1013 Sutherland Avenue.

MINOR PROGRAM

Students with a minor in medieval studies must elect twenty hours to include the following:
1. One history course chosen from the following list.
2. One literature course chosen from the following list.
3. One course in intellectual history, philosophy, or religion chosen from the following list.

Art
- 220 History of Art (to the Renaissance) .................................................. 3 hrs.
- 520 Independent Study in Art History .................................................... 2-3
- 521 Topics in Art History ................................................................. 3
- 583 History of Medieval Art ............................................................. 3
- 585 History of Renaissance Art ......................................................... 3
- 596 History of Architecture ............................................................... 3

Communication Arts and Sciences
- 526 History of Theatre (from the beginnings to the English Renaissance) .................................................. 3 hrs.
- 598 Independent Studies in Speech ...................................................... 4

Economics
- 598 Readings in Economics ................................................................. 1-3 hrs.

English
- 252 Shakespeare ................................................................................. 4 hrs.
- 332 English Renaissance Literature .................................................... 4
- 372 Development of Modern English .................................................. 4
- 529 Medieval English Literature ......................................................... 4
530 Medieval Continental Literature in English Translation ........................................ 4
531 Chaucer .................................................................................................................. 4
532 Sixteenth Century Literature ................................................................................. 4
543 Elizabethan and Jacobean Drama ........................................................................ 4
554 Milton ..................................................................................................................... 4
555 Studies in Major Writers ....................................................................................... 4
598 Readings in English ............................................................................................. 1-4

Foreign Seminars
504 Foreign Studies Seminar: Social Sciences ......................................................... 1-6 hrs.
505 Foreign Studies Seminar: Humanities ............................................................... 1-6

History
306 Main Currents of Early Western Thought ......................................................... 3 hrs.
340 Tsarist Russia ...................................................................................................... 3
344 Eastern Europe ................................................................................................... 3
345 The Baltic Region ................................................................................................ 3
351 Ancient Rome ....................................................................................................... 3
352 Early Medieval History ......................................................................................... 3
353 Later Medieval History ......................................................................................... 3
470 Independent Research in History ........................................................................ 2-3
534 Medieval France .................................................................................................. 3
535 Medieval England ................................................................................................ 3
552 The Medieval Church ......................................................................................... 3
553 Life in the Middle Ages ....................................................................................... 3
554 The Renaissance .................................................................................................. 3
555 The Reformation ................................................................................................ 3
587 Ancient and Medieval Africa ............................................................................... 3
592 Historical Literature ............................................................................................ 3
593 Philosophy of History ........................................................................................ 2
598 Independent Reading in History ......................................................................... 2-3

Languages, Modern and Classical

French 322 French Civilization .................................................................................. 3 hrs.
328 Survey of French Literature (early) ................................................................. 3
544 Seminar in France ............................................................................................... 4
550 Independent Study in French ............................................................................ 1-3
560 Studies in French Literature (Medieval) ......................................................... 3
560 Studies in French Literature (Renaissance) ................................................. 3

German 510 German Life and Culture ........................................................................ 3
528 Survey of German Literature (early) ............................................................... 3
550 Independent Study in German ........................................................................... 1-3
559 History of the German Language ...................................................................... 3
560 Studies in German Literature ............................................................................ 3

Latin 550 Independent Study in Latin ........................................................................ 1-3
560 Studies in Latin Literature (Medieval) ............................................................. 3
568 Mythology .......................................................................................................... 3

Russian 550 Independent Study in Russian ............................................................... 1-3

Spanish 322 Life and Culture of Spain ...................................................................... 3
550 Independent Study in Spanish ......................................................................... 1-3
560 Studies in Spanish Literatures ........................................................................... 3

Linguistics
420 Historical Linguistics ......................................................................................... 4 hrs.
598 Readings in Linguistics ...................................................................................... 1-4
Music
370 Music History and Literature (early) ........................................ 3 hrs.
517 Collegium Musicum ................................................................. 1
570 Introduction to Musicology ......................................................... 3
598 Readings in Music ................................................................. 2

Philosophy
300 History of Ancient Philosophy .................................................. 4 hrs.
308 History of Medieval Philosophy ............................................... 4
350 Historically Oriented Studies ..................................................... 4
498 Independent Study ................................................................. 2-4
501 Seminar in History of Philosophy ............................................... 4

Political Science
360 Introduction to the History of Political Theory I ......................... 3 hrs.

Religion
305 The Christian Tradition .......................................................... 4 hrs.
306 The Jewish Tradition ............................................................... 4
307 The Islamic Tradition ............................................................... 4
500 Historical Studies in Religion (Christian Theology to 1500) ........ 4
500 Historical Studies in Religion (Christian Theology since 1500) .... 4

Science
598 Readings in Science ............................................................... 1-4 hrs.

4. Other courses on the Middle Ages chosen with the consent of the adviser .................................................... 9-10 hrs.
Black Americana Studies

This interdisciplinary program has a corrective and supportive function to the curricula and services of the University. Its broad design is to penetrate, permeate and pervade the life of the University. Its more specific aims are to provide every student who comes to the University knowledge and understanding of the role that people of African descent (Black Americans) have played and play in making America what it is. It is retelling the American story.

A minor will consist of the three undergraduate courses (Black Americana Studies 200, 300 and 500) and at least 8 hours of departmental courses. A teaching minor will require at least 12 hours of departmental courses. The student will select both the general minor and a teaching (or group) minor in consultation with the Director of Black Americana Studies and an adviser in the student’s major.

200 Black Presence 4 hrs.

A survey of the impact of the physical presence of people of African ancestry and descent in the European colonies of the Western Hemisphere from the earliest days of the age of exploration to the present. Historically oriented, the course is designed to be interpretive rather than chronological; to deal with Black presence as party to the expansion of Western Europe in the New World; as active participation in settling and developing the colonies; as a people apart or of contrast. How did the presence of Africans influence the development of the life and institutions of the country in Colonial, National and later years.

300 Black Experience 4 hrs.

This course will examine the myriad patterns of adaptation and adjustment made by slaves, free people of color, freedmen and their descendants, to the continuing oppressive character of American society. Slave narratives reveal much about the Africans’ interpretation of their presence in the New World. Black presence created a commonality of experience, the characteristics of which became and remains a distinctive American subculture. It aims to examine how Black presence altered the idea of race and how this alteration became a function of the institutional forms that Black Americans have shaped to survive in a hostile environment.

500 Black Humanism 4 hrs.

An examination of the creative dimension of the Black Experience. Isolated and set apart in an enemy environment, Americans of African descent have been very creative in a wide range of human undertakings. The fact has been acknowledged and accepted, but this creativity has not had free range. One of the outcomes of the Black Revolution has been the emergency of “soul” as a concept to label the artistry and artfulness of Black American life. The creative dimension has also included science and technology. Black humanism is a way of getting at the life-styles of Black communities and individuals and the viability of the Black Presence and Experience. What universal elements can be identified in “soul”? What are the unique qualities of “soul”? What would American life and culture be like without this elusive quality?
DEPARTMENTAL COURSES

The following courses are related to Black Americana Studies. Students may elect the additional hours necessary to satisfy requirements for a minor or a teaching minor from the following departmental courses:

Anthropology
220 Introduction to Anthropology: Cultural Anthropology 3 hrs.
331 Art and Culture ........................................ 3
335 Cultures of Africa ..................................... 3
532 Culture and Personality ............................. 3

Art
594 History of Afro-American Art ...................... 3

Economics
201 Principles of Economics ............................ 3
202 Principles of Economics ............................ 3
410 Labor Problems ...................................... 3

English
223 Black American Literature ........................ 4

History
314 History of the American Negro .................. 3
386 Introduction to African History and Civilization 3
514 Black History: Impact of Black People on American
Thought and Life ......................................... 3
587 Early African History .............................. 3
588 Recent African History ............................ 3

Political Science
204 Politics of Race ..................................... 3
304 Political Perspectives of Black America ........ 3
341 African Political Systems ......................... 4

Religion
304 African Religions .................................. 4
311 Myth and Ritual .................................... 4
321 The History of the Study of Religion .......... 2-4
500 Historical Studies in Religion (Religion of Black
America) .................................................. 2-4

Sociology
200 Principles of Sociology ............................ 3
314 Race Relations ....................................... 3
355 Social Structure of Black America ............. 3
371 Dynamics of Contemporary Social Change ...... 3
The Environmental Studies Program (EVS) was designed by students and faculty to respond to a growing need to arrest the deterioration of the earth's environment and to place more emphasis on the quality of life. The Program seeks to provide students with a variety of intellectual and practical experiences designed to provoke thought about man and his relationship to society and to the natural environment.

The following five practical objectives are:

1. To define, analyze and evaluate the environmental quandary;
2. To suggest a responsibility to help in the amelioration of these problems;
3. To equip students to make professional contributions in resolving environmental problems;
4. To prepare leaders for environmental education and action;
5. To develop in students the habit of critical thinking about existing social institutions and to develop the ability to devise creative solutions to problems.

The student-faculty cooperation which marked the origin of the EVS Program has continued in the development and governance of the Program during its initial year. The Program is governed by an Executive Committee made up of faculty and students. The students have made important contributions to the development and evaluation of the Program and we expect this worthwhile involvement to continue.

Environmental Studies is interested in developing stimulating field trips for students in the Program. Many field trips are available through courses available to EVS students. Such trips vary in length from several hours to a day or two. A few courses in which all of the work is done in the field are also available. A list of such courses may be obtained from the EVS office.

**MAJOR/MINOR PROGRAM**

A student, in developing an Environmental Studies major or minor, is required to take Arts and Sciences (A-S) 109, "Introduction to Environmental Studies" and (A-S) 400, "Senior Seminar in Environmental Studies."

In addition to the required courses the student must select three of the following core courses:

- Anthropology 100: Man in Evolutionary Perspective
  (not required of Anthropology majors)
- Biology 300: Environmental Biology
  (not required of Biology majors)

*The EVS Program is not yet approved as a teaching major or minor. The request for certification is in process.*
Geography 350: Principles of Conservation and Environmental Management  
(not required of Geography majors)
Chemistry 140: Introductory Environmental Chemistry  
(not required of Chemistry majors)
General Studies 360: Explorations in Urban Environments and Ecological Studies
Physics 102: Physics and Environment (not required of Physics majors)

The balance of the student’s 20-hour minor or 30-hour major is selected from a list of approved elective courses. The student, aided by the EVS advisor, structures his own program within the above guidelines.

Required Courses
Arts and Sciences 109 Introduction to Environmental Studies (EVS) 1 hr.

This course is designed to introduce majors and minors in EVS to the wide range of knowledge affecting our environment. Introductory attention will be given the orientating concepts of ecology, evolution and culture. The environmental movement will be described and analyzed and the attention will be directed to the importance of planning for future environments. The course provides for discussion of ideas from lectures, films, readings and from students. A brief paper is required.

Arts and Sciences 400 Senior Seminar in Environmental Studies 3 hrs.

A team taught integrated seminar in which the subject material will be built around the orientating ideas of ecology, evolution and culture. Students will develop a project which demonstrates ecological relationships.

Core Courses
(see descriptions in departmental listings)
Anthropology 100: Man in Evolutionary Perspective
Chemistry 140: Introductory Environmental Chemistry
Biology 300: Environmental Biology
Geography 350: Principles of Conservation and Environmental Management
General Studies 360: Explorations in Urban Environments and Ecological Studies
Physics 102: Physics and Environment

Elective Courses
The following is a list of courses considered to be electives in the Environmental Studies Program. The list is divided into four sections: Humanities, Science, Social Science, and Technology.

Students in selecting their electives should choose their courses from the sections opposite their major area of interest. For example, a history major would fall within the Social Science section. Therefore, this
student would choose elective courses from either the Humanities, Science, or Technology sections.

After choosing elective courses students should confer with the program advisor prior to actual registration. This is to insure that program guidelines are met and that any program problems are properly resolved.

I. Humanities
   English 111, 410, 598
   General Studies (Humanities Area) 299, 399, 499
   Philosophy 201, 301, 310, 314, 322, 323
   Religion 333, 530

II. Science
   Agriculture 100, 110, 220, 222, 310, 320, 322, 324, 400
   Biology 103, 234, 300, 301, 502, 520, 538, 541, 542, 553, 555, 598, 599
   Chemistry 101, 140, 365, 431, 509
   General Studies (Science Area) 130, 133, 299, 330, 331, 399, 499
   Geography 100, 101, 105, 204, 205, 206, 215, 225, 244, 350, 361, 500, 543, 544, 555, 556, 570, 582, 598
   Geography (Regional) 206, 380
   Geology 112, 130, 131, 300, 444, 532
   Mathematics 260, 599
   Physics 102, 120, 598
   Honors College (Honor College Students only) 100, 209, 299, 490

III. Social Science
   Anthropology 100, 220, 350, 536, 598
   Arts and Sciences 109, 399, 400
   Economics 150, 545, 598
   General Studies (Social Science Area) 122, 123, 155, 161, 175, 256, 260, 299, 331, 360, 399, 456, 460, 461, 475, 499
   History 105, 300, 315, 598
   Marketing 598
   Physical Education 172, 275
   Political Science 506, 552, 598
   Social Work 533, 562, 563, 598
   Sociology 353, 510, 554, 598

IV. Technology
   Electrical Engineering Technology 440
   Home Economics 100, 212
   Mechanical Engineering Technology 338, 559
   Paper Science and Engineering 150, 251, 351
   Transportation Technology 128, 222, 226, 498

Structure Within the Environmental Studies Program

The structure of the program within the Environmental Studies minor is determined by the student's background and interest. In developing a minor, students must take 4 hours of required courses, 8-11 hours of selective core courses, and 9-12 hours of elective courses.

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts and Sciences 109 Introduction to Environmental</td>
<td>1</td>
</tr>
<tr>
<td>Studies</td>
<td></td>
</tr>
<tr>
<td>Arts and Sciences 400 Senior Seminar in Environmental</td>
<td>3</td>
</tr>
<tr>
<td>Studies</td>
<td></td>
</tr>
</tbody>
</table>

Total required credit hours 4
Selected Core Courses

The student selects three courses from the following list:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthropology 100</td>
<td>Man in Evolutionary Perspective</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 140</td>
<td>Environmental Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>Biology 300</td>
<td>Environmental Biology</td>
<td>2</td>
</tr>
<tr>
<td>Geography 350</td>
<td>Principles of Conservation and Resource Management</td>
<td>3</td>
</tr>
<tr>
<td>General Studies 360</td>
<td>Explorations in Urban Environmental and Ecological Studies</td>
<td>4</td>
</tr>
</tbody>
</table>

Total core credit hours: 8-11

Elective Courses

The balance of the EVS minor (9-12 hours) is built from a list of planned elective courses.

TOTAL: 24
DESCRIPTION OF COURSES

Foreign Studies Seminars

Students may receive up to six hours credit in any combination of departments as described provided the seminar is planned with that combination in mind. No student will receive credit under any of the course plans indicated here for work done in seminars planned and conducted by other institutions or for work done independent of seminars planned by the College of Arts and Sciences.

Arts and Sciences 503 Foreign Studies Seminar 1-6 hrs.

Foreign studies seminars in the sciences organized and conducted outside the U.S. by the College of Arts and Sciences for exceptionally talented undergraduate or graduate students: Students completing such a seminar may receive credit in the departments of Psychology, Geography, Geology, Biology, Physics or Chemistry if approved by the Head of the Department prior to registration for the seminar. May be repeated for credit.

Arts and Sciences 504 Foreign Studies Seminar 1-6 hrs.

Seminars in the Social Sciences conducted outside the U.S.: Students who complete such a seminar may receive credit in the departments of Anthropology, Economics, Geography, History, Political Science or Sociology if the credit is approved by the Head of the Department prior to registering for the seminar. May be repeated for credit.

Arts and Sciences 505 Foreign Studies Seminar 1-6 hrs.

Seminars in the Humanities conducted outside the U.S.: Students completing such a seminar may receive credit in the departments of Philosophy, Religion, Modern and Classical Languages, English, Art, Music or Communication Arts and Sciences if the credit is approved by the Head of the Department prior to registering for the seminar. May be repeated for credit.

504 Social Studies Seminar: England 6 hrs.

A foreign study seminar especially designed for teachers and advanced college students in the social studies. It consists of regularly scheduled lectures and discussions on British life, institutions, social problems, and international relations. Following twelve days of travel in the British Isles, the seminar is in formal session at Oxford University for a period of about four weeks. After this, the party spends approximately a month touring several countries on the Continent. Graduate or undergraduate credit for this course, scheduled as Arts and Sciences 504, may be earned. A maximum of 3 hours credit in each of two departments in the Social Science area, under such conditions and stipulations as the individual departments may determine, may be allowed, but arrangements for this must be made in advance with the heads of the departments in which the student wishes to earn credit.

504 Social Studies Seminar: Yugoslavia 6 hrs.

A lecture and study program in Yugoslavia, with lectures, followed by discussion forums by leading scholars in Yugoslavia and travel in the
country. Designed for exceptionally talented undergraduate students and graduate students, the seminar introduces participants to the social and political system, philosophical and religious beliefs, art and literature, peoples, customs, and traditions of Yugoslavia. A maximum of three hours undergraduate or graduate credit may be earned in each of two departments of the Social Science area, under such conditions and stipulations as the individual departments may make. Arrangements must be made in advance with the heads of the departments in which the student wishes to earn credit.

504 Social Studies Seminar: East Africa 6 hrs.

A lecture and field-study program of approximately six weeks in Kenya and Uganda, especially designed for students and teachers in the social sciences with a special interest in Africa. A lecture series, focusing on the general theme "Education and Planning for Development" and combined with discussion forums is presented at the University College, Nairobi. University authorities and prominent leaders in African affairs deliver the lectures. Field study trips follow the lecture series. Three additional weeks are devoted to global travel. A maximum of three hours undergraduate or graduate credit may be earned in each of two Social Science Departments, under such conditions and stipulations as the individual Departments may determine but arrangements for this must be made in advance with the heads of the department in which the student wishes to earn credit.

Foreign Institute Seminars

Arts and Sciences 514 Civilization Studies Seminar 1-6 hrs.

Seminar in the Social Sciences dealing with designated civilizations, cultures or areas. Students who complete such a seminar may receive credit in the departments of Anthropology, Economics, Geography, History, Political Science or Sociology if the credit is approved by the Head of the Department prior to registering for the seminar. May be repeated for credit.

Arts and Sciences 515 Civilization Studies Seminar 1-6 hrs.

Seminar in the Humanities dealing with designated civilizations, cultures or areas. Students completing such a seminar may receive credit in the departments of Philosophy, Religion, Modern and Classical Languages, English, Art, Music, or Communication Arts and Sciences if the credit is approved by the Head of the Department prior to registering for the seminar. May be repeated for credit.
American Studies Program

Peter Schmitt, Director

This is an interdepartmental program bringing to bear insights of literature and the social sciences on the problems of American life. It provides an excellent background for students planning careers in journalism, politics, public relations, teaching, the foreign service, mass communications, or library work. A 3.00 g.p.a. is generally considered a prerequisite.

Students majoring in American Studies are expected to complete:
1. At least 36 hours in five approved fields.
2. At least 18 hours in courses numbered 300 or above.
3. At least 12 hours in one participating Department.
4. An interdisciplinary course dealing with basic issues in American Culture.

A list of approved courses is available in 4011 or 4013 Friedmann Hall.

501 Studies in American Culture 3 hrs.

An interdisciplinary study of perennial issues in American life. The materials for this course are drawn from literature, the arts, the social sciences, and philosophy.
Group Majors and Minors

Departmental major and minor requirements are listed under the individual Science Departments (Biology, Chemistry, Geography, Geology, Mathematics, Physics, and Psychology), and students must consult departmental advisers concerning them. Group majors and minors are intended for students in Elementary Education, Junior High or Dietetics curricula. Group Science minors are also available for students in Special Education. Group science programs will not ordinarily be approved for students in other curricula, except in rare cases with special permission of the Group Science Adviser, Robert C. Nagler (3342 McCracken Hall).

GROUP SCIENCE MAJORS AND MINORS

1. The Group Science minor for Elementary Education:
   - Biology 100, 101 or 107 ........................................... 3-4 hrs.
   - Biology 210 or 234 or 403 .................................... 4
   - Geog. 105 or 226 or Geol. 130 ................................ 4
   - Geog. 225 or 226 or Geol. 130 or 131 ..................... 4
   - Gen. Studies Science 130 or 131, or Chern. 140 .......... 4
   - Physics 104 or 105 ............................................ 4
   - Minimum Total ................................................... 24

2. The Group Science major for Elementary Education supplements the minor with 12 hours of advanced work from other Science courses. Regional Geography and Psychology courses will not ordinarily be accepted unless they are strongly oriented toward the natural sciences.

3. The Junior High Science major for teachers in Junior High School will include 12-13 hours of Biological Science, 11-12 hours of Earth Science and 12 hours of Physical Science. A total of 36 hours is required. The following courses are recommended:

   **12-13 hours Biological Science**
   - Biology 100, 101, and 102 ..................................... 9 hrs.
   - One of the following: ........................................... 3-4 hrs.
     - Biology 210—Mammalian Anatomy ......................... 4
     - Biology 221—The Plant Kingdom ........................ 4
     - Biology 234—Outdoor Science ............................. 4
     - Biology 301—Ecology ........................................ 3
     - Biology 306—Genetics ...................................... 3
     - Biology 541—Invertebrate Zoology ...................... 3

   **11-12 hours Earth Science**
   - Geography 105 or 226 ......................................... 3-4 hrs.
   - From the following: .......................................... 7-8
     - Physics 104—Astronomy .................................... 4
     - Geology 130—Physical Geology ......................... 4
     - Geology 131—Earth History and Evolution ............. 4
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geology 300</td>
<td>Oceanography</td>
<td>3</td>
</tr>
<tr>
<td>Geology 301</td>
<td>Minerals and Rocks</td>
<td>3</td>
</tr>
<tr>
<td>Geography 225</td>
<td>Introduction to Meteorology and Climatology</td>
<td>4</td>
</tr>
<tr>
<td>Geography 350</td>
<td>Principles of Conservation and Environmental Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**12 hours Physical Science**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics 106, 110 or Gen. Studies Science 130</td>
<td></td>
<td>4 hrs.</td>
</tr>
<tr>
<td>Chemistry 101, 102, 103 or 140</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>One of the following:</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Chemistry 109 General Chemistry</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Physics 111 General Physics</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Physics 104 or 105—Astronomy</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

Minimum Total: 36 hrs.

**4. Related Course Offerings**

The following related courses are offered, of which only the latter two may be used in the Group Science major and minor:

**203 Teaching of Elementary Science**

This course covers important subject matter of the physical and biological sciences with methods for its effective presentation in the classroom. Extension only.

**308 Teaching of Physical Science**

Study of problems of teaching high school chemistry, physics, and physical science. The main emphasis is on effective methods of instruction. Practical methods of instruction. Practical methods of apparatus ordering, maintenance and planning of laboratories are also considered. Prerequisite: One year of college chemistry and one year of college physics.

**501 Higgins Lake Field Course**

A one-week course offered in cooperation with Eastern Michigan University, Central Michigan University and the Michigan Department of Natural Resources. Students may concentrate in one of four areas of study—Conservation, Game Bird Ornithology, Botany of Flowering Plants, and the Natural History of Michigan Mammals. The one-week course in Conservation is acceptable towards major or minors in Geography, Biology, and Group Science. The course may be repeated provided there is no repetition in the area of specialization.

**510 Studies in Space Science**

The properties, structure, and evolution of stars will be emphasized in this course. Topics covered will also include: tools and methods of investigation, galaxies, cosmogony, and cosmological theories. Prerequisites: Physics 106, or Physics 110 and Physics 111, or equivalent, Astronomy 104 or equivalent.

**SOCIAL SCIENCE MAJOR AND MINOR**

In addition to majors and minors in the individual Social Science departments (Anthropology, Economics, History, Political Science, and Sociology), a major and a minor in Social Science are offered. Require-
ments for the departmental majors may be found under the departmental listings. Students desiring to major or minor in Social Science in preparation for a career in social work should consult with the Social Work Adviser, Robert Barstow. Others planning to major or minor in Social Science should consult with William Fox (3411 Sangren Hall).

Major and minor programs should be arranged in conference with the Adviser indicated above by the fourth semester of the student's college career.

1. Requirements for the Major in Social Science

a. At least 36 hours credit in the Social Science departments above. Courses listed under "General Education" may not be counted toward the major in Social Science.

b. The following basic courses must be completed. They may be applied towards either the Social Science major or a minor in one of the departments.*

<table>
<thead>
<tr>
<th>Department</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthropology</td>
<td>100 or 210 or 220 or 240</td>
</tr>
<tr>
<td></td>
<td>201 &amp; 202 for Sec. Educ. &amp; others</td>
</tr>
<tr>
<td>History</td>
<td>210 and 211</td>
</tr>
<tr>
<td>Political Science</td>
<td>200</td>
</tr>
<tr>
<td>Sociology</td>
<td>200</td>
</tr>
</tbody>
</table>

c. A total of 9 hours credit in 300 or 500 level courses.

d. No more than 16 hours credit in any one Social Science Department may be used to apply to the required total of 36 hours.

e. Majors in Secondary and Elementary Education Curricula may include up to 2 courses in Geography in their major program, provided such courses are not specified for "science credit."

f. In addition to the above, majors in the Secondary Education Curriculum must elect Social Science 300 (Teaching of Social Studies in Secondary Schools).

2. Requirements for the Minor in Social Science

a. The Social Science minor in the Secondary Education Curriculum, is open only to students who are majoring in English, Geography, or one of the Social Science departments listed above.

b. At least 24 hours credit in the Social Science departments listed above. This may not include any courses listed under "General Education." Students enrolled in the Elementary or Secondary Education curricula may include one course in Geography, provided such course is not specified for "science credit."

c. At least 6 hours credit in 300 or 500 level courses.

d. In the event that the major is in one of the listed Social Science departments, the minor in Social Science must include courses in all the other listed departments.

3. Related Course Offering.

300 Teaching of Social Studies in Secondary Schools 3 hrs.

Definition of objectives; selection, organization, and use of materials;

*Elementary Education majors may satisfy this requirement by completing the specified courses in four of the five departments listed.
procedures and problems of effective teaching in this area. Prerequisite: Junior standing. Secondary Ed. curriculum only.

500 Data Processing for Behavioral Scientists 3 hrs.
An introduction to data processing for students of the behavioral sciences. Emphasis to be placed upon computer programming in one general purpose computer language and individual projects involving a behavioral problem selected by each student. In addition, there will be a survey of a number of computer techniques which show promise for research in the behavioral sciences. Intended solely for persons in the behavioral sciences. No special mathematical background required. Prerequisite: Consent of instructor.
Medical Technology

Dr. Leonard J. Beuving, Advisor

A Bachelor of Science degree is awarded in the field of Medical Technology on completion of the following series of courses and a one-year internship in Medical Technology at a hospital affiliated with Western Michigan University. The curriculum fulfills the minimum requirements of the American Society of Clinical Pathologists as well as their recommendations for a strong program. A major is allowed in Medical Technology with 30 hours credit for the year of internship. This credit is only allowed if the internship is preceded by the requirement work in Chemistry and Biology, and is taken at an affiliated hospital. Minors are taken in both Biology and Chemistry.

The hospitals with which Western Michigan University is affiliated are: Borgess Hospital and Bronson Hospital, Kalamazoo; Blodgett Memorial Hospital, Butterworth Hospital, and St. Mary's Hospital, Grand Rapids; McLaren Hospital, Flint; Wayne County General Hospital, Eloise; Hackley Hospital, Muskegon; Pontiac General Hospital, Pontiac; Munson Medical Center, Traverse City; and Burns Clinic-Little Traverse Hospital, Petoskey.

Tuition must be paid during the year of internship and grades for the work completed during that year are recorded on the student's record.

At the completion of the course, the Registry examination must be passed to become a Registered Medical Technologist.

A. Minimum hours required for this curriculum .................. 122 hrs.

B. Course Requirements

1. General Education Requirements, as described on page 26 of this catalog must be met.

2. Science and Mathematics
   (Suggested course sequence)
   First Year
   Principles of Biology 100  ..................... 3
   General Chemistry 101 or 102  .................. 4
   Animal Biology 101  .......................... 3
   Qualitative Analysis 120  ..................... 4
   Mathematics 100 (if not elected in high school)  .................. 4
   Second Year
   Mammalian Anatomy 210  ..................... 4
   Introduction to Organic Chemistry 365  ........ 4
   Quantitative Analysis 222  .................. 4
   Elementary Physics 106  ..................... 4
   Third Year
   Microbiology 412  ..................... 4
   Animal Physiology 554  ................... 3
   Pathogenic Microbiology 513  ................ 3
   Introductory Biochemistry 452  ............. 5


4. Physical Education  .......................... 2-8 hrs.
C. Degree Requirements must be met.

435 Medical Technology Internship 15 hrs. Fall, Winter

A course in clinical laboratory methods with instruction in one of the hospital medical technology schools under contract with Western Michigan University. This course is taken for twelve months and registration is required in the Fall and Winter at Western Michigan University. Each hospital selects its own internees from the group of students who have applied for its available internships.
Physicians' Assistants
Program

John J. Josten, Program Director

This program is designed to train physicians' assistants for the primary care physician so as to improve the distribution of health professionals especially in underserved inner-city and rural areas. The thrust of the training is to provide a skilled person who can assist physicians practicing in family medicine, internal medicine, obstetrics-gynecology, pediatrics and emergency medicine. By such assistance the physician is relieved of many tasks which do not require a physician's skill but will permit him to focus attention on tasks which do require a physician's skills and relieve him of some burdens of heavy patient loads.

The tasks performed may include history taking and physical examination to assist the physician in establishing a diagnosis, performing treatments as prescribed by the physician, providing patient care as prescribed by standing orders and attending emergencies approved by the supervising physician. These tasks are not a comprehensive list, but are mentioned to provide some perspective of the physicians' assistants' functions.

The program satisfies the “Essentials of an Approved Program for the Assistant to the Primary Care Physician” which were developed by the Council on Medical Education of the American Medical Association.

In addition, recent Michigan legislation will create a commission to regulate physicians' assistants and a national certifying examination will soon be developed by the American Medical Association. Thus far 23 states have explicitly authorized the activities of physicians' assistants.

The program is allied with community medical facilities which are as follows:

- Borgess Hospital
- Bronson Methodist Hospital
- Community Hospital, Battle Creek
- Kalamazoo State Hospital
- Veterans Administration Hospital, Battle Creek

Two major prerequisites are required for entry into the program:
- 60 hours of transferable college credit
- A minimum of one year of patient contact

For information on the program and admissions procedures write:

Program Director
Physicians' Assistants Program
c/o The Graduate College
Western Michigan University
Kalamazoo, Michigan 49001
College of Arts and Sciences

The cut-off date for application to each class is June 15 of a given year with classes beginning in August. The program is 24 months in length and the graduates receive a Bachelor of Science Degree in Medicine. Potential applicants should be aware that admission into the program is quite competitive.

Course Structure of Physicians’ Assistants Program

SEGMENT I, FALL*

Biology 103, Human Biology 4 hrs. Fall
Human Biology will include the basic physical and chemical properties of life systems, their organization into cells, tissues, organs and organ systems. Organic evolution as the cause of organic similarities and diversities will be touched upon in the course. A survey of the various organ systems in man will make up about two-thirds of the course. The course will also include fifteen two-hour laboratories.

Chemistry 106, Chemistry for Physicians’ Assistants 5 hrs. Fall
A simplified non-theoretical approach to practical inorganic, organic and physiological chemistry. The course serves both as a background for pharmacology and for interpreting biochemical parameters in the didactic medical courses.

Medical Science 100, Introduction to Medical Practice 1 hr. Fall
A discussion of the history of medicine and of the development of the Physician Associate concept, type A, B, and C programs. The ethics of medicine will be taught and the structure of organized medicine will be reviewed. General practice as well as specialty practices will be considered. Current activities as well as future developments will be related. Great medical milestones, the improvement of life of the population and modern hazards will also be discussed.

Medical Science 101, Medical Terminology 1 hr. Fall
The course represents medical terminology as a professional jargon which has a meaningful patterned structure. The principle objective is for students to develop the ability to analyze medical terms as they are encountered, and to arrive at general meanings without continual reference to a medical dictionary. Knowledge of many basic word elements and confidence in pronouncing and in accurate spelling of terms are additional objectives. The basic elements are presented in a progressive and orderly manner with each element frequently reemphasized as the vocabulary enlarges.

Medical Science 200, Medical and Surgical Emergencies 4 hrs. Fall
The course encompasses the approach to diagnosis and management of acute medical and surgical emergencies. Emphasis is placed on a rapid clinical appraisal of illness and injury and the immediate emergency procedures employed. Definite therapy will be alluded to in certain cases. Proficiency will be developed in certain critical skills, by demonstration and practice, utilizing life size training manikins and gadgetries required to accomplish this task. Clinical experience will be obtained via rotation through the Emergency Department of a teaching hospital.

*University courses follow the University calendar; Clinical courses, in some cases, do not correspond to the usual calendar.
SEGMENT I, WINTER

Biology 104, Functional Human Anatomy and Physiology  4 hrs. Winter
A study of fundamental principles of human anatomy and physiology. Laboratory experience in regional anatomy using prodissected material.

Biology 400, Pharmacology  4 hrs. Winter
The purpose of the course will be to emphasize general principles of pharmacology as a basis for the rational clinical use of drugs. The course will be comprehensive but pragmatic. Factors affecting drug action, such as rates of absorption, metabolism and excretion will be discussed. Mechanism of action will be covered when known. However, the main thrust will be to acquaint the student with the drugs commonly used in therapy, their side effects and toxic manifestations.

Psychology 510, Advanced General Psychology  3 hrs. Winter
The course is designed to present both modern behavior theory and applications of this theory to practical situations. Emphasis throughout will be upon human behavior (both normal and abnormal). References to animal behavior will be limited to instances where research upon humans is severely limited by ethical considerations, e.g. drugs. The basic psychological approach will be that of behavior manifestations with stress placed upon complex processes such as vicarious- and self-reinforcement, development of self-control behaviors, and a stimulus-response analysis of what have traditionally been designated as the "higher cognitive processes."

Medical Science 200, Medical and Surgical Emergencies  4 hrs. Winter
A continuation of the Medical Science 200 from Segment I, Fall.

SEGMENT II A, SPRING

Medical Science 201,
Sterilization, Sterile Techniques and Surgical Practicum  4 hrs. Spring
The course is designed to relate practical knowledge of importance of preparation and teaching of the surgical patient, including principles of sterile technique in the OR to assist the surgeon in rendering surgery.

Medical Science 400,
Interview Techniques and History Taking  2 hrs. Spring
This part of the course is designed to teach these students the techniques of interviewing, organization of history and content of history taking as well as the methods and organization of a complete physical examination. A complete and adequate history and physical examination form the basis for the diagnosis of the problem for which the patient presents himself to the physician. Without a thorough examination of the history and physical aspects of the patient, a proper diagnosis may not be reached and, therefore, appropriate treatment may not be given to relieve the suffering of the patient. Sophisticated, modern laboratory diagnostic tests, while extremely helpful, are of little value unless they are taken in light of an adequate history and physical examination. It is the goal of this course to teach the physicians' assistant to perform this
vital task as a member of the health care team so that information derived from history and physical examination can be effectively utilized in the care of the sick.

SEGMENT IIA, SUMMER

Biology 401, Microbiology of Infectious Disease 3 hrs. Summer

This course is intended to present methodology and techniques for handling and processing infectious specimens and for routine office identification of simple pathogenic microorganisms. While a treatment of microbiology is given from the basic science point of view, this information is limited and the stress is upon manipulation and identification.

Medical Science 400,
Interview Techniques and History Taking 2 hrs. Summer
A continuation of Medical Science 400, Segment IIA, Spring.

Medical Science 300, Pathology 4 hrs. Summer

Human anatomy altered by disease processes will be revealed during sessions by means of fresh and preserved human organs, plastic imbedded materials, color photographs and a series of microscope slides for individual scrutiny.

SEGMENT IIB, FALL

Medical Science 404, Internal Medicine 2 hrs. Fall

The primary concern and responsibility of the physicians' assistant program is to teach the student to think and work with a physician. The fundamental teaching activities and work available in the physicians' assistant program are directed toward that goal. These efforts begin with the role in teaching the fundamental information necessary for the intelligent examination of patients. Emphasis is also placed on the principles of differential diagnosis and approach to solving the patient's problems as well as the importance of extrapolating basic science information into the art of care of patients. This information should provide the Physician's Assistant with the ability to integrate his activities with that of the physician in examination and diagnosis of patient's problems.

Medical Science 405, General Surgery 2 hrs. Fall

The program in surgery for the Physician's Assistant is organized with emphasis on the general principles involved as well as specific surgical diseases and operations. Problems peculiar to the surgical approach (wounds, infections, hemorrhage, and shock, etc.) will be considered in some detail. The highlights of common diseases and conditions and their surgical correction will be considered also.

Medical Science 403, Obstetrics and Gynecology 2 hrs. Fall

The basic aspects of obstetrics and gynecology from the viewpoint of the clinician.

Medical Science 402, Pediatrics 2 hrs. Fall

This course gives students thorough background material on childhood development from the standpoints of normal physical and emotional growth. Since the Physician's Assistant in pediatrics will be spending
much of his time evaluating normal children, he must have a good knowledge of the norm himself. To give the student a survey of the disease areas commonly encountered in the pediatric practice.

**Medical Science 406, Psychiatry** 2 hrs. Fall

The history of Psychiatry, the development of the various neuroses and psychoses, plus the normal modalities of treatment.

**Medical Science 407, Allergy** 1 hr. Fall

This course will begin with the basic theoretical and proven concepts of allergy and immunology. Subsequently, emphasis will be placed on the clinical recognition of allergic symptoms, the importance of accurate etiologic diagnosis, the relationship between pathophysiologic changes, and their correction by proper therapy. Practical experience will be given in handling diagnostic procedures such as skin tests, examination of secretions, and pulmonary function tests.

**Medical Science 408, Dermatology** 1 hr. Fall

This course provides an introduction to the general field of Dermatology including the normal structure and function of the skin, technique of history taking and examinations, recognition of common skin diseases and basic concepts of treatment.

**Medical Science 411, Seminar** 1 hr. Fall

A seminar on topics of current medical interest present at the hospitals as part of the weekly experiences.

**Medical Science 401, Physical Examination** 4 hrs. Fall

A continuation of Medical Science 400, Segment IIA, Summer and IIA, Spring.

**SEGMENT III, WINTER**

With the exception of the Seminar course which is a continuation of Medical Science 411, the following courses are rotating clerkships in the area indicated by title. They will consist of ward rounds, patient work, new patient evaluation, patient review and workup plus patient presentations, grand rounds and clinical-pathological conferences.

**Medical Science 504, Internal Medicine** 6 hrs. Winter

**Medical Science 505, General Surgery** 6 hrs. Winter

**Medical Science 503, Obstetrics-Gynecology** 6 hrs. Winter

**Medical Science 502, Pediatrics** 6 hrs. Winter

**Medical Science 506, Psychiatry** 6 hrs. Winter

**Medical Science 509, Physicians’ Offices—Family Practice** 6 hrs. Winter

**Medical Science 511, Seminar** 1 hr. Winter
Anthropology

William Garland, Chairman

Elizabeth Baldwin  Erica Loffler  Robert Jack Smith
Ernestene Green  Reinhold Loffler  Robert Sundick
Norman Greenberg  Robert Maher  Stanley West
Barbara Lex  Winston Moore  John Willis

Courses are designed to (1) give students a better understanding of the nature of man; (2) broaden familiarity with the diverse ways of human life, both past and present; (3) meet the needs of students preparing to teach in the social science field; and (4) prepare students to do graduate work in Anthropology.

A major in Anthropology consists of a minimum of 30 hours, 24 of which must be in Anthropology and include Anthropology 210, 240 and 250. (Anthropology 220 may substitute for 240, if it was taken prior to Fall 1973.) The remaining 6 hours may, in consultation with one of the Department's Undergraduate Advisors, be drawn from appropriately related fields as the social sciences, biology, geology, geography, linguistics, psychology and religion.

A combined major in Sociology and Anthropology consists of a minimum of 30 hours, which includes Anthropology 210, 240 (220 may substitute for 240, if taken prior to Fall 1973) and 250, and Sociology 200, 300 and 382 (582 may substitute for students entering before Fall 1971) with at least 12 hours in each of the two fields, Sociology and Anthropology.

A minor in Anthropology consists of a minimum of 20 hours. Anthropology 210, 240 (or 220, if taken prior to Fall 1973) and 250 are required. As much as 6 hours from related fields may be counted toward the minor, if deemed appropriate by one of the Department's Undergraduate Advisors.

All major and minor programs must be approved by one of the Department's Undergraduate Advisors.

COURSE DESCRIPTIONS

(Course descriptions in italics are approved for General Education purposes.)

100  Man in Evolutionary Perspective  3 hrs. Fall, Winter

  The nature, causes and prospects of being human as seen through an examination of the events and processes of biocultural evolution. (May not be taken for credit by students who have had Anthropology 200.)

210  Introduction to Archeology  3 hrs. Fall, Winter

  A survey of archeology as a subdiscipline of anthropology; the how and why of archeology, with emphasis on methods and concepts for the study of prehistoric cultures. Case studies and examples drawn from selected areas of the world.
220 Cultural Anthropology 3 hrs. Fall, Winter
A study of man’s unique adaptive system, culture. Studied through selected cultures throughout the world. The structure and functions of a culture are considered along with its relationships to the environment, society and the individual. (Cannot be counted together with 240.)

240 Introduction to Ethnology 3 hrs. Fall, Winter
The study of tribal, peasant and modern world cultures in the ethnographic present. A focus on the analytic-comparative concepts and theoretical approaches basic to a systematic understanding of human groups. (Cannot be counted together with 220.)

250 Introduction to Physical Anthropology 3 hrs. Fall, Winter
A survey of physical anthropology; the evolution of man and the primates; the living primates, human osteology, human genetics and population variation.

270 Linguistic Analysis 4 hrs.
An introduction to the linguistic principles underlying the phonological, morphological, syntactic, and semantic analysis and description of languages. Cannot be taken for credit together with Linguistics 200.

300 (341) The Archeology of North America 3 hrs. Winter
The prehistoric development of man and culture in the New World north of Mexico. Prerequisite: 210 or consent of instructor.

331 Art and Culture 3 hrs. Fall
A study of artistic activity in cultures of Africa, Oceania and the Americas, with attention to prehistoric as well as recent products. Relations between the visual arts and other aspects of culture. Prerequisites: 220, 240 or consent of instructor.

334 Cultures of North Africa and the Middle East 3 hrs. Winter
A study of the peasant, urban, and nomad cultures from Morocco to Afghanistan, including consideration of Islamic civilization and recent ideological trends. Prerequisite: 220, 240 or consent of instructor.

335 Cultures of Africa 3 hrs. Fall
A study of the development of cultures in the ecological setting of sub-Saharan Africa from ca. 5500 B.C., with the beginnings of agriculture on the continent, to the European partition of Africa. Prerequisite: 220, 240 or consent of instructor.

336 Cultures of Asia 3 hrs. Winter
A study of the social and cultural characteristics of the various peoples of Asia with concern for both the great civilizations and the lesser known tribal cultures. Prerequisite: 220, 240 or consent of instructor.

337 Indian Cultures of Mexico, Central and South America 3 hrs. Fall
A study of the Indian cultures of Mexico, Central and South America with attention to both their aboriginal traditions and their role in contemporary life in Latin America. Prerequisite: 220, 240 or consent of instructor.
339 Native Cultures of North America 3 hrs. Winter

Study of the aboriginal cultures of America from the Arctic to the Rio Grande, with emphasis on contrasting patterns of regional cultures. Prerequisite: 220, 240 or consent of instructor.

350 (347) Human Evolution 3 hrs. Fall

Study of both the indirect evidence and the fossil evidence concerning human evolution, including comparisons with other primates, living and extinct, and a consideration of the present-day races of man. Prerequisite: 250 or consent of instructor.

370 (332) Language in Culture 3 hrs. Winter

A consideration of the evolution of language as a symbolic system of communication. The relations of language to cognition, social structure, cultural variation and nationalism; proxemics and other similar epilingual phenomena. Some consideration will be given to the ethnography of communication and related subjects. Prerequisite: Anthro. 220, 240 or Ling. 200 or consent of instructor.

425 Modern African Cultures 3 hrs. Winter

The study of African societies and cultures within a contemporary framework. After a brief survey of major cultural types, particular emphasis will be placed on current trends and conditions in the new states of Africa as reflected in the writings of influential African thinkers. This course attempts to provide the student with a working fund of information about regional and national "culture-building" which will allow an adequate understanding of African issues on the contemporary world scene.

498 Honors Study 2 hrs. Fall, Winter

A program of independent study (reading or research) to provide the honors student with the opportunity to explore a topic or problem of interest, under the guidance of one of the faculty of the Department. May be repeated once. Permission to register must be obtained from the Department Honors Adviser.

500 (546) Topics in Archeology 3 hrs. Fall, Winter

A consideration of the prehistory of a particular geographic area (e.g. the southwestern United States, the Circumpolar) or of selected theoretical problems (e.g. artifact typology, prehistoric ecology). The topic to be studied will be announced each semester. (May be repeated for credit.) Prerequisite: 210 or consent or instructor.

501 (544) The Rise of Civilization 3 hrs. Fall, Winter

The archeological sequence in one or more of the nuclear centers of prehistoric civilization will be considered in some detail. The course may focus intensively upon one area (e.g. the Near East, or Meso-America), or it may give equal emphasis to two or more areas in a comparative framework. The specific area or areas to be studied will be announced each semester. (May be repeated for credit.) Prerequisite: 210 or consent of instructor.

510 (541) Field Methods in Archeology I 3 hrs. Summer

Instruction in the archeology of a particular area (e.g. Great Lakes, southwestern United States, Aleutians), with particular attention to prehistoric cultural developments and ecological relationships as these
appear in the process of excavation. (May be repeated for credit.)
Prerequisite: Consent of instructor.

511 (542) Field Methods in Archeology II 3 hrs. Summer
Practical application of the basic skills used in the excavation of
archeological sites, including surveying techniques, methods of excava-
tion, compilation of field data sheets, and classification of artifacts.
To be taken concurrently with 510. (May be repeated for credit.) Pre-
requisite: Consent of instructor.

520 History of Ethnological Theory 3 hrs. Winter
A systematic examination of the evolution of the significant theo-
retical problems and contributions in anthropology over the last two
centuries. Developments are examined in relation to the prominent
figures in the discipline and their times. Prerequisite: 220, 240 or consent
of instructor.

521 Formal Approaches to Anthropology 3 hrs. Winter
An introduction to several tools of analysis which contribute to
anthropological theory. Topics chosen from anthropological research
methodology, mathematical anthropology and data processing. Pre-
requisite: 210, 220, 240 or 250.

522 Ethnographic Field Techniques 3 hrs. Winter
A practical examination of the means of obtaining data for ethnog-
raphic purposes. Includes readings, discussion and supervised interview-
ing of informants. Topics include problem formulation, investigation
strategies, research proposals, field living, interviewing techniques, par-
ticipant observation. Prerequisite: consent of instructor.

523 Ethnographic Field Session 3 hrs. Spring
Supervised field examination of human communities in respect to
specific ethnographic questions, analysis of field data, and report writing.
(May be repeated for credit.) Prerequisite: 522 or equivalent and
consent of instructor.

531 Medical Anthropology 3 hrs. Fall
An examination of anthropological techniques and findings relating
to medical beliefs and practices on a cross-cultural basis. Concern
with the sociocultural aspects of health, illness, and folk and scientific
systems of medical care. Prerequisite: 220, 240 or consent of instructor.

532 Culture and Personality 3 hrs. Winter
An investigation of the interaction of culture and personality with
particular attention to the role of culture as a force in the development
of the individual. Prerequisite: 220, 240 or consent of instructor.

534 Peasant Societies in Cross-Cultural Perspective 3 hrs. Winter
A cross-cultural study of the development of peasant groups as a
cultural type. Theoretical and substantive emphasis is on the cultural
antecedents of peasant societies, the conditions promoting change from
folk to peasant status, and the relationships between peasant groups
and urban, national societies. Prerequisite: 220, 240 or consent of in-
structor.
535 The Anthropology of Religion  
An examination of anthropological theories and findings relating to the origin, nature and function of religion as a universal category of culture. A scientific cross-cultural consideration of religious beliefs and practices and their relation to concepts of the nature of the universe. The role of religion in revitalistic reactions to culture contact. Prerequisite: 220, 240 or consent of instructor.

536 Cultural Evolution
An inquiry into the dynamics of culture through a study of selected theories of culture change and their application to concrete situations such as the rise of complex civilizations and the reactions of non-Western societies to contact with the West. Prerequisite: 210, 220, 240 or consent of instructor.

537 Political Anthropology
Theoretical and descriptive analysis of the political aspect of social organization, ranging from primitive to complex societies; the relationship of politics to technological development, habitat, symbolic systems and other aspects of social organization. Prerequisite: 220, 240 or consent of instructor.

538 Legal Anthropology
A study of law through the theory and method of comparative legal dynamics. The relation of law to the whole of culture; the function of law as revealed in the comparative study of societies ranging from simple to complex. Prerequisite: 220, 240 or consent of instructor.

539 Economic Anthropology
A thorough examination of the relationship between economic and anthropological theory, with a strong emphasis on its applicability and usefulness for explaining the nature of specific economic relationships existing in selected primitive societies. Prerequisites: Anth. 220 or 240; Econ. 200 and/or consent of instructor.

540 Cultural Ecology
A cross-cultural comparative inquiry into the general and specific ways in which the interaction of society and environment determines the forms societies take, especially in respect to demography, territory, and the organization of kinship, politics, law, religion and economics. Prerequisite: 210 or 220, 240 or consent of instructor.

542 Complex Cultures
Emphasis on anthropological approaches to cross-cultural, historical and in-depth studies of complex cultures. Selected topics: communities, including urban; the migration and adaptations of rural migrants to cities; particular sub-cultures of complex cultures; and current urban problems. Prerequisite: 220 or 240.

545 Topics in Ethnology
An intensive study of the cultures of an area of the world (e.g. Japan, Philippines, Caribbean, East Africa) or selected problems (e.g. kinship systems, millenarian movements). Topic will be announced each semester. (May be repeated for credit.) Prerequisite: 220, 240 or consent of instructor.
549 Anthropology of Education 3 hrs. Fall
A study of education as the process which transmits the culture of one generation of a society to the next. Particular attention is given to education in primitive and peasant societies generally lacking formal institutions of education. Prerequisite: Soc. 200 or 600 or Anth. 220, 240 or consent of instructor.

550 (547) The Primates 3 hrs. Winter
A study of the Order Primates with emphasis on the similarities and differences in the physical features of man, the apes, the monkeys and the Lower Primates. Field studies of the behavior and social organization of monkeys and apes will be reviewed to gain insight into the early behavior and social organization of man. Prerequisite: 250 or consent or instructor.

551 Human Osteology 3 hrs. Winter
A study of the human skeleton. Emphasis will be on morphological and metrical variation, ontodontology, palaeopathology, and reconstruction of the individual and the population. Prerequisite: 250 or consent of instructor.

555 Topics in Physical Anthropology 3 hrs. Fall
A consideration of the biological relationships of specific population groups or general problems in human biology (e.g. human genetics, human growth and constitution, paleopathology, dental anthropology). Topic will be announced each semester. May be repeated for credit with different topics. Prerequisite: 250.

575 (548) Studies in Languages of the World 3 hrs.
Intensive study of a group of languages (varying from semester to semester) that are either genetically related (e.g. Slavic languages), typologically similar (e.g. “tone” languages), or geographically proximate (e.g. African languages). May be repeated for credit.

580 Linguistic Field Techniques 3 hrs.
Interview techniques for the elicitation of oral language data, and methods of analysis of the data into significant linguistic units for their eventual arrangement in the form of a grammar and dictionary. Consent of instructor.

598 Readings in Anthropology 1-4 hrs. Fall, Winter
Independent study arranged in consultation with an instructor. Intended for advanced students with good academic records. One to 2 hours credit per semester, cumulative to 4 hours. Prerequisite: Consent of instructor.
A major in biology consists of a minimum of 30 credit hours in biology courses including the basic core curriculum. A minor in biology consists of a minimum of 15 credit hours (in secondary education, 20 hours) including at least two courses from the basic core curriculum. All major and minor programs are taken under the direction of and with the approval of a departmental advisor. You can be assigned to the advisor closest to your interests by the Biology Information Office, Room 100, Wood Hall.

The basic core curriculum for biology majors consists of Biology 100, 101, 102, 301, 306, and 317. Only courses in which a grade of "C" or better is obtained may be counted towards a major or minor.

Students majoring in biology are required to take a minimum of 12 semester hours of college chemistry, including a course in organic, 8 hours of college mathematics, and 8 hours of general physics. Students in secondary and elementary education who are majoring in biology may substitute 4 hours of geology for the second 4 hours of physics. For those planning to undertake graduate work in biology, two semesters of organic chemistry, quantitative chemical analysis, an additional semester of calculus, and statistics are strongly recommended.

All students minoring in biology are required to take 8 semester hours of college chemistry and 4 hours of college mathematics.

Students majoring in biology in a secondary education curriculum may take a group science minor as follows: (1) 12 hours of chemistry (including organic), and (2) either 8 hours of geology and 4 hours of physics or 8 hours of physics and 4 hours of geology. A total of 24 hours are required for a group minor.

An honors program in biology is available for students who demonstrate superior abilities during their first two years of college work.

Associated with the Biology Department is the Charles C. Adams Center for Ecological Studies, established in 1956 following the gift to Western Michigan University of the personal library, letters, notes, and manuscripts of the pioneer American ecologist for whom the Center is named. The Kleinstuck Preserve, a 50-acre tract, provides instructional space near the campus.

The Department maintains the Clarence R. Hanes Herbarium which houses the Hanes collection of vascular plants from Kalamazoo County. The herbarium also contains an additional teaching collection of several thousand specimens and facilities for research. Collections of Dr. Leroy Harvey and Dr. Leslie A. Kenoyer are housed in the Department.
The Department has a radiation laboratory equipped for teaching and research with radioactive tracers and X-ray techniques.

A suggested sequence of course work for Biology majors is given below. It incorporates additional academic requirements, such as General Studies courses. For the special requirements that apply to your curriculum, locate them at the end of the sequence of courses.

SUGGESTED SEQUENCE OF COURSE WORK FOR BIOLOGY MAJORS IN THE GENERAL CURRICULUM*

**Freshman year:**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Winter</th>
<th>S.H.</th>
<th>S.H.</th>
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</thead>
<tbody>
<tr>
<td>Biology 100</td>
<td>Biology 101</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 101 or 102</td>
<td>Chemistry 120</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>General Education electives**</td>
<td>Mathematics 120 or 122</td>
<td>6-8</td>
<td>4</td>
</tr>
<tr>
<td>Physical Education</td>
<td>General Education elective**</td>
<td>1</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>Physical Education</td>
<td></td>
<td>1</td>
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<td></td>
<td></td>
<td>14-16</td>
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</tbody>
</table>

**Sophomore year:**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Winter</th>
<th>S.H.</th>
<th>S.H.</th>
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</thead>
<tbody>
<tr>
<td>Biology 102</td>
<td>Biology 317</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 360 or 365</td>
<td>Biology elective</td>
<td>4</td>
<td>3-4</td>
</tr>
<tr>
<td>Mathematics 121 or 123</td>
<td>Physics 110 or 210</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>General Education elective</td>
<td>General Education electives</td>
<td>3-5</td>
<td>3-5</td>
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<td>14-16</td>
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</tbody>
</table>

**Junior year:**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Winter</th>
<th>S.H.</th>
<th>S.H.</th>
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</thead>
<tbody>
<tr>
<td>Biology 306</td>
<td>Biology elective(s)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Biology elective</td>
<td>General Education electives</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Physics 111 or 211</td>
<td>Foreign language (for B.A. degree only)</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

**Senior year:**

<table>
<thead>
<tr>
<th>Biology 301 — 3 hrs.</th>
<th>Biology elective(s) to complete 30 hrs.</th>
<th>Complete General Education requirements</th>
<th>Complete minor or second major requirements</th>
<th>Completion of 122 credit hours</th>
</tr>
</thead>
</table>

**Liberal Arts Curriculum** students add the following requirements:

- Social sciences elective(s)—4 hrs.
- Elective(s) from one of literature, speech, philosophy, or religion—4 hrs.
- Elective(s) from fine arts—4 hrs.
- Electives in 300, 400, or 500 courses, other than General Education courses, to make a total of 30 hrs.
- Additional work in a foreign language—total of 12 hrs.

*Students contemplating majoring in Biology should contact the Biology Information Office (Room 100, Wood Hall) as early as possible so that they can locate their Departmental Advisor.

**General Education electives should be determined in consultation with the student’s Biology Department Advisor and General Education Counselors, so that they can best reflect the student’s own interests and complement his major and minor areas.*
Transfer Students. Consult with your advisor at the Biology Department before registering for classes.

Students in Specialized Curricula. Your faculty advisor is:

- Elementary Education: Dr. Beth Schultz, Room 159, Wood Hall
- Medical Technology: Dr. Leonard J. Beuving, Room 122, Wood Hall
- Premedical or predental: Dr. Leonard J. Beuving, Room 122, Wood Hall
- Secondary Education: Dr. William C. Van Deventer, Room 157A, Wood Hall

Delays in fulfilling requirements for graduation are almost certain for students who do not plan their curriculum with the assistance of a Biology Department advisor.

DESCRIPTION OF COURSES

(Course descriptions in italics are approved for General Education purposes.)

100 Principles of Biology 3 hrs.
An introduction to the principles that apply to some of the essential processes common to most forms of life. The subunits of the cell are related to the activities of life that take place there. The elements and compounds that make up living systems are presented and followed through some of the main reactions of respiration and photosynthesis. The student is introduced to genetics, as well as to the relationships of organisms to their environment. The laboratory encourages the development of scientific thinking, as the student attempts to interpret his observations and experiments. A college course in general chemistry taken previously or concurrently is recommended.

101 Animal Biology 3 hrs.
An animal survey emphasizing structure, function and behavior of different groups. The current frontiers of research with the animal groups will be used as the unifying theme. This course may be taken along with Biology 100 or 102.

102 Plant Biology 3 hrs.
A survey of plants stressing the interactions of structure and function with the environmental stimuli. The current frontiers of research with the plant groups will be used as the unifying theme. This course may be taken along with Biology 100 or 101.

103 Human Biology 4 hrs.
Human function and metabolism. Prerequisite: Must be in Physicians' Assistant Curriculum.

104 Human Anatomy and Physiology 4 hrs.
Anatomy and Physiology with emphasis on disease processes. May be repeated for credit. Prerequisite: Must be in Physicians' Assistant Curriculum.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>107</td>
<td>Biological Science</td>
<td>4 hrs.</td>
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<tr>
<td></td>
<td><strong>Designed to present basic biological principles, and to give the student an understanding of the operation of the world of life. Approved for general education.</strong></td>
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<tr>
<td>111</td>
<td>Healthful Living</td>
<td>2 hrs.</td>
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<td></td>
<td>A study of the principles involving sound health practices. Factors in the causation, prevention, and control of all departures from normalcy in health are considered.</td>
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<tr>
<td>205</td>
<td>The Human Body in Health and Disease</td>
<td>4 hrs.</td>
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<tr>
<td></td>
<td>A study of the organs and organ systems and their functioning in health and disease. The nature of disease and disease processes, theories of disease causation and methods employed in healing are considered. Principles and practices of effective living are emphasized. Prerequisite: Biology 100 or 101 or Biological Science 107.</td>
<td></td>
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<tr>
<td>210</td>
<td>Mammalian Anatomy</td>
<td>4 hrs.</td>
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<tr>
<td></td>
<td>A study of the gross and microscopic structure of the mammalian body with special reference to man. Prerequisite: Biology 101 or equivalent.</td>
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<tr>
<td>215</td>
<td>Microbiology for Nurses</td>
<td>3 hrs.</td>
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<tr>
<td></td>
<td>A specialized course dealing with microorganisms, adapted to the needs of students in the Bronson Methodist Hospital School of Nursing. For Bronson students only.</td>
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<tr>
<td>219</td>
<td>Human Physiology</td>
<td>4 hrs.</td>
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<td></td>
<td>The functions of the organ systems of the human body, their regulation and control. Prerequisite: Biology 210 or equivalent.</td>
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<tr>
<td>220</td>
<td>Botany of Seed Plants</td>
<td>4 hrs.</td>
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<tr>
<td></td>
<td>The study of the gross and microscopic structure, physiology, development, classification and ecology of seed plants. The greenhouse is used in experiments with living plants and their methods of propagation. Prerequisites: Biology 100 and 102 or consent of instructor.</td>
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<tr>
<td>221</td>
<td>The Plant Kingdom</td>
<td>4 hrs.</td>
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<td></td>
<td>A systematic study of representative plant groups with emphasis on classification, structure, reproduction and ecology. Field studies will occupy a major portion of the laboratory time. Prerequisites: Biology 100 or 102 or consent of instructor.</td>
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<tr>
<td>224</td>
<td>Trees and Shrubs</td>
<td>2 hrs.</td>
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<tr>
<td></td>
<td>A field course in the identification of trees and shrubs. Structural characteristics, habit of growth, geographical distribution and economic importance are included.</td>
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<tr>
<td>225</td>
<td>Local Flora</td>
<td>2 hrs.</td>
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<td></td>
<td>A field course designed for those who desire an acquaintance with the common plants occurring in the region.</td>
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<tr>
<td>234</td>
<td>Outdoor Science</td>
<td>4 hrs.</td>
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<tr>
<td></td>
<td>The aspects of the living world with emphasis on the relationship of living things to their environment. Outdoor studies are part of the course. Approved for general education.</td>
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</tbody>
</table>
300 Environmental Biology 2 hrs.
A study of the relationships of living organisms, including man, to their environment and to one another. Designed for non-major students. Approved for General Education.

301 Ecology 3 hrs.
An introduction to the relationships of organisms to their environment and to one another. Inter-relationships of individuals and the physical environment, dynamics of populations, and structure and function in the community and eco-system are considered. Prerequisite: At least 9 hours of biology.

306 Genetics 3 hrs.
A study of the mechanisms of heredity in individuals, families, and populations. Prerequisites: Biology 100, 101 or 102 or consent of instructor. Organic chemistry recommended.

317 General Physiology 3 hrs.
A study of the fundamental principles which underline the physiological activities of organisms. Laboratory emphasizes the experimental approach to biological problems. Prerequisites: Organic Chemistry, Biology 101 or 102 or consent of instructor.

323 Plant Pathology 3 hrs.
The common diseases of higher plants, caused by fungi, viruses and physiological factors, as well as those connected with the presence of animals such as nematodes and insect larvae. Prerequisite: Biology 220 or equivalent.

342 Comparative Chordate Anatomy 4 hrs. Fall
A brief study of the classification, morphology, and physiology of the prechordates followed by a detailed study of representative vertebrates, including an elasmobranch, urodele, and a choice of mammals. Dissected monkeys available for study. Class project required. Prerequisites: Biology 100, 101 and an additional laboratory course in biology.

343 Vertebrate Embryology 4 hrs.
A study of the development of an individual from the origin of the germ cells to maturity, with special reference to man. Prerequisites: Biology 100, 101, 102.

400 Pharmacology 4 hrs.
Therapeutic management of diseases; drug chemistry. May be repeated for credit. Prerequisite: Must be in Physicians’ Assistant Curriculum.

401 Microbiology of Infectious Disease 3 hrs.
Identification and therapy of infectious disease. May be repeated for credit. Prerequisite: Must be in Physicians’ Assistant Curriculum.

403 Elementary School Science 4 hrs.
A laboratory course focusing on ideas and subject matter commonly included in elementary school science curricula. Prerequisite: Completion of General Studies Science requirements.
404 Problems in the Teaching of Biology 3 hrs.
Class discussions, laboratory experiences and field work concerned with the teaching of biology in high school. Required of all students who are following a secondary education curriculum and list biology as a major or minor. This course assumes a working knowledge of plants, animals, and body chemistry, and of ecology, physiology and genetics. Limited to majors and minors enrolled in a secondary education curriculum.

412 Microbiology 4 hrs.
An introduction to the fundamental relationships among microbes with an emphasis on unifying principles. Laboratory work deals with techniques basic to bacteriology. Prerequisites: 2 semesters of biology or consent of instructor and a course or organic chemistry (may be taken concurrently).

454 (554) Animal Physiology 3 hrs.
A study of cell, tissue and organ functions in the living animal with special emphasis on vertebrates. Prerequisites: Organic Chemistry or consent of instructor.

500 Selected Experiences in Biology 3 hrs.
Problems to be studied are selected under the guidance of the instructor. Laboratory work consists of independent studies of living plants, animals and environmental problems. This is done outside of class time, utilizing procedures outlined by the instructor. Primarily for teachers. Prerequisite: Consent of instructor.

502 Human Ecology 3 hrs.
A study of the man-dominated biotic community of civilization and its inter-relationships. Lectures, assigned reading, group and individual field work. Prerequisite: At least a minor in biology.

503 Genetics of Eukaryotes 3 hrs.
A study of the structure, function and mutation and recombination of the genetic material in the nucleate organisms at the molecular, cell, tissue and organismal level. Prerequisite: Biology 306.

505 Advanced Genetics 3 hrs.
Special problems in genetics, including a study of the structure, function, change and transmission of the genetic material. Prerequisite: Biology 306.

506 Microbial Genetics 3 hrs.
A molecular approach to microbial genetics dealing primarily with bacterial and viral systems. Prerequisites: Biology 412 and a knowledge of organic chemistry or biochemistry.

508 Recent Advances in Biology 3 hrs.
Recent research findings at the frontiers of biology as reported in periodicals, symposia and biological meetings. Prerequisite: At least 12 hours in biology.

509 Evolution 3 hrs.
A consideration of the evidence for and the principles involved in the evolution of plants and animals, including man. Prerequisite: Biology 306 or consent of instructor.
510 Virology 3 hrs.
A study of the structure and physiology of viruses. Relationship to host is stressed. Prerequisites: Biology 412 and a knowledge of organic chemistry or biochemistry.

511 Physiology of Reproduction 3 hrs.
A comparative study of the reproductive physiology of domestic animals, laboratory animals and man. Prerequisites: Biology 317 and a working knowledge of biochemistry or consent of instructor.

512 Health Problems 2 hrs.
A course for students with special interest in the medical and public health areas. The pathology, treatment and control of the major causes of mortality and ill health are presented; broad background in biology and chemistry desirable.

513 Pathogenic Microbiology 3 hrs.
This course deals with pathogenic microorganisms, infectious diseases, diagnostic tests and principles of immunology. Prerequisite: Biology 412 or equivalent.

514 Bacterial Physiology 3 hrs.
Lectures on bacterial cytology, metabolism, and physiology with emphasis on biochemical aspects. Prerequisites: Biology 412 and biochemistry (may be taken concurrently).

516 Experimental Microbial Physiology 3 hrs.
An experimental approach to metabolism, physiology and genetics with emphasis on biochemical techniques. Prerequisite: Biology 514.

517 Cellular Physiology 3 hrs.
Concerned with the details of structure and functioning of cells, both animal and plant. The current status of major problems in the field is considered. Prerequisite: Biology 317 or consent of instructor.

518 Integrative Physiology 3 hrs.
A survey of physiological events at both the cellular and organismal levels, as regulated and integrated by hormonal, neuroendocrine and other bioactive agents. Vertebrates, invertebrates, and plants will be considered as organisms whose metabolic pathways, the inter-relation-ship of synthesis and metabolism of lipids, sugars and proteins and their various enzyme systems are regulated by hormones, neurosecre- tions, as well as intracellular messengers such as 3'5' adenosine mono-phosphate. Some discussion of genetic, metabolic, and behavioral pa-thology which are related to hormones will be included. Prerequisite: Core biology program, a biochemistry or an advanced physiology course or consent of instructor.

519 Comparative Animal Physiology 3 hrs.
A study of the basic physiological processes as they occur in various groups of animals. Prerequisite: Biology 317 or equivalent.

520 Systematic Botany 3 hrs.
The classification and relationships of vascular plants by field and laboratory studies. Attention is given to family characteristics, evolu-
tionary trends and geographical distribution. Prerequisite: Consent of instructor.

521 Phycology

Studies in the classification, structure, physiology, ecology and economic importance of the fresh-water algae. Prerequisite: Biology 301.

522 Phytogeography

A study of the geographical distribution of plants based on physical and ecological factors. Prerequisite: A course in systematic botany or equivalent.

523 Paleobotany

A study of the characteristics, historical and evolutionary relationships of plants based upon the fossil record. At least two extended field trips are taken. Prerequisite: 221 or equivalent.

524 Economic Botany

A study of plants useful to man for food, flavoring, drugs, clothing and building. Field trips required.

525 Biological Constituents

The chemical elements in plants and animals, as well as the synthesis, characterization, and degradation products of the more important compounds. Prerequisites: 12 hours of biology, one year of chemistry.

526 Mycology

Studies in the classification, structure, physiology, development and economic importance of fungi. Prerequisites: Biology 301 and 306 or consent of instructor.

527 Plant Physiology

Advanced investigations into plant functions. Basic principles are examined more intensively. Advantage is taken of the discoveries and unifying principles of modern biochemistry. Prerequisite: Biology 317 or consent of instructor.

528 Biology of Non-Vascular Plants

The study of classification, ecology and reproductive cycles of algae, fungi and bryophytes. Culture methods of growing these plants for research occupies a part of laboratory work. Prerequisite: At least 12 hours of biology.

529 Biology of Vascular Plants

A detailed study of the morphology, life cycles, and evolution of vascular plants. Individual research required. Prerequisite: At least 12 hours of biology.

530 Environmental Education

A review of ecological principles basic to understanding environmental problems. A survey of environmental problems through readings, discussions, and field experiences. The goal of the survey is to define problems and consider paths to solutions.

Students are expected to plan and, if possible, to initiate environmental education programs in their own professional areas.
531 Experimental Animal Physiology 3 hrs.
Introduction to the practice of physiological research; design, execution and analyses of experimental studies upon phenomena of contemporary interest with detailed discussion of underlying physiological principles; with emphasis on modern methodologies and instrumentation. Prerequisites: Biology 317 and consent of instructor.

532 Field Natural History 3 hrs.
A study of biological communities with particular emphasis on those accessible for use by public schools, e.g., school grounds, vacant lots, roadsides, parks and undeveloped areas. Primarily for teachers. Prerequisites: Biology 100 and 101 or 102 or consent of instructor.

539 Animal Behavior 3 hrs.
Animal behavior with emphasis on evolution and ecology to include an introduction to the ethological point of view. Two student projects. Prerequisites: Biology 301 and consent of instructor.

540 Cell and Organ Culture Techniques 3 hrs.
The various techniques of cell and organ culture will be utilized to establish in vitro cultures of animal cells and to study specific cell types, such as macrophages, lymphocytes, and liver parenchyma. Specific problems of special interest to the students will be assigned. Prerequisite: Consent of instructor.

541 Invertebrate Zoology 3 hrs.
A study of the anatomy, physiology, embryology, and life history of representatives of the major groups of invertebrate animals. Prerequisite: At least 12 hours of biology.

542 Entomology 3 hrs.
A general study of insects, their structure, classification, life histories, ecological relationships and economic importance. Collection and identification of local species is required. Prerequisite: 12 hours of biology.

543 Protozoology 3 hrs.
Field and laboratory studies of both free-living and parasitic protozoans, including taxonomy, morphology, life histories, ecology, heredity, evolutionary development. Prerequisite: Biology 301 or consent of instructor.

544 Developmental Biology 3 hrs.
Theories and phenomena of differentiation, cytodifferentiation and morphogenesis; concepts of inducers, organizers, etc.; experimental studies of embryos of various animals or study of some specific organs during development, including tissue culture techniques. Prerequisite: Biology 343 or consent of instructor.

545 Histology 3 hrs.
A study of the microscopic structure of tissues and organs. Prerequisite: Biology 210 or equivalent.

546 General Cytology 3 hrs.
A study of the nuclear and cytoplasmic structures of the cell involving cytochemistry and histochemistry. Principles of classical and electron microscopy will be considered. Prerequisites: An introductory
course in biology. A course in physics and organic chemistry are highly recommended.

547 Ornithology 3 hrs.
A broad course that explores both scientific and popular aspects of bird study. Life history, anatomy and physiology, behavior, ecology, and evolution are considered. Identification, bird-banding, and preparation of study skins are included. Prerequisite: Consent of instructor.

548 Animal Ecology 3 hrs.
Characteristics of animal populations and their interactions with other populations, the role of animals in the functioning of ecosystems. Prerequisites: A course in ecology and a course in statistics, or consent of instructor.

549 Ecology of Southwestern Michigan 3 hrs.
Surveys and analyses of major and minor ecosystems of this region as to physical environment, composition, structure, and function. Prerequisite: A course in ecology and either systematic botany or invertebrate zoology.

551 Parasitology 3 hrs.
A study of parasites and host-parasite relationships illustrated by typical representatives of the principal animal groups. Special attention is given to the parasites of man. Prerequisite: At least 12 semester hours of biology.

552 Plant Ecology 3 hrs.
A consideration of the organization of vegetation and casual relationships between vegetation and environment. Prerequisites: Biology 301 and a course in systematic botany or equivalent.

553 Limnology 3 hrs.
Biological, chemical, and physical aspects of lakes and streams. Emphasis is on the ecological relationships of invertebrate animals and lower plants. Prerequisite: At least 12 hours of biology.

555 Physiological Ecology 3 hrs.
A study of the physiological and behavioral adaptation and responses or organisms to external environmental factors. Prerequisites: Biology 301 and 317 and a year of chemistry or consent of instructor.

556 Immunology 3 hrs.
A study of the biological and biochemical mechanisms of the immune response and the chemical nature of antibodies, antigens, and their interaction. Prerequisite: Biology 412 and a knowledge of biochemistry.

557 Tropical Marine Ecology 3 hrs.
A study of the complex interrelationships of marine life off the coast of British Honduras. Individual and group projects will be conducted on the cays and atolls of the second largest barrier reef in the world. Students must be experienced swimmers and capable of snorkel diving. Prerequisites: Biology 301 and consent of Consortium Screening Committee. (Available only at Tropical Research Center, Belize, British Honduras.)
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558 Tropical Terrestrial Ecology
A study of the terrestrial ecology in the various regions of British Honduras. Various locations will be selected to investigate the structure and dynamics of a variety of tropical ecosystems. Prerequisite: Biology 301 and consent of Consortium Screening Committee. (Available only at Tropical Research Center, Belize, British Honduras.)

559 Radiation Biology 3 hrs.
A study of the fundamentals of radiobiology including isotope technology, radiation measurements, radioactive decay, radiation and interaction in living matter, and health and safety regulations in the laboratory. Prerequisites: A minor in chemistry and consent of instructor.

561 Biology of Lower Vertebrates 3 hrs.
The biology of lower vertebrates with special reference to adaptation, evolution, behavior and ecology of major groups. Classification, museum and field methods will be stressed in laboratory. Field trips required. Prerequisite: Biology 301 or equivalent.

562 Biology of Higher Vertebrates 3 hrs.
Continuation of Biology 561.

598 Readings in Biology 1-3 hrs.

599 Independent Studies in Biology 1-4 hrs.
For students who wish to carry on advanced work in special fields. Prerequisite: Consent of instructor.
Chemistry

Don C. Ifolland, Chairman

Robert H. Anderson  Paul E. Holkeboer  Michael E. McCarville
Donald C. Berndt  Thomas Houser  Robert C. Nagler
Donald J. Brown  James A. Howell  Ralph K. Steinhans
Dean W. Cooke  Adli S. Kana'an  Jochanan Stenesh
J. Lindsay Foote  Joseph M. Kanamueller  George B. Trimitsis
Robert E. Harmon  George G. Lowry  H. Dale Warren

Students majoring in chemistry may prepare for a career in high school teaching, industrial laboratory work, or graduate work in departments of chemistry or medical colleges. The course offerings for the undergraduate attempt to give a broad but thorough grounding in the elements of chemistry. They should be fortified by a minor in physics, mathematics or biology. Most students who intend to do advanced work in chemistry should plan to obtain a reading knowledge of a European language. At the present time German is preferred but French or Russian might well be taken.

The Chemistry Department is accredited by the American Chemical Society. Students who follow the American Chemical Society certification course sequence below are considered professional chemists by the American Chemical Society. These students are eligible for membership senior grade in the American Chemical Society after two years experience in the field of chemistry rather than five years experience.

In order to complete an American Chemical Society Certified Chemistry Major, the following would be the expected minimum schedule of chemistry and prerequisite courses:

Freshman year:
- General Chemistry 101 or 102, Qualitative Analysis 120, Mathematics I 122, Mathematics II 123

Sophomore year:
- Organic Chemistry 360, Organic Chemistry 361, Mathematics III 222, Physics 210, Physics 211

Junior year:
- Quantitative Analysis 222, Physical Chemistry 430, Physical Chemistry 431

Senior year:
- Instrumental Methods 520 and Inorganic Chemistry 510 or Chemistry 550. In addition, two advanced electives from 500 level chemistry or mathematics or physics as approved by the Chemistry advisor.
- Reading knowledge of German or Russian is required for A.C.S. certificates.

The General Curriculum Chemistry Major requires 34 hours in chemistry including the basic sequence as in the A.C.S. Certificate program through Physical Chemistry; 6 hours of chemistry at the 500 level.
Secondary Education and other chemistry majors require 30 hours of chemistry courses as in the General Curriculum including a minimum of 4 hours of Physical Chemistry.

A minimum chemistry minor will contain at least eighteen hours. Chemistry minors in Secondary Education are required to take twenty hours of chemistry and to complete one year of physics before student teaching. Transfer students completing a major or minor in Chemistry must complete a minimum of one chemistry course in residence.

All of the above courses are curricular requirements, not to be graded as credit-no credit, if a chemistry major or minor is used for graduation. Students who plan to attend graduate school in chemistry should take a minimum of courses under the credit-no credit option.

Students who fail to earn a "C" or better grade in Chemistry 120, 360, and 430 will not be permitted to enroll in courses requiring these classes as prerequisites.

The following courses are acceptable in fulfilling General Education Science requirements: Chemistry 101, 102, 103, 105, 109, and 140. Students planning to use these courses in this capacity are urged to consult with the General Education advisor.

**DESCRIPTION OF COURSES**

(Course descriptions in italics are approved for General Education purposes.)

101 General Chemistry
4 hrs. Fall, Winter

A course with emphasis on the fundamental principles, theories and problems of chemistry. This course is to prepare students who intend to enroll for more than two semesters of chemistry. Enrollment in this course is restricted to those who have had no high school chemistry or those who have had high school chemistry but do not pass the A.C.S. High School Chemistry examination. This course includes lecture, laboratory and quiz.

102 General Chemistry
4 hrs. Fall, Winter

The theory and fundamental principles of chemistry are emphasized in this foundation course which serves primarily those who intend to enroll for more than two semesters of chemistry. Prerequisite: One unit of high school chemistry and one unit of algebra, pass A.C.S. High School Chemistry examination. Students well prepared may earn credit by taking final examination. This course includes lecture and laboratory.

103 General Chemistry
4 hrs. Fall, Winter

A course primarily for students in Engineering and Technology curricula and others planning only a one or two semester terminal review of chemistry. This course surveys principles of chemistry with emphasis on calculations, descriptive and applied chemistry. It serves as a prerequisite for Chemistry 109 only. Prerequisite: One unit high school algebra. This course includes lecture and laboratory.

105 The Scope of Chemistry
3 hrs. Fall, Winter

This course is designed to provide an opportunity to develop an understanding of the way chemistry functions as a science and an appreciation of its pervasive nature in modern society. Illustrations will be drawn from modern technology, medicine, agriculture and environmental con-
cerns. Fundamental principles of atomic and molecular structure will be shown to undergird the profusion of modern materials and processes. Not applicable for a major or minor in chemistry nor as a prerequisite to other chemistry courses.

106 Chemistry for Physicians' Assistants 5 hrs.
A simplified non-theoretical approach to practical inorganic, organic and physiological chemistry. The course serves both as a background for pharmacology and for interpreting biochemical parameters in the didactic medical courses.

109 General Chemistry 4 hrs. Winter
This terminal course is not acceptable for chemistry major or minor or as prerequisite for advanced chemistry, but is designed to meet the needs of those who require one year of chemistry. Descriptive chemistry of metallic and non-metallic elements with emphasis on industrial and practical applications, chemical equilibrium and simple organic chemistry are studied. Prerequisite: Chem. 101 or 102 or 103. This course includes lecture and laboratory.

120 Qualitative Analysis 4 hrs. Fall, Winter
The properties of a number of the more representative elements and the compounds which they form are studied. The descriptive chemistry of some common cations and anions is studied using the hydrogen sulfide scheme of analysis. The chemical relationships in the periodic table, electrochemistry, and the equilibrium principle are also treated. Prerequisite: Chem. 101 or 102.

140 Introductory Environmental Chemistry 4 hrs.
Purpose of course is to develop an appreciation of the chemical aspects of environmental problems and an acquaintance with the basic principles involved. This limited treatment considers elementary concepts of the nature of matter with applications of tools of chemists important in exploration of environmental problems. Laboratory may entail field trips as well as experiments which relate to environmental problems. Credit does not apply for graduation if 101, 102 or 103 are used, or for major or minor in chemistry.

222 Quantitative Analysis 4 hrs. Fall, Winter
This course includes the theory, techniques and calculations of quantitative analysis. Instrumental techniques are used to supplement classical analytical procedures. Prerequisite: Chem. 120.

308 Teaching of Physical Science 3 hrs. Winter
Problems of teaching high school chemistry, physics and physical science. The main emphasis is on effective methods of instruction. Practical methods of apparatus ordering, maintenance, and construction are also considered.

360 Organic Chemistry 4 hrs. Fall, Winter
The preparation and chemical properties of aliphatic and aromatic compounds are studied. Emphasis is placed upon the nature of covalent bonds and molecules and the general reactions of functional groups. The course includes lecture, laboratory and quiz. Prerequisite: Chem. 120.
361 Organic Chemistry 4 hrs. Fall, Winter
A continuation of course 360. Prerequisite: Chem. 360.

362 Organic Chemistry 5 hrs. Fall
This course is similar to Chemistry 360. Additional laboratory instruction is provided including identification of organic compounds and more advanced organic synthesis. This course is required for Chemistry Majors completing American Chemical Society certification. Prerequisite: Chem. 120.

363 Organic Chemistry 5 hrs. Winter
A continuation of course 362. Prerequisite Chem. 362.

365 Introduction to Organic Chemistry 4 hrs. Fall, Winter
A one semester course which surveys the chemistry of aliphatic and aromatic carbon compounds, designed for those needing a working knowledge of organic chemistry without the theoretical detail of a full year course. Credit may not be received for both 365 and 360 or 362. This course will not serve as prerequisite for 361 or 363. Prerequisite: Chem. 120.

430 Physical Chemistry 4 hrs. Fall
Lectures and laboratory work in kinetic theories of gases, liquids, solids, thermodynamics, phase rule, equilibrium, solutions, etc. Prerequisites: Chem. 120, Physics 210 and 211, Math 222; corequisite: Chem. 222.

431 Physical Chemistry 4 hrs. Winter
Lecture and laboratory studies of kinetics, electrochemistry, quantum theory, spectroscopy, surface chemistry, macromolecules and crystal chemistry, etc. Prerequisite: Chem. 430.

450 Introductory Biochemistry 3 hrs. Winter
A basic course in the chemistry and metabolism of carbohydrates, lipids, proteins and nucleic acids. Not applicable to chemistry majors. Prerequisite: Chem. 365 or 361 or 363.

452 Introductory Biochemistry 5 hrs. Winter
This course consists of 450 plus laboratory. Not applicable to chemistry majors. Prerequisite: Chem. 365 or 361 or 363.

505 Chemical Literature 1 hr. Fall
An introduction to the use of the various types of chemical literature such as journals, handbooks, abstracts, monographs, government and institutional publications, and patents. Problems in the course require literature searches in analytical, inorganic, biological, organic and physical chemistry fields. Prerequisite: 24 hrs. of chemistry.

506 Chemical Laboratory Safety 1 hr. Winter
A study of toxic, corrosive, flammable, explosive, electrical, mechanical, thermal, and radiant energy hazards frequently encountered in chemical laboratory work. Emphasis is placed on precautionary methods to avoid damaging accidents and on emergency procedures to apply when accidents occur. Prerequisite: 24 hours of chemistry.
509 Topics in Chemistry 3 hrs.
A topic is presented in greater depth or from a perspective different from that of a typical undergraduate course. Representative topics such as pesticides and drugs, industrial chemistry, chemical pollution, etc. according to student interest and request.

510 Inorganic Chemistry 4 hrs. Winter
The course includes descriptive and theoretical inorganic chemistry as well as preparation of different types of inorganic compounds. Prerequisite or corequisite: Chem. 431.

520 Instrumental Methods in Chemistry 3 hrs. Fall
An introduction to the theory and application of modern chemical instrumentation is presented. General topics covered are elementary electronics, electrochemistry, spectroscopy, and other instrumental techniques. Prerequisite or corequisite: Chem. 431.

535 Introduction to Physical Chemistry 4 hrs.
Theory and applications of chemical structure, energetics, and rates and mechanisms of processes as a basis for understanding the principles of chemistry. Laboratory experiments are designed to emphasize quantitative measurements and the use of instrumentation in chemical systems. This course may not be applied to a graduate curriculum in chemistry. Prerequisites: 16 hours chemistry, Math 123, Physics 111 or 211.

550 General Biochemistry 3 hrs. Fall
A thorough study of the chemistry and properties of carbohydrates, lipids, proteins and nucleic acids. Includes a discussion of enzymes, coenzymes and biochemical energetics. Prerequisites: Chem. 361 or 363 and 430 or 535.

554 General Biochemistry 3 hrs. Winter

555 Biochemistry Laboratory 3 hrs.
A course designed to acquaint the student with current methods used in biochemical research. Experiments will include gas chromatography, thin layer chromatography, electrophoresis, enzyme purification and assay, and techniques using radioactive isotopes. Prerequisites: Chem. 550 or 450 and 222.

560 Qualitative Organic Analysis 3 hrs. Fall
A course in spectroscopic and chemical methods of identification of organic compounds in the pure state and in mixtures, which has as a secondary goal the development of deductive reasoning in the field of organic chemistry. Prerequisites: Chem. 361 or 363 and 24 hrs. of chemistry.

562 Advanced Organic Chemistry 3 hrs.
Covers such topics as organometallic compounds, heterocyclic compounds, dyes, introduction to photochemistry, organo-silicon compounds, etc. Prerequisite: Chem. 361 or 363.

580 History of Chemistry 3 hrs. Winter
This course traces the roots of chemistry from ancient technology through alchemy and medicine to the chemical revolution of Lavoisier.
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and Dalton. In more detail it examines the nineteenth century basis of modern chemistry and the twentieth century clarification of the structural atom. Prerequisite: 16 hours of Chemistry, including 360 or 365.

590 Special Problems in Chemistry 2 hrs. Fall, Winter

Research work on a problem in chemistry in association with a faculty member. May be repeated for credit. Prerequisites: 24 hours of chemistry, with approval of the Department Chairman and faculty director.
Communication Arts and Sciences

Charles T. Brown, Chairman


Oral communication is the principal mode for establishing and maintaining human relationships. Effective oral communication is an educational imperative for all human beings.

The Department of Communication Arts and Sciences offers the student not only the opportunity to educate himself in professional competencies, but also an opportunity to educate himself broadly in the liberal arts tradition.

Because the Department of Communication Arts and Sciences places a large share of responsibility on the student for designing his own curriculum, students planning to major or minor in CAS should discuss their curriculum needs and interests with the departmental adviser at the earliest possible date. The schedule of courses to be taught is available from the departmental adviser.

The Communication Arts and Sciences Department encourages a close relationship between academic classes and extra-curricular and co-curricular experiences. Students may become involved in a variety of activities including the All-University Forum, community service projects, readers theatre, oral interpretation festivals, the Speaker’s Bureau, the Forensic Judging Service, theatre productions, the Touring Theatre for Children, discussion conferences, and consultant services for campus organizations. Academic credit may be earned by participating in many of these communication activities.

**MAJORS**

Two majors are available.

Following the declaration of a major in Communication Arts and Sciences, majors are required to complete 18 hours in the department.

*Petitions for exceptions to these policies should be submitted to the departmental chairman.
1. Communication Arts and Sciences Major

A Communication Arts and Sciences major requires 30 semester hours of CAS, including CAS 170 and 27 hours to be arranged in consultation with the student and the appropriate advisers of the Department.

2. Communication Arts and Sciences: Education Major

An Education Major in Communication Arts and Sciences requires 30 semester hours of CAS, including the following courses: CAS 170, 562 for the secondary education major, or 561 for the elementary education major and minor.

MINORS*

Two minors are available.

Following the declaration of a minor in Communication Arts and Sciences, minors are required to complete 11 hours in the department.

1. Communication Arts and Sciences Minor

A Communication Arts and Sciences Minor requires 20 semester hours of CAS, including CAS 170 and 17 additional elective hours to be chosen in consultation with the appropriate advisers of the Department.

2. Communication Arts and Sciences: Education Minor

An Education Minor in Communication Arts and Sciences requires 20 semester hours of CAS for teaching in secondary and elementary schools, including the following courses: CAS 170, and for the elementary teacher, CAS 561**.

TRANSFER STUDENTS

Transfer students are permitted to transfer as many as 12 semester credit hours for a major and 9 hours for a minor in Communication Arts and Sciences.

DESCRIPTION OF COURSES

(Course descriptions in italics are approved for General Education purposes.)

102 Speech for Teachers*** 3 hrs.

A beginning course in speech for those who intend to teach in elementary or high schools. Deals with the basic elements of speech, with listening, and with the personality of the speaker as these are involved in the activities of a teacher. The focus is on the prospective teacher's speech rather than on the speech of his pupils.

104 Business and Professional Speech*** 3 hrs.

A beginning course in speech dealing with the study and application of basic principles underlying effective oral communication. Particular attention is given to developing skill in meeting the speech situations encountered in the business and professional world.

*Petitions for exceptions to these policies should be submitted to the departmental chairman.

**To teach speech in a school accredited by the North Central Association, speech teachers are required to have either 24 semester hours in speech or 20 semester hours in speech and 4 semester hours in English. (Courses in Communication Arts and Sciences are counted as courses in speech.)

***Of courses CAS 102, 104 and 130, only one may be taken for credit.
106 Voice and Diction 3 hrs.
   Individual improvement program emphasizing voice production and diction.

130 Public Speaking I*** 3 hrs.
   Study of public speech and audience psychology principles. Frequent practice to develop skill in speech composition, clarity of language, logical development and effectiveness as a speaker.

131 Parliamentary Procedure 1 hr.
   Study and practice of the principles and rules which govern business meetings in voluntary organizations.

140 The Individual and the Mass Media 2 hrs.
   Self discovery of the individual's relationship and response to contemporary mass media messages through an experiential approach.

170 Interpersonal Communication I 3 hrs.
   An introductory course in communication theory and practice in which a student utilizes his powers of speech to increase his effectiveness in interpersonal relationships through understanding of himself and others.

210 Oral Interpretation 4 hrs.
   Emphasis is placed on developing the student's appreciation of literature and his skill in analysis and oral reading of representative works in prose, poetry and drama.

211 Readers Theatre I 2 hrs.
   Introduction to the basic theory of readers theatre and participation in group reading of prose, poetry, and drama.

220 Introduction to Theatre 3 hrs.
   Considers theatre as a part of the individual's cultural heritage and liberal arts background. Includes attending theatre performances and participation in University Theatre.

222 Acting 3 hrs.
   Study and practice of the basic principles and techniques of acting designed to help the student develop a basis for appreciation and criticism. Prerequisite: CAS 210 or instructor's consent.

224 Stagecraft 4 hrs.
   A beginning course in technical production, including basic stage lighting, the planning and construction of stage scenery. Includes laboratory work on University Theatre productions.

228 Stage Make-up 1 hr.
   Study and practice of the principles and techniques of stage make-up.

232 Discussion 3 hrs.
   Study and practice in discussion and conference. Skill in participation, leadership, group thinking, and evaluation are emphasized. Recommended for students whose vocational plans involve work with groups.

***Of courses CAS 102, 104 and 130, only one may be taken for credit.
236 Social Issues and Action Laboratory 1 hr.
A laboratory designed to offer experience in analyzing and participating in the communication processes related to current social issue programs. Students may accumulate a maximum of 4 hours credit.

240 Broadcast Communication 3 hrs.
A survey of the nature and structure of contemporary broadcasting in the United States as a mass communication process involving a publicly owned but privately operated medium.

241 Film Communication 3 hrs.
An introduction to the unique language and elements of the film medium through the study of outstanding examples of historical and contemporary experimental, documentary and feature films.

247 Sound in Mass Communication 3 hrs.
Analysis of sound as a creative element in mass communication. Studio experience in radio production, and consideration of aural messages in other mass media, such as filmtracks and recording. Prerequisite: CAS 240.

270 Interpersonal Communication II 3 hrs.
A continuation of CAS 170 with a more intensive analysis exploring further dimensions of interpersonal relationships, with particular emphasis on listening. Prerequisite: CAS 170 or instructor's consent.

302 Theoretical Bases of Communication 3 hrs.
An examination of theories of perception, cognition, motivation and social psychology which relate to the process of communication.

307 Psycho-Physical Bases of Communication 3 hrs.
Examination of the physiological patterns of the cognitive, affective and psychomotor aspects of communication. The course will include classroom and laboratory experience.

311 Readers Theatre II 2 hrs.
Selecting and arranging materials for readers theatre; directing and participating in performances. Prerequisite: Readers Theatre I.

320 Stage Direction 3 hrs.
Theory and application of basic principles of directing and staging plays with particular emphasis upon production problems of school and community. Prerequisite: CAS 222 or instructor's consent.

321 Play Production for High School Teachers 4 hrs.
A "How-to-do-it" course giving an introduction to the basic theory and skills needed to produce the high school play. Includes all aspects of play production, such as play selection, casting, rehearsal, planning scenery, costumes, make-up, etc.

325 Summer Theatre 6 hrs.
A Summer Theatre Program providing qualified students with opportunities to concentrate on the various activities of theatre production. Participation is integrated with seminars under faculty direction so that the practical facet of theatre work is constantly related to theory.
328 Stage Costume 3 hrs.
Study of historic costume as adapted for the stage. Practical laboratory experience in costume construction offered in conjunction with University Theatre productions.

331 Persuasive Speaking 3 hrs.
The study and application of logical, emotional and ethical principles of persuasion.

334 Logical Bases of Communication 3 hrs.
Logical methods of inquiry in the analysis and construction of messages related to contemporary problems in society.

335 Leadership 3 hrs.
A study of the characteristics and behaviors of leaders with emphasis on the development of leadership abilities in the individual for different group situations.

346 Film Production 3 hrs.
Production of short experimental films; scripting, planning, editing, directing and photography. Work in this course will be done within the limitations of the 8 mm format. In addition to text materials, students must provide supplies averaging about $30 per student. Prerequisite: CAS 241.

347 Television Production 3 hrs.
Study of television as a creative medium. Exploration of the elements involved in producing television studio programs. Practical experience in production and directing of various program units. In addition to text materials, students must provide supplies averaging about $10 per student. Prerequisite: CAS 240.

348 Broadcast Writing and Continuity 3 hrs.
Explores the problems and techniques of combining sound and visual elements in the creative preparation of broadcast formats, commercials, dramatic scripts, station continuity and documentaries.

349 Broadcast Journalism 3 hrs.
Study of radio and television as news media; basic principles of news reports, newscasts, news commentary, on-the-spot coverage and features.

370 Special Topics in Communication 3 hrs.
An investigation of topics of special interest related to the area of communication.

398 Independent Study 1-6 hrs.
Designed to allow outstanding students to work independently under staff supervision. Includes extensive study, research or special creative projects in any of the several areas of Communication Arts and Sciences. One to six hours credit may be accumulated. Prerequisite: Consent, Chairman of Department.

447 Advanced Television Production 3 hrs.
Individual and group projects in the development and production of television programs stressing experimental techniques. Prerequisite: CAS 347 or permission of instructor.
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448  Television Performance  2 hrs.
Exercises in television performance, stressing the special problems of
the video performer. Prerequisite: Permission of the instructor.

470  Communication, Social Issues and Change  3 hrs.
A study and practical application of communication and rhetorical
methodology in contemporary social problems.

OPEN TO GRADUATES AND UPPERCLASSMEN

510  Studies in Oral Interpretation: Variable Topics  3 hrs.
Projects in reading and analysis of literature to intensify the student's
application of the theory and principles of oral interpretation. Topics
will vary each semester and students may repeat the course. Possible
topics include the following:
  a. Oral Interpretation of Shakespeare
  b. Oral Interpretation of the Bible
  c. Oral Interpretation of Selected Long Literary Forms

520  Studies in Theatre: Variable Topics  3 hrs.
Selective study within a broad range of aspects of theatre. Emphasis
is upon concepts, theory and advanced skills. Possible topics will in-
clude the following:
  a. Advanced Acting
  b. Advanced Directing
  c. Improvisational Theatre
  d. Stage Lighting
  e. Advanced Costuming
  f. Dramatic Theory and Criticism

526  History of Theatre  3 hrs.
From the beginning to the English Renaissance.

527  History of Theatre  3 hrs.
From the English Renaissance to the present day.

529  Stage Design  4 hrs.
A course for students in design, including stage lighting and stage
settings. Includes laboratory practice in staging University Theatre
productions.

530  Studies in Rhetoric: Variable Topics  3 hrs.
Selected areas of detailed study within the total range of rhetoric.
Each of the courses listed below carries separate credit, and a student
may take any or all of the offerings listed under 530. In addition to the
topics listed, additional topics are offered from time to time, and will
be listed in the course schedule.
  a. Conflict Resolution
  b. Ethics and Freedom of Speech
  c. Historical Bases of Rhetoric

Analysis in depth of current and continuing issues in mass communi-
cation. Topics vary from semester to semester and students may repeat the course for credit. Possible topics include the following:

- a. Mass Media Law and Regulation
- b. News, Politics and Mass Communication
- c. Mass Communication and Children
- d. International and Comparative Systems of Mass Communication

545 Television as a Creative Medium 3 hrs.

A study of the unique qualities of the television medium, through examination and analysis of television documentary, drama, visual essay and other forms from historical and contemporary periods. The observations of critics and theorists who have attempted to describe the aesthetic values of the medium will be explored.

547 Instructional Radio-Television 3 hrs.

Application of radio and television for the communication specialist. Utilization of electronic resources for instruction, observation, research, and training. Lab Fee $10.

560 Studies in Communication Education: Variable Topics 3 hrs.

Selected studies in background, methods, materials and procedures in any one of the several speech areas. Possible topics include directing speech activities, communication behaviors of change agents, as well as others. Topics will vary from semester to semester and students may repeat the course.

561 Teaching Communication in the Elementary School 4 hrs.

Examination of the linguistic development of pre-school and elementary school children, the functions of language, study of the nature of the emotional and physical development of children as related to symbol using behaviors, study of materials and methods for affecting desired behaviors in children's thinking, communicating and enjoyment.

562 Teaching Communication in the Secondary School 4 hrs.

This is a course in becoming a professional teacher of communication. The focus of the course is self-examination, openness, and individual initiative. Some of the major topics are an examination of self in relation to teaching, the evolving and changing philosophies of speech communication education, the world of high school teaching as it now exists, innovative procedures in teaching communication, and how to get and hold a job in speech communication.

The class is, for the most part, a laboratory-workshop, using a mixture of group work, guests, visitations, and special projects.

The student must have completed at least 15 hours of work in the CAS Department and, ideally, take the course immediately prior to student teaching.

564 Creative Dramatics for Children 4 hrs.

Study of the principles, materials and techniques of using informal drama as a classroom activity in elementary grades. Emphasizes theoretical and practical application through the planning and teaching of drama experiences.

570 Studies in Communication: Variable Topics

Selected areas of study within the total range of communication. Each of the courses listed below carries separate credit, and a student may
take any or all of the offerings listed under 570. In addition to the topics listed, additional topics are offered from time to time, and will be listed in the course schedule.

a. Interpersonal Theories of Communication
b. Personality and Communication
c. Non-Verbal Communication
d. Attitude Change and Social Influence
e. Group Training, Theory and Practice
f. Semantics
g. Introduction to Communication Research

598 Independent Studies

A program for advanced students with an interest in pursuing independently a program of readings, research in areas of special interest. To be arranged in consultation with a member of the staff and the chairman of the department.
Courses are designed (1) to contribute to general education by providing basic understanding of the economy; (2) to fulfill the requirements for the training of teachers in certain professional groups, such as social sciences, business studies, and business administration; (3) to furnish courses and explore areas of economic thought which are prerequisite to graduate study in economics; and (4) to provide areas of study as pre-professional training for business administration, engineering, foreign service, journalism, law and social work.

A minor in Economics consists of a minimum of 15 hours in the Department.

A major in Economics consists of a minimum of 30 hours of work in the Department. The following are required courses for majors: Principles of Economics (201, 202), Income Analysis and Policy (306), Price Theory (303), and Statistics (502). In addition a major should choose the remainder of his courses in consultation with his advisor, with careful attention paid to achieving a proper spread.

A major in Economics who intends to do graduate work in Economics is advised to take Mathematics 122 and 123 at least, and Econometrics 509.

The Head of the Department will assist students in selecting courses suited to their needs in fulfilling the minor and major requirements.

The Honors Program of the Department of Economics is designed for the student who possesses special talents and abilities and who is particularly interested in exploiting them to the fullest extent. Students wishing to participate in this program should consult a member of the Economics Honors Committee.

**PRINCIPLES AND GENERAL THEORY**

(Course descriptions in italics are approved for General Education purposes.)

**100 Contemporary Economic Problems** 3 hrs. Fall, Winter

Focuses on several of the most important economic problems confronting our society—i.e., unemployment, environmental pollutions, inflation, poverty, balance of international payments, monopoly power, the standard of living in developing nations and other problems which the students may suggest. Utilizing a non-technical approach, an attempt is made to show what economics can contribute to the analysis and to possible solutions to these problems.
201 Principles of Economics 3 hrs. Fall, Winter
An introduction to microeconomics, the study of the price system and resource allocation, problems of monopoly, and the role of government in regulating and supplementing the price system.

202 Principles of Economics 3 hrs. Fall, Winter
An introduction to macroeconomics, the study of total output and employment, inflation, economic growth, and introduction to international trade and development. Prerequisite: Econ. 201.

303 Price Theory 3 hrs. Fall, Winter
A basic course on economic theory, with emphasis on the theory of consumer behavior (the derivation of the demand curve), the theory of the firm and factor pricing. Prerequisites: Econ. 201 and 202.

306 Income Analysis and Policy 3 hrs. Fall, Winter
An examination of macroeconomic theory with particular emphasis on business cycles, economic growth, and price level instability. The interplay between theory and policy is analyzed. Prerequisites: Econ. 201 and 202.

400 Managerial Economics 3 hrs. Fall, Winter
An introductory examination of the application of tools of economic analysis to management problems and decision making. The basic concepts include marginalism and cost analysis, demand pricing, capital budgeting, and selected optimality models. Prerequisites: Econ. 201 and 202.

An examination of a selected area of concern not intensively covered in other courses. The focus of the course will be substantive as well as analytical. Topics may include such areas as poverty, the war industry, farm problems, misallocation of resources, welfare programs, unemployment and others. May be repeated for credit with a different topic. Prerequisites: Econ. 201 and 202.

502 Studies in Quantitative Economics 4 hrs. Fall, Winter
The course deals with statistical and mathematical techniques and concepts useful in economic analysis and their application to various areas in economics. Subject matter of the course will vary from semester to semester and may be chosen from such diverse topics as: linear programming, game theory, input-output analysis, statistics, welfare economics, utility theory and business cycles. Prerequisites: Econ. 201 and 202, Math 122 or consent of instructor.

504 Introduction to Mathematical Economics 4 hrs. Winter
An introductory course to acquaint the student with the application of basic mathematical concepts to economic analysis including such topics as demand, revenue, costs, capital assets, growth models, multipliers, accelerators, maximum problems, differentials and difference equations and linear systems in economics. Prerequisites: Econ. 201 and 202, Math. 122 or consent of instructor.

505 History of Economic Thought 4 hrs. Winter
A survey of the origin and development of economic thought from early times to the present. After a brief consideration of early mer-
cantilism and the evolution of the philosophy of natural liberties special emphasis will be placed on the contributions of significant economic thinkers and the influence of various schools of economic thought on national policy and economic development. Prerequisites: Econ. 201 and 202.

508 Institutional Economics
An intensive examination of heterodox economic theory, conceived in terms of the basic social concepts of institutions and technology, and utilizing developments in modern social science for the resolution of persistent economic problems. Prerequisites: Econ. 201 and 202.

509 Econometrics
An introductory course in analytical and quantitative methods in economics. Applied economic problems like linear programming, input-output analysis will be considered. Simple regression models and their uses in economics are also included. Prerequisites: Econ. 201 and 202, Math. 122, or consent of instructor.

539 Economic Anthropology
A thorough examination of the relationship between economic and anthropological theory, with a strong emphasis on its applicability and usefulness for explaining the nature of specific economic relationships existing in selected primitive societies. Prerequisites: Anthro. 231, Econ. 201 and 202 and/or consent of instructor.

545 The Economics of Location
The application of economic analysis to the study of the location of economic activities as determined by transportation and the spatial distribution of resources and markets. Consideration is given to selected industry studies; problems in urban land usage, congestion, and the environmental affects of various economic activities. Prerequisites: Econ. 201 and 202.

LABOR AND RESOURCE ECONOMICS
(Course descriptions in italics are approved for General Education purposes.)

313 Poverty and Economic Security
The course relates such risks as old age and disability to the general problem of income distribution and poverty in the United States. The welfare and social security systems are compared to proposed alternatives such as a negative income tax or guaranteed income.

318 The Economics of Medical Care
This course is designed to familiarize the student with the basic economic problems that exist in the field of health care. It introduces to the student some basic economic tools which are useful in analyzing these problems. The demand for medical care, the supply of health services, the role of health insurance and pricing, and output decisions are analyzed. Various policy questions are also raised, and the pros and cons of alternative policies are presented. Finally, the role of planning in the reorganization and delivery of medical care services is discussed. Prerequisites: Econ. 201 and 202, or permission of instructor.
319 Environmental Economics
The study of economic aspects of environmental problems. Benefit-cost analysis is to be introduced and applied to problems in the management of air, water, and other natural resources. Environmental problems of selected industries—including transportation and electric power—economic growth, population and environmental quality are analyzed. Prerequisite: Econ. 201.

410 Labor Problems
An analysis of the nature and underlying causes of the problems facing the worker in modern economic society. Includes an examination of unions, collective bargaining, labor legislation, wages, unemployment and economic insecurity. Prerequisites: Econ. 201 and 202.

512 Collective Bargaining
An analysis of the major problems in present-day collective bargaining including the negotiation of collective agreements, the practical aspects and the economic implications. Prerequisite: Econ. 410 or consent of instructor.

515 Economics of Human Resources
The economic aspects of the development, utilization and maintenance of our human resources, with primary emphasis on the labor force. Subjects included are labor markets, mobility, the economics of education—including training and retraining—and health. Prerequisites: 201 and 202.

MONEY, CREDIT AND FINANCE

420 Money and Credit
In this course an examination is made of the evolution and functions of money, credit, banking and of the financial institutions. Some attention is given to the history of currency in the United States, experiments with paper money, and price-level control, together with considerable factual material relative to credit and credit instruments. Prerequisites: Econ. 201 and 202.

424 Federal Government Finance
Practices, effects, and policy issues in federal government budgeting, spending, taxation, borrowing and debt, with particular attention to individual and corporate income taxation. Prerequisites: Econ. 201 and 202.

507 Monetary Theory and Policy
This course concentrates on the main elements of monetary theory and policy having to do with such problems as promoting economic growth, maintaining full employment and price stability, influencing the flow of capital into the various economic sectors with different possible social goals in mind, and stabilizing international trade and financial relationships. Prerequisite: Econ. 420.

525 State and Local Government Finance
Practices, effects and issues in state and local expenditure, taxation, and borrowing, with particular attention to property and sales taxation,
to the financing of education and highways, and to intergovernmental fiscal relations. Prerequisites: Econ. 201 and 202.

526 The Urban Economy 3 hrs. Winter

The course will examine the economic structure and development of the urban complex. Among the topics to be considered are: the process of suburbanization, urban sprawl and urban blight, the pricing and production of public utilities in the local economy, economies of scale the size of the urban area, the place of planning, the impact of public services and the tax structure on the location of economic activity, intergovernmental economic relationships. Prerequisites: Econ. 201 and 202.

INDUSTRIAL ORGANIZATION AND PUBLIC CONTROL

404 The Structure and Performance of Industry 3 hrs. Fall

This course deals with the ways in which the organization of sellers affects the performance of industrial markets and thus the nation's economic welfare. Particular American industries are examined and from time to time comparisons are made to industries in foreign countries. The role of government in the industrial sector is also dealt with. Prerequisites: Econ. 201 and 202.

445 Corporations and Public Policy 3 hrs. Fall

A study of the organization of economic enterprise, particularly large corporations. The history, financing, and control of these enterprises will be studied in an effort to determine how the public interest is affected and how public control has protected and can protect the public interest. Prerequisites: Econ. 201 and 202.

447 Economics of Transportation and Public Utilities 4 hrs. Winter

An examination of the economics and regulation of the public utility industries with particular emphasis on transportation. Prerequisites: Econ. 201 and 202.

542 Business and Government 4 hrs. Fall

A study of the regulatory policies of government and their impact on private enterprise. The course seeks to explain the need for regulation, and to provide an analysis and evaluation of the various laws from the viewpoint of encouragement, subsidization, and control. Special attention will be directed to certain aspects of concentration of economic power, public ownership, and nationalization programs. Prerequisites: Econ. 201 and 202. Work in Political Science may be substituted in special cases by permission of the instructor.

INTERNATIONAL ECONOMICS

(Course descriptions in italics are approved for General Education purposes.)

380 (586) Economics of the Soviet Union and Eastern Europe 3 hrs. Winter

A study of Soviet and East European planning practices including an examination of the development in commerce, agriculture and indus-
try in these areas. Trade among the several East bloc nations will also be covered. Prerequisite: Econ. 201.

480 International Economics 4 hrs. Fall
A study of the fundamentals of international trade and related problems, with special reference to the implications of the international economic policies of the United States both for the economy and for the firm. Prerequisites: Econ. 201 and 202.

484 Comparative Economic Systems 4 hrs. Fall
The economic institutions and conditions of capitalism, socialism, communism, fascism, and the cooperative movement are critically examined as to ideology and actual operation. Prerequisites: Econ. 201, 202 or consent of instructor.

580 International Trade: Theory and Policy 3 hrs. Winter
This course is designed to study the pure theory of international trade and trade policy. The topics included will be: theory of international pricing and allocation, foreign trade multiplier and international monetary equilibrium; international trade and economic development. Prerequisites: Econ. 201, 202 and 480.

585 The Economics of Sub-Saharan Africa 3 hrs. Winter
A survey of the indigenous economic systems of Sub-Saharan Africa and how these systems have been modified over time by the intrusion of various foreign populations. The economic progress will be examined and a detailed investigation of economic, social, and political obstacles to further progress will be made. Not open to students who previously received credit in 585 Economics of North Africa and the Near East. Prerequisites: Econ. 201 and 202 or consent of instructor.

587 Studies in Asian Economics 3 hrs. Fall
The course concentrates on the study of the Japanese, Chinese and Indian economic systems. These models are then applied as a basis of comparison to the other Asian economies. Prerequisites: 201 and 202.

588 Economic Development 4 hrs. Winter
An analysis of the economic factors such as population, resources, innovation and capital formation which affect economic growth. Selected underdeveloped areas will be studied to understand the cultural patterns and economic reasons for lack of development and the steps necessary to promote economic progress. Special attention will be paid to evaluating the effectiveness of the United States foreign aid program and examining the issues arising as a result of the conflict with the U.S.S.R. Prerequisites: Econ. 201 and 202.

589 The Economics of Latin America 3 hrs. Winter
A survey of the principal economic problems of the Latin American countries. A substantial portion of the course will be devoted to case studies of the development of particular countries. Prerequisites: Econ. 201 and 202.

SPECIAL STUDIES

490, 491, 492 Economics Honors Seminar 2 hrs. Fall, Winter
Designed for honors students, the Seminar deals with issues of current
importance in economic theory and policy. Permission to register must be obtained from the Departmental Honors Committee.

495 Independent Study for Honors Students 2 hrs. Fall, Winter
A program of independent study, tailored to fit the needs and interests of economics honors students, under the direction of one of the members of the Department. Permission to register must be obtained from the Departmental Honors Committee.

598 Readings in Economics 1-3 hrs. Fall, Winter
An independent program of study for qualified advanced students to be arranged in consultation with the instructor. Prerequisite: Consent of Head of Department.
REQUIREMENTS FOR ENGLISH MAJORS AND MINORS

Major and minor slips are not required except for students electing a major or minor with writing emphasis. However, all majors should, as soon as they decide to become majors, confer with the Associate Chairman for Undergraduate Studies or one of the other departmental undergraduate advisors.

English majors are required to have, as a minimum, one college year of a foreign language or its equivalent (at least two years of a language in high school). The department recommends as much beyond the minimum as a student can manage. Students planning to do graduate work beyond the M.A. ought to study at least two languages. French and German are most frequently required in graduate school.

Thirty hours is the minimum requirement for an English major. However, students are urged to take as many additional hours as they can. This recommendation pertains especially to students planning to teach or attend graduate school.

Students may not count more than four hours of “D” credit towards an English major or minor.

The required courses for English majors and minors are listed below. In addition, all majors will find useful the Department’s “Handbook for English Majors,” which includes discussion of possible careers for the English major, suggestions for electives in other departments, a list of sources for advice and counseling, and other aids to selecting a major or minor and to planning programs. Copies are available on the sixth floor of Sprau Tower. Other materials useful to the student are available in the English Center, 3324 Brown Hall.
Departmental advisors are on the sixth floor of Sprau Tower. Call 383-1684 for the advisors’ hours. Appointments are usually not necessary.

As a supplement to the general course descriptions provided in the catalog, instructors’ descriptions of each individual section are posted outside 3321 Brown Hall approximately two weeks before preregistration for each term.

SPECIAL NOTE TO NON-MAJORS

The English Department offers a number of courses suitable for the general student (including various kinds and levels of writing courses): 105 Thought and Language, 107 Good Books, 110 Literary Interpretation, 111 Contemporary Topics in Literature, 150 Literature and Other Arts, 210 Film Interpretation, 212 European Literature, 264 Journalism, 266 Writing Fiction and Poetry, 305 Practical Writing, 311 Perspectives Through Literature and other more advanced courses, as appropriate to the interests and background of the student. English advisors will assist any student, English major or not, in selecting courses in writing, English language, or literature which will be helpful in his general education or career.

SPECIAL NOTE TO TRANSFER STUDENTS

All transfer students majoring in English should consult with one of the Department’s undergraduate advisors about transferring English course credit from other colleges to Western Michigan University. An early conference will enable the student to avoid duplication of courses and possible loss of transfer credit.

ENGLISH MAJORS

30 hours required

General Curriculum and Liberal Arts

Required: 110 Literary Interpretation; an English Language course (271, 372, or 572); either 310 Literary History and Criticism or 340 Development of English Verse; 499 Senior Seminar; plus electives to make 30 hours. Sixteen hours, including 499 and either 310 or 340, must be in 300, 400, or 500 level courses. One of the 300, 400, or 500 level courses must be chosen from among those courses indicated (*) on pages . . . . . . These courses emphasize literature written before 1900.

Choice of electives is important. Students should confer frequently with departmental advisors about planning their programs.

Secondary Education

Required: 110 Literary Interpretation; either 271 Structure of Modern English or 572 American Dialects; an American Literature course; either 310 Literary History and Criticism or 340 Development of English Verse; 499 Senior Seminar; plus electives to make 30 hours. Sixteen hours, including 499 and either 310 or 340, must be in 300, 400, or 500 level courses. One of the 300, 400, or 500 level courses must be chosen from among those courses indicated (*) on page 282-84. These courses emphasize literature written before 1900.
The courses in the teaching of English (English 381, 382, 383, and 385) do not count toward the English major. However, since a methods course is required for certification, at least one of these courses should be taken by all wishing to be certified to teach English in the secondary schools.

Choice of electives is important. Students should confer frequently with departmental advisors about planning their programs.

Elementary Education

Required: 110 Literary Interpretation; either 271 Structure of Modern English or 572 American Dialects; 282 Children's Literature; either 310 Literary History and Criticism or 340 Development of English Verse; 499 Senior Seminar; plus electives to make 30 hours. One of these elective courses must be chosen from among those courses indicated (*) on pages 282-84. These courses emphasize literature written before 1900.

Choice of electives is important. Students should confer frequently with the departmental advisors about planning their programs.

Students who count 282 Children's Literature toward the Elementary Education minor must substitute another English course for it in the English major. Students may not count both 282 Children's Literature and 283 Literature for Adolescents toward the English major.

Elementary Education majors should consult with a departmental advisor before registering for courses in the teaching of English (English 381, 382, 383, 385).

English major (any curriculum) with Writing Emphasis

Students in any curriculum may elect to take an English major with writing emphasis. Required: Twelve hours of advanced writing courses (to be selected, in consultation with an English Department advisor, from English 264, 266, 362, 364, 365, 366, 367, and 566), in addition to the requirements listed above for the student's curriculum (except that 266 may substitute for 110 for the major with writing emphasis). For further information, see an English Department advisor.

ENGLISH MINORS 20 hours required

General Curriculum and Liberal Arts

Required: 110 Literary Interpretation; an English Language course (271, 372, or 572); plus electives to make 20 hours.

For recommendations on desirable electives, students should consult a departmental advisor.

Secondary Education

Required: 110 Literary Interpretation; either 271 Structure of Modern English or 572 American Dialects; an American literature course; plus electives to make 20 hours.

For recommendations on desirable electives, students should consult a departmental advisor.

The courses in the teaching of English (English 381, 382, 383, and 385) do not count toward the English minor. English minors desiring to take one of these courses should consult a departmental advisor.

Elementary Education

Required: 110 Literary Interpretation; either 271 Structure of Modern English or 572 American Dialects; 282 Children's Literature; plus electives to make 20 hours.
For recommendations on desirable electives, students should consult a departmental advisor.

Students who count 282 Children’s Literature toward the Elementary Education minor must substitute another English course for it in the English minor. Students may not count both 282 Children’s Literature and 283 Literature for Adolescents toward the English minor.

Elementary Education minors should consult with a departmental advisor before registering for courses in the teaching of English (381, 382, 383, and 385).

English Minor with Writing Emphasis

Students in the General or Liberal Arts curriculum may elect to take an English minor with writing emphasis. Required: Twelve hours of advanced writing courses (to be selected, in consultation with an English Department advisor, from English 264, 266, 362, 364, 365, 366, 367, and 566), eight hours of course work in English language and literature, also to be selected in consultation with an English Department advisor.

DEPARTMENTAL COURSES

(Course descriptions in italics are approved for General Education purposes.)

105 Thought and Language: Variable Topics 4 hrs.

A writing course in which the student will work closely with the instructor to develop his sense of language as a means for shaping and ordering his experience and ideas, and to develop imagination, thought, organization, and clarity in his written work. The student has a choice of several options which vary in emphasis and approach. (For full listing of options and sections, see English Department Bulletin on Writing Courses.) May be repeated for credit. Does not count as credit toward English major or minor.

107 Good Books 4 hrs.

An exploration of good literature, selected from all times and countries, and experienced in a variety of ways—as fantasy and adventure, as imaginative response to fundamental human experience such as death or evil, as social criticism and analysis, as revelation of character and psychology, as experience of unfamiliar customs and cultures.

A course for the general student rather than the student who plans to specialize in the study of literature. Credit towards English major or minor by permission of the department only.

110 (210) Literary Interpretation 4 hrs.

An introduction to the study of literature, aimed at developing sensitivity and skill in the critical interpretation of poetry, drama, and prose fiction.

111 Contemporary Topics in Literature 4 hrs.

Exploration of fiction, poetry, drama, and film related to current concerns. Topics vary from semester to semester. Typical examples are: literature and ecology; the individual and the city in American novel and film; literature and the search for identity and “life style;” myth and folklore as response to realities of human experience.
An exploratory course for the general student rather than the student who plans to specialize in the study of literature. Credit toward English major or minor by permission of the department only.

150 Literature and Other Arts
Study of literature through its relationship to other arts. The course approaches literature by relating novels, stories, poems, or plays to their representations in other media and art forms, particularly film (including TV), music and song, dramatic representation, and painting.

210 Film Interpretation
Studies in the motion picture as art form.

212 (112) European Literature
Readings in European literature, in English translation, from the Greek period to the present, with emphasis on the comparative study of selected periods and authors.

222 American Literature and Culture
A study of some of the recurrent themes in American life as seen in American literature.

223 Black American Literature
A survey of important black American writers and the historical development of the black image and experience in American literature and culture. Prerequisite: 110 or the equivalent.

238 20th Century Literature, 1900 to World War II
Readings in the literature of the English speaking world either written between 1900 and World War II or by authors whose major work belongs to this period. Prerequisite: 110.

239 Contemporary Literature
Readings in the literature of the English speaking world either written between World War II and the present or by authors whose major work belongs to this period. Prerequisite: 110.

242 Development of the Drama
Studies in the development of the drama from the Classical Period to the present with emphasis on selected periods. Prerequisite: 110.

244 Development of the Novel
A study of the development and diversity of the novel as a literary form. Prerequisite: 110.

252 Shakespeare
A study of Shakespeare's art through the application of several critical methods to selected tragedies, histories, and comedies. Prerequisite: 110.

264 Journalism
Theory and practice of news gathering and news writing, copy editing, headline writing, news evaluation, page layout, and editorial writing.

265 Journalism Laboratory
Regular practice in newspaper editorial department work on the staff of a university newspaper at Western Michigan University. May be re-
peated for credit. Prerequisite: 264 Journalism, or 264 may be taken concurrently.

Journalism Laboratory does not count toward an English major or minor.

266 Writing Fiction and Poetry 4 hrs.
Study and practice in the writing of fiction and poetry, intended to develop the student's understanding of formal techniques and his skill in the use of these techniques.

271 (270) Structure of Modern English 4 hrs.
A study of the sound, word, and sentence structures (phonology, morphology, and syntax) of modern English.

282 Children's Literature 4 hrs.
A survey and analysis of the best that has been written for children or appropriated by them.
If this course is counted toward the English major or minor, 283 Literature for Adolescents may not be counted toward the English major or minor.

283 Literature for Adolescents 4 hrs.
Critical analysis of those genres read by youth from twelve to sixteen: fiction (especially that of maturation, adventure, history, and fantasy)—drama, poetry, myth and legend, biography, and other non-fiction.
If this course is counted toward the English major or minor, 282 Children's Literature may not be counted toward the English major or minor.

305 Practical Writing: Variable Topics 4 hrs.
A practical course for juniors and seniors who wish to develop their skills in writing. Emphasis is on understanding and writing forms of non-fictional prose that contribute to a keener critical awareness of the student's field of study, the arts in general, or oneself—such as, research papers and reports; commentary on the arts; autobiography and the personal essay. Topics vary and will be announced each year. A course for the distributive program of general education; does not count as credit towards an English major or minor.

310 Literary History and Criticism 4 hrs.
Discussion of important topics and problems, both historical and critical, involved in the systematic study of literature. Emphasis includes study in the chronology of English literature, its development and continuity, and an introduction to the nature and uses of formal literary criticism. Prerequisite: 110.

311 Perspectives Through Literature 4 hrs.
Exploration of an important realm of human nature and action through the special perspective provided by literature. The literary perspectives may be supplemented by materials from other arts or approaches. Topics vary and will be announced each year. Examples: The Irrational; The Quest for the Self; Images of Progress.
A non-technical course for the general student rather than the student specializing in the study of literature; does not count as credit towards an English major or minor.
322 American Literature: Major Writers 4 hrs.
Intensive reading of representative works of major American writers. Prerequisite: 110.

332 English Renaissance Literature* 4 hrs.
Representative selections from the major writers of the period 1500-1660, by such writers as More, Spenser, Bacon, Donne, and Milton. Prerequisite: 110.

An historical study of English poetry, from its beginning to the present, emphasizing the development of poetic techniques, major verse forms and styles, and their relation to theories of poetry. Prerequisite: 110.

362 Advanced Writing 4 hrs.
Practice in writing articles, essays, biographical and critical prose with emphasis on development of the student's individual style and elimination of obstacles to clear and vital expression.

364 Feature and Article Writing 4 hrs.
Study and practice in writing feature and magazine articles; attention to contemporary techniques and styles in documentary and personal reportage. Prerequisite: A previous college-level writing course.

365 Reviewing for the Press 4 hrs.
Theory and practice in writing reviews of books, drama, films, television, concerts and exhibitions for various kinds of mass-audience publications. Prerequisite: Previous course work in journalism, creative writing, literature, or media.

366 Advanced Fiction Writing 4 hrs.
An advanced course in the writing of fiction, with emphasis on class discussion and criticism of each student's writing. Prerequisite: 266 or permission of the department.

367 Advanced Poetry Writing 4 hrs.
An advanced course in the writing of poetry, with emphasis on class discussion and criticism of each student's writing. Prerequisite: 266 or permission of the department.

372 Development of Modern English 4 hrs.
A course in the history of the language treating the historic and linguistic forces which have affected pronunciation, grammar, and vocabulary.

381 Teaching of Literature 2 hrs.
Techniques and theories of teaching literature in the secondary schools.

382 Teaching of English Language 2 hrs.
Techniques and theories of teaching the English language to native speakers in the secondary schools. Prerequisite: 270 or 271.

383 Teaching of Writing 2 hrs.
Techniques and theories of teaching writing in the secondary schools.
385 Special Topics in the Teaching of English 2 hrs.
Selective study of classroom problems and techniques in the teaching of English. Content varies, but emphasis will be on use of special materials or media in the English curriculum, new and experimental teaching methods or programs, or problems of classroom interaction. May be repeated for credit. Prerequisite, if any, will be announced by the English Department for each section.

396 English Honors 4 hrs.
Intensive study of selected literary topics. Open only to students in the English Honors Program.

397 English Honors 4 hrs.
Continuation of 396.

410 Special Topics in Literature 4 hrs.
A study in historical perspective of selected literary works of the English speaking world or international literature in translation. Prerequisite: 110.

496 English Honors 4 hrs.
Continuation of 397: The writing of an Honors Essay on a topic selected by the student in consultation with the instructor.

499 Senior Seminar in English 4 hrs.
Special studies in language and literature for senior English majors. Students must reserve a place in a Senior Seminar section by getting a Control ("C") Card from the English office well in advance of pre-registration.

519 Non-Western Literature in Translation 4 hrs.
Studies of significant literary forms and works in Chinese, Indian, and other non-western literatures and of their relation to the values and patterns of the societies which produced them.

522 Topics in American Literary History* 4 hrs.
Study of a movement or a recurrent theme in American literature, such as romanticism, realism, naturalism, humor, racial issues. Prerequisite: 110.

529 Medieval English Literature* 4 hrs.
Studies in Old and Middle English literature, excluding Chaucer, read either in the original or in modernized versions. Prerequisite: 110.

530 Medieval Continental Literature in English Translation* 4 hrs.
Readings in medieval European literature (in English translation), excluding that of England. Prerequisite: 110.

531 Chaucer* 4 hrs.
Readings in Chaucer, with emphasis on *Troilus and Criseyde* and *The Canterbury Tales*. Prerequisite 110.

532 16th Century Literature* 4 hrs.
Selections from the major works in both prose and verse, by such writers as Wyatt, More, Sidney, and Spenser. Prerequisite: 110.
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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>533</td>
<td>17th Century Literature</td>
<td>4 hrs.</td>
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<tr>
<td></td>
<td>Selections from the major works in both prose and verse from 1600 to the Restoration, by such writers as Bacon, Browne, the metaphysical poets, and Milton. Prerequisite: 110.</td>
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<tr>
<td>534</td>
<td>Neo-Classical Literature</td>
<td>4 hrs.</td>
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<td></td>
<td>English literature from the Restoration through Pope and Swift. Prerequisite: 110.</td>
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<tr>
<td>535</td>
<td>18th Century Literature</td>
<td>4 hrs.</td>
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<td></td>
<td>Readings in major English authors of the mid and late Eighteenth Century, with emphasis on such writers as Johnson, Boswell, Goldsmith, Gray, Fielding, Sterne, and Smollett. Prerequisite: 110.</td>
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<tr>
<td>536</td>
<td>Romantic Literature</td>
<td>4 hrs.</td>
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<td></td>
<td>Readings in poetry and criticism, with emphasis on such writers as Blake, Burns, Wordsworth, Coleridge, Scott, Byron, Shelley, and Keats. Prerequisite: 110.</td>
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<tr>
<td>537</td>
<td>Victorian Literature</td>
<td>4 hrs.</td>
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<td></td>
<td>Readings emphasizing such writers as Carlyle, Mill, Dickens, Thackeray, Eliot, Tennyson, Browning, and Arnold. Prerequisite: 110.</td>
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<tr>
<td>538</td>
<td>Modern Literature</td>
<td>4 hrs.</td>
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<td></td>
<td>Readings in major authors of the 20th Century, with some attention to precursors of the modern movement. Prerequisite: 110.</td>
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<tr>
<td>543</td>
<td>Elizabethan and Jacobean Drama</td>
<td>4 hrs.</td>
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<td></td>
<td>Studies in the non-Shakespearian drama in England during the Elizabethan and Jacobean periods, by such dramatists as Kyd, Marlowe, Jonson, Webster, Tourneur, and Ford. Prerequisite: 110.</td>
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<tr>
<td>554</td>
<td>Milton</td>
<td>4 hrs.</td>
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<td></td>
<td>A study of Milton’s major works, with emphasis on <em>Paradise Lost</em> and the major poetry. Prerequisite: 110.</td>
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<tr>
<td>555</td>
<td>Studies in Major Writers</td>
<td>4 hrs.</td>
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<tr>
<td></td>
<td>Study of the works of classical, European, British, or American writers. Limited to one or two authors. Prerequisite: 110.</td>
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<tr>
<td>566</td>
<td>Creative Writing Workshop</td>
<td>4 hrs.</td>
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<tr>
<td></td>
<td>A workshop and conference course in the writing of poetry, fiction, or drama, with emphasis on refinement of the individual student’s style and skills. May be repeated for credit. Prerequisite: Six hours of creative writing, graduate standing, or permission of the department.</td>
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<tr>
<td>572</td>
<td>American Dialects</td>
<td>4 hrs.</td>
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<td></td>
<td>A study of regional, social, and stylistic variation among American dialects, with emphasis on the dialects of minority ethnic groups as structured systems.</td>
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<tr>
<td>574</td>
<td>Linguistics for Teachers</td>
<td>4 hrs.</td>
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<td></td>
<td>An application of the concepts of linguistics to the teaching of language, literature, composition and reading in the English curriculum. Prerequisite: 270, 271 or an Introduction to Linguistics course, or permission of the department.</td>
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</tbody>
</table>
598 Readings in English 1-4 hrs.

Individual reading project available to advanced students by special permission from the appropriate departmental advisor (undergraduate or graduate) and the staff member who will supervise the study.

Normally, permission is granted only to students who have well thought-out projects dealing with authors or materials not being covered currently in the schedule. Permission is usually not granted to students who want to use the course simply to get one or two hours credit to complete an English major or minor.
CURRICULA FOR MAJORS AND MINORS

This program is designed to provide the student with an improved understanding of man's physical and cultural surroundings and the interrelationship of these. Students are prepared for the teaching of geography in either the physical or social sciences at the elementary and secondary levels. Career preparation is available in diverse fields such as planning, cartography, and environmental perception. A program is also available for those who desire to continue in graduate studies.

A core of three courses (Geography 226, 205, 203) is required of all majors and minors. A non-teaching major in Geography with specialization provides for a minimum of 30 hours of which 6 hours may be drawn from appropriately related fields in the humanities, social, and physical sciences. An internship for variable credit (Geography 412) may be arranged for in this program. For those who intend to pursue graduate work, it is recommended that courses in mathematics and foreign languages be considered as electives.

The Department will accept, toward the major or minor, credits earned at community and junior colleges which correspond to the 100-, 200-, 300-level offered by this Department. However, transfer students should meet with the undergraduate adviser as soon as possible in order to finalize their program and avoid the danger of duplication of course work. Courses taken on a Credit/No Credit basis may not be counted toward the major except with the approval of the Department Chairman. An Honors program is available for students so recommended by members of the faculty of the Department of Geography.

Students are invited to call at Room 317, Wood Hall (phone 383-1836) for information concerning the departmental major, minor, honors program, or financial assistance.

NON-TEACHING MAJORS

<table>
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<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>226 Physical Geography</td>
<td>3 hrs.</td>
</tr>
<tr>
<td>205 Our Human World</td>
<td>3 hrs.</td>
</tr>
<tr>
<td>203 Geographic Inquiry</td>
<td>2 hrs.</td>
</tr>
</tbody>
</table>

Two courses from Group I at the 200 level or above
One course from Group II
One course from Group III

Remaining courses to be selected with consent of adviser.

NON-TEACHING MINORS

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>226 Physical Geography</td>
<td>3 hrs.</td>
</tr>
<tr>
<td>205 Our Human World</td>
<td>3 hrs.</td>
</tr>
<tr>
<td>203 Geographic Inquiry</td>
<td>2 hrs.</td>
</tr>
</tbody>
</table>
NON-TEACHING MAJOR — WITH SPECIALIZATION
30 HOURS

The areas of specialization are: Urban and Regional Planning, The Environment, Geographic Techniques, Physical Geography, and Regional Geography.

This major is focused upon courses designed to meet a student's particular needs. An internship (Geography 412) is available for those who wish to gain practical experience. This can be done by either assisting faculty in research, or by working in an approved off-campus agency. A maximum of 6 hours of supportive work from complementary disciplines may also be taken.

226 Physical Geography ........................................... 3 hrs.
205 Our Human World .............................................. 3 hrs.
203 Geographic Inquiry ............................................ 2 hrs.

Remaining courses must be selected with consent of adviser.

ELEMENTARY EDUCATION
MAJOR 30 HOURS

226 Physical Geography 3 hrs.
205 Our Human World 3 hrs.
203 Geographic Inquiry 2 hrs.
460 Concepts and Strategies in the Teaching of Geography 3 hrs.
311 Michigan 3 hrs.
or
380 Spatial Structure of the United States and Canada 3 hrs.

Remaining courses to be selected with the consent of adviser. Geography 460 may be waived and another Geography Group III course substituted if Education 507, Teaching of Social Studies in the Elementary Schools (2 hrs.) is required in another sequence.

ELEMENTARY EDUCATION
MINOR 20 HOURS

226 Physical Geography 3 hrs.
205 Our Human World 3 hrs.
203 Geographic Inquiry 2 hrs.
460 Concepts and Strategies in the Teaching of Geography 3 hrs.

SECONDARY EDUCATION
MAJOR 30 HOURS

Same requirements as elementary major.

SECONDARY EDUCATION
MINOR 20 HOURS

Same requirements as elementary minor.

Remaining courses to be selected with consent of adviser. Geography 460 may be waived and another Geography course substituted if Social Science 300, Teaching of Social Studies in Secondary Schools (3 hrs.) is required in another sequence.

Science Credit

The Geography courses 100, 105, 204, 206, 225, 226, 350, 553, 555, 560, 568, 580, and 582 are acceptable for science credit in appropriate science sequences.
100 World Ecological Problems and Man 4 hrs.

(Science credit) Geographers have long been concerned with studying the interactions between man and the environment. The major focus of these investigations today is concerned with man's misuse of the environment, which has led to the present day man-made environmental crisis. This introductory course combines scientific and non-technical appraisals of processes and problems dealing with the question of environmental quality. Therefore, man will be studied in his physical as well as his social setting. Though major issues may vary for developing and developed nations, topics concerned with population pressure, pollution and urbanization will be among those considered.

101 Issues of Mankind 2-3 hrs.

A geographic approach will be used to interpret selected characteristics of man and his cultural landscape. Topics include: urban problems, world poverty and social welfare, hunger, colonialism, employment crises, ethnic and minority groups, crime, types of world elections, communication and transportation systems, religion, and other issues of contemporary concern. Each offering of this course will focus on a single theme.

105 Our Physical Environment 4 hrs.

(Science credit) A study of the physical environment of man. The course examines the seasonal and latitudinal distribution of solar energy and its effect on weather, vegetation, soils, surface and subsurface waters, and the earth's major landforms. Terrestrial energy is reviewed in relation to earth materials and earth-forming processes. Man induced energy changes are interwoven into each topic. Maps, aerial photographs and outdoor observations are utilized as primary investigative tools.

107 Planetary Science in Elementary Education 4 hrs.

In interdisciplinary study of the earth, atmosphere, solar system and universe and the relationships and interactions among these. Taught by cooperating faculty from four departments, the course will provide a survey of geology, meteorology and climatology, and astronomy. Students will study each of the three topics for five weeks with different instructors. Classes will be limited to 30 students in order that instructors may use techniques which emphasize the relevancy of their disciplines in elementary education and its significance in the present and future lives of children. (No prerequisites) Not recommended for science majors.

204 National Park Landscapes 3 hrs.

(Science credit) Introduction to the physical and human landscapes of the national park system. Consideration of those natural and human processes which have produced the distinctive features of the national parks. Evolution of the national park concept, policies, and problems.
205 Our Human World 3 hrs.
An introduction to those aspects of geography concerned with man and his efforts to cope with his environment. Included are population and settlement forms, the utilization of resources, the impact of technology on human occupancy of the earth, and the origin and dispersal of cultural elements among the various world realms.

206 The Atmospheric Environment and Man 3 hrs.
(Science credit) A non-mathematical integrative approach to the atmospheric environment. Emphasis is placed on the interaction of the atmosphere with other environmental features with particular stress given to the role of the atmosphere in affecting the lives and activities of people. Inadvertent modification of the atmosphere by man, weather control, and air pollution also receive special treatment.

225 Introduction to Meteorology and Climatology 4 hrs.
(Science credit) A non-mathematical analysis of systematic and regional atmospheric behavior. First part of course deals with fundamental physical laws affecting the elements of weather—temperature, moisture and humidity, pressure, and winds. Second part of course examines the distribution of various types of climates over the earth's surface, with particular emphasis on the interaction of geographic factors with the major atmospheric climatic controls, and upon the effects of various climates on the economic activities of man. Prerequisite: Geography 105 or consent.

226 Physical Geography 3 hrs.
(Science credit) This course introduces the major element of man's physical environment. Energy is the organizing concept which ties together and inter-relates the elements of weather and climate, the distribution of plants and soils, and the processes which have shaped the earth's major landforms.

244 World Patterns of Economic Activity 3 hrs.
A survey of locational economic patterns and their interrelationships, including the study of spatial variation in economic development, primary production, energy generation, manufacturing, transportation, service occupations, and trade.

(Science credit) Critical evaluation of the major natural resources of the United States, particularly soils, water, forests, wildlife, and minerals; examination of the utilization of these resources so as to yield the maximum benefit to man. Emphasis is placed on principles, policies and issues in the management of natural resources.

Population distribution and settlement patterns are examined geographically. Population topics include mapping and analysis, theories of population change, and types of migration. Emphasis is also placed on functions and structure of urban and rural settlements in selected world regions.

540 Studies in Political Geography 3 hrs.
Philosophy and applications of the field of political geography.
A. **Principles of Political Geography.** Principles and concepts are treated as they apply to the evolution of the modern state. Concepts such as the “organic state,” boundaries and frontiers, the territorial sea and global relationships are treated in some detail.

B. **National Power.** The components of national power are analyzed according to political-geographic relationships.

**543 Cultural Geography**  
Techniques of spatial analysis applicable to the study of man and his adjustment to different environments. The place of origin, diffusion, and present distribution of selected cultural patterns will be traced with emphasis given to cultural traits which strongly influence human occupancy of the earth’s surface.

**544 Studies in Economic Geography**  
Presents world patterns of agriculture, manufacture, or transportation which link global production and consumption. In any term, the course focuses upon one of these three economic sectors.

A. **Agriculture.** Describes and analyzes the distribution of major crops and livestock, and their combinations in common farming operations. The spatial organization of agriculture through time is analyzed for selected areas.

B. **Manufacture.** Evaluates the general distribution and locational factors associated with selected industries, giving particular attention both to models of industrial location and to the empirical interrelation of economic, technological, and political elements affecting the locational decision.

C. **Transportation.** Emphasizes the historical evolution of transport systems in developed and developing nations, transport factors in location theory, techniques of transport analysis, the urban transport problem, and competitive and complementary characteristics of transport modes in differing political systems.

**553 Water Resources and Man**  
(Science credit) Examination of water resources management with emphasis upon rational development and utilization of available supplies. Topics include supply and demand, methods of supply augmentation (desalination, inter-basin transfers), water administration and policies, and various water problems together with their solutions.

**555 Contemporary Issues in Resources Management**  
(Science credit) Geographic analysis of selected contemporary natural resource and environmental problems, such as questions of natural resource adequacy, environmental pollution, political and economic problems related to resource management, and individual studies of local environmental problems. Prerequisite: Geography 350 or consent.

**556 Studies in Land Use Planning**  
Each of the courses listed below focuses on a major area of land-use planning. A student may receive credit for any or all of the offerings under Geography 556.

Philosophy and objectives of land-use planning; review of relevant legislation affecting utilization and conservation of land; classification
of land uses; field methods and mapping techniques required for description and analysis of land use patterns.

A. Urban Planning. Land use planning in American cities and metropolitan areas.

B. Regional Planning. Organization and plans of regional development programs.

C. Public Lands and Parks. Specific programs and policies relating to the preservation and/or development of government-controlled lands.

570 Cities and Urban Systems 3-4 hrs.
Study of processes and forms of urban settlement highlighting problems relating to 1) political and geographical realities or urbanized regions, 2) factors in city growth (or decline), 3) the sizes, functions, and geographical distribution of cities, and 4) population patterns in contemporary cities. Activities are designed to provide the student with experience in the use of source materials and field techniques utilized in urban geography.

GROUP II REGIONAL GEOGRAPHY

(Course descriptions in italics are approved for General Education purposes.)

309 Studies in Regional Geography 2-3 hrs.
An investigation of topics in physical and human geography of selected areas within major world regions. Regional concentration will vary from semester to semester, with the region being indicated at time of enrollment.

311 Geography of Michigan 3 hrs.
An introduction to the physical and cultural patterns in Michigan with emphasis upon an understanding of the distribution of population, resources, and forms of economic activity. Attention is also focused upon relevant current State problems. The specific content is determined by enrollees and the instructor.

380 Spatial Structure of the United States and Canada 3 hrs.
A study of the physical environment north of the Rio Grande followed by an analysis of the spatial structure of the area's population and economy. The basis for the regional differentiation of the USA and Canada is considered, followed by a region-by-region analysis of each of these unique integrations of physical and cultural phenomena.

381 South America 3 hrs.
Regional study of the nations of South America with attention to the interrelationships of the physical and cultural environments. Historical background necessary for the interpretation of the present political, social, and economic conditions is included.

382 Mexico and the Caribbean 3 hrs.
Systematic consideration of the physical environment of Mexico, Central America and the West Indies. A problems approach is utilized to reckon with the economic, social and political trends of the region.
College of Arts and Sciences

383 Western and Southern Europe 3 hrs.
Intensive regional study of those Western European nations situated west of the Iron Curtain. The physical elements (climate, landforms, resources, etc.) are examined and the derivative cultural elements are identified. Emphasis is placed upon the social and economic activities of contemporary Western Europe.

384 Soviet Peoples and Landscape: Continuity and Change 3 hrs.
A general examination of the most important aspects of the Soviet Peoples and landscape set in a spatial framework. Topics discussed include: The physical environment, population distribution and dynamics, the Soviet strategy of economic development (both national and regional), problems of agricultural development, industrial and transport patterns, and problems of environmental deterioration.

385 The Pacific Realm 3 hrs.
Selected studies of the relationships between man and his environment in Australia, New Zealand, Melanesia, Micronesia and Polynesia.

386 Sub-Saharan Africa: Man, Environments, Resources 3 hrs.
Survey of the principal physical and political patterns of Africa south of the Sahara; followed by studies of the significant elements of the major realms and states, e.g., population distribution, patterns of subsistence and commercial agriculture, status of mineral and power resource development, transportation routes, regional development programs.

387 The Middle East and North Africa 3 hrs.
Study of the diversity and uniformity—both physical and cultural—of the Middle East and Africa north of (and including) the Sahara. Special attention is given to aridity problem, economic development, petroleum, Arab re-unification movements, and the impact of the Muslim World on the current political scene.

389 Conflict Resolution in Southeast Asia 3 hrs.
Patterns of population growth, agrarian development, and resource use are examined in light of changing cultural and political forces, in the physical context of the Indo-Chinese Peninsula and the Malay Archipelago.

390 The Indian Subcontinent in Transition 3 hrs.
Changing patterns of population, and rural and urban economic development are examined in light of the Indian philosophical tradition and regional social and political pressures, in the physical context of the Indian subcontinent (India, Bangladesh, Pakistan, and Sri Lanka).

542 Historical Geography of North America 3 hrs.
A study of environmental, economic, and cultural factors as they combined to influence routes of exploration and trade, settlement patterns, regional economies, and sectional identities in North America.

550 Studies in Historical Geography 3 hrs.
Studies of geographic and related features which have combined to influence the course of historical development. This course will concentrate on a particular region and/or period of time during each
semester in which it is offered. Each specialization will be designated in the class schedule.

GROUP III GEOGRAPHIC METHODOLOGY AND RESEARCH

203 Geographic Inquiry 2 hrs.

The student will be introduced to geography as a field of study, of research, and occupational opportunity. Geography provides a means for analyzing the physical and cultural attributes of the environment. The student will have an opportunity to investigate social and environmental problems through data collection, analysis, interpretation, and map representation. The development of the various inquiry techniques in geography will be briefly reviewed and case studies exemplifying such development will be examined. The emphasis throughout will be on the application of inquiry models to geographic problems.

412 Professional Practice 2-5 hrs.

Provision for an advanced student to benefit by supplementary practical experiences in a particular branch of geography, either by assisting faculty engaged in research or by working in a departmentally-approved off-campus agency. Specific assignments are arranged in consultation with departmental advisers during the semester preceding that in which the student expects to enroll in 412. The student may enroll for one additional semester, but no student will be allowed more than six hours total credit for 412. Prerequisite: Junior standing and consent of Department Chairman.

460 Concepts and Strategies in the Teaching of Geography 3 hrs.

Study of objectives, tools, organization and presentation of material, methods of evaluation, and scrutiny of textual material in the field of geography.

560 Principles of Cartography 4 hrs.

(Science credit) Introduction to map construction with primary emphasis on the conceptual planning and designing of maps as a medium for communication and research. Lectures are supplemented by laboratory assignments to familiarize students with drafting techniques, lettering and symbolization, the concept of scale and scale transformations, map layout and design, processes of map reproduction, the employment and construction of projections, and the compilation procedures and execution of thematic maps. Two one-hour lectures and two two-hour laboratory periods.

566 Field Geography 4 hrs.

The theory and application of geographic techniques in field investigations; collection and analysis of field data; preparation and presentation of materials. The course is based primarily upon field observations. Desirable prerequisite: Geography 560 or consent.

568 Quantitative Methodology 3 hrs.

(Science credit) The application of quantitative concepts and methods to the solution of geographic problems. Critical review of research in quantitative geography ranging from the use of common statistical
techniques to method of model formulation in the analysis of spatial interaction. A course in statistics is a desirable preparation for this course.

580 Advanced Cartography 3 hrs.
(Science credit) Study of the more complex map projections, the compilation of data and the design of maps and graphs for research papers and the application of statistical techniques in mapping geographic phenomena. Students are assigned special problems to develop their proficiency in the use of cartography as a tool in research. One hour lecture and two two-hour labs. Prerequisite: Geography 560 or consent.

582 Remote Sensing of the Environment 3 hrs.
(Science credit) The student will acquire proficiency in the fundamental techniques and skills of photogrammetry and photo-interpretation during the first part of the course. The remainder of the semester will be spent in interpreting photos dealing with such topics as geomorphology, archaeology, vegetation and soils, water resource, rural and urban land use as well as topics adapted to the interest and anticipated future work of the student.

598 Readings in Geography 1-3 hrs.
Designed for highly qualified majors and graduate students who wish to study in depth some aspect of their field of specialization under a member of the departmental staff. Prerequisite: Consent of department adviser and instructor.
### Geology

W. Thomas Straw, Chairman

John D. Grace  Richard V. McGehee  Lloyd J. Schmaltz

W. Davis Kuenzi  Richard Passero

#### GEOLOGY MAJOR (MINIMUM 31 HOURS)

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>S.H.</th>
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<tbody>
<tr>
<td>Physical Geology 130</td>
<td>4</td>
</tr>
<tr>
<td>Earth History and Evolution 131</td>
<td>4</td>
</tr>
<tr>
<td>Mineralogy 335</td>
<td>4</td>
</tr>
<tr>
<td>Optical Mineralogy 336</td>
<td>3</td>
</tr>
<tr>
<td>Structural Geology 430</td>
<td>3</td>
</tr>
<tr>
<td>Petrology and Petrography 440</td>
<td>3</td>
</tr>
<tr>
<td>Invertebrate Paleontology 533</td>
<td>4</td>
</tr>
<tr>
<td>Senior Seminar in Geology 460</td>
<td>2</td>
</tr>
<tr>
<td>Stratigraphy and Sedimentation 535</td>
<td>4</td>
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</tbody>
</table>

A minimum of a “C” is required in each of the required courses.

Supporting required courses: Chemistry 101 or 102 (for students with a high school chemistry background), and 120 or 103 and 109; Physics 110 and 111, or 210 and 211; Biology 100 and 101 or as arranged by counselor; and Mathematics 122 and 123. Some modification of these requirements may be made in consultation with the student’s departmental counselor. In addition, at least one year of foreign language (German, French, or Russian), and a summer field course in geology are recommended. Students electing chemistry as a supporting minor should take Chemistry 101 or 102, 120, 222 and 430.

#### GEOLOGY MINOR (MINIMUM 18 HOURS)

The geology minor is designed as a supporting minor for students preparing to do professional work in the fields of chemistry, physics, engineering, zoology, botany, and geography. It cannot be combined with earth science as a major-minor or double minor relationship. A student may design a geology minor for his specific need.

<table>
<thead>
<tr>
<th>Required Courses</th>
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<tbody>
<tr>
<td>Physical Geology 130</td>
<td>4</td>
</tr>
<tr>
<td>Earth History and Evolution 131</td>
<td>4</td>
</tr>
<tr>
<td>One of the following options is recommended:</td>
<td></td>
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<tr>
<td>Mineralogy 335</td>
<td>4</td>
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<tr>
<td>Optical Mineralogy 336</td>
<td>3</td>
</tr>
<tr>
<td>Petrology and Petrography 440</td>
<td>3</td>
</tr>
<tr>
<td>Invertebrate Paleontology 533</td>
<td>4</td>
</tr>
</tbody>
</table>

Course substitution from other geology offerings can be made with the consent of counselor (e.g., a geography major might elect economic geology and geomorphology)

| or                                        | 22   |
| Minerals and Rocks 301                    | 3    |
| Invertebrate Paleontology 533             | 4    |
| 3 additional hours in geology             | 3    |

|                                            | 18   |
MAJOR OR MINOR IN EARTH SCIENCE

The earth science major is designed for those students preparing to teach in elementary and secondary schools and as a broad flexible program for those who plan to work in conservation, state and federal parks and planning agencies.

<table>
<thead>
<tr>
<th>Major (30 hours) Required Courses</th>
<th>S.H.</th>
<th>Minor (21 hours) Required Courses</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Astronomy 105</td>
<td>4</td>
<td>Astronomy 105</td>
<td>4</td>
</tr>
<tr>
<td>Introduction to Meteorology and Climatology 225</td>
<td>4</td>
<td>Introduction to Meteorology and Climatology 225</td>
<td>4</td>
</tr>
<tr>
<td>Physical Geology 130</td>
<td>4</td>
<td>Physical Geology 130</td>
<td>4</td>
</tr>
<tr>
<td>Earth History and Evolution 131</td>
<td>4</td>
<td>Earth History and Evolution 131</td>
<td>4</td>
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<tr>
<td>Oceanography 300</td>
<td>3</td>
<td>Oceanography 300</td>
<td>3</td>
</tr>
<tr>
<td>Minerals and Rocks 301</td>
<td>3</td>
<td>Teaching of Earth Science 307</td>
<td>2</td>
</tr>
<tr>
<td>Elementary Field Geology 339</td>
<td>3</td>
<td></td>
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<tr>
<td>Electives</td>
<td>3</td>
<td></td>
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</table>

Students electing a non-teaching major or minor in earth science must substitute an additional 2 hours of each science electives for Geology 307. Additional substitutions may be elected with the consent of the departmental counselor.

GROUP SCIENCE MINOR (Minimum 24 hours)

The group science minor is designed for students preparing to do professional work in geology. All such students must complete this minor or they may elect to substitute a biology, chemistry, or mathematics minor. If such substitution is made all other courses in the group minor must be taken as supporting required courses. Some modification of these requirements may be made in consultation with the student’s departmental advisor.

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>S.H.</th>
<th>Biology</th>
<th>S.H.</th>
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</thead>
<tbody>
<tr>
<td>Chemistry</td>
<td></td>
<td>Principles of Biology 100</td>
<td>3</td>
</tr>
<tr>
<td>General Chemistry 101 or 102</td>
<td>4</td>
<td></td>
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<tr>
<td>Qualitative Analysis 120</td>
<td>4</td>
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<td>or</td>
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<td></td>
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</tr>
<tr>
<td>General Chemistry 103</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Chemistry 109</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td></td>
<td>Electives</td>
<td></td>
</tr>
<tr>
<td>General Physics 110</td>
<td>4</td>
<td>At least 5 credit hours selected from the physical or biological sciences with approval of student’s advisor.</td>
<td></td>
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<tr>
<td>General Physics 111</td>
<td>4</td>
<td></td>
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<tr>
<td>or</td>
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<td></td>
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<tr>
<td>Mechanics and Heat 210</td>
<td>4</td>
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<tr>
<td>Electricity and Light 211</td>
<td>4</td>
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</tbody>
</table>

8
100 Earth Studies
The earth we live on is both friend and foe. It provides for us only if we understand it. If not, it becomes a harsh environment which might permit us to only eke out a primitive existence. Geology 100 introduces students to the stuff of which the earth is made, to the processes which have created the earth as we know it and to the geological hazards which affect our environment. Included are such topics as rocks and minerals, earthquakes and the structure of the earth, water occurrences and resources, glaciers, volcanoes, oceanography, continental drift, sea floor, spreading and plate tectonics, and the origin and evolution of life.

107 Planetary Science in Elementary Education
In interdisciplinary study of the earth, atmosphere, solar system and universe and the relationships and interactions among these. Taught by cooperating faculty from four departments, the course will provide a survey of geology, meteorology and climatology, and astronomy. Students will study each of the three topics for five weeks with different instructors. Classes will be limited to 30 students in order that instructors may use techniques which emphasize the relevancy of their disciplines in elementary education and its significance in the present and future lives of children. (No prerequisites) Not recommended for science majors.

130 Physical Geology
A study of the common rocks and minerals and the geologic processes acting upon these materials that form the structure and surface features of the earth. Three lectures and a two-hour laboratory period.

131 Earth History and Evolution
Geologic time, evolution of prehistoric life, and principles of earth history with case examples from North America. Prerequisite: Geology 130 or consent.

300 Oceanography
Survey of oceanographic sciences including physical, chemical, biological, and geological oceanography. Lecture 3 hours a week.

301 Minerals and Rocks
A one semester course covering hand specimen mineralogy and petrology; includes introduction to crystallography, physical and chemical properties of minerals, and rock description and genesis. Will not count toward a major in geology. Prerequisite: Geology 130 or 112.

307 Teaching of Earth Science
Philosophy, objectives, and methods of teaching secondary school earth science. Designed for each science majors and minors. One hour lecture and two hours of lab. Prerequisites: 16 hours of Earth Science (including Geology 130 or 112) or consent.

312 Geology of the National Parks and Monuments
A study of the origin of geologic features and the development of landscapes through geologic time in National Parks and selected Monu-
460 Senior Seminar in Geology 2 hrs. Winter

A seminar designed to provide senior students with the opportunity to examine and discuss important topics in geology. Senior geology majors are required to elect this course for one semester for 2 credit hours. Prerequisite: Senior standing in geology.

335 Mineralogy 4 hrs. Fall

Introduction of crystallography, crystal chemistry, and determinative mineralogy. Physical and chemical properties, occurrence, uses and determination of about 80 minerals. Lecture 3 hours a week. Laboratory 3 hours a week. Prerequisite: Geology 112 or 130 and General Chemistry or consent of instructor.

336 Optical Mineralogy 3 hrs. Winter

Principles and methods of optical crystallography. Study of minerals in crushed grains and in thin sections. Lecture 2 hours a week. Laboratory 3 hours a week. Prerequisite: Geology 335.

339 Field Studies in Geology 1-6 hrs.

Field study of specific subjects in Geology. Subject offered will be announced in advance and selected from: Field mapping, stratigraphy and sedimentation, regional geology, and so forth.

430 Structural Geology 3 hrs.

Development of rock structures and mechanics of rock deformation. Structural interpretation of geologic maps, cross-sections, and aerial photographs. Lecture 2 hours a week. Laboratory 2 hours a week. Prerequisite: Geology 131 and 440, or consent of instructor.

434 Problems in Geology 1-3 hrs.

Intensive reading and research on a topic in geology under the direction of a member of the geology faculty. Prerequisite: 16 hours in Geology and permission of instructor.

440 Petrology and Petrography 3 hrs. Fall

Classification, origin, and description of igneous, sedimentary, and metamorphic rocks. Laboratory study of rocks and thin sections. Lecture 3 hours a week. Laboratory 3 hours a week. Prerequisite: Geology 336.

444 Environmental Geology 3 hrs.

It has been said that Environmental Geology is a ridiculous term because all geology is environmental. It might also be said that all our earthly environment is geological — or intimately dependent on it. Environmental geology encompasses such critical subjects as the occurrence, utilization and limitations of our natural resources (rocks, minerals and fossil fuels); the cause, effects and hopefully the predictions of earthquakes; the requirements and hazards associated with construction sites; the occurrence and availability of water resources; the problems of waste disposal and many others. The course utilizes professional and semi-professional papers and will involve case studies.

460 Senior Seminar in Geology 2 hrs. Winter

A seminar designed to provide senior students with the opportunity to examine and discuss important topics in geology. Senior geology majors are required to elect this course for one semester for 2 credit hours. Prerequisite: Senior standing in geology.
299

Geology

502 Special Problems in Earth Science  1-3 hrs. Fall, Winter
Individual problems involving topical reading and/or research problems in earth sciences. May be repeated for credit. Prerequisite: Consent of instructor.

520 Economic Geology  3 hrs.
Origin, occurrence, and utilization of metallic and non-metallic mineral deposits, mineral fuels, and water. Lecture 3 hours a week. Prerequisite: Geology 335, or consent of instructor.

532 Geomorphology  3 hrs. Fall
A systematic study of the development of land forms as created by the processes of vulcanism, gradation, and disatrophism with interpretation of topographic and geologic maps, and aerial photographs. Prerequisite: Geology 112 and consent or 131.

533 Invertebrate Paleontology  4 hrs. Fall
Morphology, classification, evolution, and stratigraphic distribution of major invertebrate fossil groups. Three lectures and a three-hour laboratory. Prerequisite: Geology 131 or consent.

534 Vertebrate Paleontology  4 hrs.
Comparative morphology, classification, stratigraphic distribution, and evolution of fossil fish, amphibians, reptiles, mammals, and birds. Three lectures and a three-hour laboratory per week. Prerequisite: Geology 131 or consent.

535 Stratigraphy and Sedimentation  4 hrs. Winter
Principles of stratigraphy and sedimentation including correlation, facies, stratigraphic nomenclature, and sedimentary petrology, processes and environments. Three lectures and three-hour laboratory. Prerequisite: Geology 131 and consent.

536 Glacial Geology  3 hrs. Spring
A study of the mechanics of glacier movement, processes of glacial erosion and deposition, and the distribution of glacial features in space and time. Special emphasis will be placed on the glacial geology of the Great Lakes area. Prerequisite: Geology 131 and consent of instructor.
MAJORS AND MINORS IN HISTORY

Major and minor slips are not required, except for those who wish to transfer History course credit from another college. However, all majors and minors should register at the History Department office, complete a personal data form, and arrange for an interview with the Department's Administrative Assistant.

Students planning to major in history should get a copy of the History Major Handbook from the department officer (4075 Friedmann) promptly after choosing their major.

Since each major is unique, appropriate cognate courses will vary widely from student to student. Therefore history students should choose cognates according to their particular needs after consultation with their History advisors.

Students planning to do graduate work beyond the M.A. are advised to study two languages. French and German are most frequently required in graduate school. Students planning to teach History in the secondary school should elect Social Science 300, Teaching of Social Studies in Secondary Schools, and those planning to teach in the Elementary school should take Social Science 507, Teaching of Social Studies in Elementary Schools. Credit earned in these courses cannot be counted towards a History major or minor.

Courses taken on a Credit/No Credit basis may not be counted towards the major, except with the approval of the Department Chairman or Administrative Assistant. While many graduate schools will accept students who have elected a significant amount of work on a Credit/No Credit basis, admission may then depend on the results of the Graduate Record Examination or some comparable test. Graduate schools and school employers generally favor those applicants who have good letter-grades on their transcripts.

REQUIREMENTS FOR THE MAJOR

I. Basic Courses: The following four basic courses or their equivalents:
A. Early Western World (Hist. 100) and Modern Western World (Hist. 101)
B. United States History 210 and 211

II. Non-European Area: One course chosen from:
   341 Soviet Union
   349 Ancient Near East
   370 History of Latin America
   371 Contemporary Latin America
   380 Introduction to Asian History and Civilization
   381 Modern Far East
   386 Introduction to African History and Civilization
   389 The Modern Middle East

III. Advanced Courses: A minimum of five courses taken in at least three of the following fields:
   A. North American History: (310, 312, 314, 315, 316, 375, 514, 516, 518, 519, 520, 521, 522, 524, 525, 526, 527)
   D. History as a discipline, topical courses, comparative history: (300, 306, 307, 308, 309, 390, 500, 511, 592, 593, 594, 595)

IV. Colloquium:
   A. Colloquium: History Teaching in High School
   OR
   B. Colloquium: History as a Discipline

V. Earn an overall average of "C" or better for all courses counted toward the major and no grade lower than C in any course numbered 300 or above which is to be counted as part of the major.

REQUIREMENTS FOR THE MINOR

I. I and II above
II. Any two advanced history courses numbered 300 or above
III. Requirement V above

Special Provisions
The Department will consider deviations from the above stated requirements. Such deviations must be approved by the Administrative Assistant. It will be necessary for the student to demonstrate familiarity with the subject matter in question.
Honors students in history should arrange, as early as possible, a conference with the departmental Honors adviser in order to work out an appropriate program with him.

TRANSFER CREDIT
A major in History must complete at this University a minimum of four History courses counted towards the major, including the two re-
quired 500-level courses. This requirement might be waived with the permission of the Department, provided acceptable courses were taken at an accredited four-year institution.

Questions about transferring History course credit from other colleges or about the equivalency of History courses elsewhere to those at this University should be addressed to the Administrative Assistant.

HONORS PROGRAM

The Honors Program in History provides an opportunity for qualified students to earn the Bachelor's degree with Honors in History. To be eligible for the program, a student must have completed at least three semesters, attained a 3.3 grade point average for all History courses taken at the college level, and declared himself a History major.

Each honors student in History is expected to earn a 3.5 grade point average for all courses counted towards the major. The major will include completion of one of the alternatives in these two categories: a) History 390 or History 593, and b) History 490 or the combination of History 470 and History 598. Finally, the honors student must pass a comprehensive oral examination. The honors program within a History major is arranged in consultation with the Departmental Honors Chairman.

I. General Courses:

(Course descriptions in italics are approved for General Education purposes.)

100 The Early Western World 4 hrs.
Throughout the centuries western man has constantly adjusted his life style in response to the challenge of his times. In the process he has created many government forms, social structures, interpretations of man, ideological systems, and modes of artistic expression. The course examines these creations and shows how the historian analyzes the patterns of persistence and change which they reflect. Periods covered: Ancient Greece, Ancient Rome, Middle Ages, Renaissance, Reformation.

101 The Modern Western World 4 hrs.
Throughout the centuries western man has constantly adjusted his life style in response to the challenge of his times. In the process he has created many government forms, social structures, interpretations of man, ideological systems, and modes of artistic expression. The course examines these creations and shows how the historian analyzes the patterns of persistence and change which they reflect. Period covered: 1648 - the Present.

102 History Through Literature 3 hrs.
The written works of any age reveal the moods, tensions, interests, outlook, and tastes of that period. This course is an introduction to historical literature. In it the effects of wars, revolutions, depressions, machines, and social conditions will be revealed through novels and other writings. How men have reacted to their problems in the past will suggest how we may deal with those of the present.
103 History and Current Events

The mass media supply modern man with such a wealth of information on current social, political, and economic developments that confusion often results. Nevertheless the citizen of a democratic state is expected to make well-considered choices. This course will show what history can contribute to gaining perspectives which help organize and thus understand current events.

104 America and Her Minorities

This course will focus on mainstream America and her attitudes and actions toward the various ethnic minorities. It will not be a history of each concerned minority, although minority reactions to majority actions will be examined. Native Americans, Chicanos, Blacks, Chinese, Japanese, Jews and Southern and Eastern Europeans will be included. The sources to be used will be Presidential addresses and actions, Congressional debates and legislation, Supreme Court decisions, scholarly and scientific writing, and the popular arts, such as newspapers, widely-circulation magazines, best-selling novels, cartoons, films, radio, pop tunes, and advertising.

105 Man and His Environment Throughout History

An examination of the relationship between man and his environment in historical perspective. The course approaches both mankind and the environment as evolving phenomena in an attempt to demonstrate the many variables involved when different types of political, social, and economic organizations interact with the many types of environments in the world, which are themselves changing constantly. Current relationships between mankind and the world environment are placed in perspective by considering past examples of environmental change and human adaptability.

145 The Birth of the Modern World

An interdepartmental course in selected topics crucial to an understanding of the ways in which the Middle Ages and the Renaissance have made Western culture what it now is. Faculty from two or more departments will deal with the semester's topic as seen from the viewpoints of the fields of study they represent, such as art, music, history, philosophy, literature, religion, etc. Emphasis is upon showing the interrelatedness of various aspects of knowledge and the arts. Typical topics are: Ideas and Institutions of the Year 1200; Man, Woman and Marriage in Medieval and Renaissance Literature and Art.

The course may be taken for credit in whatever departments list it as an offering in the schedule of classes for a given semester. Also approved as a general education course, humanities and fine arts area.

210 United States to 1877

This is an introductory course, but not the traditional narrative survey. Emphasis is placed upon basic intellectual, political, economic and social influences that have shaped American life. Selected themes that reveal continuities in the American experience are used to introduce students to problems encountered in the study of history.

211 United States Since 1877

A continuation of History 210, with an emphasis upon the emergence of the United States as a world power and the consequences of this development. Again, the focus is upon selected themes such as urban-
304 College of Arts and Sciences

ization, industrialization, and reform that reveal continuities in the American experience. Particular attention is given to various attempts to interpret Twentieth century American development.

II. Specialized Courses

(Course descriptions in italics are approved for General Education purposes.)

300 Issues in History 2-3 hrs.

This course is designed to show the usefulness of the historical approach for the understanding of the great and relevant issues confronting modern man. This course will offer multiple sections, each of which may deal with a different topic as listed in the Schedule of Classes. The course may be repeated for separate credit so long as the topic varies. Representative topics which may be treated include the Palestinian problem, contemporary British thought, the military in modern German society, Americans and nature, and European social revolutions.

306 Main Currents of Early Western Thought 3 hrs.

In this course we will consider the ideas and values which are the legacy of the early West to modern man. We will study ancient Near Eastern myth; the Jewish concepts of God, man and time; the Greek philosophical mind; and the early Christian religion. We will also see how these elements were combined in the Middle Ages to form something new, the "West" with its ideas of progress and order, science and faith, rationalism and mysticism.

307 Main Currents of Modern Western Thought 3 hrs.

The nature and prospects of the history of ideas; the Renaissance and Reformation and the transition from medieval values; the scientific revolution of the 17th century; the baroque; the 18th century Enlightenment; 19th century romanticism, liberalism, nationalism, socialism and materialism; formation and leading features of the contemporary world view.

308 Myth and Reality in the American Past I 3 hrs.

Americans have often portrayed their past in light of their ideals rather than historical realities. This course will explore the ideas and fancies of ordinary people, as well as of writers, politicians, preachers, and scholars as they defined the American Dream. Students in History 308 will examine the relationship between the earliest American Dreams and contemporary problems. History 309 will carry the story forward from 1890.

309 Myth and Reality in the American Past II 3 hrs.

Americans have often portrayed their past in light of their ideals rather than historical realities. This course will explore the ideas and fancies of ordinary people, as well as of writers, politicians, preachers, and scholars as they defined the American Dream. Students in History 308 will examine the relationship between the earliest American Dreams and contemporary problems. History 309 will carry the story forward from 1890.

310 History of Michigan 3 hrs.

The development of Michigan from a primitive wilderness to an indus-
trial state, with emphasis on the relation of the history of the state to that of the nation.

312 (299) Representative Americans 3 hrs.
An examination of important themes and movements in American history through the reading and discussion of the biographies of representative figures. The pattern of topics may vary from year to year, but the staples are Puritanism, the Founding Fathers, Jacksonian democracy, the Civil War, industrialization, Progressivism, the New Deal, and the Negro revolution.

314 History of the American Negro 3 hrs.
A survey of the black man's experience from African origins to the contemporary American scene. Although the changing cultural and historical framework will not be ignored, attention will center on what the black man did, said, and thought. Individual reading assignments on the lives of outstanding figures from Phillis Wheatley to Eldridge Cleaver will be utilized.

315 (515) Popular Art and Architecture in America 3 hrs.
Introduction to popular themes in American history as shown in paintings, buildings, cartoons and commercial art. While issues will vary, the topics will include the Middle Americans, the Environment, the City, and Industrialization. Extensive use will be made of local illustrations which could be adapted to elementary and secondary teaching.

316 U.S. Economic History 3 hrs.
A study of American economic growth and change from colonial beginnings to the present. Major topics or themes examined include: the changing fortunes and significance of various socio-economic groups, the impact of technology and research, the growing role of government, and the causes and consequences of the revolutions in agriculture, transportation, and industry. Attention is given to the quantitative approach to the problem of generalization in economic history.

340 Tsarist Russia 3 hrs.
Rise and Fall of Novgorod-Kiev, the Emergence of Muscovy, and the Rise of Imperial Russia through the reign of Alexander III, with special emphasis upon the social evolution of the Russian peasants, the rise and decline of the nobility, the symbiotic nature of Church and State, and the emergence of a unique Russian Civilization.

341 The Soviet Union 3 hrs.
This survey course is designed to give the student a knowledge and appreciation of the various facets of the history of the Union of Soviet Socialist Republics from 1917 to the present. Aspects of the U.S.S.R. that are studied include Marxism-Leninism, the Communist Party, the government, foreign policy, planned economy, the systems of health and education; and contemporary art, literature, and music.

342 Great Britain and the British Empire 3 hrs.
A general survey of British history beginning with the building of modern Britain in the 16th Century and including the emergence of the empire, the birth pangs of representative government, the civil war, restoration and revolution during the 17th Century; the establishment
of political stability, the economic revolution, and the loss of an empire in the 18th Century; and the problems created by the French Revolution and Napoleon in the early 19th Century.

343 Great Britain and the British Commonwealth 3 hrs.
A summary of British history in recent times from the age of reform and the era of world spremacy during the reign of Victoria in the 19th Century through struggle for freedom in two world wars, emergence of the Commonwealth, the problems between the wars, socialist revolution and its consequences in the 20th century.

344 Modern Eastern Europe 3 hrs.
Life and death of the ancient Bulgarian, Serbian and Hungarian Empires, and the struggle of Balkan and South-East European nations against the Ottoman, Hapsburg, Tsarist and Soviet Empires, with special emphasis upon the periods of national independence.

345 The Baltic Region 3 hrs.
An examination of the themes and movements that formed the national life histories of Finland, Estonia, Latvia, and Lithuania, as well as the centuries-long struggle between Russia's drive toward the domination of the Baltic Area and the development of distinct national consciousness on the part of the Baltic peoples.

346 Modern Germany 3 hrs.
German history since the 18th Century raises questions of wide human concern. What is a man's country? What is treason? What makes for a good life? Why work hard at anything? How free is any man to think or to act? The search for answers has evoked further questions as to the nature of freedom, bigotry, conditioned behavior, dissent, defeat, genius, creativity, Fascism, Socialism, Communism, Democracy, militarism, and much more.

349 The Ancient Near East 3 hrs.
The cradles of civilization in ancient Mesopotamia and Egypt are explored in this course. An introduction to archaeology and early man is followed by a survey of the ancient Sumerian, Babylonian, Egyptian, Hittite, Phoenician, and Hebrew cultures, as well as the Assyrian and Persian imperialism that replaced them.

350 Ancient Greece 3 hrs.
This course surveys the origin of the ancient Greeks, their role in the Aegean civilization of Crete and Troy, the Homeric Age, and the development of the polis. Special emphasis is placed on the contrasting city-states of Athens and Sparta, as well as on the unique achievements and cultural legacy of Hellenism. The course closes with the decline of Greece, Alexander the Great, and the Hellenistic world.

351 Ancient Rome 3 hrs.
This course surveys the early Italic, Etruscan, and Greek cultures of ancient Italy prior to the founding of Rome. The rise of the Roman Republic, the conquest of the Mediterranean, and the civil wars come next into focus, with a final segment devoted to the Roman Empire, its cultural achievements, and its ultimate decline and fall.
352 Early Medieval History  
3 hrs.  
The genesis of modern European civilization from the fall of Rome through the twelfth century. We will study the legacy of early Christianity, classical culture, and the Germanic peoples of the West. We will also consider how these elements were synthesized in the time of Charlemagne and modified in the age of feudalism. All this will lead up to a study of the medieval reformation and the twelfth-century renaissance. Although political and economic questions will be considered, the main emphasis will be on the contributions of medieval thought, life, art, and culture to the modern world.

353 Later Medieval History  
3 hrs.  
The flowering, then the break-up of medieval unity. We will study the peculiar relationship between church and state in the thirteenth century, then the thought of that century which contributed so much to the modern world in the areas of science, art, religion, and university life. We will look at medieval society with an eye to its impact on modern thought, from the notion of progress to attitudes toward dissidents. We will also briefly consider how medieval attitudes changed during the crisis of the Fourteenth Century, the Renaissance, and the Reformation.

370 History of Latin America  
3 hrs.  
A survey is undertaken of the historical development of the Latin American region from its pre-Columbian Indian and Spanish ancestry to its contemporary expression in national entities. Attention is given to men and motives as well as to institutions and attitudes insofar as each of them determined the character of a given epoch and contributed to the pattern of overall development.

371 Contemporary Latin America  
3 hrs.  
There is undertaken here an analysis of contemporary Latin America, a world area of immediate and future critical import in the affairs of mankind. An effort is made to gauge the origins, depth, and intensity of the dynamic forces and impulses which are inexorably wrenching Latin America out of a tradition-encrusted mold and forming it anew.

375 Canadian History  
3 hrs.  
Canadian History is a survey of that country’s past from the first explorations and the beginnings of the fur trade in the 16th century to the new nationalism of the 1970’s. Special attention is given to the sources of Anglo-French division and Canada’s changing relationship with the United States.

380 Introduction to Asian History and Civilization  
3 hrs.  
An examination and analysis of the natural and human environment of the early Asian peoples and the emergence of philosophical, political, economic, social, and religious thoughts and corresponding ways of life of the Asians. A study of the encounter between the East and the West, and of how Asian people responded to the challenges from the West. Primary emphasis will be placed on the Hindu, the Moslem, the Confucian, the Buddhist, and the Shint0n cultural regions in Asia.

381 The Modern Far East  
3 hrs.  
A survey of the international relations of China, Japan, and Korea; reform and revolutionary movements in East Asia; aims and techniques
of modernization and Westernization; the rise and fall of militaristic Japan; political and social upheavals, and the emergence of communism in China; and the rise of two Koreas.

386 Introduction to African History and Civilization 3 hrs.
An overview of the major aspects of African civilization in the context of their development from pre-colonial times to the present. Emphasis upon those elements which contribute to the cultural and historical unity and uniqueness of the African experience.

389 Modern Middle East 3 hrs.
The Middle East since the collapse of the Ottoman Empire at the close of World War I. Emphasis is upon the history of the Arab-Israeli conflict, which may be seen as thematic of the clash of the major forces shaping the modern Middle East, including Arab nationalism, Zionism, and colonialism.

390 Introduction to the Study of History 2 hrs.
Human life changes constantly. The historian analyzes these changes when he studies the life expressions of past generations. How the historian works at his task of "reconstructing" the past, the problems he encounters, and the various results he produces are the topics of the course.

398 History Colloquium A—Education 1 hr.
In seven two-hour sessions students will be introduced to the work situation they can expect as historians teaching in secondary schools. Secondary teachers will speak on new and old teaching methods, trends in the history curriculum, and general professional activities of a history teacher.

399 History Colloquium B 1 hr.
Majors in history not intending to teach are introduced to general problems involved in the study of history. This will be done most often through discussion of research and writing by historians who have themselves done creative work in their field.

470 Independent Research in History 2-3 hrs.
For gifted students with special interests. The usual requirement is a 3.0 minimum overall grade point average and a 3.2 minimum grade point average in all History courses. Research and writing on some selected period or topic under the supervision of a member of the History faculty, with the approval, prior to registration, of the supervising instructor and the chairman of the Department's individualized courses.

490 Honors Seminar
Presentation of an Honors Essay by students enrolled in the Department Honors Program. Such students apply to the Department Honors chairman for admission to this course prior to registration time.

500 Problems in History 2-3 hrs.
This course is designed to show the usefulness of the historical approach for the understanding of the great and relevant issues confronting modern man. This course will offer multiple sections, each of which may deal with a different topic as listed in the Schedule of Classes. The course may be repeated for separate credit as long as the topic
varies. Representative topics which may be treated include the Palestinian problem, contemporary British thought, the military in modern German society, Americans and nature, and European social revolutions.

510 Field Experience in History 3 hrs.

511 Historical Museums Workshop 3 hrs.
Lectures, demonstrations, field trips, readings, discussion, and work experiences in museum theory and technique introduce the student to the types of work curators of historical museums do. Not offered on a regular basis.

514 Black History: The Impact of Black People on American Thought and Life 3 hrs.
Intellectuals and politicians have defined the place of Black people in American history in ways that affect our understanding of the present. American writers, theologians, social scientists, and politicians have also contributed to current stereotypes. In this course, students will have an opportunity to explore “popular” interpretations of slavery, abolition, race-thinking, etc., as each has been used to explain recent events. The writings of men like Martin Delany, W. E. B. DuBois, Marcus Garvey and Malcolm X challenge widely held beliefs about the past and provide fresh perspectives on contemporary America.

516 The History of the United States Constitution 3 hrs.
The Constitution is the Supreme Law of the Land. But judges apply that law. Consequently judges exercise far more power in the United States than in any other nation. How and why did this occur? And with what results, good and bad?

518 History of United States Foreign Relations 3 hrs.
While this course traces the full scope of American foreign relations, from the American Revolution to the present, it emphasizes diplomacy of the twentieth century. The course gives attention to major diplomatic problems, but it also considers such themes as the effect of personality and politics on foreign policy, and the various “schools” of diplomatic thought.

519 America and War 3 hrs.
The United States regards itself as a “peace-loving” nation. Yet it was born of war, has survived by war, and in modern times has been almost constantly at war. A knowledge of the military history of the United States is a key to understanding all of its history, both as it has unfolded and as it is unfolding.

520 Colonial America 3 hrs.
The American colonies as part of the British empire; their founding, their political, social, and economic growth to the eve of the American Revolution.

521 The Era of the American Revolution 1763-1789 3 hrs.
The causes, development, nature, and consequences of the American Revolution. Emphasis is given to the factors which induced the British to alter existing relationships with the American colonies; and the reasons for, and the variety of American responses are examined. Efforts made by both British and American leaders to preserve the imperial
connection are studied along with the gradual development of the American movement to independence. Military and diplomatic aspects of the Revolution are examined; and an attempt is made to evaluate societal changes brought by American independence.

522 The Age of Democracy and Expansion, 1789-1848 3 hrs.

The United States is a democracy. Or is it? This course attempts to answer that question by examining the origin and development of American political institutions during a time that is much like our own— that is, a time of rapid changes and intense ideological, racial, international, sectional and personal conflict.

523 The American West 3 hrs.

A study of the exploration, conquest, and occupation of the North American continent. Among the topics included are Indian relations, the fur trade, land disposition, the cattle frontier, the mining frontier, and problems of law and order.

524 The Civil War and Reconstruction 3 hrs.

Between 1861 and 1865 over 600,000 Americans died fighting each other. Why? And with what results? The answers to these questions do not simply illuminate the past; they also tell us much about the present—a present in which many of the basic factors which produced the Civil War are still operating.

525 The Emergence of Modern America, 1877-1914 3 hrs.

This course will focus on the causes and consequences of industrialization, urbanization, progressivism, and the concurrent revolutions in agriculture, transportation, and communications. Attention will also be given to changing attitudes and values, the problems of generalization, and the anonymous American.

526 The U.S. Between World Wars (1914-40) 3 hrs.

For most Americans the twentieth century began with World War I; an examination of our response to the historical realities of the ensuing era can serve to clarify the dimensions and complexities of contemporary America. This course will emphasize the anonymous American through his political leaders, social and economic aspirations, religious devotions, international hopes and fears, and popular entertainments.

527 Contemporary America: 1940 to the Present 3 hrs.

Beginning with the background to the Second World War, this course brings American history as close to the present as possible. It follows the nation’s change from detachment before the war to entanglement in the 1960’s in problems all over the world. It deals with the efforts of the nation and groups within the nation—to cope with the enormous political, economic, and social problems of the decades after the war. The course considers conflicting opinion on various issues, seeks to view events from both the perspective of the present and the time of their occurrence.

534 Medieval France 3 hrs.

A study of the formation of the French people and nation during the thousand years which followed the fall of the Roman Empire in the 5th century A.D. Threatening this process were the disruptive forces of provincialism and invasion by foreigners. Contributing to its success
were the growth of a unified church, a national monarchy, the expansion of a vigorous rural and urban economy, and the development of a national language and literature.

535 Medieval England 3 hrs.

The story of the growth of the English people from scattered tribes of Anglo-Saxon invaders in the 5th century into one of the most highly organized European nations by the 15th century. Basic to this growth were the creation of a powerful kingship based on a common law and Parliament, the establishment of a vigorous national church, the prosperity of countryside and town, and the development of a national language and literature.

536 Tudor-Stuart England: The Era of the Monarchy 3 hrs.

A study of the period when Great Britain breaks with her medieval past and becomes one of the most modern states in Western Europe after having progressed under the strong Tudor rulers, suffered under the obstinate early Stuarts, begun an empire, survived civil war and the Cromwellian republic, restored the monarchy under the later Stuarts, and plunged into the revolution which produced the Bill of Rights and representative government under a constitutional monarchy.

537 Hanoverian England: The Era of the Aristocracy 3 hrs.

The study of Great Britain during the years when, guided by the aristocratic classes in cooperation with a limited monarchy, internal stability was established; the economic revolution and the unforeseen problems which it created were begun; her place as a major European power was guaranteed; her North American empire was lost; and the threat to her position by the French Revolution and Napoleon was met successfully.

538 Victorian England: The Era of the Middle Class 3 hrs.

A look at the years of Victoria's long reign as Great Britain attempted to solve the problems caused by the French and Economic Revolutions through parliamentary reform and additional democracy, resulting in the transition from a rural to an urban society; the rise of the middle class to a position of dominance; and the emergence of Britain as the greatest industrial nation and the most powerful empire in the world.

539 Contemporary Britain: The Era of the Common Man 3 hrs.

An exploration of the history of Great Britain during the crucial years of challenge to her position as a world power, to her position as mother country, to her democratic monarchy; and consideration of the ways in which these challenges were met, two world wars successfully fought, a Commonwealth organized with all members equal among equals, and a state responsible for the welfare of all subjects of the Crown from the cradle to the grave established in the socialist revolution after World War II.

540 Life in Tsarist Russia 3 hrs.

Westernization, emancipation of the peasants, revolutionary movements, and the spiritual evolution of the Russian people during the eighteenth and nineteenth centuries.

541 The Soviet Union in World Affairs 3 hrs.

Consideration is given to the various factors constituting the background necessary for the appreciation of the role of the Union of Soviet
Socialist Republics in world affairs from 1917 to the present time. This includes a study of the geographical, ideological, political, economic, military, social, and human aspects of Soviet foreign policy. The nature of Soviet foreign policy as affected by the national and international events during the leadership of Lenin, Stalin, Khrushchev, and Breshnev-Kosygin is studied.

542 Nationalities in the Soviet Union

This course constitutes a study of the historical background and contemporary status of the principal ethnic groups in the Union of Soviet Socialist Republics. It deals with the implementation of the Communist Party credo of “national in form, socialist in content.” Emphasis is placed on group social and cultural identity. Consideration is given to the implementation of the official amalgamated nationality concept.

544 Modern France

An examination of factors in French life in the 19th and 20th centuries fostering stability and instability, growth and stagnation, harmony and conflict, triumph and tragedy.

551 Imperial Rome (The First Century)

A study in depth of Roman politics and culture from the close of the Republic through the reigns of the emperors Augustus, Tiberius, Caligula, Claudius, and Nero. Emphasis will be placed on use of original sources in shaping the history of the century 30 B.C. to 70 A.D.

552 The Medieval Church

Christianity is the most obvious and perhaps, the most important element in early Western culture. In this course we are not so much interested in the Church as an institution as in the growth of Western culture in the age—from the time of Jesus to that of Luther—in which Christian values were so important in everyday life. Among the topics we will consider are the impact of the classical and Germanic cultures on the Church, the church and feudalism, church-state relations, the rise and fall of papal theocracy, scholasticism, and mysticism. The emphasis throughout will be on topics most important for the understanding of our own values and society.

553 Life in the Middle Ages

This course seeks to capture the reality of everyday life for the three main groups of lay people in medieval society, peasants, nobles, and townspeople, by studying members of each of those groups from the following viewpoints: (1) the ways in which they made a living, i.e., their work, the way it was organized, as for instance in the manor or the guild, and the methods, techniques, and equipment available to them; (2) the ways in which they spent their leisure time; (3) their standard of living as measured by their food, clothing, and other material possessions; (4) the social groups of which they were members and which gave meaning to their lives such as the family, the local community, and their social class; (5) their beliefs, values, and general outlook with special emphasis on the consequences of widespread illiteracy—the course will not discuss the culture of the educated elite such as in medieval philosophy and theology; and finally (6) their normal life cycle from childhood to old age looking at decisive events such as marriage, the birth of children, and death, and giving special attention to the high
birth and death rates and low life expectancy, and their causes and consequences.

554 The Renaissance 3 hrs.
Between 1300 and 1517 great changes in European life were brought about by the catastrophic Black Death, the activities of merchant venturers, the coming of gunpowder and diplomacy, the state as a new form of life as well as by new ideas about man, God, and the universe and by the geniuses of the brilliant Italian Renaissance (Petrarch, Giotto, Michelangelo, Leonardo da Vinci, and others).

555 The Reformation 3 hrs.
After 1517 the Western church broke apart and with it vanished the last remainder of European unity. Luther, Calvin, and Zwingli reshaped religious thought. Regional churches appeared. The Roman Catholic Church underwent a renewal. All of that was accompanied by bitter religious wars but also by early traces of the sciences, visionary social schemes, and a feverish artistic activity.

557 Seventeenth Century Europe: Age of Grandeur and Violence 3 hrs.
An investigation into the tensions, conflicts, and paradoxes of an age in which the shock of new forces undermined a traditional order.

558 Eighteenth Century Europe 3 hrs.
A wide-ranging study of a creative period during which many modern institutions and values took form: social structure and economic development; domestic politics and international relations; currents in religion and the arts; the Enlightenment.

559 The French Revolution and Napoleon 3 hrs.
Theories respecting the French and related revolutions, and the nature of revolution and of the revolutionary psychology; the 18th century background; the moderate and radical phases of the Revolution proper; the rise and fall of the Napoleonic Empire.

560 Nineteenth Century Europe 4 hrs.
A study of the revolutionary currents pulsating through Europe in the 19th century, of the conflicts they engendered, and the profound changes they wrought.

562 Hitler’s Europe: 1914-1945 3 hrs.
The first modern generation of Europe is associated with an era of unprecedented violence. The course is concerned with the experiences of people and the events of states that raise questions as to the dynamics of revolution, hate, idealism, propaganda, optimism, wars, economic ambitions, progress, and murder.

563 Europe Since 1945 3 hrs.
The recovery of Europe from World War II; the movement toward European unity; the defense of Europe; and the role of Europe in the international community.

571 Mexico: The Building of a Nation 3 hrs.
A review of the 19th century groupings toward national unity and identity, and of the 20th century eras of violent revolutionary paroxysm and post-revolutionary ordered development in the Latin American nation
which has impinged most immediately and continuously on the conscious awareness of the United States.

572 The Plata Region: Argentina, Paraguay, Uruguay 3 hrs.

The three nations herein explored offer an intriguing spectrum of the varieties of national experience to be found in the Latin American area. The range is from relatively static life and institutions throughout the period of nationhood to dynamic modernism in the same contexts. An effort is made to comprehend those factors which have contributed to and resulted in these differences.

580 Traditional China 3 hrs.

A study of the highlights of the history and culture of pre-modern China with particular attention to her international relations, reform and rebellions as well as to social, intellectual, and institutional change.

581 Modern China 3 hrs.

A study of the rise of Chinese nationalism; the revolutionary movement of the Nationalists: the Kuomintang rule; the Japanese aggression in China; the rise of communism and Mao Tse-tung; the Great Leap Forward and Cultural Revolution in Communist China.

582 Japan's Transition from a Feudal State to a Modern Nation 3 hrs.

A study of political, economic, social, and cultural patterns and institutions of feudal Japan; the opening of Japan to the West; and the reformistic and revolutionary changes which transformed her into a modern nation.

583 Modern Japan 3 hrs.

A study of the growth of nationalism, colonialism, militarism, and imperialism in Japan; international relations of Japan; the fall and the Allied Occupation and reconstruction; Japan's new role in the world.

584 Modern Korea 3 hrs.

A study of the decline of the Yi dynasty; Korea's struggle against foreign encroachment; the era of Japanese colonial rule; the liberation of Korea; and the establishment of two Koreas.

585 Southeast Asia in the Twentieth Century 3 hrs.

Nationalism in southeast Asia and the struggle against Western colonialism; the rise of social and economic revolutions; problems of independence and modernization in the newly emerging nations of the region.

587 Ancient and Medieval Africa 3 hrs.

History of Africa from earliest times until the emergence of the slave trade as the dominant factor in African relations with the rest of the world. Examination of the question of the origin of man in Africa, the role of ancient Egypt in African civilization, the Bantu expansion, Punic and Roman Africa, the rise of Islam, the Golden Age of the Sudanic empires, and the states of the West African forest, Congo Basin, and East Africa.

588 Modern Africa 3 hrs.

Historical background of the major issues of contemporary Africa, including colonialism and neo-colonialism. Pan-Africanism, and nation-
alism. Examination of major problems including the Congo, Nigerian civil war, Algerian revolution, minority rule in southern Africa, etc.

592 Historical Literature 3 hrs.

Historical writings arise from a curiosity about the human condition. Can man do good? What is the source of evil in his life? What happens to man in social situations? Does man make his own fate and does he deserve it? Historical writings suggest the problems in any search for truth, its description, and its evaluation. The course includes a survey of historical writings and an opportunity to read from within their wide variety.

593 Philosophy of History 2 hrs.

What do all the rulers, battles, catastrophes, cultures, glories, and defeats add up to? Is there a goal toward which all of history marches or is there no rhyme and reason to the collective human experience? Thinkers such as Thucydides, St. Augustine, Vico, Hegel, Marx, Spengler, Toynbee, and the existentialists gave different answers to these questions.

594 War in the Modern World 3 hrs.

Select topics in modern war and current military developments. Topics for each semester will appear in the Schedule of Classes. The course may be repeated for separate credit as long as the topic varies.

595 History of War 3 hrs.

The history of war from the age of Louis XIV to the era of the World Wars. An examination of the evolution of war and the role of conflict in international relations.

598 Independent Reading in History 2-3 hrs.

For the gifted student with special interests. The usual requirements are: a 2.7 minimum overall grade point average and a 3.0 minimum grade point average in all History courses. Reading on some selected period or topic under the supervision of a member of the History faculty, with the approval of the supervising instructor and the chairman of the Department's individualized courses prior to registration.
Modern and Classical Languages

Roger L. Cole, Chairman

Elsa Alvarez
Mercedes Cardenas
Victor Coutant
Monique Y. Coyne
Benjamin Ebling
Robert Felkel
Jeffrey Gardiner
Donald Gardner
Robert Griffin
Elizabeth Giedeman
Paule M. Hammack
Arturo Jasso
Herb B. Jones
Johannes Kissel
Peter W. Krawutschke
William McGranahan
Genevieve Orr
George F. Osmum
Joseph Reish
James D. Semelroth
Irene V. Storoshenko
Herman Teichert
James R. Underwood
Lindsey Wilhite
Richard Wyatt

GENERAL

For students majoring or minoring in a modern foreign language a course in modern European history is desirable. For Latin majors and minors a course in Roman history is recommended. A student may apply four credits towards a Latin major by taking both Greek 100 and 101. English majors are encouraged to take as much beyond the minimum in a foreign language as they can handle.

All students (freshmen or upper classmen) who wish to continue in a language they have studied in high school must take a placement examination. It may be used as a qualifying examination to exempt students from specific language requirements in Liberal Arts and General Studies. The examination is given prior to each registration period and scores are posted in time for registration. Students must register according to their placement score.

The department considers one year of high school work equivalent to one semester of University work. Consequently:

1. A student underplacing receives no more than eight hours of University credit and no more than four hours credit towards a major or a minor until he reaches the level where he should have been.

2. A student may overplace by one or two courses. This student is allowed to decide on whether to omit the course overplaced. If he chooses to omit the course, he is eligible to receive credit. In order to qualify for this, he must check with the Departmental Advisor for his language.

Native speakers of a given language must consult with a departmental advisor before registering for courses up through the 300 level. A student planning a language major should consult with a departmental advisor as early as possible and obtain a recommendation form to insure proper planning and avoid subsequent difficulties.

The undergraduate major consists of a minimum of 30 credit hours (minimum of 20 credit hours for an undergraduate minor) beyond the
100-level (basic) courses. At least two 500-level courses must be included. All majors and minors are to follow the course patterns listed below.

**French Major**
Thirty hours beyond 100-level to include 316, 317, 328, 329 and two 500-level courses (one of them must be 560). Students in the Secondary Education Curriculum who are required to take Modern Language Instruction 558 may count this course as one of the 500 courses.

**French Minor**
Twenty hours beyond 100-level to include 316 and 317. Modern Language Instruction 558 may not be counted toward a minor.

**German Major**
Thirty hours beyond the 100-level to include 316, 317, 326, 327 and at least two 500-level courses other than 558. Students in the Secondary Education Curriculum are required to take Modern Language Instruction 558.

**German Minor**
Twenty hours beyond the 100-level to include 316 and 317. Modern Language Instruction 558 may not be counted toward a minor.

**Latin Major**
Thirty hours beyond the 100-level with courses selected from the 200-500-series. Teaching majors must include 552 and 557.

**Latin Minor**
Twenty hours beyond the 100-level with courses selected from the 200-500-series. Teaching minors may include 552 and/or 557.

**Russian Major**
Thirty hours beyond the 100-level to include 310, 316, 317, 328, 375, and at least two 500-level courses.

**Russian Minor**
Twenty hours beyond the 100-level to include 310, 316, 317 and 328.

**Spanish Major**
Thirty hours beyond the 100-level to include 328 or 329, and two 500-level courses other than 558. Students in the Secondary Education Curriculum are required to take Modern Language Instruction 558.

**Spanish Minor**
Twenty hours beyond 100-level to include 328 or 329. Modern Language Instruction 558 may not be counted toward a minor.

Teaching certification is approved for majors or minors in both secondary and elementary education for the following languages: French, German, Latin (secondary only), Russian, and Spanish.

A language methods course is required for all teaching majors in the modern languages and Latin (557 is required for Latin Majors). Exceptions to the patterns may be granted only by Departmental permission.

For details concerning additional graduate offerings and the Master’s Degree in Language (in French, German, Latin or Spanish) consult the current Bulletin of the Graduate College.

For courses in Independent Study, consult listings under the individual language concerned.

Only courses in which a grade of “C” or better is obtained can be counted toward a major or minor.
FOREIGN CREDITS

Credit for language study at a foreign university may be granted on official proof that the student has completed his course work successfully. For courses where no examinations or grades are given, the student may be recommended for appropriate credit upon his return to Western on the basis of papers, colloquies, or comparable work to be determined by the department.

HONORS COURSES

400-401 Language Honors 4 hrs. each

A special program designed for selected students of Language. Departmental permission required for admission. Each course carries four hours credit; although both semesters, totaling eight hours are required to complete the program, the courses need not be taken in sequence.

CRITICAL LANGUAGES — SEE LINGUISTICS

FOREIGN LITERATURE IN ENGLISH TRANSLATION

(Course descriptions in italics are approved for General Education purposes.)

These courses will survey literary masterpieces of other countries in English translation. They are open to any student and there is no foreign language prerequisite. The courses will be taught entirely in English by specialists in the areas.

French 375 (575) French Literature in English Translation 3 hrs.

A thematic and stylistic analysis of major French writers from La-Fayette to the present, to include Stendahl, Balzac, Flaubert and Proust. This course does not apply toward a major or minor in French. No prerequisite.

German 375 (575) German Literature in English Translation 3 hrs.

A comparative study of literary themes and techniques of major German writers from Hauptmann to the present, including Mann, Brecht, Kafka, and Borchert. This course does not apply toward a major or minor in German. No prerequisite.

Russian 375 Russian Literature in English Translation 3 hrs.

A survey of the development of great Russian prose in its historical and cultural context. The course will include but not be restricted to works by Pushkin, Gogol, Turgenev, Dostoevski, Tolstoy, Gorki, Sholokhov, Pasternak, and Solzhenitsyn. The class will be conducted in English and the readings will be in translation. It is open to all university students and is required for all majoring in Russian. No prerequisite.

Spanish 375 (575) Spanish-American Literature in English Translation 3 hrs.

Selected prose and poetry from late 19th century (Ruben Dario and Modernismo) to the contemporary writers of Hispanoamerica. This course does not apply toward a major or minor in Spanish. No prerequisite.
CLASSICS COURSES IN ENGLISH

(Course descriptions in italics are approved for General Education purposes.)

Courses 350, 360, 375 and 450 will use selections from Greek, and Latin literature in English translation as the basis for content and discussion. Each will show its literary and cultural influence on later life. All four courses listed below will be taught entirely in English, have no foreign language requirement, and are open to any student.

350 (Classics) Classical Archaeology of the Aegean World 3 hrs.
A course dealing with the classic forms of art and architecture as they developed from the Cretan civilization to the height of Greek culture and as they were reflected in later Roman civilization. No prerequisite.

360 (Classics) The Role of Women in Ancient Greece and Rome 3 hrs.
Observations through the reading in English of selections from Greek and Latin prose and poetry of the status of women in ancient society, their contributions to literature and culture, and a comparison with the position of women in modern society. No prerequisite.

375 (575) (Classics) Classical Drama in Translation 3 hrs.
Reading and analysis of selected plays of Aeschylus, Sophocles, Euripides, and Aristophanes as dramas and as expression of the Greek view of life. Some attention to Roman drama. No prerequisite.

450 (568) (Classics) Classical Greek and Roman Mythology 3 hrs.
Investigates the origins, elements, and interpretations of the principal myths and legends of Greece and Roman and their preservation not only in literature, but also in painting, music and sculpture. No prerequisite.

LANGUAGE TEACHING COURSES

558 Modern Language Instruction 3 hrs.
(French or German or Spanish or other language) 3 hrs.
Required for modern language teaching majors; recommended for teaching minors.* The principles underlying language learning and teaching methodology are treated, with particular attention to the audiolingual method of instruction. Emphasis is placed on practical problems encountered by the language teacher. Preferably, students should complete this course before beginning directed teaching.

Courses for French and Spanish are in the Fall and Winter Semesters and for German in the Winter Semester.

The comparable methods course for Latin, 557 Teaching of Latin, is described under Latin offerings.

FRENCH

(Course descriptions in italics are approved for General Education purposes.)

100 Basic French 4 hrs.
Fundamentals of French with audiolingual emphasis. French cultural readings.

*May not be counted in the minor.
101 Basic French

Continuation of 100. Prerequisite: French 100 or equivalent.

200 Intermediate French

Level two French. Review and furthering of oral and reading skills based upon cultural and literary materials. Prerequisite: 101, two years of high school French, or equivalent.

201 Intermediate French

Continuation of 200. Prerequisite: French 200 or equivalent.

316 French Composition

Emphasis upon increasing the student's command of written French. Prerequisite: French 201 or equivalent.

317 French Conversation

Exercises to develop ease and accuracy in the use of everyday French. Emphasis on oral aspects of the language. Prerequisite: French 200 or equivalent.

320 French Phonetics

Study and practice to correct typical difficulties encountered by students of French with Anglo-American patterns of pronunciation; also to study the teaching of French patterns. Prerequisite: French 201 or equivalent.

322 French Civilization

A study of selected aspects of French life and culture and their historical settings. Prerequisite: French 201 or equivalent.

328 Survey of French Literature

Readings in French Literature from its beginnings to the French Revolution. Prerequisite: French 201 or equivalent.

329 Survey of French Literature

Continuation of French 328. Readings in nineteenth and twentieth century literature. Prerequisite: French 201 or equivalent.

OPEN TO UPPERCLASSMEN

400 Elementary Reading for Graduate Proficiency

Basic grammar and elementary reading for translation and research purposes. The course is for the graduate who has had little or no study in the language. Course open to advanced undergraduates upon recommendation of department chairman and by "C" card. No oral work.

401 Intermediate Reading for Graduate Proficiency

Prerequisite: 400 or equivalent. Readings in the language at intermediate and advanced levels for translation and research purposes. Special attention will be given to student's major field. Completion of 401 with a minimum grade of B constitutes graduate proficiency in the language. Open to advanced undergraduates upon recommendation of department chairman and by "C" card.
544 Seminar in France 4 hrs.
A summer study of French language, literature, and culture concentrated at Grenoble and Paris. Designed especially for teachers and advanced college students of French, the course consists of four weeks of formal classes at the University of Grenoble with regularly scheduled lectures and discussions in the French language on questions relating to French history, institutions, social problems, linguistics, and teaching methods. The session at Grenoble is supplemented by twelve days of organized inspection of cultural monuments in Paris with full explanations by an instructor for all points visited. Each student submits a term paper investigating one phase of his studies of particular interest to him. Graduate or undergraduate credit.

550 Independent Study in French 1-3 hrs.
Directed individual study of a specific topic in a French literary or linguistic area. Departmental approval required for admission. Prerequisite: One 500-level course in the major; a minimum grade point average of 3.0 in the major. Not open to minors.

551 Advanced French Grammar and Composition 3 hrs.
Intensive review of French structure and practice in composition. Prerequisite: Six hours of French 316-317 or equivalent.

552 Advanced French Conversation 3 hrs.
Intensive practice with spoken French. Prerequisite: Six hours of French 316-317 or equivalent.

560 Studies in French Literature 3 hrs.
Topic varies according to genre, author, or period and will be announced. Each of these courses carries separate credit, although all are listed under 560. Thus, a student may take any or all of the offerings at various times. Prerequisites: 316 and 317 or equivalent, and six hours selected from French 322-328-329. Representative topics which may be treated in this area include:

- Medieval Literature—Outstanding works from various genres of the medieval period.
- Renaissance Literature—Outstanding works from the period, to include Montaigne, Rabelais and the Pleiades.
- Seventeenth Century Literature—Preclassic period: Reforms of Malherbe, Preciosite, Descartes, beginnings of classical drama, and Corneille. Also, Classic period: significant works from the beginning of the reign of Louis XIV to his death.
- Eighteenth Century Literature—Analysis of outstanding works of the period.
- Nineteenth Century Literature—Studies in romanticism.
- Nineteenth Century Literature—Studies in realism and naturalism.
- Twentieth Century Literature—Studies in the contemporary novel.
- Twentieth Century Literature—Studies in the modern French theatre.

GERMAN
(Course descriptions in italics are approved for General Education purposes.)

100 Basic German 4 hrs.
Fundamentals of German with audiolingual emphasis. German cultural readings. Does not count toward a major or a minor.
College of Arts and Sciences

101 Basic German 4 hrs.
Continuation of 100. Prerequisite: German 100 or equivalent. Does not count toward a major or a minor.

200 Intermediate German 4 hrs.
Level two German. Review and furthering of oral and reading skills based upon cultural and literary materials. Prerequisite: German 101, two years of high school German or equivalent.

201 Intermediate German 4 hrs.
Continuation of 200. Prerequisite: German 200 or equivalent.

316 German Composition 3 hrs.
Emphasis upon increasing the student’s command of written German. Prerequisite: German 201 or equivalent.

317 German Conversation 3 hrs.
Emphasis upon increasing the student’s command of spoken German. Prerequisite: German 201 or equivalent.

326 Readings in German Literature 4 hrs.
Masterworks of German Literature from the 18th and 19th centuries, including such authors as Lessing, Schiller, Kleist. Prerequisite: German 201 or equivalent.

327 Readings in German Literature 4 hrs.
Selected dramas and prose from the 19th and 20th centuries, including such writers as Brecht, Durrenmatt, Boll, Bergengruen. Prerequisite: 201 or equivalent; 326 is not a prerequisite for 327.

OPEN TO UPPERCLASSMEN

400 Elementary Reading for Graduate Proficiency 4 hrs.
Basic grammar and elementary reading for translation and research purposes. The course is for the graduate student who has had little or no study in the language. Course open to advanced undergraduates upon recommendation of department chairman and by “C” card. No oral work.

401 Intermediate Reading for Graduate Proficiency 4 hrs.
Prerequisite: 400 or equivalent. Readings in the language at intermediate and advanced levels for translation and research purposes. Special attention will be given to student’s major field. Completion of 401 with a minimum grade of B constitutes graduate proficiency in the language. Open to advanced undergraduates upon recommendation of department chairman and by “C” card.

510 German Life and Culture 3 hrs.
Investigates cultural aspects necessary for an understanding of Germany. Historic, geographic, social and religious factors are treated. Prerequisites: 316, 317, 326, and 327 or equivalent.

528 Survey of German Literature 3 hrs.
A comprehensive study of German literature from its beginning through Romanticism. Prerequisites: 316 or 317, and 326 or 327.
529 Survey of German Literature 3 hrs.
A comprehensive study of German literature from German Realism to the present. Prerequisites: 316, 317, 326, and 327 or equivalent.

550 Independent Study in German 1-3 hrs.
Directed individual study of a specific topic in a German literary or linguistic area. Departmental approval is required for admission. Prerequisite: One 500-level course in the major; a minimum grade point average of 3.0 in the major. Not open to minors.

552 Advanced German Composition 3 hrs.
Intensive practice in composition and stylistics directed towards appreciation of literary and other written expression in German with work in free composition at an advanced level. Prerequisites: German 316 and 317.

553 Advanced German Conversation 3 hrs.
Intensive training in conversational German with emphasis on colloquial language and idiom. Prerequisites: German 316 and 317.

559 History of the German Language 3 hrs.
Survey of the development. Prerequisite: 6 hours of 300-level German or above.

560 Studies in German Literature 3 hrs.
Topic varies according to genre, author, or period and will be announced. Each of these courses carries separate credit, although all are listed under 560. Thus, a student may take any or all of the offerings at various times. Prerequisites: German 316, 317, 326, and 327, or equivalent. Representative topics which may be treated in this area include:

The Novelle—Survey of the development with representative selections.
Lyric Poetry—Survey of the development with significant selections.
Nineteenth Century Drama—Primarily Kleist, Gillparzer, Hebbel, and Hauptmann.
Twentieth Century Drama—Representative selections.

GREEK
(Course descriptions in italics are approved for General Education purposes.)

100 Basic Greek 4 hrs.
Fundamentals of classical Greek; readings emphasize Greek thought, culture, and civilization.

101 Basic Greek 4 hrs.
Continuation of 100. Prerequisite: Greek 100 or equivalent.

200 Intermediate Greek 3 hrs.
Review of basic grammar and syntax. Selections from Xenophon and Plato. Prerequisite: Greek 101 or equivalent.

201 Intermediate Greek 3 hrs.
Continuation of 200. Prerequisite: Greek 200 or equivalent.
ITALIAN

(Course descriptions in italics are approved for General Education purposes.)

100 Basic Italian 4 hrs.
Fundamentals of Italian with audiolingual emphasis. Italian cultural readings.

101 Basic Italian 4 hrs.
Continuation of 100. Prerequisite: Italian 100 or equivalent.

LATIN

(Course descriptions in italics are approved for General Education purposes.)

100 Basic Latin 4 hrs.
Fundamentals of Latin; readings emphasize Roman thought, culture, and civilization.

101 Basic Latin 4 hrs.
Continuation of 100. Prerequisite: Latin 100 or equivalent.

200 Cicero 4 hrs.
Intermediate Latin. Before reading orations and letters of Cicero, basic vocabulary, grammatical usage, and special constructions are reviewed. One hour weekly is devoted to Latin composition. Prerequisite: Latin 101 or two years of high school Latin. (Courses 200-201 alternate with 204-205.)

201 Ovid 4 hrs.
Reading from the Metamorphoses with special attention to grammar, prosody, and myth. Prerequisite: Latin 101 or two years of high school Latin.

Satire—Rome as pictured in the conversations of Horace and the invectives of Juvenal. Readings on the origins and development of satire as a genre.

204 Vergil 4 hrs.
Intermediate Latin. Before reading the first books of the Aeneid, basic vocabulary, grammatical usage, and special constructions are reviewed. Prerequisite: Latin 101 or two years of high school Latin or equivalent. (Courses 204-205 alternate with 200-201.)

205 Vergil 4 hrs.
Continuation of 204. Prerequisite: Latin 204 or equivalent.

324 Latin Literature 4 hrs.
A survey of Latin Literature with reading of representative Latin authors from early times to the Golden Age. Prerequisite: one of Latin 201, 204, 205 or equivalent.

325 Latin Literature 4 hrs.
Continuation of 324, with reading of representative authors from the Golden Age through the late Silver Age. Prerequisite: one of Latin 201, 204, 205 or equivalent.
326 Horace

Selected *Odes* and *Epodes* of Horace as poetry. Special study of structure, meter, symbolism and aesthetic and philosophic meanings. Prerequisite: one of Latin 201, 204, 205 or equivalent.

327 Latin Comedy

A study of the rise and development of Latin comedy represented by selected plays of Plautus and Terence. Prerequisite: one of Latin 201, 204, 205 or equivalent.

OPEN TO UPPERCLASSMEN

550 Independent Study in Latin 1-3 hrs.

Directed, individual study of a specific topic in a Latin Literary or linguistic area. Departmental approval required for admission. Prerequisite: One 500-level course in the major, a minimum grade point average of 3.0 in the major. Not open to minors.

552 Latin Writing 3 hrs.

Practice in the fundamentals of correct expression. Required for Latin majors. Prerequisite: One of Latin 324, 325, 326, 327 or equivalent.

557 Teaching of Latin 3 hrs.

For prospective teachers of Latin in the elementary or secondary school. Principles, problems, and current practice. Required for Latin teaching majors. Prerequisite: One of Latin 324, 325, 326, 327 or equivalent.

560 Studies in Latin Literature 3 hrs.

Topic varies according to genre, author, or period and will be announced. Each of these courses carries separate credit, although all are listed under 560. Thus a student may take any or all of the offerings at various times. Prerequisite: One of Latin 324, 325, 326, 327 or equivalent. Representative topics which may be treated in this area include:

**History**—Reading and appraisal of Livy and Tacitus as historians and literary artists.

**Bucolic Poetry**—Readings from Vergil's *Eclogues* and *Georgics* plus selections from later writers of bucolic poetry and discussion of its development as a literary form.

**Lyric and Elegiac**—Broad readings in Roman poetry, centering around Catullus, Ovid, Martial, and the other poets of love. Discussion of the origin and influence of elegy as a poetic form.

**Medieval Latin**—A study of the period 500-1500 A.D. when Classical Latin was blending into the new vernaculars to form eventual Romance Languages. Prose and poetic readings include a variety of themes reflecting the intellectual, cultural, and religious thinking of the times.

RUSSIAN

(Course descriptions in italics are approved for General Education purposes.)

100 Basic Russian 4 hrs.

*Fundamentals of Russian with audiolingual emphasis.*
101 Basic Russian
Continuation of Russian 100. Prerequisite: Russian 100 or equivalent.

104 Scientific Russian
Basic grammar and practice in translation of scientific and technical material from Russian to English. Course is intended for undergraduates who are declared majors in physical or social sciences and desire a knowledge of Russian for reading purposes only. Course is open on a non-credit basis to graduate students and interested faculty and staff.

200 Intermediate Russian
Level two Russian. Review and furthering of oral and reading skills based upon increasingly advanced oral and written exercises. Prerequisite: Russian 101 or equivalent.

201 Intermediate Russian
Continuation of 200. Prerequisite: Russian 200 or equivalent.

310 Russian Civilization
A study of selected aspects of Russian life and culture and their historical settings. Prerequisite: Russian 201 or its equivalent.

316 Russian Composition
Emphasis on increasing the student's command of written Russian. Prerequisite: Russian 201 or equivalent; required for majors and minors.

317 Russian Conversation
Emphasis on increasing the student's command of spoken Russian. Prerequisite: Russian 201 or equivalent; required for majors and minors.

328 Introduction to Russian Literature
Selections of Russian prose and poetry representing contemporary, modern, and classical Russian writers. Prerequisite: Russian 201 or its equivalent; required for majors and minors.

375 Russian Literature in English Translation
A survey of the development of great Russian prose in its historical and cultural context. The course will include but not be restricted to works by Pushkin, Gogol, Turgenev, Dostoevski, Tolstoy, Gorki, Sholokhov, Pasternak, and Solzhenitsyn. The class will be conducted in English and the readings will be in translation. It is open to all university students and is required for all majoring in Russian.

OPEN TO UPPERCLASSMEN

550 Independent Study in Russian
Directed individual study of a specific topic in a Russian literary or linguistic area. Departmental approval required for admission. Prerequisite: One 500-level course in the major; a minimum grade point average of 3.0 in the major. Not open to minors.

552 Advanced Russian Composition and Conversation
Practice in composition and stylistics directed towards a command of literary and other written expression in Russian combined with training in conversational Russian with an emphasis on the colloquial idiom. Prerequisites: 316, 317, and 328.
327

Languages

560 Studies in Russian Literature 3 hrs.
Topic varies according to genre, author, and period and will be announced. Each of these courses carries separate credit, although all are listed under 560. Thus a student may take any or all of the offerings at various times. Prerequisites: 316, 317, 328, 375. Topics treated in this area include but are not restricted to:

- The Poetry of Pushkin: Emphasis on the tales and Byronic narratives.
- Classic Russian Short Stories: Emphasis on the works of Turgenev, Gogol, Tolstoy, and Leskov.
- Modern Russian Short Story: Emphasis on Bunin, Paustovsky, Solzhenitsyn and Fedin.

SPANISH

(Course descriptions in italics are approved for General Education purposes.)

101 Basic Spanish 4 hrs.
*Fundamentals of Spanish with audiolingual emphasis.*

101 Basic Spanish 4 hrs.
*Continuation of 100. Prerequisite: Spanish 100 or equivalent.*

200 Intermediate Spanish 4 hrs.
 LEVEL two Spanish. Review and furthering of oral and reading skills based upon cultural and literary materials. Prerequisite: Spanish 101, two years of high school Spanish, or equivalent.

201 Intermediate Spanish 4 hrs.
Continuation of 200. Prerequisite: Spanish 200 or equivalent.

316 Spanish Composition 3 hrs.
Emphasis upon increasing the student's command of written Spanish. Prerequisite: Spanish 201 or equivalent.

317 Spanish Conversation 3 hrs.
Emphasis upon increasing the student's command of spoken Spanish. Prerequisite: Spanish 316 or equivalent (316 may be taken concurrently).

322 Life and Culture of Spain 3 hrs.
A study of the ethnic, sociological development, music, art and folklore of Spain as a basis for comprehension of the Spanish peoples with emphasis on individualism. A background for study of Hispanic literature, history, or culture. Prerequisites: Spanish 316 and 317 or equivalent (316 and 317 may be taken concurrently).

323 Life and Culture of Latin America 3 hrs.
A study of Latin-American life and culture based on ethnic, historical, social, religious, and literary considerations. Prerequisites: Spanish 316 and 317 or equivalent (316 and 317 may be taken concurrently).
328  Introduction to Spanish Literature 3 hrs.
Synoptic literary selections with cultural and historical background.
Prerequisites: Spanish 316 and 317 or equivalent (316 and 317 may be
taken concurrently).

329  Introduction to Spanish-American Literature 3 hrs.
Synoptic literary selections with cultural and historical background.
Prerequisites: Spanish 316 and 317 or equivalent (316 and 317 may be
taken concurrently).

OPEN TO UPPERCLASSMEN

550  Independent Study in Spanish 1-3 hrs.
Directed, individual study of a specific topic in a Spanish literary or
linguistic area. Departmental approval required for admission. Pre-
requisite: One 500-level course in the major; a minimum grade point
average of 3.0 in the major. Not open to minors.

552  Advanced Spanish Grammar and Composition 3 hrs.
An advanced study of the intricacies and problems of Spanish gram-
mar, syntax, and style with attention to improving written expression
in Spanish at an advanced level. Prerequisite: One of the following
courses: Spanish 322, 323, 328, 329 or equivalent.

560  Studies in Spanish Literatures 3 hrs.
Topic varies according to genre, author, or period and will be an-
nounced. Each of these courses carries separate credit, although all are
listed under 560. Thus, a student may take any or all of the offerings
at various times. Prerequisite: Spanish 328 or 329 or equivalent. Repre-
sentative topics which may be treated in this area include:
Cervantes—Don Quijote and other works of Cervantes together with
his life and thought.
Seventeenth Century Theater—Main works of Lope de Vega through
Calderon de la Barca.
Nineteenth Century—The Romantic Movement.
Nineteenth Century Novel—Development of the regional novel from
Fernan Caballero through Blasco Ibanez.
Generation of '98—Thought and works of typical representatives such
as Unamuno, Ortega y Gasset, and Azorin.
Contemporary Theater—Evolution and analysis of the characteristics.
Spanish-American Short Story—Significant short stories along with
the cultural and social background.
Contemporary Spanish-American Novel—The twentieth century novel
along with the cultural and social background.
Linguistics

Robert A. Palmatier, Chairman

D. P. S. Dwarikesh  Daniel P. Hendriksen  Joseph N. Muthiani

Linguistics is the scientific study of language—its nature and development, its universal properties, its diversified structures and their dialectal variants, its acquisition by children and non-native speakers, its systems of writing and transcription, its cultural role in the speech community, and its application to other areas of human knowledge.

The interdisciplinary aspects of this study are reflected in the unique organization of the Department of Linguistics, which functions as a combined department-institute. The Department not only offers its own core of general linguistics courses for Linguistics credit but recognizes linguistically-related courses in six other departments of the University.

The Linguistics major is intended either as a “second” major for undergraduates with a major in another department or as a “first” major for undergraduates who expect to pursue a master’s degree in linguistics. The program for majors requires a minimum of thirty hours of credit, of which twenty-one hours must be taken for Linguistics credit and nine hours may be taken in approved courses in other specified departments. One college year of a foreign language, or its equivalent, is required for majors.

The Linguistics minor is intended as a supporting minor for undergraduates with a major in another department. The program for Linguistics minors requires a minimum of twenty hours of credit in the Department of Linguistics. Both majors and minors are required to consult with the Department Chairman and to receive a signed recommendation for their program.

Linguistics is suggested as a supporting major or minor for majors in Anthropology, Communication Arts and Sciences, English, French, German, Latin, Philosophy, Psychology, Russian, Sociology, Spanish, and Speech Pathology and Audiology. General Studies 315, Human Communication, is recommended for both majors and minors, although it does not count in the Linguistics programs.

Linguistics has been approved by the State Board of Education as a minor or second major in the Secondary Education Curriculum, as a second major in the Junior High School Curriculum, and as a minor in the Elementary Curriculum.

The Critical Language Minor is a non-teaching program for those undergraduates who wish to specialize in one of a limited number of uncommon languages. Interested students must consult with the Critical Languages Supervisor in the Department of Linguistics to determine which languages are eligible for this minor and to receive a signed recommendation for their program.
PROGRAMS
LINGUISTICS MAJOR AND MINOR

I. INTRODUCTORY COURSES

Undergraduates Only
Linguistics
*200 Linguistic Analysis ........................................... 4 hrs.
Anthropology
270 Linguistic Analysis ........................................... 4 hrs.

Graduates/Undergraduates
Linguistics
500 Introduction to Linguistics ........................................... 4 hrs.

II. PHONOLOGY COURSES

Undergraduates Only
Linguistics
*320 (520) Phonological Analysis ........................................... 4 hrs.
Speech Pathology
202 Anatomy and Physiology of Speech ........................................... 3 hrs.
204 Phonemics ........................................... 2 hrs.
French
320 French Phonetics ........................................... 3 hrs.
Communication Arts and Sciences
307 Psycho-Physical Bases of Communication ........................................... 3 hrs.

III. STRUCTURE COURSES

Undergraduates Only
Linguistics
*330 (530) Grammatical Analysis ........................................... 4 hrs.
English
271 Structure of Modern English ........................................... 4 hrs.

Graduates/Undergraduates
Linguistics
580 Linguistic Field Techniques ........................................... 3 hrs.

IV. HISTORY COURSES

Undergraduates Only
Linguistics
*420 (300) Historical Linguistics ........................................... 4 hrs.
English
372 Development of Modern English ........................................... 4 hrs.

Graduates/Undergraduates
Linguistics
570 Studies in Linguistic Structures ........................................... 4 hrs.

*Required of majors and minors. Substitution is allowed in another Linguistics Dept. course in the same area.
German
559 History of the German Language .......... 3 hrs.

V. VARIATION COURSES

Undergraduates Only
Linguistics
*430 (310) Dialectology ..................... 4 hrs.

Graduates/Undergraduates
Linguistics
575 (548) Studies in Languages of the World ........ 3 hrs.
English
571 American Dialects ........................ 4 hrs.

VI. INTERDISCIPLINARY COURSES

Undergraduates Only
Anthropology
370 Language in Culture ..................... 3 hrs.
Speech Pathology
203 Speech and Language Development .......... 2 hrs.
Philosophy
330 Philosophy and Language ................ 4 hrs.
Communication Arts and Sciences
302 Theoretical Bases of Communication .......... 3 hrs.

Graduates/Undergraduates
Linguistics
**550 Studies in Linguistics and Related Disciplines .... 3 hrs.
Communication Arts and Sciences
570 Studies in Communication ................ Var.

VII. METHODS COURSES

Graduates/Undergraduates
Linguistics
**510 (400) Methods of Teaching English as a Second Language .......... 4 hrs.
Language
558 Modern Language Instruction ............. 3 hrs.
English
574 Linguistics for Teachers .............. 4 hrs.

VIII. LANGUAGE COURSES

Graduates/Undergraduates
Linguistics
505 (500) Basic Critical Languages .......... 4 hrs.
506 Intermediate Critical Languages ........ 4 hrs.

*Required of majors and minors. Substitution is allowed in another Linguistics Department course in the same area.
**Majors must select one of these courses and enough additional hours from Areas II-VIII to complete the 30-hour program.
COURSES

GENERAL LINGUISTICS COURSES

100 The Nature of Language 4 hrs.
A broad introduction to the nature and development of language in human society and to the interdisciplinary aspects of current studies of language and language behavior.

110 Introduction to American English 4 hrs.
Instruction in oral and written English for non-native speakers by means of individual tutoring, laboratory work, and classroom orientation. Permission of instructor.

200 Linguistic Analysis 4 hrs.
An introduction to the linguistic principles underlying the phonological, morphological, syntactic, and semantic analysis and description of languages. Cannot be taken for credit together with Anthro. 270.

320 (520) Phonological Analysis 4 hrs.
An introduction to phonological theory and to the principles and methods of phonetic and phonemic analysis and description. Prerequisite: Ling. 200 or Anthro. 270.

330 (530) Grammatical Analysis 4 hrs.
An introduction to grammatical theory and to the principles and methods of morphological and syntactic analysis and description. Prerequisite: Ling. 200 or Anthro. 270.
420 (300) Historical Linguistics 4 hrs.
An examination of the processes of language change and the principles which govern the historical and comparative study of languages. Prerequisite: Ling. 200 or Anthro. 270.

430 (310) Dialectology 4 hrs.
An examination of the linguistic principles and methods involved in the study of geographical, social, and stylistic variation within languages. Prerequisite: Ling. 200 or Anthro. 270.

500 Introduction to Linguistics 4 hrs.
An introduction to the principles and practices in the major schools (e.g. structural, transformational), fields (e.g. historical, comparative), and applications (e.g. dialectology, lexicography) of modern linguistic study.

505, 506, 507, 508, 509 (See Critical Languages Courses below.)

510 (400) Methods of Teaching English as a Second Language 4 hrs.
Study of the application of linguistics to the teaching of English to non-native speakers, with emphasis on current methods and materials for instruction and testing.

550 Studies in Linguistics and Related Disciplines 3 hrs.
An examination of the interrelationships between linguistics and another related discipline: e.g. between linguistics and psychology (“Psycholinguistics”) or between linguistics and sociology (“Sociolinguistics”). May be repeated for credit.

570 Studies in Linguistic Structures 4 hrs.
A detailed examination of the phonological, morphological, and syntactic structure of a given language. Various models for describing the structure of the language will be considered. May be repeated for credit.

575 (548) Studies in Languages of the World 3 hrs.
Intensive study of a group of languages (varying from semester to semester) that are either genetically related (e.g. Slavic languages), typologically similar (e.g. “tone” languages), or geographically proximate (e.g. African languages). May be repeated for credit.

580 Linguistic Field Techniques 3 hrs.
Interview techniques for the elicitation of oral language data, and methods of analysis of the data into significant linguistic units for their eventual arrangement in the form of a grammar and dictionary. Prerequisite: consent of instructor.

598 Readings in Linguistics 1-4 hrs.
An opportunity for advanced students with good scholastic records to pursue the independent study of a linguistic subject not specifically covered by any of the courses in the Linguistics Department. Prerequisite: Permission of instructor and chairman.

CRITICAL LANGUAGES COURSES

(A “critical” language is an uncommonly taught foreign language which is not described in the Undergraduate Catalog as a regular offering of the Department of Modern and Classical Languages. Critical
language credit can be used to satisfy certain undergraduate foreign language requirements.)

505 (500) Basic Critical Languages 4 hrs.
Study of a contemporary critical language at the elementary level, utilizing realistic conversations based on frequently encountered socio-cultural situations. The writing system will be introduced at an appropriate time, depending on the nature of the individual language.

506 Intermediate Critical Languages 4 hrs.
Continuation of Ling. 505, with greater attention to making the student self-reliant in conversation and to increasing his reading and writing skills with the help of a dictionary. Prerequisite: Ling. 505.

507 Advanced Critical Languages 4 hrs.
Continuation of Ling. 506, with greater emphasis on the grammatical structure of the language and on the development of more advanced reading and writing skills. Prerequisite: Ling. 506.

508 Reading Critical Languages 4 hrs.
Intensive practice in reading literature, newspapers, and other literary materials in the critical language, including sources from the student's major field of study. Prerequisite: Ling. 507.

509 Writing Critical Languages 4 hrs.
Intensive practice in writing a critical language to improve the student's ability to express himself effectively and to develop an individual style of composition. Prerequisite: Ling. 507.

CRITICAL LANGUAGES

Arabic
Brazilian Portuguese
Chinese
Hindi-Urdu
Japanese
Korean
Latvian
Polish
Serbo-Croatian
Swahili
Mathematics

A. Bruce Clarke, Chairman

Yousef Alavi  S. F. Kapoor  Erik A. Schreiner
Robert BLEfko  Robert Laing  Robert Seber
William Boyd, Jr.  Stanislaw Leja  Robert Sechler
Joseph T. Buckley  Don R. Lick  Gerald Sievers
Gary Chartrand  Joseph McCully  Arthur Stoddart
Paul Eenigenburg  Jack Meagher  Michael Stoline
Anthony Gioia  Donald Nelson  Walter Turner
Donald Goldsmith  Jack Northam  Arthur White
Herbert Hannon  John W. Petro  Kenneth Williams
Christian HirsCH  James Powell  Alden Wright
Philip Hsieh  James Riley  Kung-Wei Yang
Ronald Iman

The Mathematics Department offers a wide variety of courses and programs in both theoretical and applied areas. In addition to a traditional general Mathematics Major program in preparation for graduate study, there are Major programs which prepare students for careers in teaching, computer science, applied mathematics, and statistics. Mathematics Minors are quite flexible, allowing students to concentrate on areas of mathematics which complement their major area of study.

Major and Minor requirements in Mathematics are summarized in the following tables. Students considering a Mathematics Major or Minor should contact a Mathematics advisor as soon as possible, preferably no later than the first semester of the sophomore year. Major and Minor programs must be prepared by a departmental advisor.

**MATHEMATICS MAJOR OPTIONS**

<table>
<thead>
<tr>
<th>General Mathematics Option</th>
<th>Teaching Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculus through Math 123</td>
<td>Calculus through Math 123</td>
</tr>
<tr>
<td>Math 106</td>
<td>Math 106</td>
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<tr>
<td>Math 230</td>
<td>Math 230</td>
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<td>Math 310</td>
<td>Math 310</td>
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<tr>
<td>Math 330</td>
<td>Math 330</td>
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<tr>
<td>Math 270</td>
<td>Math 340 or 342</td>
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<tr>
<td>Math 570 or 571</td>
<td>Math 550 (552 and 595) for Elem.</td>
</tr>
<tr>
<td>Approved electives</td>
<td>Approved electives</td>
</tr>
</tbody>
</table>

Approved electives can be Math 274, 340 or 342, 362, 490, 506, 520, 530, 574, 576 or 580. (At least two electives must be at 400 level or above.)
**Applied Mathematics Option**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>Calculus through Math 123</td>
<td>8</td>
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<tr>
<td>Math 106</td>
<td>1</td>
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<tr>
<td>Math 230</td>
<td>4</td>
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<tr>
<td>Math 310</td>
<td>4</td>
</tr>
<tr>
<td>Math 270</td>
<td>3</td>
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<tr>
<td>Math 360</td>
<td>4</td>
</tr>
<tr>
<td>Math 274</td>
<td>3</td>
</tr>
<tr>
<td>Math 506</td>
<td>3</td>
</tr>
<tr>
<td>Approved electives</td>
<td>6</td>
</tr>
</tbody>
</table>

Approved electives can be Math 408, 490, 507, 574, 575 or 576. Math 362-363 can be substituted for Math 360 and one elective.

**Note:** Any student considering graduate work should also elect Math 330 and Math 570.

**Computer Mathematics Option**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>Calculus through Math 123</td>
<td>8</td>
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<tr>
<td>Math 106</td>
<td>1</td>
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<tr>
<td>Math 230</td>
<td>4</td>
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<tr>
<td>Math 310</td>
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<td>Math 506</td>
<td>3</td>
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<tr>
<td>Math 507</td>
<td>3</td>
</tr>
<tr>
<td>Math 508</td>
<td>3</td>
</tr>
<tr>
<td>Approved electives</td>
<td>9</td>
</tr>
</tbody>
</table>

Approved electives can be chosen from Math 270, 274, 360 or 362, 363, 408, 490 or 570. (At least one elective must be at the 400 level or above.) One elective may be replaced by an approved cognate.

**Statistics Option**

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>Math 106</td>
<td>1</td>
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<tr>
<td>Math 230</td>
<td>4</td>
</tr>
<tr>
<td>Math 362</td>
<td>3</td>
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<tr>
<td>Math 363</td>
<td>3</td>
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<tr>
<td>Math 270</td>
<td>3</td>
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<tr>
<td>Math 506</td>
<td>3</td>
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<tr>
<td>Math 462</td>
<td>3</td>
</tr>
<tr>
<td>Math 463 or ENGT 508</td>
<td>3</td>
</tr>
<tr>
<td>Approved electives</td>
<td>6</td>
</tr>
</tbody>
</table>

At least one elective must be Math 310, 408, 490 or 507. One elective emphasizing statistical application can be from Management, Psychology, Economics or Engineering.

For Mathematics Majors in the Statistics Option there are special combined programs with other departments available for students interested in particular fields of application. This Statistics Option is available as a major for students earning a BBA degree in the College of Business. For more information see a faculty advisor.

**MATHEMATICS MINOR OPTIONS**

**Teaching Minor: Secondary**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>Calculus through Math 123</td>
<td>8</td>
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<tr>
<td>Math 106</td>
<td>1</td>
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<tr>
<td>Math 230</td>
<td>4</td>
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<tr>
<td>Math 310</td>
<td>4</td>
</tr>
<tr>
<td>Approved elective</td>
<td>3</td>
</tr>
</tbody>
</table>

**Non-Teaching Minor**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculus through Math 123</td>
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</tr>
<tr>
<td>Math 106</td>
<td>1</td>
</tr>
<tr>
<td>Math 230</td>
<td>4</td>
</tr>
<tr>
<td>Approved electives</td>
<td>6</td>
</tr>
</tbody>
</table>
Mathematics

Teaching Minor: Elementary
(for students in elementary education curricula only)

20 hours required

- Math 150 4
- Math 151 4
- Math 122 (or 120, 121) 4 or 8
- Math 260 4
- Math 552 2
- Math 595 2

Selected students may qualify for a major with Honors in Mathematics. The purpose of this Honors Program in Mathematics is to give the conscientious, industrious student the special attention that his superior performance and interest in mathematics warrants. Students who are enrolled in, or have completed, Mathematics 332 or 230 may be recommended by a member of the mathematics faculty for consideration as honors students. For further information, see the Chairman of the Departmental Honors Program.

Students who fail to earn a "C" or better grade in Mathematics 100, 120, 121, 122 or 123 will not be permitted to enroll in the next sequence course.

COURSE DESCRIPTIONS
(Course descriptions in italics are approved for General Education purposes.)

090 Mathematical Skills  No Credit
A remedial course dealing with those topics from elementary algebra and geometry necessary for further work in mathematics. This course carries no credit in any degree program. Entering students may be advised to take this course on the basis of the A.C.T. Mathematics Proficiency test or by a placement test given in Math 100.

100 Algebra  4 hrs.
A course in algebra at the level usually covered in senior high school. Review and practice with basic algebraic skills. Graphical properties and manipulation with polynomial, logarithmic and exponential functions. Students presenting three years or more of high school mathematics including a course in advanced algebra will not receive credit for this course unless special permission is obtained from the Department of Mathematics. Early in the term a placement exam will be given, and on the basis of this exam some students may be shifted to Math 090. Prerequisites: One year of high school algebra and one year of high school geometry, or a certificate of completion of Math 090.

106 Introduction to Computers  1 hr.
A standard programming language is used to acquaint students with the computer facility at WMU. Student-written computer programs are executed and related to a variety of computer applications that illustrate programming techniques and computer growth and development in contemporary society. Prerequisite: 1-1/2 years of high school algebra or Math 100.
116  Finite Mathematics with Applications 3 hrs.

This course is designed to give the business student a background in the elements of finite mathematics. Included will be a discussion of: sets, relations and functions; systems of linear equations and inequalities; vectors and matrices; concepts of probability; random variables and distribution functions; applications of linear algebra and probability. Early in the term a placement exam will be given, and on the basis of this exam some students may be shifted to Math 100. Prerequisite: 3 years of college preparatory mathematics or Math 100.

120  Mathematics IA 4 hrs.

Substantial review of algebra with discussion of sets, relations, functions, absolute value, and inequalities. Introduction to calculus: limits, continuity, derivatives, and applications. Followed by Math 121. The sequence 120, 121 is recommended for students whose high school background is insufficient to permit them to start with the regular beginning calculus course (Math 122) or who have had no trigonometry. Early in the term a placement exam will be given, and on the basis of this exam some students may be shifted to Math 100. Prerequisite: Three years of college preparatory mathematics or Math 100.

121  Mathematics IB 4 hrs.

Trigonometry, induction, and a continuation of the calculus in Math 120. Further discussion of derivatives and an introduction to integration. Math 120 and 121 together contain the calculus content of Math 122. Prerequisite: Math 120.

122  Calculus I 4 hrs.

The first of a two-semester sequence in differential and integral calculus. Functions, limits, continuity, techniques and applications of differentiation, integration, logarithmic and exponential functions. Early in the term a placement exam will be given, and on the basis of this exam some students may be shifted to Math 120. Prerequisite: At least 3-1/2 years of college preparatory mathematics including trigonometry. (It is recommended that Math 106 be taken concurrently.)

(Honors sections of Calculus I and II are offered, with some changes in content and emphasis. Interested students should contact a departmental advisor.)

123  Calculus II 4 hrs.

A continuation of Calculus I. Techniques and applications of integration, trigonometric functions, sequences and series, indeterminate forms, improper integrals. Prerequisite: Math 122 or 121 (Math 106 recommended).

150  Structure of Arithmetic 4 hrs.

This course is designed to provide the elementary teacher with a minimal foundation in the structure of arithmetic. Included will be a discussion of sets, relations, the properties of natural numbers, integers, rational and real numbers, as well as selected topics from number theory, algebra and geometry. The nature of proof will be demonstrated through selected exercises.

151  Elementary Mathematical Structures 4 hrs.

This course is a continuation of 150. Topics will include a further discussion of the real numbers, the complex numbers, finite mathematical
structures, and intuitive geometry. Geometric construction using compass and straight edge will be emphasized. Prerequisite: Math 150 and approval of instructor.

190 Survey of Mathematical Ideas
4 hrs.
A survey of significant, active areas of mathematics with the emphasis on concepts rather than calculations. The historical origin and development of certain mathematical ideas will be included. The areas of mathematics investigated will include topics from set theory, probability theory, number theory, and graph theory. This course will not satisfy any program requirements in mathematics.

200 Analysis and Applications
4 hrs.
Topics include: sets, functions, trigonometry, rates, limits, differentiation, integration, applications. The course should not be elected by those students who wish to take courses in the Mathematics 120-121, or 122-123 sequences. Early in the term a placement exam will be given, and on the basis of this exam some students may be shifted to Math 100. Prerequisite: Math 100, or 1.5 years high school algebra and 1 year high school geometry.

222 (272) Mathematics III
4 hrs.
A continuation of Mathematics I and II. Vector calculus, functions of several variables, multiple integration. This course will be replaced by Math 272 in 1974-75. Also see Math 270. Prerequisite: Math 123.

223 (274) Mathematics IV
4 hrs.
A continuation of Mathematics I, II and III. Sequences, series, indeterminate forms, improper integrals, differential equations. This course will be replaced by Math 274 in 1974-75. Prerequisite: Math 222.

230 Elementary Linear Algebra
4 hrs.
Vectors and geometry in two and three dimensions, systems of linear equations, matrix algebra, linear transformations in $\mathbb{R}^2$ and $\mathbb{R}^3$, generalizations to the vector spaces $\mathbb{R}^n$, inner products, determinants. Some emphasis on proofs. Prerequisite: Math 122 or 121 (Math 123 recommended).

260 Elementary Statistics
4 hrs.
The purpose of this course is to introduce students to the rudiments of statistics. Basic concepts, rather than detailed derivation, are stressed. Topics include: probability; discrete random variables; means and variances; binomial, hypergeometric, normal, chi-square, Student-t and F distributions; interval estimates; tests of hypotheses. Students can receive credit for only one of 260, 360, 366. Prerequisite: Math 200 or 122.

270 Multivariate Calculus
3 hrs.
Functions of several variables, partial differentiation, multiple integration. This course replaces Math 222 for math majors or minors. Students cannot receive credit for both Math 270 and Math 272. Prerequisite: Math 123 and 230.*

272 (222) Vector and Multivariate Calculus
4 hrs.
Vector calculus, functions of several variables, partial differentiation, multiple integration. This course is not recommended for mathematics

*230 prerequisite waived in 1973-74.
majors or minors. Students cannot receive credit for both Math 270 and Math 272. Prerequisite: Math 123.
(This course will be offered starting in 1974—Winter).

274 (223) Differential Equations
Techniques of solving differential equations. Prerequisite: Math 123.
(This course will be offered starting in 1974—Spring).

306 Introduction to Computer Languages
Different class sections of this course will discuss languages such as FORTRAN, COBOL, and Assembler. Flow charts and computer programs will be prepared in these languages to be run on a digital computer. Students wishing to study more than one language may repeat this course for no more than 6 hours of credit (2 in each language). This course will not be counted toward a major in mathematics. Prerequisite: Math 106 or equivalent workshop.

310 (332) Finite Mathematics

330(333) Modern Algebra
Introduction to groups, rings, integral domains, fields. Emphasis will be placed on the integers and polynomial rings over a field. Prerequisite: Math 310 or 332.

332 (310) Algebraic Structures
This course will be replaced by Math 310 beginning Fall, 1973.

333 (330) Modern Algebra
This course will be replaced by Math 330 beginning Winter, 1974.

340 Fundamental Concepts of Geometry
A critical re-examination of plane and solid euclidean geometry followed by euclidean geometry of four dimensions and noneuclidean geometry. Prerequisite: Math 230 or 222.

342 Introduction to Projective Geometry
A survey of affine and projective geometry using methods of elementary linear algebra. Prerequisite: Math 230.

360 Statistical Methods
This course treats both the theory and applications of statistics. The study of histograms and empirical distributions; random variables and probability distributions; normal, chi-square, t, F, binomial, Poisson distributions; central limit theorem; significance tests, both one- and two-sided, point and interval estimation; correlation; analysis of variance; control charts; sampling inspection both by attributes and variables. Students can receive credit for only one of Math 260, 360, 366. Prerequisite: Math 223 or 270 or 272.

362 Probability
Discrete probability spaces, conditional probability, discrete and continuous random variables, expectations, joint distributions, special distributions. Prerequisite: Math 123.
363 Statistics 3 hrs.
Sampling distributions, estimation, hypothesis testing, confidence intervals, linear regression, correlation, analysis of variance. Prerequisite: Math 362.

366 Introduction to Statistics 4 hrs.
An introductory course in statistics for upper level or graduate students possessing a limited mathematics background. The emphasis is on the use of statistical tools rather than on their theoretical development. Topics will include probability distributions, means and variances, interval estimates, test of hypotheses, correlation and regression. This course will not count toward a mathematics major or minor. Students can receive credit for only one of Math 260, 360, 366.

390 Undergraduate Seminar 1 hr.
This seminar features student participation covering mathematical topics not normally included in regular major programs. May be repeated for credit. Prerequisite: Permission of Department.

408 Linear Programming 3 hrs.
Linear inequalities, convex geometry, optimization in linear systems, zero-sum games. Applications. Prerequisites: Math 506 and 270 or 530.

462 Applied Statistics 3 hrs.
Statistical methods on topics from: fixed, random and mixed models in ANOVA; Latin square, nested and block designs; multiple comparison procedures; multiple linear, curvilinear and non-linear regression; analysis of covariance; multivariate techniques. Prerequisites: Math 270 and 363.

A continuation of Math 462. Prerequisite: Math 462.

490 Topics in Mathematics 3 hrs.
The content of this course varies with the semester offered and with the instructor. The course is intended to introduce the student to significant topics not ordinarily encountered and to present more variety in his undergraduate program. May be taken more than once with the approval of the student's advisor. Prerequisite: Approval of Department.

506 Programming for Computers 3 hrs.
Designed to give preparation in the organization and general use of high speed computing machines used in scientific and engineering computations. Two computer languages will be discussed and used to prepare programs. Problems such as exponential, multiplication and inversion of matrices, numerical integration and solution of differential equations will be prepared for the computer. Prerequisite: Math 230, or 272, or 222.

507 Numerical Analysis 3 hrs.
Numerical methods, involving polynomial evaluation, series approximations, numerical integration, interpolation solution of linear and differential equations, linear programming, least squares and minimax approximations. Topics include: Chebyshev polynomials, Legendre polynomials, Weierstrass Theorem, Bernstein polynomials, Runge-Kutta methods, Generalized Rolle's Theorem, Taylor's Theorem, Newton's
method, False Position method, economization of power series, Minimax
Theorem, forward differences, central differences, Simpson’s rule, Boole’s
rule, and predictor-corrector methods. Prerequisite: Math 506 (Math
223 or 274 recommended).

508 Automatic Programming Systems 3 hrs.
A thorough study of the internal organization of the Fortran Com-
piler. Each student will be required to construct a compiler. Prerequi-
site: Math 506.

520 General Topology I 3 hrs.
Topics include: separation axioms, continuity, compactness, connected-
ness, product and quotient spaces, metric spaces. Prerequisite: Math
570 or permission of instructor.

530 Linear Algebra 3 hrs.
Properties of finite dimensional abstract vector spaces, linear trans-
formations, and matrix algebra are studied. Prerequisite: Math 330 or
333.

540 Advanced Geometry 3 hrs.
Topics to be selected from projective geometry, algebraic geometry,
differential geometry, or non-euclidean geometry. Prerequisite: Consent
of instructor.

550 Teaching of Secondary Mathematics 3 hrs.
In this course consideration is given to curriculum problems and trends
in secondary school mathematics and to specific problems of teaching
mathematics effectively to secondary school students. Prerequisite:
Math 330 or 332.

552 Teaching of Elementary Mathematics 2 hrs.
Consideration is given to curriculum problems and trends in elemen-
tary school mathematics and to specific problems of teaching mathe-
ematics effectively to elementary school children. Prerequisite: Math 150.

560 Probability 3 hrs.
A first course in mathematical probability intended for upper class
students and first-year graduate students. This course considers proba-
bility spaces; mathematical expectation; moment-generating functions;
special discrete and continuous distributions; independence; transforma-
tions of variables; sampling distributions; asymptotic theory. Pre-
requisites: Math 223 and 332.
(This course will not be offered after 1974. See Math 362.)

561 Mathematical Statistics 3 hrs.
A continuation of Math 560. This course is a basic introduction to
mathematical statistics. The emphasis is on theory and concepts, al-
though some applications are considered. Topics include: point estima-
tion, maximum likelihood estimates; sufficiency and completeness; limit-
ing distributions; order statistics; statistical hypothesis, likelihood ratio
tests; correlation and regression. Prerequisite: Math 560.
(This course will not be offered after 1974. See Math 363.)

562 Statistical Analysis I 4 hrs.
A first course in statistics for upper class students and first-year
graduate students, with primary emphasis on applications. Topics in-
clude: elementary probability; combinatorial probability; binomial, Poisson and hypergeometric distribution with applications; normal, chi-square, F, and t distributions with applications to estimation, hypothesis testing, and confidence intervals; curve fitting; linear regression; non-parametric techniques. Followed by Mathematics 662. Prerequisite: Math 222 or 270 or 272.

570 Advanced Calculus 3 hrs.
Properties of real numbers, Cauchy sequences, series, limits, continuity, differentiation, Riemann integral, sequences and series of functions. Prerequisite: Math 310 or 332.

571 Foundations of Analysis 3 hrs.
Fundamental concepts of real analysis, functions of one variable, topology of $\mathbb{R}^n$, Riemann-Stieltjes integral. Prerequisite: Approval of advisor.

574 Introduction to Ordinary Differential Equations 3 hrs.
Methods of solution, linear differential equations, ordinary and singular points, series solutions, Bessel and Legendre functions, boundary value problems, systems of equations, non-linear equations. Prerequisites: Math 223 or 230 and 274, or consent of instructor.

575 Introduction to Partial Differential Equations 3 hrs.
Quasi-linear equations of the first order, linear and quasi-linear equations of the second order, separation of variables and Fourier series; solutions of Laplace equations, heat equations and wave equations as examples of elliptic, parabolic and hyperbolic equations. Prerequisite: Math 574 or consent of instructor.

576 Introduction to Complex Analysis 3 hrs.
Complex numbers, elementary functions, differentiation of complex functions, integration, series, residue theory, conformal mappings. Graduate students should not elect both 576 and 676. Prerequisite: Math 223 or 270 or 272.

580 Number Theory 3 hrs.
Diophantine equations, congruences, quadratic residues, and properties of number-theoretic functions. Prerequisite: Math 330 or 332.

595 Seminar in Elementary Mathematics Education 1-3 hrs.
Current curriculum problems in the area of elementary mathematics education are identified and discussed. Students are required to identify a problem and give both an oral and written report on research in that area. Prerequisite: Math 552.

599 Independent Study in Mathematics 1-3 hrs.
Advanced students with good scholastic records may elect to pursue independently the study of some topic having special interest for them. Topics are chosen and arrangements are made to suit the needs of each particular student. Prerequisite: Approval of Chairman of Department.
While a student majoring in philosophy may go into law, journalism, education, government, computer-programming and even business, philosophy is not intended for those whose approach to college is primarily career-oriented. Philosophy is attractive to those who are prepared to search for understanding for its own sake, who do not expect ready-made answers or easy solutions, who are willing to subject their assumptions to critical scrutiny, and who are able to put aside judgments based on inspiration or intuition and adopt methods of close logical analysis. As preparation for a career, philosophy is chosen by those who are attracted to its subject-matter; prospective philosophy teachers, whether at the university, junior college, or even high school level, anticipate continuing for an advanced degree.

Appropriate courses and/or independent studies in philosophy can serve the purpose of helping to unify or "cap off" a wide variety of concentrations for those students who select the university’s "student planned curriculum". (See page 31 of this catalog.) The Philosophy Department encourages these concentrations and members of the staff will be happy to serve as advisors to students wishing to construct concentrations that involve philosophy.

The Philosophy Department offices are located on the third floor of Friedmann Hall. Students are invited to visit the department office and the offices of faculty at any time. Office hours are posted beside each instructor’s door.

Before preregistration each term, the faculty prepares brief written descriptions of the courses to be offered. These courses are posted on the department bulletin board outside the department office and additional copies may be obtained in the office. The department also announces its tentative course offerings a year in advance. Hence before preregistration for the Fall semester, the student can know which courses will probably be offered in the following Fall, Winter, Spring, and Summer.

ROBERT FRIEDMANN PHILOSOPHY PRIZE

A prize, normally $50, named in honor of Dr. Friedmann, the first person to teach philosophy at Western, awarded annually to an outstanding senior philosophy student.

HONORS PROGRAM

Applications to the departmental Honors Program are invited from qualified students. A student wishing to enter the program must submit a proposal for independent research to a faculty committee. Normally, the honors candidate work in close association with a professor of his
choice, and submits a paper (or other project of philosophic merit) to the department. To achieve honors in philosophy the candidate’s academic record must be of high quality and his project must be outstanding.

Inter-disciplinary work involving faculty from other departments is encouraged.

Normally, but not necessarily, the honors student is a senior major; in exceptional cases non-seniors or non-majors may be considered.

MAJOR AND MINOR REQUIREMENTS

Because the Philosophy Department believes that there is no single “correct” approach to the study of Philosophy, but that, as much as possible, each student under the guidance of a faculty member should design a program in accordance with his interests, ability, and intellectual maturity, there are no required courses in philosophy. Instead, students majoring in philosophy must plan their program with a faculty advisor. Every faculty member serves as a student advisor and normally students may select any advisor they prefer. The advisor works closely with the student in planning a program of studies and helps the student make an informed and intelligent choice of courses.

The student should select his advisor as soon as he is fairly certain that he intends to major in philosophy. Normally this would not occur until after he has taken at least one, and possibly two, philosophy courses. Every major must choose and consult with an advisor no later than the completion of 12 hours of philosophy courses; no hours beyond the 12th will be credited towards a philosophy major unless the approval of an advisor has been obtained (transfer students may apply for exemptions from this rule if they wish to transfer more than 8 hours). Students are encouraged to see their advisors frequently, but consultation should occur at least once every academic year.

A major consists of a minimum of 28 hours in philosophy.

Minors: A minor consists of at least 16 hours in philosophy. Minors may choose any courses they find suitable. Minors are strongly urged to consult with advisors (preferably after completing 8 hours), but this is not required.

For further information, students should read the Philosophy Department Student Handbook or see any faculty member. The Handbook is available in the department office, 3100 Friedmann Hall.

STUDENTS NOT MAJORING OR MINORING IN PHILOSOPHY

Students not majoring or minoring in philosophy find that philosophy adds intellectual depth to their major field of study. Philosophy by its nature touches on many areas of life and thought, frequently from a perspective which students find valuable and exciting. Non-majors often consider their philosophy courses an essential element in their general intellectual growth.

In recognition of this, the department offers a wide range of courses for non-major/minors. Students interested in a general introduction to philosophy should consider Philosophy 100 or 200; students interested in a philosophical approach to a more specialized area should consider Philosophy 201, 220, or some upper-level cognate. Students interested in
a more technical appreciation of the central problems of philosophy should consider such courses as Philosophy 332 (Theory of Knowledge) and Philosophy 333 (Metaphysics). Many students will find it advisable to begin with either Philosophy 100, 200, or Philosophy 201, and then continue on the upper level.

REPEATING COURSES FOR CREDIT

Since philosophy courses may vary widely in content from year to year, a student may be occasionally justified in repeating a course for credit. Students who wish to do so must obtain permission of the instructor before they register. If the student requests, the department will have his record indicate that the course when repeated differed substantially in content from the identically numbered course previously completed.

COURSE DESCRIPTIONS

(Course descriptions in italics are approved for General Education purposes.)

INTRODUCTORY COURSES

100 Philosophizing

A seminar for students who wish to improve their ability to think analytically, argue logically, and express a train of thought carefully and cogently in writing. There will be frequent writing assignments which will focus on issues raised by readings of broad philosophical interest. Class time will be about equally divided between discussion of the readings and critical analysis of the student's own writings.

200 Introduction to Philosophy

An introduction to the nature of philosophy by a consideration of major types of philosophical questions, such as the principles of rational belief, the existence of God, what is the good life, the nature of knowledge, the problem of truth and verification. Selected texts from representative philosophers are used to define the questions and to present typical answers.

201 Introduction to Ethics

An introduction to the philosophic study of morality. Deals with questions such as: What is the good life? Why should I be moral? What is the meaning of right and wrong?

220 Elementary Logic

A study of the rules and techniques of deductive reasoning and the sources of some common fallacies. Topics included are syllogisms and the logic propositions. Open to freshmen. Students with a background in college mathematics should take Intermediate Logic instead.

300 LEVEL COURSES

All courses at the 300-level presuppose some preparation either in philosophy or in some other field. Except for Philosophy 320 and 321,
the specific kind of preparation is not presented in the form of specified courses called “requirements” or “prerequisites”. It is the student’s responsibility to be ready to work with the class at the proper level. More information may be obtained from the detailed course descriptions posted outside 3100 Friedmann Hall prior to registration. If in doubt about whether you are adequately prepared, talk with the instructor.

301 History of Modern Philosophy 4 hrs.
A survey of modern philosophy from the Renaissance through Kant, with emphasis upon Descartes, Liebniz, Locke, Berkeley, Hume, and Kant.

303 Existentialist Philosophies 4 hrs.
A concentrated study of leading thinkers in modern philosophical existentialism: Kiekegaard, Nietzsche, Jaspers, Sartre, and Camus.

305 Contemporary British and American Philosophy 4 hrs.
British and American philosophy since approximately the end of the 19th century. The course will consider such movements as idealism, empiricism, pragmatism, realism, positivism, analytic philosophy, and ordinary language philosophy. Among figures studied may be: Bradley, Russell, Moore, Pierce, James, Santanyana, Dewey, Whitehead, Lewis, Wittgenstein, Austin, Quine and Sellars.

306 Asian Thought: China 4 hrs.
A study of the major trends of Chinese thought, notably Confucianism and Taoism, with particular emphasis on their relevance to recent developments in China.

307 Phenomenology 4 hrs.
A systematic study of the origins and developments of the phenomenological movement. The writings of several major phenomenologists will be considered, e.g. Husserl, Heidegger, Merleau-Ponty, etc.

310 Moral Philosophy 4 hrs.
A study of some basic problems in moral philosophy. Special attention is given to the question of the relationship between the justification of actions, and motives, excuses, intentions, consequences. Contemporary works are emphasized.

311 Political Philosophy 4 hrs.
An examination of fundamental problems arising from political and social relationships. The main emphasis is on such political value concepts as liberty, equality, human rights and justice. Topics that might be considered include, but are not necessarily restricted to: the nature and basis of political authority and obligation; civil disobedience; tolerance and dissent; the aims of political institutions; law and morality.

312 Philosophy of Art 4 hrs.
An analysis of the nature of art and esthetic experience, and its significance in human life. The course may cover all forms of art, or concentrate on a few, for instance, literature, drama and music.

313 Philosophy of Law 4 hrs.
This course considers the nature of law and the goals, policies and limitations of a legal system. The connections between law and justice, law and freedom, and law and morality will be examined.
314 Philosophical Themes in Contemporary Social Movements 4 hrs.

Social movements commit themselves to certain views about man and nature which are broadly philosophical, though only one contemporary movement, Marxism, purports to present an entire philosophy. This course attempts to uncover and evaluate some of these philosophical themes, for example, freedom, repression and liberation; human nature and culture; the uses of violence; goals and methods of social change. Emphasis will be placed on recent social movements, but exploration of earlier movements (such as 19th and early 20th century Marxism) is not precluded.

320 Intermediate Logic 4 hrs.

Symbolic logic: the logic of propositions, the predicate logic, and an introduction to the theory of identity and definite descriptions. Prerequisite: Phil. 220 or some college mathematics or permission of the instructor. Open to qualified freshmen.

321 Advanced Logic 4 hrs.

Continuation of 320. Topics included are identity, definite descriptions, elementary set theory and relations; introduction to axiomatic systems of logic and metatheorems. Prerequisite: Phil. 320 or permission of the instructor.

322 Philosophy of the Social Sciences 4 hrs.

A critical examination of the concepts, methods, presuppositions, and conclusions of the social and behavioral sciences.

323 Philosophy of Science 4 hrs.

An examination of the nature of scientific explanation, inductive reasoning, and probability. Particular problems arising in the physical and natural sciences which may be included are the nature of scientific laws and theories, analysis of the concepts of space, time, and causality, the existence of unobservable entities, and the requirement of simplicity.

330 Philosophy and Language 4 hrs.

A study of the nature and criteria of meaning and truth in the context of different types of discourse such as ethical, religious, or scientific.

332 Theory of Knowledge 4 hrs.

An examination of basic problems concerning knowledge and belief, discussing traditional approaches but stressing recent analyses. Possible topics: skepticism and certainty, knowing and believing, perception, memory, "a priori" vs. "a posteriori" knowledge, self-knowledge, knowledge of others.

333 Metaphysics 4 hrs.

A study of basic metaphysical questions, discussing traditional solutions but emphasizing recent approaches. Questions will be selected from such topics as: substances, qualities and relations, universals and particulars, identity, space and time, causation, mind and body, persons, free will.

334 Philosophical Problems of Psychology 4 hrs.

Problems in the philosophy of mind with emphasis on recent analysis and solutions. Among the possible topics are: the definition of "mind" and its relation to "the body", to "behavior", and to "experience"; teleo-
logical and mechanistic explanations of behavior, including "behaviorism", and "functionalism"; machine-models of thinking, "thinking machines", robots, servomechanisms and the concept of a person; privacy of one's own mind and one's knowledge of other minds; consciousness of self and of world; free will and determinism.

350 Historically Oriented Studies—Variable Topics 4 hrs.

Topics vary from term to term. The topic selected may be either the concentrated study of an individual philosopher, or an identifiable philosophical school, or the historical examination of a philosophical problem or concept.

ADVANCED COURSES

498 Independent Study 2-4 hrs.

Independent study is for those students who have attained a degree of competence in philosophy and wish to embark upon a project to be carried out without the usual close guidance of the instructor in the classroom. Independent study may not be elected as a substitute for a regularly scheduled course. Prerequisite: Permission of the instructor with whom the student wishes to work.

570 Seminar in Philosophy—Variable Topics 2-4 hrs.

Seminars deal with selected advanced topics in philosophy. Since content varies from semester to semester, students are advised to check course descriptions which are available in the department office. Suggestions for seminar topics from students are welcomed. Seminars may be set up to be taken for variable credit and to last more or less than a semester's length.

598 Readings in Philosophy 2-4 hrs.

Research on some selected period or topic under supervision of a member of the Philosophy faculty. Approval of instructor involved must be secured in advance of registration.

COGNATES: Appropriate courses in other departments may be used towards a philosophy major (not a minor) up to a maximum of four hours. Consult with the department chairman.
The Department of Physics offers two programs of study leading to a major in physics. One program is the physics major for those preparing for graduate study or professional employment in physics. The second program is designed for those in Secondary Education who desire to major in physics. Both programs require 30 credit hours in physics but differ according to the goals of the programs. The Physics Department strongly recommends that students planning to enter graduate school take a minimum of 39 hours, and in addition to the required courses listed below, the student take 330 Thermodynamics and Kinetic Theory, 541 Electricity and Magnetism II, 566 Advanced Lab. The requirements for the physics major in each program are:

<table>
<thead>
<tr>
<th>GCL Physics Major</th>
<th>S.H.</th>
<th>Secondary Education</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>210 Mechanics and Heat</td>
<td>4</td>
<td>210 Mechanics and Heat</td>
<td>4</td>
</tr>
<tr>
<td>211 Electricity and Light</td>
<td>4</td>
<td>211 Electricity and Light</td>
<td>4</td>
</tr>
<tr>
<td>212 Atomic and Nuclear Physics</td>
<td>4</td>
<td>212 Atomic and Nuclear Physics</td>
<td>4</td>
</tr>
<tr>
<td>342 Electronics</td>
<td>5</td>
<td>342 Electronics</td>
<td>5</td>
</tr>
<tr>
<td>520 Analytical Mechanics</td>
<td>3</td>
<td>360 Introduction to Theoretical Physics</td>
<td>4</td>
</tr>
<tr>
<td>540 Electricity and Magnetism I</td>
<td>3</td>
<td>470 Historical Development of Concepts of Physical Science</td>
<td>4</td>
</tr>
<tr>
<td>560 Modern Physics I</td>
<td>3</td>
<td>308 Teaching of Physical Science</td>
<td>3</td>
</tr>
</tbody>
</table>

(308 is required by the Education Program but does not contribute credit hours toward the major.)

The remaining credit hours necessary to complete the major must be elected from the following list for each program.
<table>
<thead>
<tr>
<th>Course Title</th>
<th>S.H.</th>
<th>Course Title</th>
<th>S.H.</th>
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</thead>
<tbody>
<tr>
<td>GCL Physics Major</td>
<td></td>
<td>Secondary Education</td>
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</tr>
<tr>
<td>330 Thermodynamics and Kinetic Theory</td>
<td>3</td>
<td>Physics Major</td>
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</tr>
<tr>
<td>352 Optics</td>
<td>4</td>
<td>105 Astronomy</td>
<td>4</td>
</tr>
<tr>
<td>470 Historical Development of Concepts of Physical Science</td>
<td>3</td>
<td>(3 hours credit toward major or minor)</td>
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</tr>
<tr>
<td>498 Special Problems</td>
<td>1-3</td>
<td>202 Photography</td>
<td>3</td>
</tr>
<tr>
<td>541 Electricity and Magnetism II</td>
<td>3</td>
<td>(2 hours credit toward major or minor)</td>
<td></td>
</tr>
<tr>
<td>552 Applied Spectroscopy</td>
<td>3</td>
<td>Any physics course numbered above 300 except 308.</td>
<td></td>
</tr>
<tr>
<td>561 Modern Physics II</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>563 Introduction to Solid State Physics</td>
<td>3</td>
<td></td>
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<tr>
<td>566 Advanced Lab</td>
<td>2-3</td>
<td></td>
<td></td>
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<tr>
<td>598 Selected Topics</td>
<td>1-4</td>
<td></td>
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</tr>
</tbody>
</table>

Suggested courses of study for a student majoring in physics under either program are:

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>Math 122</td>
<td>4</td>
</tr>
<tr>
<td>Physics 105</td>
<td>4 (3)</td>
</tr>
<tr>
<td>Gen. Education</td>
<td>3-4</td>
</tr>
<tr>
<td>Physical Education</td>
<td>1</td>
</tr>
</tbody>
</table>

16-17

**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>S.H.</th>
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<tbody>
<tr>
<td>Math 123</td>
<td>4</td>
</tr>
<tr>
<td>Physics 210</td>
<td>4</td>
</tr>
<tr>
<td>Gen. Education</td>
<td>3-4</td>
</tr>
<tr>
<td>Physical Education</td>
<td>1</td>
</tr>
<tr>
<td>Chemistry 120</td>
<td>4</td>
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16-17

**Third Semester**

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>Math 272</td>
<td>4</td>
</tr>
<tr>
<td>Physics 211</td>
<td>4</td>
</tr>
<tr>
<td>Gen. Ed.</td>
<td>4</td>
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<tr>
<td>Elective</td>
<td>4</td>
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</table>

16

**Fourth Semester**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Math 274</td>
<td>3</td>
</tr>
<tr>
<td>Physics 342</td>
<td>5</td>
</tr>
<tr>
<td>Gen. Ed.</td>
<td>4</td>
</tr>
<tr>
<td>Physics 330</td>
<td>3</td>
</tr>
<tr>
<td>Educ. 250</td>
<td></td>
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</tbody>
</table>

15

<table>
<thead>
<tr>
<th>Course</th>
<th>S.H.</th>
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<tbody>
<tr>
<td>Math 212</td>
<td>4</td>
</tr>
<tr>
<td>Physics 306</td>
<td>2</td>
</tr>
<tr>
<td>Gen. Ed.</td>
<td>4</td>
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<tr>
<td>Electives</td>
<td>7</td>
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</table>

17

**Fifth Semester**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Math 574</td>
<td>3</td>
</tr>
<tr>
<td>Physics 520</td>
<td>3</td>
</tr>
<tr>
<td>Gen. Ed.</td>
<td>4</td>
</tr>
<tr>
<td>Elective</td>
<td>3-4</td>
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</tbody>
</table>

17-18
### Sixth Semester

<table>
<thead>
<tr>
<th>General Curriculum</th>
<th>S.H.</th>
<th>Secondary Education</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physics Major</strong></td>
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<td><strong>Physics Major</strong></td>
<td></td>
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<tr>
<td>Math 575</td>
<td>3</td>
<td>Educ. 300</td>
<td>3</td>
</tr>
<tr>
<td>Physics 540</td>
<td>3</td>
<td>Physics 360 or 470</td>
<td>4-3</td>
</tr>
<tr>
<td>Physics 352</td>
<td>4</td>
<td>Physics 308</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>6</td>
<td>Gen. Ed.</td>
<td>4</td>
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<td></td>
<td></td>
<td>Elective</td>
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<tr>
<td><strong>Total</strong></td>
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### Seventh Semester

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<td><strong>S.H.</strong></td>
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<tr>
<td>Math 306 or 506</td>
<td>3 Educ. 410</td>
</tr>
<tr>
<td>Physics 560</td>
<td>3 Educ. 450</td>
</tr>
<tr>
<td>Physics Elective</td>
<td>4-3 Educ. 470</td>
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<tr>
<td>Gen. Ed.</td>
<td>4</td>
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<tr>
<td>Elective</td>
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<tr>
<td><strong>Total</strong></td>
<td>17-16</td>
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### Eighth Semester

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<td><strong>S.H.</strong></td>
</tr>
<tr>
<td>Physics 561 or 563</td>
<td>3 Physics 202</td>
</tr>
<tr>
<td>Gen. Ed.</td>
<td>3 Physics 470 or 360</td>
</tr>
<tr>
<td>Electives</td>
<td>9 Gen. Ed.</td>
</tr>
<tr>
<td></td>
<td>- Elective</td>
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<td></td>
<td>15</td>
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<tr>
<td><strong>Total</strong></td>
<td>14-15</td>
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</tbody>
</table>

Any student contemplating majoring in physics should contact the physics department as early as possible. This is especially true for the transfer students from community colleges in regard to transfer credit and course of study. Students will want to take advantage of the advisor system in the department for direction regarding courses, employment opportunities, and continuing education in graduate school.

Any physics major may qualify for departmental honors in physics by fulfilling the following requirements:

1. Complete the courses recommended for students planning to enter graduate school.
2. Attain by the end of the semester preceding graduation an accumulated honor point ratio of at least 3.5 (B+) in his physics courses, and an accumulated honor point ratio of 3.0 or more in his other courses.

A Physics Minor consists of 20 credit hours including courses 210, 211, 212 (or 120). With the consent of the Department, General Physics 110, 111 may be substituted for 210, 211. Those in Secondary Education who minor in physics must also take Physics 360 and either 342 or 352. The remaining hours for others who minor in physics may be selected from any of the courses listed above under Physics Major.
The Physics Department offers public lectures and colloquium programs for undergraduate and graduate students. The Physics Lecture is a series of talks given monthly, usually by visitors from other institutions, on topics of general interest. Attendance is expected of all physics majors. The Graduate Colloquium is a weekly program for graduate students and physics staff presented usually by WMU physics staff members or visitors from other universities on topics related to their research specialties.

An exemption examination is provided, during the first week of the Winter semester, for unusually well prepared students whose curriculum requires Physics 110 or 111. Passing this examination does not give credit for the course, but it may allow for waiver of the lecture requirement; departments allowing this waiver may also simply waive the laboratory requirement for students passing the exam. Otherwise, such students can take the laboratory by itself: to do so, they should contact the Physics Department immediately after the exam is graded.

**PHYSICS COURSES**

(Course descriptions in italics are approved for General Education purposes.)

**108 Physical Science (see General Studies)**

**100 Acoustics** 2 hrs.

In this course are studied the nature and transmission of sound, how sounds are produced with special emphasis on pipes and strings, interference of waves, the physics of speaking and hearing, pitch, quality, and loudness of sounds, overtones and harmonic series. This course may not be applied toward either a major or minor in physics.

**102 Physics and the Environment** 3 hrs. Fall

The objective of this course is to provide the student with an understanding of some of the physical principles which underlie selected environmental problems. Topics covered include the physical aspects of air pollution, the energy problem, and radioactivity. The course consists of three lectures per week. No previous training in physics is required. This course may not be applied towards either a major or minor in physics.

**104 Descriptive Astronomy** 4 hrs. Fall, Winter, Summer

The aim of the course is to present the development of man's knowledge about the solar system, the stars, the galaxies, and the origin and evolution of the universe. Emphasis will be placed on the methods and tools of the astronomer, on the major principles and their applications, and on the challenging problems of the space age. Mathematics will be restricted to the simplest aspects of arithmetic and high school algebra. Three lecture-recitations and two hours of evening observation and laboratory per week are required. Not recommended for majors in the physical sciences.

**105 General Astronomy** 4 hrs. Fall

A more intensive study of the topics covered in Physics 104. The course will emphasize applications of physics principles to planetary and

*A student cannot receive credit for both 104 and 105.*
College of Arts and Sciences

satellite motions; space research; stellar motions, properties, and evolution; galaxies; cosmogonies. Three lecture-recitations and two hours of evening observation and laboratory per week are required. Recommended for physical science and mathematics majors. Prerequisite: Knowledge of physics and trigonometry at the high school level.

106 Elementary Physics 4 hrs. Fall, Winter

This course surveys physics from mechanics to modern physics in one semester. It is designed for students in curricula requiring four credit hours at the level of general college physics. The course consists of four lectures and one two-hour laboratory per week. A student may not receive credit for both 106 and either 110 or 210.

107 Planetary Science in Elementary Education 4 hrs.

In interdisciplinary study of the earth, atmosphere, solar system and universe and the relationships and interactions among them. Taught by cooperating faculty from four departments, the course will provide a survey of geology, meteorology and climatology, and astronomy. Students will study each of the three topics for five weeks with different instructors. Classes will be limited to 30 students in order that instructors may use techniques which emphasize the relevancy of their disciplines in elementary education and its significance in the present and future lives of children. (No prerequisite.) Not recommended for science majors.

110 General Physics 4 hrs. Fall, Winter, and Spring or Summer

A general college physics course in the principles and practical application of mechanics, sound, and heat. Required of all medical and dental students. Recommended for students in curricula other than science and students desiring a non-calculus course in physics. The course meets for four lectures and a two-hour laboratory per week. Many schools of engineering will not accept Physics 110-111 for transfer credit.

111 General Physics 4 hrs. Fall, Winter, and Spring or Summer

This course follows 110 and consists of studies in electricity, magnetism, light, and atomic and nuclear physics. Prerequisite: Physics 110.

120 Elementary Modern Physics 3 hrs. Winter

The objective of this course is to provide the student with an introduction to the basic concepts of atomic and nuclear physics. The emphasis is on the physical ideas involved rather than detailed mathematical calculations. Topics covered include structure of the atom, interaction of radiation with matter, radioactivity, nuclear reactions and nuclear reactors. This course may not be applied toward a major in physics. Prerequisites: Physics 106 or a general course in physics or consent of instructor.

202 Photography 3 hrs. Fall, Winter

This is an elementary course in the theory and use of photographic materials. It is open to all students but is applicable toward a major or minor in physics only for those in the Secondary Education Curriculum. This course consists of one two-hour lecture-recitation and one two-hour laboratory per week.

210 Mechanics and Heat 4 hrs. Fall, Winter

This first course of a sequence of three in general college physics employing calculus deals with mechanics and heat. It is required of
physics majors and strongly recommended for pre-engineering students, majors in other sciences, and future physics teachers. The course consists of four lectures and a two-hour laboratory per week. Prerequisite: Math 123 concurrently or consent of instructor. Open to qualified freshmen. A student may not receive credit for both 110 and 210.

211 Electricity and Light 4 hrs. Fall, Winter

This course follows 210 and consists of studies in electricity, magnetism, and light. Prerequisite: Physics 210 or consent of instructor. A student may not receive credit for both 111 and 211.

212 Atomic and Nuclear Physics 4 hrs. Fall

This course, with 210 and 211, completes the sequence making up the introductory course in physics with calculus. Topics include special relativity, quantum physics, and atomic and nuclear structure. Students transferring from community colleges with one year of physics will normally be expected to take this course. The course consists of three lectures per week and 10-12 three-hour laboratory periods per semester. Prerequisite: Physics 211 or consent of instructor.

308 Teaching of Physical Science 3 hrs. Winter

This course deals with problems of teaching high school chemistry, physics and physical science. The main emphasis is on effective methods of instruction. Practical methods of selection, maintenance, and construction of apparatus are also considered. Prerequisites: One year of college chemistry and one year of college physics.

330 Thermodynamics and Kinetic Theory 3 hrs.

Thermodynamics is the study of equilibrium bulk properties of large scale systems in which temperature is an important variable. Classical equilibrium thermodynamics is developed from the macroscopic viewpoint. Postulates, empirically founded, are put forth and the consequences are developed and applied to systems of interest in physics and chemistry. Introductory kinetic theory with selected topics is also included. Prerequisite: Physics 211.

342 Electronics 5 hrs. Winter

This course deals with analysis of the more important transistor and vacuum tube circuits and includes practical experience in the laboratory. There are three lectures and two 2-hour laboratories per week. Prerequisite: Physics 211.

352 Optics 4 hrs. Winter

This is a course in geometrical and physical optics in which the main topics discussed are: reflection, refraction, aberrations, optical instruments, wave motion, interference, diffraction, polarization, double refraction, lasers. Three lectures and one 3-hour laboratory per week. Prerequisite: Physics 211.

360 Introduction to Theoretical Physics 4 hrs.

The basic theories of classical mechanics, electromagnetism, special relativity, and non-relativistic quantum mechanics will be developed. Applications will be selected to illustrate the theory. The topics are condensations of the basic principles covered more extensively in Physics 520, 540, and 560. Therefore, this course is not recommended for physics majors planning to take the 500-level courses. Prerequisites: Physics 212 or 120, Math 272. This course and 470 are offered in alternate years.
470 Historical Developments of Concepts of Physical Science 3 hrs.
This course, which is designed for the science major at the junior-
senior level, considers the logic and interpretation of contemporary
physical problems through a study of their historical development. Rep-
resentative of discussed topics are: physical characteristics of matter,
conservation, and symmetry, causality, field representation versus particle
representation, relativity and role of mathematics in explanation. (Al-
though oriented toward philosophy and history this course is primarily
a course in physics and it will emphasize care and depth in its analyses.)
Prerequisite: Physics 212 or 120, one year of College Chemistry and
junior status as a science major. This course and 360 are offered in
alternate years.

498 Special Problems 1-3 hrs.
In this course a student works on a laboratory project or a reading
project under the direction of a staff member. Prerequisite: Consent of
instructor.

520 Analytical Mechanics 3 hrs. Fall
The topics studied include the dynamics of a single particle and the
motion of a system of interacting particles. Techniques of vector analy-
sis are used frequently, and conservation laws are developed and applied.
The Lagrangian formulation of mechanics is introduced. Prerequisite:
Physics 211, Math 274. (The latter may be taken concurrently.)

540 Electricity and Magnetism I 3 hrs. Winter
This is a theoretical course providing a thorough investigation of elec-
tric and magnetic fields. The applications of theorems of Stokes and
Gauss are emphasized, and Maxwell's equations are developed. Pre-
requisites: Physics 212, Math 274 or consent of instructor.

541 Electricity and Magnetism II 3 hrs.
This course is a continuation of 540 and is an elective for majors wish-
ing advanced work in field theory. Maxwell's equations and their appli-
cations to topics such as time-dependent fields, wave guides, and radiation
will form the principal topics of the course. Prerequisite: Physics 540.

552 Applied Spectroscopy 3 hrs.
This is a combined class and laboratory course on methods of emis-
sion, spectroscopic analysis. The topics studied include the history of
spectroscopy, the origin of line spectra, spectrographic instruments, and
modern techniques of qualitative and quantitative analysis. Prerequisite:
Physics 111 or 211 or consent of instructor.

560 Modern Physics I 3 hrs. Fall
This course includes an introduction to quantum mechanics with
selected applications, including one-dimensional potentials, the harmonic
oscillator, one-electron atoms, the helium atom, atomic shell structure
and atomic spectroscopy. A knowledge of elementary differential equa-
tions is assumed. Recommended for seniors. Prerequisites: Physics 212
and 520 or consent of instructor.

561 Modern Physics II 3 hrs.
Here the quantum theory covered in Physics 560 is applied to several
areas of atomic and nuclear physics. The topics covered include x-rays,
collision theory, general properties of nuclei, the nuclear two-body prob-
lem, nuclear reactions and nuclear models. Prerequisite: Physics 560. This course and 563 are offered in alternate years.

563 Introduction to Solid State Physics 3 hrs.
This course is designed to acquaint the student with the basic techniques for describing the structure and properties of solids. After an initial study of symmetry and crystal structure the following topics are treated: the cohesion of solids; x-ray and neutron diffraction; the elasticity of solids; lattice vibrations; the thermal and electrical properties of solids, with particular emphasis on metals. Prerequisite: Physics 560 or consent of instructor. This course and 561 are offered in alternate years.

566 Advanced Laboratory 2-3 hrs.
The objectives of this course are to provide the student with experience in the use of modern laboratory equipment and with a better understanding of several important physical phenomena. The student will select experiments from a list covering three areas: atomic, solid-state, and nuclear physics. A portion of the semester may be devoted to studying a problem in depth. The course consists of two or three three-hour laboratory periods each week. The course may be repeated for credit. Prerequisites: Physics 342 and either Physics 560 or Physics 360 (560 and 360 may be elected concurrently with 566).

598 Selected Topics 1-4 hrs.
This course affords an opportunity for advanced students with good scholastic records in Physics to pursue independently the study of some subject of interest to them. Prerequisite: Consent of instructor.
Courses in the Department are designed to prepare a student to: (1) become a functioning citizen; (2) become a teacher of government or civics; (3) become a governmental employee or officer; (4) understand the part government plays in every day business or other activities; (5) develop sound methods of investigation and reflection as well as the ability to evaluate political information critically; (6) understand the role which individuals and organized groups can play in the political process; and (7) appreciate the relationship of the study of government and public affairs to other social sciences.

A major in Political Science consists of a minimum of 30 semester hours of work in the Department. A minor consists of 20 semester hours in the Department. The following are required courses for majors and minors:

The major core requirements are:

- 200 National Government
- 250 International Relations
- 340, 341, 342, 343, 344 or 345 (choose one) Foreign and Comparative Political Systems

One course in Theory and Methodology (except 590 and 591)

Students who may become majors are encouraged to take 100, Introduction to Political Science, as their first course in the Department.

The courses taken by the student to complete his 30 hour major may not include more than 16 hours in any one field including the core requirement in that field.

A minor shall take a minimum of one course in two of the following fields:

- American Political System
- International Relations
- Foreign and Comparative Political Systems
- Political Theory and Methodology

Requirements may be waived with the written permission of the Chairman of the Department.

Students planning to use this major to meet teacher certification requirements are required to take SSCI 300-Teaching of Social Studies in the Secondary Schools (See Social Science p. 229).

The Department of Political Science cooperates with the College of Business in offering a curriculum in Public Administration designed for
students planning careers in the public service or in other employment where their work will bring them into continuing contact with governmental agencies and activities. The student may take a Bachelor of Arts or Science Degree with a Major in Political Science and a Minor in Business, or a Bachelor of Business Administration Degree consisting of a Business Administration Major plus a Minor in Political Science. For further details see Business Administration: Related Majors.

A program of graduate study leading to the Degree of Master of Arts is offered by the Political Science Department. For information on courses offered, see the Graduate Bulletin.

The Honors Program in Political Science provides an opportunity for students to earn the Bachelor's degree with Honors in Political Science. To be eligible, a student must have sophomore standing, a better than "B" average, and a willingness to do original and independent work. Students interested in the program should consult the departmental Honors Advisor.

The Institute of Public Affairs is involved in a number of activities designed to promote research and develop interest in public affairs. In this connection it strives to (1) contribute to the knowledge of political science; (2) encourage faculty members to participate in research and discussion; (3) train graduate and undergraduate students through participation and research; (4) communicate to interested public officials and citizens the knowledge of the academic community; and (5) make available data processing equipment for training and research. For further information, see Robert W. Kaufman, Director, Institute of Public Affairs.

COURSE DESCRIPTIONS

(Course descriptions in italics are approved for General Education purposes.)

100 Introduction to Political Science 3 hrs.

An introduction to those concepts useful for an understanding of politics. These concepts and their interrelationships will be examined in the context of contemporary political systems.

AMERICAN POLITICAL SYSTEM

200 National Government 3 hrs.

An introductory survey of American national government. This course introduces the basic principles and theories of American government, explores the political process, describes the structure, and illustrates its functions.

202 State and Local Government 4 hrs.

A study of the institutions, the problems and the politics of policy making at the state and local levels in the United States. Consideration is given to the changing relations of state and local government to the total framework of government in the United States.

204 Politics of Race 3 hrs.

Examines the sources of racial conflict and the dominant and alternative models of American social organization. Special emphasis is placed on the psychology of racial conflict in the American political system.
300 Urban Politics in the United States 3 hrs.
A study of those factors having an impact on the governing of American cities, including social and economic conditions in the cities, the organization of local political systems, and the actions of the state and federal governments. The city will be viewed as a center of economic and social problems that necessitate political activity and as a laboratory for the advancement of general knowledge of politics. (Note: Not to be taken by students who have had the discontinued course Local Government 304.)

304 Political Perspectives of Black America 3 hrs.
Analyzes the development of black political perspectives and activities in the United States, with particular reference to the contemporary period. Prerequisite: 204.

310 Political Parties and Pressure Groups 4 hrs.
An introduction to the theories and practice of politics. The course considers the nature of politics, organization and functions of political parties, and the role of pressure groups on policy development. Parties and groups are related to the legislative process and to the operation of the political system.

311 Legislative Process 3 hrs.
A study of the politics of legislative bodies. Attention is given to theories and practice of legislative behavior, representative systems and democratic procedures in law making. The role of political parties and interest groups is emphasized. The executive, the bureaucracy and the courts are studied as influences on the development of public policy.

312 Public Opinion and Voting Behavior 3 hrs.
Introduction to the theory of public opinion and techniques for its measurement. The role of mass communication and propaganda in influencing public opinion and public policy. A study of public opinion and other factors entering into the voting behavior of citizens.

313 Youth and Politics 3 hrs.
A concern with the processes through which children learn about and develop attitudes and values toward the political system of which they are members. This course should be of particular interest to students planning careers in elementary education and secondary social science.

320 The American Judicial Process 4 hrs.
An introduction to the politics of the American judicial process. The course will examine the judicial function generally with particular attention on the decisional processes, process participants, state and federal court structures, recruitment and selection of judges, bases of judicial behavior, policy making, and impact of judicial decisions.

330 Introduction to Public Administration 3 hrs.
An introductory course in the administrative process in the public service. Special attention given to the environment and politics of administration, the role of the chief executive and the legislature. Detailed consideration of personnel and financial problems of administration.

332 The Chief Executive 3 hrs.
A study of the increasing importance of the chief executive in American governments at all levels. The roles, responsibilities, and powers
of the chief executives are analyzed and the centrality of the executive in the political process is stressed.

504 Making of Public Policy in the U.S. 3 hrs.
A study of the formation of public policy at the local, state, and national levels with emphasis on the impact of decision processes upon policy outcomes.

506 Problems of American Government 3-4 hrs.
A critical examination of major problems facing national, state, or local government with emphasis upon contemporary efforts and studies designed to understand or solve such problems. Topics will vary from semester to semester and students may repeat the course.

520 Constitutional Law 3 hrs.
Study of leading American constitutional principles as they have evolved through major decisions of the U.S. Supreme Court. Emphasis on judicial review, federalism, separation of powers, commerce and taxation.

522 Civil Liberties and Civil Rights 3 hrs.
An examination of Supreme Court responses to First Amendment, criminal procedure, and equal protection questions with particular emphasis on political, social and policy-making aspects.

524 Judicial Behavior 3 hrs.
Role of the judiciary as policy maker. Study of judicial behavior and decision making processes utilizing modern research tools for analysis.

526 Administrative Law and Public Regulation 3 hrs.
A study of the requirements for, and the limits on, the exercise of administrative powers by public officials charged with regulating significant aspects of the social and economic life of the nation. Special attention is paid to the extent of governmental regulation and the means of safeguarding individual rights through fair administrative procedures and judicial control over administrative determination. Prerequisite: 200 or a course in Economics.

530 Problems in Public Administration 2-4 hrs.
Consideration of issues and problems of current interest in the field of public administration. The course is intended to provide advanced work for undergraduates and to serve as an introduction to the field for graduate students without previous training in public administration.

532 The Bureaucracy 3 hrs.
An analysis of the role of public bureaucracies in the decision process of government.

534 Administrative Theory 3 hrs.
A study of descriptive theories of organizational and administrative behavior relevant to governmental administrative agencies. Theories of complex formal organizations, decisional theories and systems theories will be analyzed.
FOREIGN AND COMPARATIVE
POLITICAL SYSTEMS

340 West European Political Systems 4 hrs.
Considers the organization, political behavior and decision-making process of the major countries of West Europe, including Britain, France and Germany. Political trends and forces challenging and reshaping democratic institutions are examined.

341 African Political Systems 4 hrs.
A systematic survey of the social, economic and political characteristics of the area. Political culture, institutions and processes, including both traditional and modern forms, are examined in detail. Major political problems dealing with political modernization are analyzed.

342 Asian Political Systems 4 hrs.
A systematic survey of the social, economic and political characteristics of the area. Political culture, institutions and processes are examined in detail. Major political problems, country differences, and various paths to modernization, are analyzed.

343 Latin American Political Systems 4 hrs.
A systematic survey of the social, economic, and political characteristics of that area. Political culture, institutions and processes are examined in detail. Intra-regional differences and major political problems are analyzed.

344 Soviet and East European Political Systems 4 hrs.
The governmental organization and political structure of the Soviet Union and the states of Eastern Europe. Special attention is directed to the Communist Party and its relationship to the organization of the state. The social and economic bases of the current systems are stressed.

345 Politics in India, Pakistan, and Bangladesh 3 hrs.
Political developments within and between these South Asian neighbors are described and analyzed. Major consideration will be given to developmental dilemmas.

346 Case Studies in East Asian Politics 3 hrs.
Offered as a single country study. Either Japan, China, Korea or Indonesia will be examined utilizing developmental approaches. The particular country under study will be analyzed with general theoretical as well as specific interests in view. May be repeated.

540 Western Democratic Systems 3 hrs.
A comparative study of the established democracies of North America, Western Europe, and older Commonwealth states. Examines the conflict in western democracies between traditional ideology, structures, procedures and contemporary conditions. Analyzes comparatively and theoretically the constitutional and political party systems, political culture and behavior.

542 Administration in Developing Countries 3 hrs.
A consideration of the relation of administrative structure and technique to the political, economic and social problems of the developing
countries. Special attention to the role of the bureaucracy in the political system and the nature of, and obstacles to, administrative modernization.

543 Politics and Institutions of South Asia 3 hrs.
Twentieth century experiments in Asian democracy are analyzed in India and Pakistan. Consideration is given to historical origins and contemporary problems. Particular emphasis is on the dynamics of the political process, the place and nature of ideologies, patterns of leadership, the quest and adaptability of political parties, the quantitative and qualitative aspects of articulate interests, the limits of political communication, methods of decision-making and the implementation of rules and the available devices for conflict resolution.

544 The Military and Political Systems 3 hrs.
Old states as well as new ones are confronted with problems of a military nature which have an important bearing on the operation and development of their respective political systems. This course is designed to study the role of the military in advanced and less developed countries. Attempts will be made to identify the advantages and disadvantages, the strengths and weaknesses of the military nexus. Organized as a pro-seminar.

545 Theories of Political Development 3 hrs.
Examines various theories of political development and analyzes their relevance to both underdeveloped and modernized states. Considers such problems as national integration, political socialization and communication. Organized as a pro-seminar.

547 Political Modernization of Japan and Korea 3 hrs.
Intensive analysis of the political systems of Japan and Korea with developmental perspective. Their different political styles will be compared. Their different rates of development will be compared in terms of performance of the various political functions.

548 Asian Communism 3 hrs.
An examination of Asian communism. Emphasis is on the development of Chinese communism, however, North Korea, North Vietnam and communist movements in other Asian countries are included. The course covers ideology, revolutionary tactics, strategies, and prospects. Organized as a pro-seminar.

549 Problems of Foreign Political Systems 3 or 4 hrs.
Course will consider selected problems of the governments and political systems of Western and Eastern Europe, Asia, Africa, and Latin America. The specific problems, topics, and countries to be studied will be announced each semester. May be repeated.

INTERNATIONAL RELATIONS

250 International Relations 4 hrs.
A study of the nature of the international community and the forces which produce cooperation and conflict. Particular attention is given to analyzing power in terms of its acquisition and uses.
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350 American Foreign Policy 4 hrs.
An analysis of the institutions and processes by which the American people and their government determine and seek to achieve the national interest of the United States in the international community.

354 International Organization 4 hrs.
Explores systems, methods, and agencies developed by states for meeting their common problems. Examines also the legal relations of nations in war and peace, international legal theory and institutions. Emphasis is placed on the United Nations and regional political, military, and economic agencies.

552 Studies in International Relations 3-4 hrs.
Examines selected topics within the field of international relations. Topics will vary and will be announced each semester. Course may be repeated.

553 United Nations 3 hrs.
A study of the United Nations in action. Attention is focused on significant political problems confronting world organization, i.e., functional and dysfunctional aspects of the UN Charter; nationalism vs. internationalism within the UN; conflict resolution and UN peace-keeping efforts; specific UN accomplishments in maintaining a dynamic international equilibrium; UN weakness and the future of world organization.

555 International Law 3 hrs.
The theory, sources, development, and general principles of international law, and the relationship of law to the dynamics of international politics. Decisions of international and municipal tribunals and the practices of states will be used to demonstrate the basic rights and obligations of states in time of peace and war. Such topics as recognition of states, diplomatic practice, treaties and neutrality will also be discussed.

556 Comparative Foreign Policy 3 hrs.
Analysis of foreign policy theories and practices in selected nations. Particular emphasis is given to the interactive process of conflict and competition, cooperation and compromise in the pursuit of national interests.

557 Studies in American Foreign Policy 3-4 hrs.
The course treats American foreign policy as a process and emphasizes both policy formation and policy execution through the vehicle of specific case problems, such as: the nature and role of foreign policy, Congress and foreign policy, the role of the military, the United Nations and American foreign policy, and changing American attitudes on the objectives of foreign policy. Topics will vary and will be announced each semester. Courses may be repeated.

POLITICAL THEORY AND METHODOLOGY

360 Introduction to the History of Political Theory I 3 hrs.
A survey of significant political theories and ideologies. Emphasis is placed on post-Socratic Greek theories, and the characteristic theories of the Medieval, Renaissance, and Reformation periods.
361 Introduction to the History of Political Theory II 3 hrs.
A survey of significant political theories and ideologies. Emphasis is placed on the Enlightenment, the Nineteenth and early Twentieth Centuries.

366 Introduction to the Scope and Methods of Political Science 3 hrs.
A consideration of the nature and scope of political science and various approaches to the study of politics and their methods, primarily the application of scientific methodology to political inquiry.

560 Comparative Political Ideology 4 hrs.
A consideration of the concept of ideology and significant classical and contemporary ideologies, including their nature, causes and functions in various political systems.

561 Contemporary Political Theory 4 hrs.
An examination of contemporary theories of politics. An attempt will be made to delineate the most important recent developments in the construction of theories of political systems.

562 Modern Democratic Theory 3 hrs.
The course consists of two parts. First, a consideration of traditional democratic theories, and the criticism of these theories emanating from modern elitists such as Mosca, Michels, Pareto and Ostrogorski. Second, an analysis of the attempts by contemporary economists, political scientists, and sociologists to meet these criticisms by revising democratic theory.

563 Theories of Revolution 4 hrs.
Examines significant classical and contemporary theories of revolution with reference to both their analytical and normative implications.

564 Political Inquiry and Analysis 4 hrs.
Analysis of the application of scientific method to the study of political phenomena; problems of concept formation; law; cause and explanations; theory construction; the place of values in political inquiry.

590 Research Methodology 3 hrs.
Study of the formulation of research questions, the design of research, the methods of data collection, and the procedures for analyzing data concerning political institutions and behavior.

591 Statistics for Political Scientists 3 hrs.
An introduction to statistical reasoning with particular reference to research on political institutions and behavior. This course will emphasize bivariate statistics, but will include a brief introduction to multivariate analysis. No mathematical prerequisite is required.

SPECIAL STUDIES

370 Issues in Contemporary Politics 3 hrs.
This course is designed for the study of contemporary political problems. It is intended to provide opportunity for the study of political phenomena normally beyond the scope of regular departmental offerings. Essentially the course relates the theory and principles of political science to practical politics.
The course may be applied to the appropriate field distribution requirement. Topics will vary from semester to semester. Students may repeat the course for credit.

490 Political Science Honors Seminar 3 hrs.
An undergraduate seminar for honor students and others admitted by consent of the Department Honors Committee. The content of the seminar varies and will be announced in advance. May be repeated. Prerequisite: Admission by invitation by Departmental Honors committee.

492 Political Science Honors Research 2-3 hrs.
Honor students, with the guidance of a faculty advisor, conduct research and write the Honors Paper on a topic of individual interest. Prerequisite: Membership in the Political Science Department Honors Program.

598 Studies in Political Science 1-4 hrs.
An opportunity for advanced students with good scholastic records to pursue independently the study of some subject of interest to them. Subjects are chosen and arrangements made to suit the needs of individual students. Prerequisite: Approval of Chairman of Department or instructor.
All majors are required to complete the departmental core curriculum which consists of (a) a minimum of 28 hours in psychology including 150, 160, 250, 260, 350, 360, 450, 460, and (b) a minimum of 7-8 hours of mathematics or 4 hours of mathematics and Philosophy 320 and Philosophy 321. Those who choose the 7-8 hours of mathematics may elect to enroll in Computer Usage (Management 102) as an alternative to the second course in mathematics.

We recommend that psychology majors elect one of the following minors: Philosophy (including four of the following courses—Philosophy 220, 320, 321, 322, 323, and 330), Biology (including four of the following courses—Biology 100, 210, 219, 306, 317, 342, 343, 502, 505, and 511), Mathematics, Physics, or Chemistry.

The secondary school teaching major is designed to train secondary school teachers of psychology as behavioral scientists. Students who elect this program are required to complete, in addition to the departmental core curriculum, Psychology 505 or Psychology 517. Psychology majors who plan to obtain a secondary school teaching certificate should consult with a Psychology advisor regarding their minor before selection of the minor.

A minor in psychology (for other than business or education students) consists of Psychology 150, 160, 250, 260, and 350. A minor for business students consists of fifteen hours including Psychology 150, 160, 250, and 260.

A secondary school teaching minor in Psychology consists of Psychology 150, 160, 250, 260, 350, and 505 or 517. Note: Psychology 380 may be substituted for either 250 or 360. Students with a teaching minor in Psychology are recommended to complete a secondary school teaching major in biology, chemistry, mathematics or physics. Programs for minors in psychology have a considerable potential for flexibility after the completion of 150, 160, and 250. However, programs must be approved by an undergraduate advisor before enrollment in substitute courses.

PSYCHOLOGY CREDIT TRANSFERRED FROM OTHER SCHOOLS MAY COUNT TOWARD FULFILLING THE REQUIREMENTS FOR A PSYCHOLOGY MAJOR OR MINOR: HOWEVER TRANSFER STUDENTS SHOULD CONSULT WITH A DEPARTMENTAL ADVISOR BEFORE TAKING ANY PSYCHOLOGY COURSES AT WESTERN MICHIGAN UNIVERSITY. Psychology students unable to sequence properly the required courses into their schedule should obtain
permission from the departmental advisor to take some courses concurrently. The departmental advisors are Paul T. Mountjoy and Hermann A. Peine.

It is essential that all majors and minors consult one of the departmental advisors early in their course work in order that flexibility and proper sequencing will occur. Advisors will not approve courses in which students have enrolled on their own initiative.

(Course descriptions in italics are approved for General Education purposes.)

120 Introduction to Psychology 3 hrs.
An eclectic approach to a (Soc. & Beh.) survey of major topics in psychology including learning, motivation, emotions, intelligence, personality, mental illness and social relations. Lecture does not count for a major or minor in psychology.

150 Psychology I: An Introduction to the Science of Behavior 3 hrs. Fall, Winter
An introduction to humanistic behaviorism; the use of the science of behavior to help people achieve their full potential as human beings. It is shown how the environment has a major influence on the way we are and how the environment can be changed so that we can become the kind of people we wish. Open to freshmen.

160 Personality and Developmental Psychology 3 hrs. Fall, Winter
The application of the principles of behavior in the analysis of complex behavior. An emphasis is placed on personal adjustment and the management of children's behavior at home and at school.

250 Behavior Modification I: Abnormal Behavior 3 hrs. Fall, Winter
An introduction to the modification of behavior. Particular attention is paid to variables related to the development, physiological bases, maintenance and modification of abnormal behavior. In addition an introduction to research methodology and selected basic research areas will be considered. Prerequisite: Psychology 160 (or 205, 220, or 270) or permission of the instructor.

260 Behavior Modification II: Normal Behavior 3 hrs. Fall, Winter
An analysis of complex human behavior with an emphasis on language and verbal behavior. Prerequisite: Psychology 250 and satisfactory performance on a placement examination.

350 Analysis of Behavior I: Stimulus Control of Behavior 5 hrs. Fall, Winter
An analysis of the stimulus control of both operant and respondent behavior. Areas covered are sensory processes, verbal behavior, limitation, concept formation, sensory scaling, perception, generalization, discrimination and psychophysics. Emphasis is placed on experimental methodology. This course consists of five laboratory hours and one lecture hour per week. Prerequisite: Psychology 250 and satisfactory performance on a placement examination.
360 Analysis of Behavior II: Contingencies and Consequences  5 hrs. Fall, Winter

A study of the various approaches to response measurement, experiment methodology, and theoretical interpretations of data in the areas of classical conditioning and operant behavior. This course consists of five laboratory hours and one lecture hour per week. Prerequisite: Psychology 350 or permission of the instructor.

450 Methodological Foundations of Psychology I: Principles  3 hrs. Fall, Winter

Interpretation and application of descriptive and inferential statistical techniques necessary in the understanding of data in behavioral research. Other topics will be the methodology of the experimental analysis of the behavior of individual organisms, the methodology of research with groups, non-statistical quantitative techniques, and philosophy of science. Prerequisites: Psychology 360 and Mathematics 260 or permission of the instructor.

460 Systems and Theories in Psychology  3 hrs. Fall, Winter

A critical examination of the assumptions, methods and problems of several major schools of Psychology: Structuralism, Functionalism, Associationism, Behaviorism, Gestalt Psychology and Psychoanalysis. Prerequisite: 450.

ADVANCED COURSES

340 Psychology in Business and Industry  3 hrs.

A survey of organizational, business and industrial psychology, including such topics as behavior within the organization, organizational climates and structures, personnel, selection and placement, performance appraisal, training, social context of human work, and psychological aspects of consumer behavior.

505 Teaching Psychology in the Secondary School  3 hrs. Fall, Winter

Class discussions, laboratory experiences and field work concerned with the teaching of psychology in high school. Prerequisite: Permission of the instructor.

512 Physiological Psychology  3 hrs. Fall, Winter

A survey of the relationships of physiological and behavioral processes. Lecture and laboratory. Prerequisite: Permission of the instructor.

513 Animal Behavior I  3 hrs. Fall

An examination of the topic of animal behavior and the analysis of various behavior categories. Emphasis will be placed on non-learning processes with comparisons of Ethological and Psychological methodologies.

514 Animal Behavior II  3 hrs. Winter

An in-depth study of research in animal behavior. Emphasis will be on data collection and analysis. An individual research project will be required. Both laboratory and field research will be discussed.

516 Conditioning and Learning  3 hrs. Fall, Winter

A study of the various approaches to response measurement, experi-
mental methodology, and theoretical interpretations of data in the area of conditioning and learning. Prerequisite: Permission of the instructor.

518 Sensory and Perceptual Processes 3 hrs. Fall, Winter
A survey of sensory and perceptual phenomena with an emphasis on vision and audition. Lecture and laboratory. Prerequisite: Permission of the instructor.

535 Instrumentation in Psychology 3 hrs. Fall, Winter
A survey of problems in response measurement in experimentation. Lecture and laboratory. Prerequisite: Permission of the instructor.

542 Human Factors in Engineering 3 hrs. Fall, Winter
A survey of research on the adaptation of equipment, products, and environment to man's use. Prerequisite: Permission of the instructor.

574 Experimental Social Psychology 3 hrs. Fall, Winter
Methodology of research with groups with emphasis on experimental design and application. Lecture and laboratory. Prerequisite: Permission of the instructor.

595 History of Psychology 3 hrs. Fall, Winter
The historical and philosophical foundations of contemporary American psychology.

SEMINARS AND INDEPENDENT STUDY

397 Seminar in Contemporary Problems 1-5 hrs. Fall, Winter
Survey and discussion of selected topics in contemporary psychology. Prerequisite: Permission of instructor. May be repeated for credit.

398 Independent Study 1-5 hrs. Fall, Winter
This course provides an opportunity for independent reading and/or research under the direction of a faculty member. Prerequisite: Permission of instructor. May be repeated for credit.

540 Industrial Psychology 3 hrs. Fall, Winter
Application of psychological principles to industry. An examination of employee selection, occupational analysis and classification, training, evaluation of performance, supervision, and working conditions.

580 Testing and Measurement in Education 3 hrs. Fall, Winter
Educational applications of testing and measurement procedures.

581 Personnel Selection and Placement 3 hrs. Fall, Winter
Application of testing procedures to selection and placement problems in industry. Prerequisite: Any course in Statistics.
The study of religion in a public university is universal in scope and theoretical in intent. It is universal rather than parochial because the course offerings are not confined to any particular religious tradition, such as the Judeo-Christian heritage peculiar to Western culture, but are attempts to consider the religious experiences and expressions of mankind. It is theoretical rather than practical in that students are challenged to learn and think about religion both critically and constructively. There is no explicit attempt to make the students more religious.

Since religion is a basic mode of experiencing, expressing and appropriating humanness, the study of religion can contribute to an appreciative awareness of that humanness. Thus its purpose is generally humanistic, at least as far as the education of undergraduates is concerned. The various courses which comprise the curriculum in Religion can serve to deepen the student's self-understanding both within the context of Western culture and in the light of cross-cultural perspectives. This humanistic emphasis should not, however, obscure the fact that courses in Religion can be useful to students who wish to continue the study of religion on a graduate level, to students who plan to go into professional religious work, or to students who need to deepen their knowledge of other cultures.

The data for the study of religion are drawn from many sources, including the disciplines of anthropology, archaeology, sociology, psychology, history, philosophy, and from the arts. But in the Department of Religion, these data are structured and interpreted in terms of an autonomous discipline which is specifically designed to consider the nature and history of man's encounter with the sacred. In the context of this discipline the data are approached in four different ways, and the courses are thus under four specific fields of study. In the field of Historical Studies the focus is on the development of various religious traditions and on the development of religion in different periods and places. The field of Morphological and Phenomenological Studies approaches religious phenomena through the study of recurring religious patterns, forms or structures as they can be discerned regardless of time or place. This field is concerned with the structure of religion rather than with the history of religion. The field of Methodological Studies is analytical and critical in its approach to religion. An important element in this field is a disciplined consideration of how to study religion. The field of Constructive Studies is especially concerned with the power of religion as it explores issues and proposals in the contemporary religious situation, the significance of new religious forms, and the religious possibilities for the future which emerge in and through ecumenical and cross-cultural perspectives.
REQUIREMENTS FOR MAJORS AND MINORS

A major in religion consists of a minimum of 28 hours and includes Rel. 200 (Introduction to Religion), two courses in the field of Historical Studies, and at least one course from each of the remaining three fields (Morphological Studies, Methodological Studies, Constructive Studies). Two of these courses should be at the 500 level.

A minor in religion consists of a minimum of 16 hours and includes Rel. 200 (Introduction to Religion). One course is required in the field of Historical Studies. The two remaining courses should be taken in two of the three remaining fields.

COURSE DESCRIPTIONS

(Course descriptions in italics are approved for General Education purposes.)

200 Introduction to Religion 4 hrs.

An introduction to the study of religion intended to be universal in scope, theoretical and scientific in intent, and humanistic in orientation, of the nature and history of religion wherever it may be found, whatever its context, no matter what its forms, and attempting to raise whatever questions are necessary to illuminate its character. This will involve attention to more than one religious tradition, a discussion of the problems of definition, theory and method, an acknowledgment of the interdisciplinary aspects of much of the inquiry, and an examination of the consequences of this inquiry for problems of self-understanding in the context of western culture in general, and American society in particular.

HISTORICAL STUDIES

300 Primitive Religions 4 hrs.

The materials for this course are selected from the vast range of small-scale religious traditions preserved by contemporary primitive— that is to say, pre-literate—peoples. The course will attempt to explore three problem areas: 1) What general patterns of religious experience and expression are most characteristic of the religions of primitive peoples? 2) What religious forms are most characteristic of the religions of primitive peoples, and what is the relationship between particular religious forms and particular patterns of cultural life? 3) What have been the results of the encounter between primitive traditions and those of the Western world?

301 Protohistoric Religions: Ancient Near East, Greece and Rome, Meso-America 4 hrs.

Cities were once a new mode of human existence on the face of the earth, and they brought with them many new religious forms. This course will consider some of the major religious discoveries made in the urban centers of the Ancient Near East, Greece, Rome, and Meso-America with an attempt to find answers to questions such as: What is a city? What has man discovered about himself and his world through the experience of living in cities? Is the city itself a religious form?

302 Religion in the Indian Tradition 4 hrs.

This course draws its materials primarily from the great religious traditions native to India—i.e. Brahmanism, Buddhism, Jainism, and
Hinduism. Particular attention is paid to the continuities of motif and practice that allow one to speak of “Indian Religion” as a unified phenomenon with a single history. Consideration is also given to such problems as the relationship between Indian religious forms and the religious forms of other cultures. Class materials include primary texts in translation and archaeological data.

303 Chinese Religion 4 hrs.
A study of the historical continuity and overall unity in the Chinese religious tradition. The formal religions of Confucianism, Taoism, and Chinese, Buddhism, as well as the informal religious movements of “ancestor worship,” family religion, and state religion will be discussed. An attempt is made to assess the meaning of religion in Chinese culture.

304 African Religions 4 hrs.
This course is designed to introduce the student to the complexity and varieties of the religions of Africa. This is done by focusing on the myriad religious forms, e.g., ideals of the soul, cosmology, initiation rites, etc., which have emerged during the long history of Africa. The course pays attention to religious forms which either came into being with or define a specific cultural stratum. For example, hunters and food-gatherers, horticulturalists, agriculturalists, nomadic herders. Finally an attempt is made to see what changes Westernization has made in the appropriation by the Africans of their traditional religious symbols.

305 The Christian Tradition 4 hrs.
An introduction to some of the salient features of the Christian experience as expressed in thought, practice and institutional structures. In an effort to elucidate the all-pervasive influence Christianity has had on Western culture, the course focuses on such problems as the questions of the origin and identity of Christianity, the most important stages in its development, the interaction of Christian experience and current world-views of the host cultures, and particularly the phenomenon of secularization which is examined in the light of the astronomical, biological, historical, psychological and sociological “attacks” by modernity upon Christianity.

306 The Jewish Tradition 4 hrs.
This course traces the history and development of Judaism from its roots in the Ancient Near East to the present, and its role in the shaping of Western consciousness. Particular attention will be given to the periods of radical social, political and cultural change in Jewish history and hence to the critical problem of Jewish identity. An analysis of Jewish writings, customs, and institutions taken from different periods of Jewish history reveals that Jewish people have discovered and expressed their identity within a religious framework that includes myths and rituals, festivals and holy days, celebration of the past and anticipation of the future, as well as social movements and political revolutions.

307 The Islamic Tradition 4 hrs.
A study of the most important factors involved in the development of both the Islamic religious tradition and Islamic civilization. The pre-Islamic background, the life of Muhammad, the Qur'an, geographical expansion of the Muslim community, Islamic law, mysticism, sectarian developments, philosophy, and Islam in the modern era are the major topics to be examined during the term.
308 Japanese Religion 4 hrs.
A study of the historical continuity and overall unity in the Japanese religious tradition. The major organized religions of Shinto and Japanese Buddhism, and also the influence of Taoism, Confucianism, and Christianity are discussed; also taken up are the informal religious movements of "ancestor worship," family religion, and state religion. An attempt is made to assess the meaning of religion in Japanese culture.

500 Historical Studies in Religion 2-4 hrs.
The topic to be announced in the Schedule of Classes. The content of the course will vary from semester to semester. Students may repeat the course for credit as long as the subject matter is different. Topics such as the following will be studied: Special problems in prehistoric and primitive religions, Japanese, Chinese, and Indian Buddhism, the Protestant Reformation, early and medieval Christianity, romantic spirituality, 20th Century Neo-Orthodoxy, the evolution of modern Catholicism, the Occult Tradition.

MORPHOLOGICAL AND PHENOMENOLOGICAL STUDIES IN RELIGION

310 The Morphology and Phenomenology of Religion 4 hrs.
Method in the most general sense refers to a way of organizing data with a specific goal in mind. This course will attempt to organize selected religious data in terms of forms (morphology) and structures (phenomenology). The specific purpose of the course will be to elucidate both the specificity of religious structures and their comprehensiveness. Types of data to be included are divine forms, cultic practices, initiatory scenarios, religious symbols, etc.

311 Myth and Ritual 4 hrs.
Eric Dardel, an anthropologist, has written: "Myth says with utmost seriousness something that is of essential importance." In this course an attempt will be made to discover just what this important something is and how it is actualized in certain rituals. Myths and rituals will be taken from a variety of historical traditions in order to reflect the cultural milieu of the communities whose lives are governed by them. Special problems to be considered will be the relationship between myth and cult, the problem of time and myth, the logic of mythic forms, etc.

312 Religious Forms in Modern Literature 4 hrs.
A study of the correlation between various religious forms and literary forms. Particular attention will be devoted to the structural function of religious forms in modern literature. Specific forms such as the Saviour, the Divine Child, the Earth Mother, the Hero, the Androgyne, Demons, Initiation, Vocation, The Eschaton, and Cosmic and Spiritual Regeneration will be identified and exemplified in particular works of literature.

313 Religion in America 4 hrs.
An introduction to the full range of religious phenomena in today's North American culture and societies. The course attempts to isolate the specifically religious elements in concepts, values, and institutions and relate them to other elements of the socio-cultural fabric. While attention is directed to historical background, the rise, institutionalization and decline of movements, developing traditions, changing concepts, etc.,
the emphasis of the course is on contemporary experience and special attention is given to content analysis of the mass media, such as TV, radio, newspapers and magazines, advertising, popular music, comics, films, etc.

510 Morphological and Phenomenological Studies in Religion 2-4 hrs.

The topic to be announced in the Schedule of Classes. The content of the course will vary from semester to semester. Students may repeat the course for credit as long as the subject matter is different. Topics such as the following will be studied: divine forms in West African religions, Christian rites and symbols, theology as a religious form, sacred texts, sacrifice, initiation.

METHODOLOGICAL STUDIES IN RELIGION

320 The Philosophy of Religion 4 hrs.

An examination of the place of religion in human experience with special attention to the nature of religious language, the role and structure of religious concepts, the relation between religion and theology, and the logic of religious symbols.

321 The History of the Study of Religion 4 hrs.

In calling mythology a "disease of language," and religion an error founded on dreams, a projection of society, an Oedipus complex, etc., a number of great thinkers helped to found a discipline—and to endow it with some massive problems. This course will introduce students to these major thinkers and the contributions of their various fields; philology, anthropology, sociology, psychology, psychoanalysis, and theology. Special attention will be devoted to the problem of the autonomy of the discipline of religion in relation to the "parental" human sciences.

323 The Religious Factor in Social and Cultural Change 4 hrs.

In this course, religion will be looked upon as a driving force of social and cultural evolution. The historical and contemporary record shows religion capable of exhibiting profound revolutionary tendencies as for instance, in the Peasant War in 16th century Germany or in the present South American situation. The course will be concerned with religion's capability to promote fundamental change. It will explore the following main issues: The utopian and prophetic elements in Eastern, Mid-Eastern, and Western religious traditions; comparison of contemporary religious and secular political hopes and aspirations; the correlation of political exodus utopias and religious eschatologies; the mutual reproduction of religious theory and social and political practice.

324 Psychological Elements in Religion 4 hrs.

The course is concerned with the correlation between religion and the human subject—the religious or areligious individual. The central interest of the course is with religious propensities, feelings, impulses, passions, attitudes, motivations, values, ideas, prejudices. Critical questions such as the following will be asked: What is the function of religious faith for the nervous stability, mental health and wholesomeness of the subject? Does religion reinforce or hinder the maturation process of the individual? Is the need for religion just a derivation from the child's feeling of helplessness and of the longing it evokes for a sublime father figure?
520 Methodological Studies in Religion 2-4 hrs.

Topic to be announced in the Schedule of Classes. The content of the course will vary from semester to semester. Students may repeat the course for credit as long as the subject matter is different. Topics such as the following will be studied: Philosophical and Cultural Approaches to Religion, Psychological and Sociological Approaches to Religion, Myth and Symbol in Religion and Literature, Theological Method, Hermeneutics and Exegesis.

521 The Teaching of Religion in the Public School 2 hrs.

This course focuses on methods and issues involved in the teaching of religion in the public school. Particular attention is given to the problems of its constitutionality, the distinction between the academic study of religion and religious instruction, and the question of meaning. Various approaches to the teaching of religion are critically evaluated. Teaching methods appropriate to the level of instruction, availability, organization, selection and use of materials will be discussed.

Required of all students following an Elementary or Secondary Education Curriculum which includes the Academic Study of Religion as a minor.

CONSTRUCTIVE STUDIES IN RELIGION

330 Studies in Contemporary Theology 4 hrs.

Topics such as the following will be studied: Radical Theology, Modern Catholic Theology, Ecumenical Theology, Christian-Marxist Dialogue, etc. Radical theology involves a study of the issues involved in Death of God Theology as well as secular theology as represented by Catholic, Protestant, and Jewish thinkers. Modern Catholic Theology involves a study of the problems and promises of the Church’s affirmative response to the reality of the modern world, particularly since Vatican II. Ecumenical Theology involves a study of the issues which divide Christians and the attempt to resolve these issues in a conciliatory manner. The Christian-Marxist Dialogue involves a study of the theological and ethical issues which separate a religious point of view, particularly a Christian one, from a Marxist’s view of the world as well as the similarities of these perspectives.

331 The Religious Quest in Modern Literature 4 hrs.

Several novels and plays are read as concrete and dramatized forms of different religious options or “quests” which students are challenged to evaluate in the context of their dramatic efficacy and power. A disciplined attempt is made to recognize secularized aspects of the Judeo-Christian tradition as well as the neo-pagan religious motifs of modern literature.

332 Religion and Social Ethics 4 hrs.

This course will be a study of different styles of religious and secular social ethics and the creative ideas, problems, and attitudes toward the social world they contain. The course will discuss a variety of special contemporary socio-ethical problems: The new sexual morality, abortion, divorce, guaranteed income, thermonuclear and chemical warfare, artificial insemination, euthanasia, and drug addiction. Particular attention will be paid to how different styles of social ethics relate themselves to fundamental changes in contemporary marriage and family life as well as in the economic, political, and cultural sphere.
333 Religion and Ecological Awareness 4 hrs.
A study of our society's attitudes toward the natural environment with special attention given to the sanctions which undergird these attitudes, a consideration of the various religious responses to the environmental crisis, and an inquiry into the possibility of reappropriating a sense for the sacrality of nature through the emerging ecological awareness.

530 Constructive Studies in Religion 4 hrs.
Topics to be announced in the Schedule of Classes. The content of the course will vary from semester to semester. Students may repeat the course for credit as long as the subject matter is different. Topics such as the following will be studied: The nature and function of religion in contemporary society; the possibility of a post-Christian theology; a constructive theory of religious symbolism; the possibility of a religious humanism; religious dimensions of social evolution.
Courses are designed to give students a better understanding of the significant factors and processes of modern life, to meet the needs of students preparing to teach in the social science field, to prepare students to do graduate work in sociology, and to provide study useful for particular applied fields, such as social work. All courses may be taken separately and taken in any order by students who have had the prerequisite courses.

A major in sociology consists of a minimum of 30 hours. Sociology 200, 300, and 382 are required. Students who entered before Fall 1971 may take either Sociology 382 or 582 to meet the methodology requirement for majors.

A combined major in sociology and anthropology consists of a minimum of 30 hours. Sociology 200, 300, and 382, and Anthropology 210, 240, and 250 are required. (220 may substitute for 240, if taken prior to Fall 1973.) At least 12 hours of course work in each field are required.

A minor in sociology consists of a minimum of 20 hours. Sociology 200 and 210 are required.

Sociology 500 and 580 are recommended for those planning to do graduate work in sociology.

For sociology majors or minors, any transfer credit in sociology without a stated equivalent must be evaluated by the Sociology Department. Students planning to major or minor in sociology should contact Helen Nelson, administrative assistant (2407 Sangren Hall), for further information and academic advising.

The Center for Sociological Research has conducted studies of group dynamics, marital roles, race relations, voting behavior, migrancy, alcoholism, and mental health since it was established in 1956 within the Department of Sociology. As the research arm of the department, it aims: (1) to contribute to the field of sociology, (2) to assist and provide research facilities to faculty members engaged in research projects, (3) to enable students to participate in current research, and (4) to provide factual information for the community and the region.

Certain students majoring in sociology may spend one or two semesters at the Merrill-Palmer Institute in Detroit, receiving credit toward graduation at Western.
A limited number of departmental assistantships is available for qualified undergraduate and graduate students. Information concerning applications may be obtained from Helen Nelson (2407 Sangren).

**COURSE DESCRIPTIONS**

(Course descriptions in italics are approved for General Education purposes.)

**THEORY**

100 American Society

An analysis of contemporary American society, including continuity and change in value systems, major institutions and their interrelationships, and other aspects of social life.

101 Ideologies and Societies

The course considers ideologies which serve as modes of organizing societies, such as capitalism, socialism, democracy. The impact of these ideologies on the structure and functioning of societies is analyzed.

200 Principles of Sociology

An introduction to and survey of the discipline of sociology and its major fields of study. Selected sociological concepts, theories, and research findings will be discussed. Required for sociology majors and minors.

300 (504) Sociological Theory

A study of major theoretical viewpoints in contemporary sociology. The course is oriented toward the understanding, application, and extension of these major perspectives. Required for sociology majors. Prerequisite: Soc. 200.

500 History of Social Thought

A critical survey of the social thinking of outstanding students of society from Plato to modern social scientists. Prerequisite: 9 hours of sociology.

**SOCIAL PROBLEMS**

210 Modern Social Problems

The course aims to develop a theoretical framework for understanding selected social problems in American society in such areas as: intergroup conflict, race, poverty, juvenile delinquency and crime, population changes, and mass communication. Problems selected for emphasis may vary with the instructor. Required for sociology minors. Prerequisite: Soc. 200.

312 Criminology

A study of crime as a social problem. Course includes an analysis of causative factors in crime, a study of American police and court systems, survey of problems of penology, and consideration of crime prevention. Prerequisite: Soc. 200.
314 Race Relations 3 hrs.
A study of race and ethnic relations, stressing the meaning of race and ethnicity; the nature and roots of prejudice, discrimination, and other forms of inter-group conflict; and the effectiveness of various strategies for dealing with the problems. Prerequisite: Soc. 200.

An examination of a selected area of concern in social problems not intensively covered in other courses. The focus of the course will be substantive, as well as theoretical and methodological. Topics may include such areas as poverty, mental illness, narcotic addiction, alcoholism, aging, and international tensions. May be repeated for credit with a different topic. Prerequisites: Soc. 200 and 210, or consent of instructor.

512 Seminar in Criminological Theory 3 hrs.
A critical analysis and evaluation of the leading theories concerning the causes of crime, the nature of criminal personality and the treatment of convicted offenders. Prerequisite: Soc. 312 or 514 or consent of instructor.

514 Juvenile Delinquency and the Community 3 hrs.
A study of juvenile delinquency as a social problem. Extent, causative factors, methods of treatment, and programs of prevention and control are covered. When feasible, community resource people are invited to participate. Prerequisite: Soc. 200 or 600*.

515 Social Conflict 3 hrs.
An examination of causes of social conflict, strategies in pursuing conflict, and forms of conflict resolution in conflicts between individuals, between groups, and between nations. Prerequisite: 15 hours of sociology, political science and/or economics.

SOCIAL PSYCHOLOGY

320 Introduction to Social Psychology 3 hrs.
An introduction to social psychological theory and research, covering the interaction of individuals and the relationships of individuals to groups. Includes such topics as social influence, attitudes, socialization, and personality. Prerequisite: Soc. 200.

Further analysis of selected topics in social psychology not intensively covered in other courses. Specified topic will be designated in the course title when scheduled. May be repeated for credit with a different topic. Prerequisite: Soc. 320.

523 Contemporary Social Movements 3 hrs.
A study of the origins, growth, and place in contemporary society of selected social movements, including communism, fascism, Ku Klux Klan, the Townsend movement, and the like. Prerequisite: Soc. 200 or 600.

525 Social Psychology of Education 3 hrs.
An intensive examination of the roles and the interaction of students, teachers, and administrators in the school setting. Particular attention

*600 Social Dynamics of Human Behavior is the introductory course in sociology at the graduate level.
will be given to the importance of peers, family, and social structure. Prerequisite: Soc. 320 or equivalent.

COMPARATIVE SOCIOLOGY

530 (558) Social Forces in Underdeveloped Areas 3 hrs.
An examination of the social factors which influence the growth of industrialization in underdeveloped areas. These factors include cultural tradition, social stratification and the problems involved in a shift from rural to urban residency. Prerequisite: Soc. 200 or 600, or Anthro. 220 or consent of instructor.

Analysis of social change in specific geographic or national areas designated in the course title as scheduled. Change is examined through perspectives from history, anthropology, and sociology. Currently, courses are being offered on Japan and Latin America. May be repeated for credit with a different area. Prerequisite: Soc. 200 or 600.

532 Introduction to Comparative Sociology 3 hrs.
An introduction to the history, major theoretical perspectives and methodological issues associated with cross-national and cross-cultural studies. Particular emphasis will be placed upon those studies which have been central to the development of the comparative approach in sociology. Prerequisite: 9 hours of sociology or consent of instructor.

533 (577) Comparative Institutional Studies 3 hrs.
A comparative study of the structure and functioning of selected aspects of culture in America and other selected countries, such as the legal structure, family and educational systems, the welfare structure, stratification, economic institutions, political organization, the role of science and the basic character of social change. Prerequisite: Soc. 200 or 600.

534 (559) Studies in Ethnic Relations: Designated Areas 3 hrs.
An investigation of the structure and dynamics of tribal, ethnic, and race relations in the context of current theories of racial and ethnic relations. The course will focus on one or another major geographic or cultural area (Africa, Southeast Asia, etc.) and will compare case studies drawn from different countries within this area. May be repeated for credit with a different area. Prerequisite: Soc. 200 or 600, or consent of instructor.

535 (557) Changing Social Systems—Sub-Saharan Africa 3 hrs.
A study of the erosion of traditional tribal systems and the rise of secondary associations and social systems resulting from the impact of European culture and other contemporary world influences. Prerequisite: Soc. 200 or 600, or Anthro. 220, or consent of instructor.

539 Anthropology of Education 3 hrs.
This course is cross-listed and may be taken for either sociology or anthropology credit. See Anthropology 549 for course description.
COMMUNITY AND CLASS

250 Rural Sociology 3 hrs.
This course is cross-listed and may be taken for either sociology or education credit. See Teacher Education 220 for course description.

352 Introduction to Social Gerontology 3 hrs.
An exploration of the social, psychological, economic, and physical aspects of aging. Consideration will be given to institutional programming for older people in American and other societies. Prerequisite: Soc. 200 or consent of instructor.

353 The City 3 hrs.
A survey of the forms and functions of cities, past and present. Special emphasis will be given selected topics, such as the impact of industrialization, political and economic processes, urban planning, and urban problems. Prerequisite: Soc. 200.

355 Social Structure of Black America 3 hrs.
A study of social structure and interpersonal relations in black communities, including historical and anthropological perspectives. The course will focus selectively on family, religious, educational, political, legal, and economic institutions. Emphasis will be given to the patterned consequences of white domination in the society. Prerequisite: Soc. 200.

552 Sociology of Aging 3 hrs.
An examination of the process of aging in American society, with particular emphasis on the periods of late maturity and old age. Consideration will be given to theories of aging and the social implications of age grading, the meaning of work and retirement, and the status and roles of the aged. Prerequisite: 6 hours of sociology including Soc. 200 or 600.

554 Sociological Analysis of Population 3 hrs.
Application of selected sociological theories to the analysis and interpretation of population characteristics and processes such as size, growth, social structure and social change. Prerequisite: 6 hours of sociology or consent of instructor.

556 Social Stratification 3 hrs.
An analysis of the nature, causes, and consequences of class and status differences within societies. Stress is placed upon such concepts as mobility, class, status, and differential power. Conflict and functional theories of stratification are treated. Prerequisite: Soc. 200 or 600, or consent of instructor.

INSTITUTIONS

171 Social Impacts of Science and Technology 3 hrs.
An analysis of social consequences of major scientific and technological changes, including the actual and potential impact of advances in the physical and natural sciences.

371 Dynamics of Contemporary Social Change 3 hrs.
A study of sources, mechanisms, and consequences of social change;
forces promoting or impeding change; and planning for change in contemporary societies. Prerequisite: Soc. 200.

373 Sociology of Health and Illness 3 hrs.
Introduction to the concepts of health and illness in our society; ways of measuring disease; the impact of social class, race, region, and ethnicity on the perception and distribution of disease. Attention will also be paid to the social structure of the health care delivery system and of alternative systems of medical care. Prerequisite: Soc. 200 or consent of instructor.

376 Sociology of Education 3 hrs.
A survey of contemporary educational problems from a sociological perspective. Includes such topics as race relations in the schools, teacher professionalization, classroom behavior, teacher organizations, and studies on modern youth culture. This course is intended as a general introduction to sociology of education for sociology majors and other interested students. Prerequisite: Soc. 200.

572 Power and Society 3 hrs.
An analysis of the bases, distribution, and uses of power in societies and in local communities. Marxist, elitist, and pluralist theories will be considered along with empirical studies of power. A major goal will be understanding the use of power by various groups in facilitating or controlling social change. Prerequisite: Soc. 200 or 600.

573 The Sociology of Political Behavior 3 hrs.
Systematic sociological theory and research applied to the study of political organization and behavior in the United States and in selected countries abroad. Such topics as political parties, voting, bureaucracy, and political ideology will be considered. Prerequisite: 9 hours of sociology and/or political science.

574 Sociology of Religious Institutions 3 hrs.
A study of the social role of religious institutions and beliefs, with particular reference to the United States. The course considers social factors affecting the development of different types of religious institutions and the influence of religion on American society. Prerequisite: Soc. 200 or 600.

575 Industrial Sociology 3 hrs.
The sociological study of industrial organizations and of the process of industrialization. The impact of technology and related factors on work organizations, the structure and operation of labor unions, and the changes occurring in industrial society are discussed. Prerequisite: Soc. 200 or 600.

576 Advanced Sociology of Education 3 hrs.
Advanced studies in sociology of education, emphasizing important theoretical and methodological issues, including in-depth examination of such substantive areas as: socialization, teacher-pupil interaction, teacher role, the school as a social institution, and the structure of the school system as it is affected by the community and the society at large. Prerequisite: 12 hours of sociology or consent of instructor.
578 Sociology of Law 3 hrs.
An examination of legal organization, the legal profession, and legal norms in the United States and other western societies. Emphasis will be placed upon the relationship between the legal system and the society in which it functions. Prerequisite: Soc. 200 or 600.

RESEARCH

382 Methods of Sociological Inquiry 5 hrs.
An introduction to quantitative and qualitative methods of empirical research in sociology and the description of findings. Theory and techniques of research design are considered, including formulation of hypotheses, sampling, and the collection, analysis, and interpretation of data. Laboratory sessions provide special assistance. Required for sociology majors, who are urged to take this course following Soc. 200, to develop ability to evaluate research findings in subsequent content courses. Prerequisite: Soc. 200.

580 Sociological Statistics I 3 hrs.
An introduction to statistical reasoning with particular reference to social science research. The course will view statistics as an aspect of scientific inquiry and consider problems of analysis and interpretation of typical social science data. While no mathematics prerequisite is required, a course in college algebra will be helpful.

582 Research Methodology 3 hrs.
An introduction to the basic methods of empirical research in sociology. Theory and techniques of research design, formulating and testing hypotheses, sampling, and the collection, analysis and interpretation of data are studied. Prerequisite: 9 hours of sociology.

MARRIAGE AND FAMILY

190 Men and Women in Contemporary Society 3 hrs.
A systematic analysis of roles of men and women, with particular emphasis upon problems of adjustment and conflict in contemporary society.

390 Marriage and Family Relations 3 hrs.
A sociological analysis of the structural and interactional aspects of marriage and family groups in contemporary society, with particular emphasis on the American middle class. Consideration is given to change and diversity in family patterns, norms, and values, and to factors contributing to family unity or disorganization. Prerequisite: Soc. 200.

590 The Family as a Social Institution 3 hrs.
The family viewed in historical and cross-cultural perspectives. A structural-functional analysis of the family institution and the relationship between the social structure of society and the family system. Emphasis is placed on change and comparative analysis. Prerequisite: Soc. 200 or 600.
592 Family Life Education and Counseling 2 hrs.
Provides the student with working knowledge of the methods and materials appropriate in the school, the church and other social situations, for working with individuals and small groups who desire preparation for marriage and parenthood. Some attention will be given to the techniques for handling counseling opportunities arising out of these teaching situations. Prerequisite: Soc. 200 or 600 or consent of instructor.

INDEPENDENT AND SPECIAL STUDIES

495 Special Topics in Sociology: Variable Topics 1-3 hrs.
A specialized course dealing, each time it is scheduled, with some particular aspect of sociology not usually included in other course offerings. May be repeated for credit with a different topic. Prerequisite: Soc. 200.

499 Honors Seminar 2-6 hrs.
Investigation of selected topics in seminar sessions by advanced undergraduates. Registration by special invitation from the department chairman.

598 Directed Individual Study 2-6 hrs.
A program of independent study (reading or research) to provide the unusually qualified sociology student with the opportunity to explore a topic or problem of interest, under the guidance of one of the faculty of the department. The initiative for planning the topic for investigation must come from the student. Approval is contingent upon the merit of the proposal. Two or three hours credit per semester, cumulative to six hours. Enrollment beyond the first semester may be either for the same topic or for a new topic. Prerequisite: Consent of instructor and the department chairman.
Communication is the most complex aspect of human behavior. Impairments in the process of communication—speech, language, and hearing—leave myriad problems in their wake. The child with a communication problem may encounter overwhelming obstacles to learning and may find it difficult to establish relationships with other children which are essential to growing up to a healthy, stable adulthood. The adult who acquires a speech or hearing disorder may experience a variety of social problems. Speech pathology and audiology is the area of professional specialization which has developed out of concern for persons with disorders of communication.

The curriculum is designed to reflect standards of the American Speech and Hearing Association, which requires a master's degree in the field or its equivalent for membership and for professional certification by that national organization. This program provides the preprofessional foundation for the necessary graduate education and training.

Students interested in careers as clinicians in the public schools must also fulfill the Michigan State Department of Education requirements for school clinicians. The appropriate undergraduate program for those students is the Special Education Curriculum, on page 445.

The Department of Speech Pathology and Audiology maintains certain standards for academic and clinical work which students must meet. Detailed information about these standards and other departmental policies as well as additional information about the undergraduate and graduate programs may be obtained from the department office.

A. Minimum Hours required for this curriculum 122 hrs.

B. Course Requirements

1. General Educational requirements as described on page 26 of this catalog must be met.

2. Psychology .......................................................... 6 hrs.

3. Teacher Education and Special Education .......................... 10 hrs.
   Human Development and Learning 250 .................. 4
   Education of Exceptional Children 530 .................. 3
   Behavior Problems in School-Age Children 588 ...... 3
4. Speech Pathology and Audiology ........................................... 30 hrs.
   Introduction to Communication Disorders 200 .................. 3
   Orientation to Clinical Practice 201 ................................. 1
   Anatomy and Physiology of Speech 202 .............................. 3
   Speech and Language Development 203 ................................. 2
   Phonemics 204 .......................................................... 2
   Bases of Speech and Hearing 300 ...................................... 3
   Phonemic Disorders 351 ............................................... 2
   Phonatory Disorders 352 .............................................. 2
   Fluency Disorders 353 ................................................ 2
   Language Disorders in Children 354 ................................. 2
   Hearing Disorders 355 ................................................ 2
   Introduction to Audiometry 357 ...................................... 2
   Practicum I 400 ........................................................ 1
   Practicum II 401 ........................................................ 1
   Electives in major area ................................................. 2

5. Physical Education .......................................................... 2-8 hrs.

C. One academic minor.

D. During the program the student must satisfactorily complete clinical requirements as specified by the Department of Speech Pathology and Audiology.

E. The candidate must satisfy the requirements for either the A.B. or B.S. degree.

COURSE DESCRIPTIONS

(Course descriptions in italics are approved for General Education purposes.)

200 Introduction to Communication Disorders 3 hrs. Fall, Winter
   An introduction to the professions of speech pathology and audiology with emphasis on the communication and associated problems of people served by the clinical speech pathologist. Prerequisite: Sophomore standing.

201 Orientation to Clinical Practice 1 hr. Fall, Winter
   An introduction to the clinical procedures, methodology, and instrumentation employed in the treatment of individuals with communication disorders. Demonstration therapy is included. Taken concurrently with 200. Not open to non-majors.

202 Anatomy and Physiology of Speech 3 hrs. Fall, Winter
   The structural anatomy and physiology of the processes related to normal speech production. Major units include respiration, phonation, articulation, and the nervous system. Prerequisite: Sophomore standing.

203 Speech and Language Development 2 hrs. Fall, Winter
   A study of the nature and development of the normal acquisition of speech and language. Prerequisite: Sophomore standing.

204 Phonemics 2 hrs. Fall, Winter
   A study of the phonemes of English. Practice in the use of the International Phonetic Alphabet is provided to prepare the student for accurate transcription of speech behavior. Prerequisite: Sophomore standing.
300 Bases of Speech and Hearing  
An introduction to the scientific study of speech production, perception, and reception. Speech is studied as an acoustic event, and modern developments in the recording and analysis of vocal utterances are examined.

351 Phonemic Disorders  
A detailed study of the nature of phonemic disorders; orientation to clinical management. Prerequisites: 200, 204.

352 Phonatory Disorders  
A detailed study of the nature of phonatory disorders; orientation to clinical management. Prerequisite: 200.

353 Fluency Disorders  
A detailed study of the nature of fluency disorders; orientation to clinical management. Prerequisite: 200.

354 Language Disorders in Children  
A detailed study of the nature of communication problems associated with congenital or acquired impairment of language function in children; orientation to clinical management. Prerequisites: 200, 203.

355 Hearing Disorders  
A study of aural pathology and the effects on hearing. Prerequisite: 200.

357 Introduction to Audiology  
An introduction to the study of the measurement of hearing and to the field of audiology. Prerequisite: 200.

400 Practicum in Speech Pathology and Audiology I  
Clinical experience in the management of speech, language, and/or hearing disorders.

401 Practicum in Speech Pathology and Audiology II  
Clinical experience in the management of speech, language, and/or hearing problems. Prerequisite: 400.

455 Seminar in Speech Pathology and Audiology  
Designed to provide an opportunity for qualified students to examine and discuss a subject area in a field of common interest. Prerequisite: Senior standing.

550 Advanced Speech and Hearing Science  
Theories of speech production, reception and perception are considered in this course from the point of view of experimental phonetics and experimental audiology. Prerequisites: 300, 357.

551 Neuropathologies of Speech  
This course is concerned primarily with surveying selected communication disorders associated with neuropathologies. Prerequisites: 200, 202, 203.
554 Speech and Hearing Therapy in the Schools  2 hrs.
    Study of clinical work with speech- or hearing-disordered children in
    the school setting. Prerequisites: 351, 352, 353, 354, 355.

555 Speech and Language Development of Hearing Impaired  3 hrs.
    A detailed study of the problems of speech and language acquisition
    to the deaf and hard of hearing child; orientation to clinical manage-
    ment. Prerequisite: 357.

556 Aural Rehabilitation  2 hrs.
    Orientation to the clinical management of communication problems
    associated with auditory impairment. Prerequisites: 355, 357.

557 Psychosociological Aspects of Hearing Impairment  3 hrs.
    This course is designed to acquaint the student with the educational,
    psychological, sociological and vocational problems and needs of the deaf
    and hard of hearing. Prerequisite: 357.

595 Oral Language Development and Dysfunction  2 hrs.
    This course is designed to provide the student preparing to be a
    classroom or special teacher with information about the nature of oral
    language, its development, conditions associated with dysfunction, and
    the principles and methods of treatment for children with specific speech
    or language disorders. Not open to students who have had Speech
    Pathology and Audiology 200 or its equivalent.
School of Social Work

Merl C. Hokenstad, Jr., Director
Robert Barstow, Associate Director

Richard G. Adams  G. G. Dadlani  Delores Phillips
Richard E. Boettcher  John Flynn  Clarice C. Platt
Lloyd Braithwaite  Kenneth Kazmerski  Kenneth E. Reid
William A. Burian  Peter M. Kettner  Lynne Riehman
Mary E. Burns  Philip Kramer  Daniel Thompson
Thomas Coffey  Nathaniel McCaslin  Gene E. Webb

Sandra Weir, Undergraduate Counselor

The School of Social Work offers both an undergraduate curriculum and a graduate-professional program. The undergraduate curriculum is designed to offer social welfare content as part of the student's Liberal Arts Education; to provide preparation for graduate training in social work and to prepare students for beginning level social work practice. The graduate-professional program is designed to educate students for direct service and leadership positions in the field of social welfare.

Students enrolled in the undergraduate social work curriculum are required to complete a major consisting of 32 hours. A minor consisting of a minimum of 15 hours is offered for students in other curricula.

Offerings in the Social Work major proceed in three substantive components. The first component provides knowledge about social welfare systems and policies. The second deals with psychological and sociological theories concerned with individual, family, group organization and social systems. The third component focuses upon social work practice content.

Students planning to major in social work should contact the undergraduate counselor. Upon completion of 45 semester hours (midway through their sophomore year), the student planning the social work major is requested to submit an application to the Director of Admissions of the School of Social Work, for processing into the major. Social Work 210, "Social Work Services and Professional Roles," should be taken in the first semester of the sophomore year.

A minor of 15 to 24 hours is required to fulfill the program requirements. The minor may be a regular curriculum minor from another department or it may be an Interdisciplinary minor. Approval is required from the Social Work undergraduate counselor or the Counseling Center. A minor slip is required for these students and may be secured through a counseling appointment in the School of Social Work or the Counseling Center. Further questions concerning a Social Work major or minor may be directed to Sandra Weir in the School of Social Work or by contacting the Counseling Center.

The graduate-professional program focus is on contemporary social problems and problem solving processes. It provides a two-year curriculum leading to a Master's degree in social work. Further information about this program can be found in the Graduate Catalog.
UNDERGRADUATE SOCIAL WORK CURRICULUM

A. Minimum hours required for graduation 122 hrs.

B. Course Requirements

1. General Education requirements 35 hrs.

2. Requirements for the undergraduate social work major 32 hrs.
   - 210 Social Work Services and Professional Roles 3
   - 300 Social Welfare as a Social Institution 3
   - 301 Social Issues and Program Analysis 3
   - 350 Individual and Family Behavior 3
   - 351 Group Community and Organizational Behavior 3
   - 400 Social Work Practice: Values and Problem Analysis 3
   - 401 Social Work Practice: Intervention and Evaluation 3
   - 410* Field Experience and Seminar I 4
   - 411* Field Experience and Seminar II 4
   - 533 Dynamics of Race and Culture for Social Work Practice 3

Note: Following completion of SWRK 210 students must be accepted into the Social Work Curriculum to complete the major.


4. Physical Education 2 hrs.

5. Electives 27-38 hrs.

Students are encouraged to elect additional courses in any area of their specific interest. Particularly recommended in preparation for social work practice are: Anthropology, Communication Arts and Sciences, Economics, History, Philosophy, Political Science, Psychology, Sociology. The following Social Work courses are also available as electives for undergraduate students:
   - 100 Introduction to Social Services 3
   - 464 Problem Solving in Gerontology 3
   - 561 Community Development in Selected Countries 3
   - 562 Community Organization in Urban Areas 3
   - 563 Social Work Concepts in Rehabilitation 3
   - 565 Correctional Process and Techniques 3
   - 566 Social Service in the Schools 3
   - 572 Community Agency Resources 2
   - 598 Readings in Social Work 1-4

6. Requirements for the undergraduate social work minor 15 hrs.
   - 210 Social Work Services and Professional Roles 3
   - 300 Social Welfare as a Social Institution 3
   - 301 Social Issues and Program Analysis 3
   - Two of the following Social Work courses:
     - S.W. 350, 351, 464, 533, 561, 562, 563, 565, or 566 6

C. The student must satisfy the requirements for the A.B. or B.S. degree.

*Completed applications are due at least 15 weeks prior to the semester in which field work is to be taken.
COURSE DESCRIPTIONS

100 An Introduction to Social Services 3 hrs.
A descriptive course covering knowledge content relating to operation of social service programs. It is a study of the philosophy and value base for these services.
Observation visits to field agencies, films, guest lectures and other lab and volunteer experiences may be arranged with the instructor to promote appreciation of knowledge content.

210 Social Work Services and Professional Roles 3 hrs.
An examination of the delivery of social work services at local, state and national levels. Analysis of professional social worker roles and service delivery systems. Utilization of video tape and other audio-visual media for supplementation of classroom learning. (Prerequisite to Social Work Major)

300 Social Welfare as a Social Institution 3 hrs.
Course objective is to enable the student to develop a perspective on the growth of welfare services and their relationship to welfare needs. It is a critical examination of the forces (e.g., social, economic, historical, political, and philosophical) that have led to the institutionalization of social welfare. (Prerequisite: S.W. 210)

301 Social Issues and Program Analysis 3 hrs.
Course objective is to develop analytical and evaluative ability on the part of the student to understand major welfare issues and other policy considerations which have bearing upon service delivery systems. The purpose is also to intensify the student's knowledge of contemporary society and an awareness of the need for new models of social welfare to adapt to changing issues with projection of future problems, programs and policies. (Prerequisites: S.W. 210 and 300)

350 Individual and Family Behavior 3 hrs.
Provides the student with a basic understanding of human behavior, related to human developmental processes, ego psychology, learning theory, and family social and cultural dynamics. Examines socialization and its influence on human behavior. Identifies significant physical, mental, emotional, social and cultural factors which affect the development of the personality, biological and family systems. (Prerequisite: S.W. 210)

351 Group, Community and Organizational Behavior 3 hrs.
Provides the student with an understanding of human behavior related to small group process, role theory, communications theory, social conflict constructs, systems concepts, formal organization and community dynamics. Examines the interplay of various forces which affect the development of social groups, communities, and organizations, and the effects of these interdependent systems on the client system. (Prerequisites: S.W. 210 and 350)

400 Social Work Practice: Values and Problems Analysis 3 hrs.
Taken concurrently with S.W. 410. Focuses upon problem identification, data collection and analysis and goal formulation. Examination of role and status and interrelationships of client action, service, and
target systems. The student learns to identify problems at various system levels (individual, small group, community and organization); to recognize and seek varying perceptions of a given problem; to assess the accuracy of information needed; to order and interpret information from different theoretical perspectives; to write a diagnostic statement; to determine priorities and service limits; and to formulate objectives. (Prerequisites: S.W. 210, 300, 301, 350 and 351)

401 Social Work Practice: Intervention and Evaluation 3 hrs.
Taken concurrently with S.W. 411. Focuses upon implementation of strategies at various system levels (i.e., individual, group, community and organization); the mutuality, structure and processes of interventions; and evaluation and measurement. Content includes the social work contract; change processes, tactics, methods, procedures and techniques (e.g., principles of interviewing; leading and programming for a group; family counseling; advocacy; negotiations; crisis intervention; etc.); the location and milieu of intervention; selection of participants and their number; time elements; measuring results; transfer of responsibilities; and termination. (Prerequisite: S.W. 400)

*410 Field Experience and Seminar I 4 hrs.
Ninety clock hours in the field and seminar. Through this experience, the student is given the opportunity to test out skills and theories taught in the classroom. The field experience is accompanied by a seminar of one hour per week. S.W. 410 and 411 (below) are taken concurrently with S.W. 400 and 401, respectively. Students taking 410 must plan to take 411 the following semester.

*411 Field Experience and Seminar II 4 hrs.
Continuation of S.W. 410, 120 clock hours in the field and seminar.

464 Problem Solving in Gerontology 3 hrs.
Application of problem solving methods and techniques in work with older adults. Attention is given to problem identification, analysis, and differential approaches to intervention. Program development and service delivery in the field of gerontology are considered. Open to social work students and students from related professional disciplines with consent of instructor.

533 Dynamics of Race and Culture for Social Work Practice 3 hrs.
Racial and group cultural characteristics of social welfare consumer groups and social work clientele are examined. Included in this analysis is an extensive survey of social science and administrative research materials. Implications are drawn for planning, organization, administration and provision of programs and services. Particular emphasis is placed on racial and cultural conflict.

561 Community Development in Selected Countries 3 hrs.
This course is intended to provide basic information needed in understanding community life in developing countries. It places emphasis on the history and philosophy of community development in the context of differential socio-economic systems. Includes evaluation and analysis of organizational and administrative problems, involved in implementing programs.

*Completed applications for 410, 411, or 412 are due at least 15 weeks prior to the semester field work is to be taken.
562 Community Organization in Urban Areas 3 hrs.
Social welfare planning, and social action methods are studies as approaches for preventing and resolving aspects of social problems in medium and larger size urban communities. Emphasis is placed on the organizing of neighborhood and consumer groups for social interaction and improvement of community conditions.

563 Social Work Concepts in Rehabilitation 3 hrs.
Application of social work problem solving concepts to social-psychological problems in the broad field of physical and mental rehabilitation. Both individualized services and programmatic implications are given consideration. Open to M.S.W. students and students from related professional department with consent of instructor.

565 Correctional Process and Techniques 3 hrs.
An overview of the correctional process as it can operate in probation, prison and parole to alter the criminal behavior patterns of legally defined offenders. A broad perspective is employed based on existing criminological theory and accumulated knowledge of the phenomena of crime and delinquency. Selected techniques for correctional behavior modifications are studied in relation to a typology of normative deviancy in terms of both etiology and rehabilitation.

566 Social Services in the Schools 3 hrs.
The role of the Social Worker in elementary and secondary schools and the necessary adaptations in the changes taking place in the educational scene are examined and evaluated. Problem solving approaches are given special attention within the structure and organization of the schools and their relationships with the surrounding community. The specific contributions of a School Social Worker as a helping person to the pupils, the school staff and the homes by various interventive means is explored.

572 Community Agency Resources 2 hrs.
A study of community agencies and resources for those concerned with family and personal problems. Emphasis is placed upon the availability of these resources and their effective use by business and industry, speech therapists, guidance counselors, teachers, etc.

598 Readings in Social Work 1-4 hrs.
Offers advanced students with good scholastic records an independent program of study, arranged in consultation with the instructor. One to four hours credit per semester.
College of Business

ARNOLD E. SCHNEIDER,  
Dean

DARRELL G. JONES,  
Associate Dean

LEO NIEMI,  
Administrative Assistant

Departments:
Accountancy
Business Education and Administrative Services
General Business — Finance, Law
Management
Marketing

Institute:
Business Research and Service
OBJECTIVES OF THE COLLEGE OF BUSINESS

The function of the College of Business is to prepare capable men and women for responsible positions in business, industry, and public service. Three major areas of education are involved in the development process. They are:

1. A foundation of liberal arts and sciences in full recognition that as a future leader in the business and industrial world, the student will need a sound understanding of his relationships to social, economic, political and cultural trends.

2. The presentation of a core curriculum which contemplates a thorough grounding in the fundamentals through which our free enterprise economic system operates. These fundamentals are met through business core subjects such as accounting, statistics, law, finance, marketing, management and communication.

3. An opportunity for specialization in various aspects of business activity.

Continuing opportunities are made available to resident students to participate in campus meetings with business, industrial, and public service leaders, as well as outstanding professional men from various disciplines. In addition, business firm visitations, as well as business internships, give ample opportunity for the student to relate himself to his future role. Western's Career Planning and Placement Office is visited by the major firms that are engaged in recruiting activities.

The six main programs in the College of Business are:

1. Business Administration—Bachelor of Business Administration Degree.


3. Master of Business Administration for graduate students with Liberal Arts, Engineering, Business or other undergraduate preparation.

4. Master of Science in Accountancy for students desiring intensive preparation for a professional accounting career.

5. Master of Science in Management and other business areas for students desiring intensive preparation for professional careers in these areas.

6. Master of Arts in the teaching of business subject and Specialist in Arts in Business Education are intended to prepare teachers for superior classroom performance at both the secondary and post-secondary levels.
Business Administration Curriculum (BBA Degree)

The courses and their proper sequence for the B.B.A. degree are listed below.

The courses with lower numbers are considered general prerequisites to those with higher numbers. In addition, many are specific prerequisites as noted in the course descriptions in this catalog. Students are therefore cautioned against deviating from this pattern.

A further requirement is that of the 120 hours of course work exclusive of physical education, at least 48 hours must be taken from areas outside of business and upper division economics.

The last 30 hours of work for those in the B.B.A. curriculum must be taken on campus. Exceptions may be granted only by approval of the Department Head and the Dean of the College of Business.

Advising

For major and minor areas of concentration, see departmental advisors. For questions regarding other curriculum requirements such as General Education courses, B.B.A. Core Cognates and transfer credit equivalencies, contact Mr. Bruce MacQueen or Mr. Charles Shull, Counseling Center.

A. Minimum Hours Required for this Curriculum

B. Course Requirements:

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. General Education:</td>
<td>5-10</td>
</tr>
<tr>
<td>(See p. 26 for listing of requirements)</td>
<td></td>
</tr>
<tr>
<td>2. B.B.A. Core Cognates:</td>
<td>3*</td>
</tr>
<tr>
<td>Bus. Ed. 142, Informational Writing or A.A.S. 120, Technical Communication</td>
<td></td>
</tr>
<tr>
<td>Comm. Arts and Science 104, Bus. and Prof. Speech; or 170 Interpersonal Communication I</td>
<td></td>
</tr>
<tr>
<td>Psychology 150, An Intro. to the Science of Behavior or equivalent</td>
<td>3*</td>
</tr>
<tr>
<td>Math 116, Finite Math. with Applications</td>
<td>3*†</td>
</tr>
<tr>
<td>3. Physical Education</td>
<td>1</td>
</tr>
<tr>
<td>4. Electives (Business Education 140, Ind. &amp; Bus. World; Management 102, Computer Usage; etc.)</td>
<td>7-12</td>
</tr>
</tbody>
</table>

*Applicable to total General Education requirement.
†Should be taken prior to, or concurrently with, Decision Making with Statistics 200.
Sophomore Year

1. General Education Requirements 4

2. B.B.A. Core Cognates:
   Principals of Economics 201, 202 6*
   National Government 200 3

3. B.B.A. Core:
   Principles of Accounting 210, 211 6
   Business Communication 242 3
   Decision Making with Statistics 200 3

4. Physical Education 1

5. Electives (Econ. Geography 244, Prin. of Soc. 200, etc.) 4

Junior Year S.H.

1. General Education
   Intro. to Non-Western World 304 or other 300 or higher
   level approved Non-Western World Course 4

2. BBA Core Cognates:
   One Advanced (300 level or higher) course in Economics 3

3. BBA Core:
   The Legal Environment 340 3
   Business Law 341 3
   Business Finance 320 3
   Fundamentals of Management 300 3
   Marketing 370 3

4. Major and Minor Requirements and Electives 9

Senior Year

1. General Education. One 300 or higher level course 4

2. BBA Core:
   Management Problems 499 3

3. Major and Minor Requirements and Electives 24

Note To Transfer Students:

Students at two-year community colleges who plan to continue at WMU are urged to take courses equivalent to the ones listed for the Freshman
and Sophomore years. Except for 341 Business Law, they should NOT take the upper division courses listed for the Junior and Senior years
as these cannot be accepted as equivalents to satisfy curriculum, major
or minor requirements; nor will the hours transfer for University credit.

Regarding the Mathematics 116 requirement, a three-hour college
algebra course based on a prerequisite of three years of college pre-
paratory mathematics is acceptable as a transfer course.

With departmental approval, transfer courses from four-year schools
(and appropriate lower division courses from community colleges) may
be included in majors and minors. However, a minimum of 12 semester
hours for a major and 9 for a minor must be taken at WMU.
Major Areas of Concentration In Business Administration

DEPARTMENT OF ACCOUNTANCY

Major Requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Accounting 210, 211</td>
<td>6</td>
</tr>
<tr>
<td>Financial Accounting 310, 311</td>
<td>6</td>
</tr>
<tr>
<td>Cost Accounting 322</td>
<td>3</td>
</tr>
<tr>
<td>Income Tax Accounting 324</td>
<td>3</td>
</tr>
<tr>
<td>Financial Accounting 411</td>
<td>3</td>
</tr>
<tr>
<td>Auditing 516</td>
<td>3</td>
</tr>
<tr>
<td>Elective in Accountancy</td>
<td>3</td>
</tr>
</tbody>
</table>

Accountancy Electives Available for Major Requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting Information Systems 413</td>
<td>3</td>
</tr>
<tr>
<td>Institutional Accounting 414</td>
<td>3</td>
</tr>
<tr>
<td>Honors Seminar in Accounting 418</td>
<td>3</td>
</tr>
<tr>
<td>Theory and Problems 518</td>
<td>3</td>
</tr>
<tr>
<td>Studies in International Accounting 521</td>
<td>3</td>
</tr>
<tr>
<td>Cost Accounting—Theory and Practice 522</td>
<td>3</td>
</tr>
<tr>
<td>Studies in Tax Accounting 524</td>
<td>3</td>
</tr>
</tbody>
</table>

Advisors: Report to the Department of Accountancy, 150 East Hall for assignment to an advisor. Your advisor will be pleased to assist you in recommending elective courses and planning your program.

Transfer Credits: Up to 6 hours of Elementary Accounting may be accepted from other than a four-year accredited school. All accounting majors must take a minimum of 12 hours of accounting courses at Western Michigan University.

BUSINESS EDUCATION AND ADMINISTRATIVE SERVICES

The Department of Business Education and Administrative Services offers three undergraduate programs of study: (1) the preparation of business teachers, (2) the administrative services area including business communication and office administration, and (3) the secretarial administration area including the co-op program.

1. Teaching of Business Subjects Advisor: Contact Departmental Office

The B.B.A. degree with certification for teaching business subjects at the secondary school level requires, in addition to the Business Admin-
istration curriculum, 21 semester hours of professional education courses listed on page 408 and Methods of Teaching Business Subjects. Particular attention is called to the footnote on that page.

To obtain teacher certification, it is necessary to have on file a teachable business major consisting of 30 appropriate hours and a teachable minor of 24 appropriate hours, which may also be in business.

For certification with the B.S. or B.A. degree, see the curriculum in Business Teacher Education listed on page 407.

2. Secretarial Administration

The Secretarial Administration Curriculum allows students to progress through sequential preparatory phases as they move toward the acquisition of a bachelor's degree in preparation for administrative, secretarial and office supervisory positions.

A. Secretarial Internship Phase

This work-study program concentrates on the development of skills through co-operative work experience combined with classroom experience. The latter is combined with part-time employment during the sophomore year.

First and Second Semesters S.H. 
Informational Writing 142 3 
Production Typing 185 3 
Transcription 184 4 
Integrated Office Skills 281 3 
Psychology 150 or 120 3 
Industrial and Bus. World 140 3 
Physical Education 1 
Electives and General Education Requirements* 11 
Total 31

Third and Fourth Semesters S.H.
Business Communication 242 3 
Records Management 288 2 
Coordinated Bus. Experience 282 3 
Coordinated Bus. Experience 283 1 
Accounting 210 3 
Office Organization 386 3 
Secretarial Administration 287 4 
Electives and General Education Requirements* 11 
Total 30

B. Administrative Supervision Phase

This phase of the curriculum requires the completion of the Business Administration Curriculum requirements listed on pages 399-400.

3. Administrative Services Major

The Administrative Services concentration prepares students to assume supervisory and administrative positions in a variety of organizational settings.

In addition to completing the B.B.A. curriculum, the major comprises 24 hours of work and includes:

- Bus. Ed. 288, Records Management 2
- Bus. Ed. 330, Office Automation 3
- Bus. Ed. 342, Organizational Communication 3
- Bus. Ed. 556, Office Management 3
- Accounting 413, Accounting Informational Systems 3
- Business electives (in consultation with advisor) 10

Administrative Services Minor

An Administrative Services minor consists of 18 hours chosen in consultation with an advisor. Suggested areas of concentration include

*Chosen in consultation with advisor.
business communication, secretarial administration, data processing, or appropriate combinations.

Note to Transfer Students:
Transfer students seeking teacher certification may use transfer courses in their majors and minors; however a minimum of 12 hours for a major and 9 for a minor must be completed in the College of Business. Student's with a bachelor's degree seeking teacher certification in business education must complete a minimum of 9 hours in the Department.

FINANCE

1. Finance Majors (24 hours)
The Finance Area offers majors in four specific areas and a fifth to encompass those students desiring a general finance major.

The major optional areas and advisors are as follows:

I. Corporate Financial Management
   Advisors: Grossnickle and Garg

II. Securities and Investment Management
    Advisors: Edwards and Wiseman

III. Financial Markets and Institutions
     Advisor: Walsh

IV. Insurance
    Advisor: Burdick

V. General Finance
    Advisors: All Finance Professors

All Options except IV require American Financial System 310 and Business Finance 320. The remaining six courses are selected in consultation with the appropriate advisor.

Option IV requires 310 and 320 plus Risk and Insurance 321. The remaining five courses are selected following consultation with Professor Burdick, advisor.

List of courses from which selections may be made to complete the Finance major.

305 Personal Finance
321 Risk and Insurance
322 Real Estate Finance
326 Investments
328 Internship in Insurance
422 Life and Health Insurance
424 Property and Liability Insurance
425 Financial Management I
426 Financial Management II
427 Financial Institutions and Markets I
428 Financial Institutions and Markets II
499 Senior Topics in Finance
520 Security Analysis
521 International Finance
526 Advanced Life and Health Insurance
528 Problems in Multiple-Line Insurance
598 Readings in General Business (Finance)

It is strongly suggested that major programs be developed during the Junior year so that potential course conflicts can be minimized.
2. Finance Minors (15 Hours)  
Advisors: All Finance Professors

American Financial Systems 310, Business Finance 320, plus nine additional hours in Finance selected with the approval of the advisor from the courses listed on page 403.

GENERAL BUSINESS

1. General Business Majors  
Advisors: Morrison, Casey, Bliss McCarty, Gossman and Batch

In addition to the Business Administration Core, elect a logical sequence of five advanced business courses of 300* level or above, but not more than three out of those five elected courses may be from any one department or area.

2. General Business Minors

Option 1: General Business

Any student who has completed five courses from the Business Administration Core listed on page 400 shall be entitled to declare these courses as his 15 semester hour General Business minor.** One advanced business course (300* level or above) of three or more semester hours may be substituted for one of the five core courses. However, not more than two courses may be taken from any one of the following six areas: Accounting, Business Education and Administrative Services, Finance, Law, Management and Marketing. The requirement of a written minor slip and consent of the advisor is waived.

Option 2: Business Law

Any student who has completed five courses from General Business 311, 340, 341, 442, 450, 541, 542, 543, 544, or Political Science 526, may declare these courses as his Business Law Minor. The requirement of a written minor slip and consent of the advisor is waived.

MANAGEMENT

Major in Management (24 hrs.)

A major in Management consists of the five courses listed below plus an additional nine hours of advanced work. Such advanced work be drawn from topics in Management 400, Independent Study 458, and other approved courses from Management Department offerings.

<table>
<thead>
<tr>
<th>Course</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fundamentals of Management 300</td>
<td>3</td>
</tr>
<tr>
<td>Management Analysis and Behavior (I) 301</td>
<td>3</td>
</tr>
<tr>
<td>Management Analysis and Behavior (II) 302</td>
<td>3</td>
</tr>
<tr>
<td>Management Analysis and Organizations Design (I) 303</td>
<td>3</td>
</tr>
<tr>
<td>Management Analysis and Organizations Design (II) 304</td>
<td>3</td>
</tr>
<tr>
<td>(Management 301-302 and 303-304 are taken concurrently)</td>
<td></td>
</tr>
</tbody>
</table>

Minor in Management (15 hrs.)

A minor in Management consists of 300, 301, 302, 303, and 304.

*Consumer Principles and Practices 292 may be used as one of the advanced business courses.

**For a 24 semester hour Business Education teaching minor, see Business Education advisor.
## MARKETING

The Marketing Department offers four major areas of concentration as shown below. The courses are to be taken in the sequence indicated, following the prerequisites as listed after the course descriptions.

<table>
<thead>
<tr>
<th>Area</th>
<th>Courses</th>
<th>Professor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Retailing</td>
<td>Marketing 370, Advertising 374, Principles of Retailing 375, Sales Administration 376, Retail Merchandising &amp; Promotion 476, Marketing Internship 479, Marketing Research 573, Marketing Problems 576</td>
<td>Embertson</td>
</tr>
</tbody>
</table>
Any deviations from course sequence or course substitutions must have written approval from the student's major advisor.

A minor in Marketing will consist of the following courses:
1. Marketing 370, 3 Credit Hours.
2. Advertising 374, 3 Credit Hours.
3. Sales Administration 376, 3 Credit Hours; plus six hours of electives from within the Department and approved by the Departmental advisor.

RELATED MAJORS

Students who complete the B.B.A. curriculum requirements listed on pages 399-400 may major in any of the following three areas and receive the B.B.A. Degree.

1. Economics  
   Advisor: Bowers
   Elect 30 semester hours from the Department of Economics.

2. Public Administration  
   Advisor: Morrison
   The Public Administration curriculum requires the completion of the Business Administration major and the Political Science minor listed below:

   Major: In addition to the Business Administration Core, elect at least 15 semester hours from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>G BUS 311</td>
<td>Ecology and the Law</td>
<td>3</td>
</tr>
<tr>
<td>G BUS 322</td>
<td>Real Estate Finance</td>
<td>3</td>
</tr>
<tr>
<td>ACTY 324</td>
<td>Income Tax Accounting</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 352</td>
<td>Personnel Management</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 372</td>
<td>Purchasing Management</td>
<td>3</td>
</tr>
<tr>
<td>ACTY 414</td>
<td>Institutional Accounting</td>
<td>3</td>
</tr>
<tr>
<td>G BUS 428</td>
<td>Management of Financial Institutions</td>
<td>3</td>
</tr>
<tr>
<td>G BUS 542</td>
<td>Law of Real Property</td>
<td>3</td>
</tr>
<tr>
<td>G BUS 544</td>
<td>Law of Business Organizations</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 555</td>
<td>Electronic Data Processing</td>
<td>3</td>
</tr>
<tr>
<td>B ED 556</td>
<td>Office Management</td>
<td>3</td>
</tr>
</tbody>
</table>

   Minor: (Political Science)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>National Government</td>
<td>3</td>
</tr>
<tr>
<td>202</td>
<td>State and Local Government</td>
<td>3</td>
</tr>
<tr>
<td>330</td>
<td>Introduction to Public Administration</td>
<td>3</td>
</tr>
<tr>
<td>530</td>
<td>Problems in Public Administration</td>
<td>3-4</td>
</tr>
<tr>
<td>526</td>
<td>Administrative Law and Public Regulation</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Electives with approval of Political Science</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Department Chairman</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20</td>
</tr>
</tbody>
</table>

*Another option is available where a student may major in Political Science and minor in Business. See Political Science advisor.*
3. Statistics

The following courses from the Department of Mathematics plus one business elective comprise the major in Statistics.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>106 Introduction to Computers</td>
<td>1</td>
</tr>
<tr>
<td>122 Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>123 Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>230 Linear Algebra</td>
<td>4</td>
</tr>
<tr>
<td>270 Multivariate Calculus</td>
<td>3</td>
</tr>
<tr>
<td>362 Probability</td>
<td>3</td>
</tr>
<tr>
<td>363 Statistics</td>
<td>3</td>
</tr>
<tr>
<td>506 Programming for Computers</td>
<td>3</td>
</tr>
<tr>
<td>462 Applied Statistics I</td>
<td>3</td>
</tr>
<tr>
<td>463 Applied Statistics II</td>
<td>3</td>
</tr>
<tr>
<td>Electives (one Math and one Business course from list below)</td>
<td>37</td>
</tr>
</tbody>
</table>

Electives

Select one Math course from 310 Finite Mathematics, 507 Numerical Analysis, 408 Linear Programming and one upper-level Business course.

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**Business Teacher Education Curriculum**

Bachelor of Science Degree**

**BUSINESS EDUCATION AND ADMINISTRATIVE SERVICES**

Teaching of Business

A Michigan Secondary Provisional Certificate for teaching of business subjects in grades 7 to 12 is granted to students who complete this curriculum with a 30 semester hour major in business and a 24 semester hour minor, which may also be in business.

Provision is also made for meeting the requirements for a vocational certificate. Only persons holding a Vocational Certificate may teach in or coordinate reimbursed office education programs.

A. Minimum hours required for this curriculum

<table>
<thead>
<tr>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>122</td>
</tr>
</tbody>
</table>

B. Course Requirements

1. General Education requirements as described on page 26 of this catalog must be met.

***Completion of 70 semester hours in the College of Arts and Sciences leads to a Bachelor of Arts degree; see page 23 of this catalog.***
2. Core cognates
   National Government 200  12
   Principles of Economics 201, 202  6*
   Psychology 150 or equivalent  3**

3. Professional Education courses
   Human Development and Learning 250  21
   Teaching and Learning, Secondary 300  4
   Seminar in Education 410  3****
   School and Society 450 or Principles of Practical Arts & Vocational Education  3
   Directed Teaching 470  9

4. Business Education Core
   Coordinated Business Experience 282 or equivalent  3
   Business Communication 242  3
   Industrial and Business World 140 or elective from
   Marketing or Management  3
   Consumer Principles and Practices 292  3
   Office Automation 330  3
   Teaching of Business Subjects 346  3-5
   Office Organization 386  3

5. Major and minor requirements: electives 34-36

6. Physical Education  2

C. Areas of Emphasis
   Advisor: Contact Department Office
   Business Education majors must select a minimum of one teaching emphasis in addition to the Business Education Core.
   1. Accounting and related business subjects (Business Education 281 and Accountancy 210, 211 are required)
   2. Clerical and related business subjects (Business Education 185, 281 and Accountancy 210 are required)
   3. Data Processing and related subjects (Accountancy 210, 211 and Management 555 are required)
   4. General Business and related subjects (Law 340, Accountancy 210, a finance or insurance course)
   5. Salesmanship, retailing, and related subjects (Marketing 270, 370, 375 are required)
   6. Secretarial and related business subjects (Business Education 184, 185, and 287 are required)
   7. Office Education Coordinator (Business Education 185, 281, 282, Distributive Education 573)
   8. Other areas of emphasis may be selected with the permission of the Department Head

* May be used to satisfy the General Education Behavioral and Social Science requirement.
** May be used to satisfy one of the General Education Natural Science and Math requirements.
**** A Professional Education Sequence card must be presented when registering for Teaching and Learning, TEED 300. It is necessary to be enrolled in Human Development and Learning, TEED 250, before application for sequence card may be made.
D. Business Education Minors  Advisor: Contact Department Office

1. For students majoring in Business Education, a teachable General Business minor is available.
   With the approval of the advisor, students select 24 semester hours of courses from subject matter areas such as Accounting, General Business, Electronic Data Processing, Retailing, Salesmanship, or other areas appropriate for secondary education.

2. For education majors not majoring in Business Education
   The Business Education minor of at least 24 semester hours of course work chosen with the approval of the advisor. Students must select at least one of the teaching areas listed above.

DESCRIPTION OF COURSES

All College Courses

399 Field Experience (Community Participation)  2-8 hrs.
   A program of independent study combining academic work with social, environmental, civic or political field work. Prerequisites: A written outline of the student's project, approved by a faculty supervisor, and approval from the office of the dean.
   Students may receive six hours credit in any combination of departments as described, provided the seminar is planned with that combination in mind. No student will receive credit under the course plan indicated here for work done in seminars planned and conducted by other institutions or for work done independent of seminars planned by the College of Business.

504 International Business Seminar  1-6 hrs.
   A foreign study seminar designed for qualified and capable undergraduate students, graduate students, teachers and business executives. The seminar introduces participants to a firsthand knowledge of business operations abroad through on-site inspection of foreign manufacturing, marketing, financial, and governmental organizations, supplemented by coordinated faculty lectures and assigned reading. Students completing such a seminar may receive credit in the Departments of Accountancy, Business Education and Administrative Services, General Business, Management or Marketing, if approved by the Head of the Department prior to registration for the seminar.
College of Business

Accountancy

John T. Burke, Head

James E. Daniels  Gale E. Newell
Frederick Everett  Frederick W. Schaeberle
Charles Hines  John D. Sheppard
Ronald Larsen  Theodore Strunk
James L. Mitchell, Jr.  William R. Welke
William C. Morris  Robert B. Wetnight
Robert D. Neubig  Hubert Zelechowski

The Department of Accountancy prepares its majors for positions as accountants in industrial, governmental and public accounting enterprises. Accountancy majors must complete the Business Administration curriculum.

Students preparing for positions in industry wishing to minor in Accountancy are required to take 15 hours. Of those 15 hours, Accounting 210, 211 and 310 are required. The remaining 6 hours will be selected with the student’s professional objective in mind.

201 (215) Accounting Concepts and Applications  3 hrs. Winter, Spring
A study of the fundamental concepts and applications of accounting. Especially designed for the non-business student. This course does not serve as a prerequisite for any other accounting course and cannot be used for a major or minor in business. Not open to students with credit in accounting.

210  Principles of Accounting  3 hrs.
An introductory course in accounting which includes the recording and reporting of business transactions, and the measuring, planning and controlling of business income, assets and equities.

211  Principles of Accounting  3 hrs.
A continuation of course 210 with emphasis on financial and cost accounting concepts. Prerequisite: 210.

301  Accounting, Taxes, and You  3 hrs.
A non-technical survey course in accounting and tax to partially fulfill the general education requirements for non-business students. The course involves a development of fundamental concepts of accounting and taxes and an application of these concepts to three interdependent roles in an individual’s life. The roles are: (1) as a consumer and wage earner, (2) as an investor and entrepreneur, and (3) as an informed and responsible citizen.

310  Financial Accounting I  3 hrs.
A study of the valuation of current assets, investments, plant and equipment and current liabilities as well as their affect on business net income. Prerequisite: 211.

311  Financial Accounting II  3 hrs.
A continuation of Accounting 211, includes the following topics: Corporate capital, statements from incomplete data; financial statement analysis, and statement of application of funds. Prerequisite: 310.
322 (512) Cost Accounting 3 hrs.
The relation of cost accounting to management for control; general principles involved in constructing a cost system; distribution of cost-materials, labor, and burden; cost records; operating reports, standard cost and budgetary control. Prerequisite: 211.

324 (514) Income Tax Accounting 3 hrs.
A study of the federal income tax laws, as they apply to individuals, partnerships, and corporations. Prerequisite: 211.

410 Internship in Accounting 1-4 hrs.
Under the direction of a faculty advisor, students attain employment experience with public accounting or other business organizations. Participation is limited to available internships and selection by the faculty advisor. Students are required to file reports during the internship period and also write a final term report. In addition, they are evaluated by the executives of the firm. Prerequisite: Written consent of instructor.

411 (511) Financial Accounting III 3 hrs.
Accounting for problems in special sales, consolidations and equities. Prerequisite: 311 and senior standing.

413 (513) Accounting Information Systems 3 hrs. Fall, Winter
An examination of the accounting system as an element of the management information system in various types of businesses. Prerequisite: 211 or written consent of instructor.

414 (314) Institutional Accounting 3 hrs. Spring
A study of accounting principles and practices of school districts and federal, state, county, and city government agencies. Prerequisite: 211 or written consent of instructor.

418 Honors Seminar in Accounting 3 hrs. Fall, Winter
Seniors who are eligible may enroll for departmental honors. Requirements and permission to elect must be obtained at Department of Accountancy office.

516 (416) Auditing 3 hrs.
The theory and practice of public and internal auditing of business enterprises. Prerequisite: 311 and senior accounting major.

518 Accounting Theory and Problems 3 hrs. Winter
Theoretical consideration of accounting problems. The analysis of the type of problems that are found in the CPA examination, or encountered by business management is included. Prerequisite: Senior standing, accounting majors.

521 Studies in International Accounting 3 hrs. Fall (odd-numbered years)
A study of the differences in the principles of accounting auditing standards, and auditing procedures in selected countries of the world. Emphasis is placed on those countries which are important in world commerce. Prerequisite: Written consent of instructor.

522 (517) Cost Accounting—Theory and Practice 3 hrs. Winter
The development and application of cost accounting principles to industrial situations. The course includes the application of costs to operations
and to products. The preparation and analysis of detailed cost information, as well as methods and procedures for solving complex cost problems encountered in industry, are included as a major part of the course. Prerequisite: 322.

524 Studies in Tax Accounting 3 hrs. Winter, Spring
Special studies related to tax problems of individuals, partnerships and corporations. Emphasis on corporation taxes, trusts and estate tax problems. Gift and estate taxes, and an introduction to tax planning are included. Prerequisite: 324 or written consent of instructor.

598 Readings in Accounting 1-4 hrs.
Directed individual study of bodies of knowledge not otherwise treated in departmental courses. Prerequisite: Written consent of instructor.

Business Education and Administrative Services

L. Michael Moskovis, Head

The Department of Business Education and Administrative Services includes the areas of preparation for business teaching, office education coordination, administrative services, and secretarial administration. Students enrolled in the secretarial internship phase of the Secretarial Administration Curriculum learn by combining the classroom theory and the practical experience gained in business, government, and educational office settings.

To be vocationally certified as an office education teacher in the State of Michigan, it is necessary to have two years of unsupervised office work experience or one year of supervised internship experience. A statement certifying the completion of the internship phase of the Business Teacher Education or the Secretarial Administration programs is available on request.

A teaching major in the Department consists of 30 semester hours; a teaching minor, which may also be within the Department, consists of 24 semester hours. The Administrative Services major consists of 24 semester hours; the Administrative Services minor consists of 18 semester hours.

140 Industrial and Business World 3 hrs. Fall, Winter, Spring
An introductory course which acquaints students with the principles and problems of business and industry. Topics include the organization
of American business and current problems and issues. Emphasis is
placed on the relation of business to the various segments of society.
Students participate in business simulations and games and actively
become acquainted with business through a number of community
resources.

142 Informational Writing 3 hrs. Fall, Winter
Development of the basic composition skills required of the competent
writer in business and the professions. Through continuing directed
practice in writing, the student will develop competence in the organiza-
tion and presentation of facts and information in writing.

180 Beginning Shorthand 4 hrs. Fall, Winter
A study of the theory and principles of Gregg shorthand. Type-
writing 182 or its equivalent is a prerequisite or should be elected con-
currently. Credit is given to beginning students or students with not
more than one semester of high school shorthand. In addition to class-
work, at least two hours of laboratory work is required each week.

181 Intermediate Shorthand 4 hrs. Fall, Winter
A continuation of 180. Emphasis on developing speed in taking dicta-
tion in shorthand and transcription procedures. Prerequisites: Business
Education 180 and 182, or equivalents. Credit given to students with not
more than one year of high school shorthand. In addition to classwork,
at least two hours of laboratory work is required each week.

182 Beginning Typewriting 3 hrs. Fall, Winter
Emphasis is placed on the development and mastery of the keyboard
and the proper techniques necessary to use the typewriter as a personal
writing tool. In addition to meeting departmental standards, each student
will complete a project related to his major field in which the typewriter
is used as a communication tool. Credit given to beginning students or
to students with not more than one semester of high school typewriting.

183 Intermediate Typewriting 3 hrs. Fall, Winter
Emphasis is placed upon perfecting the techniques necessary for
accuracy and speed in office typewriting. Includes office production
problems at rates acceptable for initial employment. Prerequisite: Busi-
ness Education 182 or equivalent. Credit given to students with not
more than one year of high school typewriting.

184 Transcription 4 hrs. Fall, Winter
Emphasizes superior skill in the typewritten transcription of business
letters and other office communications. Prerequisites: Business Educa-
tion 181, or 3 semesters of high school shorthand, or equivalent; Business
Education 183, or equivalent. In addition to classwork, at least two
hours of laboratory work is required each week.

185 Production Typewriting 3 hrs. Fall, Winter
The development of superior skill in the production of typewritten
materials for office use. Prerequisite: Business Education 183 or
equivalent. This course follows 3 semesters or more of high school
typewriting.

242 Business Communication 3 hrs.
A study of the theory of interpersonal and written communication.
Application of principles of effective interpersonal communication to
problems in business communication. Directed practice in utilization of a variety of business communication formats. Prerequisite: Business Education 142 or equivalent.

246 Survey of Office Machines 2 hrs. Fall, Winter
A study to develop a working knowledge of the basic mathematical operations applied to typical business problems on office calculating machines.

281 Integrated Office Skills 3 hrs. Fall, Winter, Spring
This course is designed for students preparing for administrative services and executive secretarial occupations and/or business teaching. Utilizes exercises integrating typewriting, voice writing, duplicating, and calculating machines. Prerequisite: Business Education 183 or equivalent. In addition to classwork, three hours of laboratory time is recommended each week.

282 Coordinated Business Experience 3 hrs. Fall, Winter
A work-experience course for students in the Secretarial and Business Teacher Curriculum. Prerequisite: Departmental permission.

283 Coordinated Business Experience 1 hr.
A continuation of Business Education 282. Prerequisite: Departmental permission.

287 Secretarial Administration 4 hrs. Fall, Winter, Spring
This course develops the knowledge and abilities expected of executive secretaries. Emphasis is placed on problem solving and decision making. Prerequisites: Business Education 184 and 185 or equivalents.

288 Records Management 2 hrs. Fall, Winter, Spring
The study of efficient methods and procedures of processing, controlling, and disposing of the records of business. Includes information retention and retrieval, classifying, and the administration of paperwork. Emphasis on the role of supervisory personnel in a records management program.

292 Consumer Principles and Practices 3 hrs. Fall, Winter
A study of national and individual consumer practices and habits. Consideration of purchasing, credit, insurance, financing, advertising, law—warranty, guaranty, landlord and tenant.

330 Office Automation 3 hrs. Fall, Winter, Spring
The historical development of office automation from manual to automatic systems, computer programming in BASIC and the methods of automating the various administrative service functions performed in organizations.

342 Organizational Communication 3 hrs. Fall, Winter, Spring
A study of the theory of communication in structured organizations and applications of communication theory to the solution of communication problems in organization. Directed practice in preparation of written and oral business reports and in utilization of other organizational communication formats. Prerequisite: Business Communication 242.
Teaching of Business Subjects 3-5 hrs. Fall, Winter, Spring

A course in the methods of teaching the business subjects including shorthand, typewriting, bookkeeping, and basic business subjects. This course should immediately precede directed teaching in business education. This course is required for business education certification and follows this pattern:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Wks.</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>I Introduction to Business Education</td>
<td>1-3</td>
<td>1</td>
</tr>
<tr>
<td>II Basic Business Subjects</td>
<td>4-6</td>
<td>1</td>
</tr>
<tr>
<td>III Bookkeeping</td>
<td>7-9</td>
<td>1</td>
</tr>
<tr>
<td>IV Typewriting</td>
<td>10-12</td>
<td>1</td>
</tr>
<tr>
<td>V Shorthand, Secretarial Subjects</td>
<td>13-15</td>
<td>1</td>
</tr>
</tbody>
</table>

All students will enroll for Unit I and at least 2 others. The course provides for those students who expect to teach Bookkeeping, Basic Business, Typewriting and Shorthand.

Prerequisites: Open only to Business Education majors or minors; TEED 300.

Alphabetic Shorthand I 4 hrs. Fall

A system of alphabetic shorthand for personal use and for business use where 100 words a minute is adequate. Prerequisite: Ability to type-write.

Alphabetic Shorthand II 4 hrs. Winter

A continuation of Business Education 380 with emphasis on transcription. Prerequisites: Business Education 380 and 183 or equivalent.

Office Organization 3 hrs. Fall, Winter

A study of the methods of handling and procurement of office equipment and supplies; work flow methods, work simplification. Professionalization of office work and role of supervisory worker. Designed for those entering professional office work, or preparing to teach office workers.

Internship in Business Education 2-4 hrs.

Under the direction of a faculty advisor, qualified students may elect to engage in teaching-learning experiences they would not ordinarily have available to them. Some examples of such teaching-learning experiences are: teaching typewriting and other office machines to the handicapped; teaching consumer education and basic business in programs for the disadvantaged; supervising simulated office laboratory experiences; tutoring foreign students; participation in federal, state and local adult education programs. Scheduled meetings with advisor and submission of written experience reports required. Prerequisite: Filing of a departmental permission-to-elect form; permission of the instructor. May be repeated for a maximum of 4 hours credit at the undergraduate level.

Topics in Business Communication 3 hrs.

An intensive study of a selected topic in Business Communication such as report writing, communication effectiveness and attitude change, communication media in business, business and educational publicity, and others. The topic will be announced in advance. May be repeated for credit.
556 Office Management 3 hrs.
Areas of office services from the managerial viewpoint. An overview of the problems of organizing, constructing, installing, and maintaining office systems.

583 Coordination Techniques in Office Education 2 hrs.
A study of the role and responsibilities of the office education coordinator in his educational system. Surveys the organization of the office education program, the course content of the related class, supervision of on-the-job trainees, the establishment of working relationships among the school, business and home; examines latest pertinent research. Prerequisite: DE 573, Coordination Techniques in Cooperative Education.

584 Improvement of Instruction in Shorthand and Secretarial Subjects 2 hrs.
A study of the latest research findings, materials, teaching procedures, tests and measurements, and future developments in shorthand.

586 Improvement of Instruction in Typewriting 2 hrs.
A study of the latest research findings, materials, teaching procedures, tests and measurements, and future developments in typewriting.

588 Improvement of Instruction in Bookkeeping and Basic Business Subjects 2 hrs.
A study of the latest research findings, materials, teaching procedures, tests and measurements, and future developments in the business subject matter of this field.

589 Organization and Teaching of Office Practice 2 hrs.
A consideration of aims and content of an office-practice course in the secondary school, with plans and techniques for organizing and teaching the subject matter of the course and its laboratory materials.

596 Independent Study in Business Education and Administrative Services 1-4 hrs.
A directed independent project in an area of Business Education or Administrative Services. Prerequisite: Written consent of Department Head.

598 Readings in Business Education and Administrative Services 1-4 hrs.
A series of directed readings in the area of Business Education or Administrative Services. Prerequisite: Written consent of Department Head.
General Business

Arnold Schneider, Head

The General Business Department includes the areas of Finance and Law.

Specialized majors may be obtained from the areas of Finance and specialized minors in Finance, and Law. In addition, non-specialized General Business majors and minors may be obtained by selecting a logical sequence of courses from the several departments within the College of Business. All majors and minors (except General Business and Law minors) in this department must be approved by the assigned advisor.

FINANCE AREA

William L. Burdick
Adrian C. Edwards, Area Chairman
Ramesh Garg

Edwin Grossnickle
J. Michael Walsh
Donald Wiseman

305 Personal Finance 3 hrs.
Deals with various concepts inherent in personal financial management. This is a survey course designed to enable the student to better understand the considerations involved in the management of income, savings, investments and in debt planning. A lecture-discussion approach will include consideration of insurance planning, investment management, consumer and mortgage credit, real estate, tax planning and financial planning in the area of wills and estates.

310 The American Financial System 3 hrs. Fall, Winter, Spring
A survey of the financial system of the United States designed to provide essential foundation for advanced finance and business courses. The emphasis is on the impacts and implications of changes in monetary policies and financial conditions upon the business community, especially as these changes affect business managers. The course covers the development of the American financial system, the major financial institutions, the financial markets, the monetary theory underlying modern financial systems, and stabilization policies.

320 Business Finance 3 hrs.
Presents a basis for understanding the financial management function of the business enterprise. Considers financial principles and techniques essential for planning and controlling profitability and liquidity of assets, planning capital structure and cost of capital, and utilizing financial instruments and institutions for capital raising. Prerequisites: Accounting 210 and 211.

321 Risk and Insurance 3 hrs. Fall, Winter, Spring
A comprehensive course which considers the nature and orientation of insurance risks and their management. Major business and personal
risks are analyzed and their insurance treatment evaluated, as are the functional aspects of insurer operations. The impact of insurance on public policy is also considered.

322 Real Estate Finance 3 hrs. Fall, Winter
Supplies the basis for comprehension in real estate of the basic economic characteristics and the organization and techniques used in the real estate business. Treats real estate resources, marketing, financing, valuation, and trends.

326 Investments 3 hrs. Fall, Winter, Spring
Concentrates on corporate securities as long-term investment media, largely from the standpoint of the individual investor. Examines security appraisal techniques and portfolio management strategies, with some discussion of strategies appropriate for selected financial institutions. Considers mechanics, markets, institutions and instruments important to the investment process. Prerequisite: 320 Business Finance.

328 Internship in Insurance 1-4 hrs.
Open only to insurance students. Under the direction of the advisor, students obtain home office or branch office experience with insurance companies. They are required to file reports during the internship period, and will be evaluated by company officers.

422 Life and Health Insurance 3 hrs. Spring
This course combines a discussion of the economic aspects of life and health insurance with basic analysis of life insurance, health insurance and annuity contracts. It also includes investigation of the major functional aspects of life and health insurance companies. Prerequisite: 321 Risk and Insurance.

424 Property and Liability Insurance 3 hrs. Winter
This course includes analytical study of the major property and liability contracts, together with discussion of the principal functional aspects of property and liability company operations. Prerequisite: 321 Risk and Insurance.

425 Financial Management I—Short-Term Capital 3 hrs. Fall, Spring
An analysis of the managerial aspects relating to the inflows and outflows of working capital in corporate enterprises. The course examines in lecture and case discussion the different aspects involved in the effective management of the cash, receivables and inventory functions; the use of rating agencies in aiding credit acceptance; and the many considerations which become a part of the short-term financing function of the corporate enterprise. Prerequisite: Business Finance 320.

426 Financial Management II—Long-Term Capital 3 hrs. Winter, Spring
An analysis of the managerial aspects relating to the inflows and outflows of permanent capital in corporate enterprises. The course examines in lecture and case discussion the different aspects involved in the effective management of long-lived assets, intermediate and long-term credit, equity and internal financing. It covers, in addition, the areas of corporate expansion including mergers and acquisitions.
and the financial aspects of corporate reorganizations and bankruptcies. Prerequisite: Business Finance 320.

427 Financial Institutions and Markets I 3 hrs. Fall
An introduction to, and systematic treatment of, the money and capital markets. Emphasis will be placed on the institutionalization of savings; loanable funds theory of interest rate determination; the supply of loanable funds; the demand for loanable funds; and the effect of monetary and fiscal policies on the money and capital markets. Prerequisites: The American Financial System 310 and Business Finance 320.

428 Financial Institutions and Markets II 3 hrs. Winter
An advanced treatment of the money and capital markets. Emphasis will be placed on the term structure of interest rates; yield differentials; forecasting interest rate changes and financial flows; and questions of public policy. Prerequisites: The American Financial System 310 and Business Finance 320.

499 Senior Topics in Finance 3 hrs. Winter
This course is designed as a capstone course for finance majors who can benefit from intensive study of selected current issues in finance. Course designed to increase research and analytical capacities of finance majors through intensive faculty-student work. Student permitted freedom to explore topics of interest in depth with assistance of professors. Prerequisite: Written consent of instructor.

520 Security Analysis 3 hrs. Fall, Winter, Spring
A sophisticated analysis of investment securities from the viewpoint of establishing meaningful valuation techniques. The course is designed for students anticipating careers in investment management in industrial firms and/or financial institutions. Prerequisite: Investment 326.

521 International Finance 3 hrs. Winter, Spring
A study of contemporary problems in international finance. The course examines the international money markets, working capital considerations and capital budgeting problems as faced by the multinational corporation. Prerequisite: Finance 320 or equivalent or consent of instructor.

526 Advanced Life and Health Insurance 3 hrs. Winter
By means of problems and cases this course analyzes in detail the following areas: group life and health insurance, business life and health insurance, insured pension plans and estate and tax planning. Prerequisite: Life and Health Insurance 422.

528 Problems in Multiple-Line Insurance 3 hrs. Fall
The topics studied by means of cases and problems in this course include multiple-line insurance operations, special problems in functional areas of industry operations and personal and commercial risk surveys and analysis. Prerequisite: Property and Liability Insurance 424.

598 Readings in General Business (Finance) 1-4 hrs.
Directed individual study of bodies of knowledge not otherwise treated in departmental courses. Prerequisite: Written consent of instructor.
311 Ecology and the Law 3 hrs. Fall
The study of law as it relates to man's efforts to protect his environment. Included will be an examination of traditional common law principles and federal and state statutes relating to environmental protection, analysis of recent cases, and discussion of techniques for the effective use of administrative procedures of the various environmental protection agencies.

340 Legal Environment 3 hrs.
An introduction to the legal environment in society.

341 Business Law 3 hrs.
Continuation of Legal Environment 340 with emphasis on contracts, borrowing and banking transactions to include checks and other commercial paper, agency and employment contracts. Prerequisite: 340 Legal Environment.

442 Damage and Tort Liability 3 hrs. Winter
The study of business rights and liabilities with respect to negligence, intentional wrongs, libel, misrepresentation, and insurance aspects thereof. Prerequisite: 340 Legal Environment.

450 Legal Aspects of Employment 3 hrs.
A survey of the rights, duties and general relationship between employer and employee, including hiring, firing, agency, employee benefit programs, workmen's compensation and an introduction to current labor legislation. Prerequisite: 340 Legal Environment.

541 Law of Sales and Personal Property 3 hrs. Fall, Spring
The study of law as it applies to the sale of goods emphasizing the legal aspects of marketing a product. Prerequisite: 340 Legal Environment.

542 Law of Real Property 3 hrs. Winter
The study of land ownership, sales agreements including the legal duties of the real estate broker, mortgages, land contracts, leases, zoning, condemnation and urban land development problems. Prerequisite: 340 Legal Environment.

543 Legal Problems of International Business 3 hrs. Winter
A study of United States, foreign and international laws which affect business corporations. Prerequisite: 340 Legal Environment.

544 Law of Business Organizations 3 hrs. Fall, Spring
Study of business organizations including partnerships and corporations. Prerequisite: 340 Legal Environment.

598 Readings in General Business (Law) 1-4 hrs.
Directed individual study of bodies of knowledge not otherwise treated in departmental courses. Prerequisite: Written consent of instructor.
Management

Gene S. Booker, Chairman

Hugh Bradley  James W. Hill  Carol A. Ryan
Thomas Brayton  J. Michael Keenan  Arnold E. Schneider
Jerome B. Brightman  Alan H. Leader  Dana D. Squire
Albert E. Dorr  Thomas A. Mason  William J. Upjohn
Fred V Hartenstein  John R. Rizzo  Roger L. Wallace

102 Computer Usage 3 hrs.
An introductory course in the use of time-shared computers. The student will utilize a remote terminal for the recording, transmission, and analysis of data through generally available program libraries.

200 Decision Making with Statistics 3 hrs.
An applications-oriented study of statistical concepts and techniques. The course focuses on the student as a user of statistics who needs a minimal understanding of mathematical theory and formula derivation. Major topics of study are statistical description, central tendency, dispersion, distributional shapes, sampling, confidence levels, probability, comparison tests, association tests, regression and time series. The objectives of the course are to develop the skill to apply these concepts in conjunction with computer usage and make appropriate decisions regarding actual business problems.

250 Small Business Management 3 hrs.
A study of the fundamental principles involved in the operation of a small business enterprise. The structure, functions, and basic operating principles will be discussed and developed. Prerequisite: Non-BBA students only.

300 Fundamentals of Management 3 hrs.
Theories and techniques in the areas of production, social-environmental influences, organization structure, interpersonal relationships, control and motivation systems. Prerequisite: Econ 201 for BBA candidates.

301 Management Analysis and Behavior (I) 3 hrs.
Management analysis and behavior will be presented and practiced by the student in small task oriented groups working on real problems. Group decision making, problem solving, and business presentations are emphasized. In addition, the student will learn the costs and benefits of assuming different group roles. Prerequisite: Management 200, 300, co-requisite: Management 302.

302 Management Analysis and Behavior (II) 3 hrs.
An extension of Management 301, must be taken with 301.

303 Management Analysis and Organizational Design (I) 3 hrs.
The students develop and experiment with their own model of an organization by assuming different roles and exercising influence in a
large task oriented group working on a real problem. The course is designed to give students practice in integrating relevant variables, analyses, and data into an operating system. Prerequisite: Management 301-2, co-requisite: Management 304.

304 **Management Analysis and Organizational Design (II)** 3 hrs.

An extension of Management 303, must be taken with Management 303.

352 **Personnel Management** 3 hrs.

The manager-employee relationship, oriented toward the personnel responsibilities of all managers: the nature of the manager-employee relationship; selection, appraisal, and development of subordinates; communication, discipline, and leadership; relationship of the individual and the organization. This course is an introductory course in personnel management.

400 **Topics in Management** 3 hrs.

An examination of advanced topical problems in management. Prerequisite: Management 301-304, and consent of instructor. (Repeatable)

404 **Business and Society** 3 hrs.

A systematic analysis and evaluation of the concepts and institutions, both internal and extrinsic, which shape the role of business in our society. Illustrative topics: Authority and Power, Pluralism, Competition, Freedom of Association, Innovation, Social Responsibility.

420 **Forecasting** 3 hrs.

A study of the typical business cycle behavior, significant business indicators and methods of analyzing and forecasting business trends. Includes a critical analysis of published research on business trends and a small research study by the student on the analyses of various bodies of data. Prerequisite: Management 200.

430 **Systems Analysis** 3 hrs.

The course is organized as a project team effort to analyze a specified problem within the topic area listed. The team will develop a proposal, organize work packages and complete an analysis of the selected system. Prerequisite: Management 301-304 and permission of department. (Repeatable)

458 **Independent Study** 3 hrs.

Independent research on specialized management topics. Prerequisite: Management 301-304, and consent of instructor. (Repeatable)

490 **Honors Seminar** 1-3 hrs.

A discussion of selected topics in contemporary management. Prerequisite: Consent of departmental honors committee and instructor. (Repeatable)

491 **Independent Honors Studies in Management** 1-3 hrs.

Opportunity for independent reading and/or research under the direction of a faculty member. Prerequisite: Consent of departmental honors committee and instructor. (Repeatable)

499 **Management Problems** 3 hrs.

An integrating course intended to give the student an opportunity to solve management problems by bringing together the knowledge gained
in the study of areas such as finance, accounting, marketing, economics, management. Prerequisites: Senior standing and all core courses.

500 Management Literature 1-4 hrs.
Studies in specialized areas of the management literature. The students will prepare an original paper on an assigned topic. These papers will be integrated by the class into a single document focused on a selected area of management theory. (Repeatable)

540 Advanced Statistics 3 hrs.
A second course in statistics complete enough to be used with limited background. Includes probability theory, t, Z, F, and binomial probability distributions, hypothesis testing with sampling theory and Type I, Type II errors, point and interval estimates, statistical inference, comparison tests (two-sample and K-sample), association tests (correlations and regression), and nonparametric tests. Prerequisite: Management 200.

553 Planning and Analysis for Production 3 hrs.
An examination of modern methods of analysis, their relation to the production process and their utilization in management planning. Cases and problems will be utilized. Prerequisites: Economics 201 and Management 200.

554 Introduction to Management Science 3 hrs.
Modern scientific techniques used in business and industry for controlling operations, maximizing profits or minimizing cost. Allocation of men, money and machines among alternative uses. Other strategies and control methods applicable to management, marketing and finance. Prerequisite: Management 200.

555 Electronic Data Processing (Topic) 3 hrs. Fall, Winter, Spring
Computer programming in FORTRAN or COBOL. FORTRAN usually taught in the Fall semester and COBOL in the Winter semester. Special topics relating to the planning, organization and direction of management information systems in business, industry and government. The course may be repeated for different programming languages and topics. Prerequisite: An introductory computer course or permission of instructor.

557 Inventory Management 3 hrs.
The practical application of modern management techniques in the definition and solving of problems in inventory systems. Prerequisite: Management 200.

564 Simulation Models 3 hrs.
Development of a model for the integration of the functional areas of business to create more successful management policies and organizational structures. Prerequisite: Management 200.

598 Readings in Management 1-4 hrs.
Directed individual study of bodies of knowledge not otherwise treated in departmental courses. (Repeatable)
190  Social Dynamics of Marketing  3 hrs.  Fall, Winter
An analysis of interaction between business and its environment.
Special emphasis will be applied to current topics such as pollution,
ecology, and consumer satisfaction.  No prerequisites.  Not open for
Marketing major or minor credit.

270  Salesmanship  3 hrs.
An introduction to the principles of selling.  Includes study of selling
in our present economy, analysis of the steps in a sales demonstration,
and a classroom demonstration.  Not open for Marketing major or minor
credit.

370  Marketing  3 hrs.
Functions, institutions, and problems of marketing examined from
the viewpoint of their affect on distribution of goods.  Prerequisite:
Econ. 201.

372  Purchasing Management  3 hrs.  Fall, Winter, Spring
The organization and operation of the purchasing function, responsi-
bilities and policies: problems confronting the purchasing department;
relationships with other departments and suppliers.  Prerequisite: Mktg.
370.

374  Advertising  3 hrs.
A comprehensive survey of basic principles and practices of advertis-
ing in their relationship to the economy, society, and the system of
mass communication.  Prerequisite: Mktg. 370.

375  Principles of Retailing  3 hrs.  Fall, Winter
Designed to give the student an over-all view of the field of retailing.
Includes history of retailing, types of retail institutions, store location,
layout, fixtures, and equipment; store organization; store records;
customer services; personnel management; systems and store protec-
tion.  Prerequisite: Mktg. 370.

376  Sales Administration  3 hrs.  Fall, Winter, Spring
Topics include the role of personal selling in the firm; determination
of market and sales potential; recruiting; training; sales communication;
territories and quotas; motivation, measuring selling effectiveness.  Pre-
requisite: Mktg. 370.

470  Industrial Marketing  3 hrs.  Fall, Winter
A course designed to analyze the problems of marketing industrial
goods.  Attention is given to market information, market planning,
methods of distribution, pricing, and the promotional problems of industrial marketing. Prerequisite: Mktg. 370.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Term</th>
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<tbody>
<tr>
<td>474</td>
<td>Advertising Copy and Layout</td>
<td>3 hrs.</td>
<td>Fall, Winter</td>
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<td></td>
<td>Study of the theory and practice in the writing, preparation and typographical composition of advertising including the writing of radio, television, magazine, and newspaper copy. Prerequisite: Advertising 374.</td>
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<td>476</td>
<td>Retail Merchandising and Promotion</td>
<td>3 hrs.</td>
<td>Fall, Winter</td>
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<td></td>
<td>Covers the two major functions of retailing, merchandising and promotion. Includes sales and customer analysis, merchandising, budgeting, promotional planning, expense control systems and pricing policies. Prerequisite: Retailing 375.</td>
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<td>477</td>
<td>Consumer Behavior</td>
<td>3 hrs.</td>
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<td></td>
<td>Investigate, analyze and interpret the extensive body of research information on consumer behavior considering both the theoretical and practical implications. Prerequisite: Marketing 370.</td>
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<td>478</td>
<td>Quantitative Marketing Applications</td>
<td>3 hrs.</td>
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<td></td>
<td>Provides the marketing student with a basic understanding of fundamental quantitative techniques and shows how these techniques will assist the decision maker in solving marketing problems. Prerequisites: Math 116, Management 200, Marketing 370.</td>
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<td>479</td>
<td>Marketing Internship</td>
<td>1-6 hrs.</td>
<td>Arranged</td>
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<td></td>
<td>Cooperative internship training for the BBA degree marketing majors having completed sophomore year. Variable credit at the rate of approximately one credit per 100 hours of internship training acceptable to advisor. May be repeated for a maximum of 6 hours. Term reports required; evaluations completed by executives of firms in which training takes places. Prerequisite: Marketing major; permission of the instructor.</td>
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<tr>
<td>572</td>
<td>Advertising: Media, Campaigns and Strategies</td>
<td>3 hrs.</td>
<td>Fall, Winter</td>
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<td></td>
<td>Evaluation of media and advertising through communications research, analysis and preparation of advertising as a communication tool. Includes theory and practice of media research, media plans, schedules, and strategies. Case studies. Prerequisites: Adv. 374, 474.</td>
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<td>573</td>
<td>Marketing Research</td>
<td>3 hrs.</td>
<td>Fall, Winter, Spring</td>
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<td>Designed to include an introduction to market research, the procedures and applications of research, and the accomplishment of a research project. Term project includes selection of problems, preparation of questionnaires, data collection, analysis of data, and final report. Prerequisite: Mktg. 370, Statistics 200.</td>
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<td>574</td>
<td>Marketing Logistics</td>
<td>3 hrs.</td>
<td>Fall, Winter</td>
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<td>An analysis of problems relating to the movement, handling and storage of industrial products. Attention will also be given to changing market conditions and industrial structure as they affect the physical distribution of industrial goods. Prerequisite: Mktg. 370.</td>
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<td>575</td>
<td>International Marketing</td>
<td>3 hrs.</td>
<td>Fall, Winter</td>
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<tr>
<td></td>
<td>An examination of the theories and principles of international marketing. Attention directed to related commercial policies, trade practices</td>
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and procedures, and marketing research tools and techniques required to locate and evaluate foreign markets. Prerequisite: Mktg. 370.

576 Marketing Problems 3 hrs.
Analysis of current marketing problems utilizing the case method of study. Capstone course in marketing series.

598 Readings in Marketing 1-3 hrs. Arranged
Directed individual study of bodies of knowledge not otherwise treated in departmental offerings. Prerequisite: Written permission of instructor.
College of Education

JOHN E. SANDBERG, Dean
KENNETH F. SIMON, Associate Dean
MORVIN A. WIRTZ, Associate Dean

Departments:
Blind Rehabilitation
Counseling and Personnel
Directed Teaching
Educational Leadership
Physical Education for Men
Physical Education for Women
Special Education
Teacher Education

Agencies:
Center for Educational Research
Educational Resources Center
Reading Center and Clinic
REDE Center (Research, Evaluation, Development, Experimentation)
In general, the College of Education performs six functions:
1. Supervises the selection, admission and retention of students in advanced teacher education curricula;
2. Offers professional education courses designed to develop competent, efficient performance in the classroom and within a school system;
3. Offers advanced specialized courses in selected major and minor fields in departments within the college;
4. Offers service courses to students in other colleges within the University;
5. Provides clinical and curricular services to teachers and school personnel; and
6. Conducts experimentation and research at all levels of professional education.

ALL COLLEGE COURSE

399 Field Experience (Community Participation) 2-8 hrs.
A program of independent study combining academic work in education with social, environmental, civic or political field work. Prerequisites: A written outline of the student's project, approved by a faculty supervisor, and approval from the office of the dean.

ADMISSION TO THE TEACHER EDUCATION PROGRAM

The student who wishes to prepare for the profession of teaching should identify himself as a prospective teacher candidate by declaring at the time of application to the University his intention to follow a Teacher Education curriculum. Students wishing to change their existing curriculum to a Teacher Education Program should make application in either the Directed Teaching office or the Department of Teacher Education. (Students wishing to enter Special Education must obtain approval of the Special Education Department.)

COOPERATIVE TEACHING INTERNSHIP PROGRAM TO PREPARE ELEMENTARY SCHOOL TEACHERS

The Cooperative Internship Program offers the competent student intending to be an elementary school teacher the opportunity of obtaining an earlier start on a professional career. Paid internship begins in the fourth year of his college preparation, when approximately 106 to 110 semester hours of credit have been earned. The work-study design of the internship allows the student to earn a salary while learning. During intern teaching, the student is in complete control of his own classroom, aided by the guidance and counsel of a master teacher. Students interested in enrolling in this program should apply to the Directed Teaching Center, 2504 Sangren Hall. This program leads to full certification and the bachelor's degree.
CURRICULA FOR TEACHERS

The program for prospective teachers consists of three parts: (1) general education, designed to develop those understandings and competencies which make for effective living and good citizenship, (2) advanced specialized study, with major and minor interests in the fields of the student's choice, offered in the various colleges of the University; and (3) professional education courses offered in the College of Education.

In general, prospective teachers choose to work for the State Elementary Provisional Certificate, valid for grades kindergarten through eight, or the State Secondary Provisional Certificate, valid for grades seven through twelve.

Students majoring in Art, Music, Physical Education and Special Education may be certified to teach this major in all grades by completing requirements of the Elementary Provisional or Secondary Provisional certificate and the curriculum requirements of his major.

Those preferring to teach in smaller communities may elect the Rural Elementary curriculum which leads to the State Elementary Provisional Certificate.

ELEMENTARY CURRICULUM

Bachelor of Arts or Bachelor of Science Degree
State Elementary Provisional Certificate
(For the preparation of Teachers of Kindergarten and Grades 1-8)

A. Minimum hours required for this curriculum 122 hrs.

B. Course Requirements

1. General Education Requirement: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies, is required for Michigan certification.

2. Elementary Education Minor

Mathematics 150—Structure of Arithmetic 4
English 282—Children's Literature 4
Teacher Ed. 507—Elem. School Social Studies 2
Music 140—Music for the Classroom Teacher 4
Art 150—Art Education Workshop 3
Practical Arts† 3
Physical Education 340 (PEW)—Physical Education for the Classroom Teacher 1

NOTE: Students electing the Integrated Creative Arts Minor must use an approved replacement for Music 140 and Art 150 (see p. 480-481).

3. Teacher Education

Human Development and Learning 250 4
Teaching and Learning in the Elementary School 300 3
Teaching of Reading 312 3
Directed Teaching 470—9 hrs., Seminar in Education—2 hrs., School and Society 450—3 hrs. (usually taken concurrently in one semester) 14 hrs.
4. Physical Education ................................................. 2 hrs.
(Must include PEW 340—Physical Education for the Elementary Teacher)

C. Two minors of 20 hours each or group minors of 24 hours each; or one major of 30 hours or group major of 36 hours are required. This requirement is in addition to the required El. Ed. minor. (Check catalog descriptions for major and minor requirements.)

The following areas are acceptable fields for majors and/or minors in Elementary Education:

D. The candidate must satisfy the requirements of the A.B. or B.S. Degree.

INTEGRATED PROGRAM FOR TEACHER PREPARATION—ELEMENTARY

Integrated one semester (15 credit hours) full-day programs (TEAM and KALAMAZOO PROJECT) for students preparing to teach in elementary schools are offered fall and winter semesters. These programs combine a portion of the student teaching experience (4 credit hours) with the following courses:

- TEED 300 Teaching and Learning ................................................. 3 hrs.
- TEED 312 Teaching of Reading ................................................. 3 hrs.
- TEED 450 School and Society ................................................. 3 hrs.
- DT 472 Directed Teaching ................................................. 4 hrs.

Remaining student teaching requirements may be completed during a spring session. Please contact one of the following advisors: Burns, Jennings, Miller or Harring.

NOTE: Students who choose a Special Education major must be admitted to the Special Education curriculum. See requirements on page 477.

EMPHASIS IN EARLY CHILDHOOD EDUCATION

Advising Chairman: Sara Swickard

Students seeking certification in the elementary school may gain state approval for early childhood education (including teaching in nursery school and kindergarten) by satisfactorily completing the

*Minors only.
**Majors only.
†Students with a minor in Librarianship may substitute 3 S.H. of Library Science courses for the practical arts requirement.
Elementary Education curriculum requirements with the following additional courses and course substitutions:

TEED 350 The Young Child, His Family, and His Society .................................................. 3 hrs. (New)

TEED 351 Reading and Related Communication Skills for Early Childhood* ........................................ 4 hrs. (New)
(May substitute for TEED 312)

TEED 355 Learning Experiences for Young Children 3 hrs. (New)
(May substitute for TEED 300)

DT 470 Directed Teaching (Early Childhood)** ........................................ 5 hrs.

DT 410 Seminar in Early Childhood Education .................................................. 1 hr.

TEED 455 Historical, Social and Philosophical Perspectives on Education for Young Children .................................................. 3 hrs. (New)
(May substitute for DT 450, School and Society)

Students must see one of the advisors for admission to the program. Upon consultation with an advisor and approval of the Certification Officer, students may apply part of these credit hours to the professional sequence, as indicated above. Each student in the program will also attend a non-credit seminar, with hours to be arranged in consultation with his advisor. Early consultation with an advisor is recommended.

LIBRARIANSHIP CURRICULUM

Bachelor of Arts or Bachelor of Science Degree
State Elementary or Secondary Provisional Certificate
(For Teacher-Librarians)

A. Minimum hours required for this curriculum .................................................. 122 hrs.

B. Course Requirements

1. General Education Requirement: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies is required for Michigan certification.

2. Teacher Education .................................................. 21-26 hrs.
See elementary, junior high and senior high curricula requirements.

3. Library Science .................................................. 20-23 hrs.
Librarianship as a Profession: Introduction
(Strongly recommended for elementary; required for secondary) .................................................. 2

Fundamentals of Library Organization 230 .................................................. 3
Building Library Collections 510 .................................................. 3
Reference Service 512 .................................................. 3

*The following companion course may also be taken by students in Early Childhood Emphasis:
TEED 352 Reading and Related Communication Skills for Middle and Upper Grades .................................................. 4 hrs. (New)

**The directed teaching experience, with its accompanying seminar may count as part of the required number of directed teaching hours for certification of the elementary school teacher, and is not an additional student teaching assignment. In all, the student must complete 11 hours of student teaching and seminar for elementary certification.
Introduction to Classification and Cataloging 530 .......... 3
School Library Experience 407 .......................... 3
Reading Interests of Young Adults 542* ................... 3
Storytelling 546** ........................................ 3
Instructional Materials, K-12 416 .......................... 3

4. Humanities .................................................. 18-22 hrs.
  Modern foreign language .................................. 8
  Children’s Literature 282 ............................... 4
  (elementary and junior high)
  English electives ......................................... 4-8
  Communication Arts and Sciences .......................... 3
  Elective ...................................................... 3
  (junior high and secondary)

5. Social Science .............................................. 3-9 hrs.
  Political science (government) elective ................... 3
  History electives .......................................... 3-6
  (junior high and secondary only)

6. Science
  Elective ...................................................... 3-4 hrs.
  (elementary and junior high—see curricula requirements)

7. Physical Education ......................................... 2 hrs.

C. Candidates for the secondary provisional certificate must elect a
   major or group major of 30 or 36 hours in subjects or subject fields
   taught in the secondary school; candidates for the elementary pro-
   visional certificate must elect an additional minor or group minor
   of 20 or 24 hours.

D. A portion of the Directed Teaching period is spent in a selected
   school library.

E. The candidate must satisfy the requirements of the A.B. or B.S.
   degree.

MIDDLE SCHOOL AND JUNIOR HIGH SCHOOL CURRICULUM

Bachelor of Arts or Bachelor of Science Degree

State Elementary or State Secondary Provisional Certificate

Advising Chairman: Clara Chiara

A program of undergraduate studies to prepare students to teach
in Middle and Junior High School which focuses on teaching-learning
processes and content areas which are effective for working with the
older child and the young adolescent in grades 5 through 9. (Student
has option of earning elementary (grades K-9) or secondary (grades
7-12) certification. Elementary certification is recommended.)*

The program includes a two semester sequence of planned and super-
vised experiences specifically designed for teaching in the Middle or
Junior High School.

*Required only for teacher-librarian candidates in the secondary curriculum.
**Required only for teacher-librarian candidates in the elementary curriculum.
*The candidate must satisfy all requirements of the A.B. or B.A. degree.
PROGRAM REQUIREMENTS MUST BE PLANNED AND APPROVED BY ADVISOR.

A. Minimum hours required for this curriculum 122 hrs.

B. General Education Requirement: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies, is required for Michigan certification.

C. Major/Minor Requirements

Elementary Certification Option

1. Two minors or group minors (20-24 hours); OR one major or group major (30-36 hours) selected from the following areas: Communication Arts and Sciences, English, Social Science, Mathematics, Science, Foreign Languages.

2. Elementary Education minor: see advisor for requirements.

Secondary Certification Option

1. One major or group major.
2. One minor or group minor.

Majors and minors must be selected from the following areas: Communication Arts and Sciences, English, Languages, Linguistics (second major only), Social Science, Mathematics, Science.

It is strongly recommended that majors and minors be chosen from related disciplines. See advisor for acceptable combinations.

D. Two semester-planned sequence (usually taken in junior year)

Fall Semester

One course from: General Studies 122, 316, OR Sociology 314, 320, 353, 514.

CAS 170 Interpersonal Communications I OR CAS 270 Interpersonal Communications II 3 hrs.

TEED 312 Teaching of Reading Elementary OR TEED 322 Teaching of Reading Secondary 3 hrs.

TEED 450 School and Society 3 hrs.

TEED 398 Special Studies in Education (topical seminars) Field Experiences (no credit) 4 hrs.

Winter Semester

TEED 398 Special Studies in Education (Psychology and Guidance of Young Adolescents) 2 hrs.

TEED 352 Reading and Related Communication Skills for Middle and Upper Grades 4 hrs.

TEED 300 Teaching and Learning in Middle School 3 hrs.

TEED 507 Elementary School Social Studies (elementary option OR methods course in major or minor field—secondary option) 3 hrs.

DT 472 Directed Teaching 4 hrs.
E. **Professional Education**

TEED 250 Human Development and Learning (required before two semester planned sequence)  
DT 471 Directed Teaching  
DT 410 Seminar in Education

471 and 410 are taken concurrently during senior year. Professional Education must total 21 hours; other professional education requirements are included in two semester planned sequence.

F. **Physical Education**

2 hrs.

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**MUSIC EDUCATION CURRICULUM**

Bachelor of Music Degree  
State Secondary Provisional Certificate  
(For preparation of Teachers of Vocal and Instrumental Music)

A. **Minimum hours required for this curriculum**

122 hrs.

B. **Course Requirements**

1. **General Education Requirement:** 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies is required for Michigan certification.

2. **Music Theory**

Basic Music 160, 161, 260, 261, 360 (or 361) 14 hrs.  
Theory Elective 2 hrs.

3. **Musical Performance**

Major Performance Medium 14 hrs.  
Secondary Performance Media, Conducting and Ensemble 10 hrs.  
(These requirements vary for instrumental, vocal and combined curricula. See Music Supplement Catalog for details.)

4. **Music History/Literature**

Music History/Literature 370-371 6 hrs.  
Music History/Literature elective 2 hrs.

5. **Teacher Education**

Human Development and Learning 250 4 hrs.  
Teaching and Learning in Secondary School 300 3 hrs.  
Directed Teaching, Seminar in Education, and School and Society 470, 410, and 450 14 hrs.  
Music Methods Electives 12 hrs.

6. **Physical Education**

2 hrs.

7. **Electives**

4 hrs.

C. Candidates may be additionally certified to teach music in Grades Kindergarten-Six, inclusive, if they qualify through methods courses and directed teaching at the elementary level.

D. The candidate must meet the requirements of the B.M. degree. (See Music Supplement Catalog for details.)
ELEMENTARY CURRICULUM—MUSIC MAJOR

Bachelor of Science Degree
State Elementary Provisional Certificate

(For preparation of Elementary Music Teachers and/or Classroom Teachers Grades K-8)

A. Minimum hours required for this curriculum 122 hrs.

B. Course Requirements

1. General Education Requirement: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies is required for Michigan certification.

2. Music Major
   - Basic Music 160-161
   - Elem. Music Practicum 244
   - Piano and Voice
   - Music: Select one: 150, 151, 152; 350, 351, 352
   - General Methods 240
   - Graderoom Music Literature 374
   - Ensemble
   - Choral Conducting 330
   - Music Electives

3. Elementary Education Minor
   - Children's Literature 282
   - Structure of Arithmetic 150
   - Elementary School Social Studies 507
   - Approved Elective (Substitution for Music for the Classroom Teacher 140)
   - Art Education Workshop 150
   - Physical Education for Classroom Teacher 340
   - Practical Arts

4. Teacher Education
   - Human Development and Learning 250
   - Teaching and Learning in Elementary School 300
   - Teaching of Reading 312
   - Directed Teaching, Seminar in Education, and School Society, 470, 410, and 450

5. Physical Education
   - Includes Physical Education for the Elementary Teacher 340

6. Electives to make 122 hours

RURAL ELEMENTARY CURRICULUM

Bachelor of Arts or Bachelor of Science Degree
State Elementary Provisional Certificate

Major attention is given to preparation for teaching in schools located in rural or small community areas—population 2,500 or less.
College of Education

Students desiring to teach in schools serving these areas select the Rural Life major or two academic minors under the guidance of the Director of Rural Life and Education. Thought is given to the many demands made upon the teacher in the small school. Those preparing to serve the smaller communities in other professional groups, such as ministers, librarians, recreation leaders, etc. either at home or overseas, will find considerable basic work in the curricula of Rural Life and Education.

Rural Elementary Curriculum

A. Minimum hours required for this curriculum

B. Course Requirements

1. General Education Requirement: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies is required for Michigan certification.

2. Elementary Education Minor

   Children's Literature 282
   Structure of Arithmetic 150
   Music for the Classroom Teacher 140
   Art Education Workshop 150
   Physical Education for the Elem. Teacher 340
   Elementary School Social Studies 507
   Practical Arts course (one course in Business, Home Econ., Indus. Ed. or Occup. Therapy)

3. Professional Education Sequence

   Human Development and Learning 260
   Teaching and Learning 300
   Teaching of Reading 312
   Directed Teaching*
   Seminar in Education 410**
   School and Society 450

4. Rural Education courses

   Rural Sociology 220
   Rural Economics 230
   Rural Life (Seminar) 525
   Curr. Organization in Small Schools 201
   Problems of Comm. Schools in Rural Areas 411
   Supervision in Rural Area School (Sem.) 408

5. Physical Education (General)

   (Physical Education 340 will count toward one hour of this)

C. Either a group major in Rural Life, including Rural Sociology, Rural Economics, Rural Life Seminar, Introduction to the Non-Western World, and 22 additional hours selected from courses offered in liberal arts; or two academic minors in subject fields taught in the elementary school, chosen with the guidance of the Director of Rural Life and Education. In addition to the major or two minors, the Elementary Education minor is required.

* Only for students enrolled in the Special Program described on following page.
** Not required of students enrolled in the Special Program.
D. The candidate must satisfy the requirements for the B.A. or B.S. degree.

Rural Life and Education Curriculum—
Special Program for Education of Career Teachers in Rural and Small Communities

Individuals electing this curriculum will fulfill requirements for the Bachelor's degree and the Rural Elementary Curriculum as outlined above. Students who qualify will complete a Rural Life major.

An important feature of this program is the teacher intern "earn and learn" provision. The student, upon recommendation of the Director of Rural Life and Education, may teach full time with pay after successfully completing 90 hours of carefully selected courses, including directed teaching, from the curriculum.

The teacher intern remains under close University and local supervision while teaching. He continues his academic and professional studies on a restricted but uninterrupted basis. The internship terminates at the end of two years, by which time all requirements for the degree and certificate must be met.

SECONDARY CURRICULUM
Bachelor of Arts or Bachelor of Science Degree
State Secondary Provisional Certificate
(For the preparation of teachers in Grades 7-12)

A. Minimum hours required for this curriculum 122 hrs.

B. Course Requirements

1. General Education Requirement: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies is required for Michigan certification.

2. Teacher Education .......................... 21 hrs.
   Human Development and Learning 250 .......... 4
   Teaching and Learning in Jr. or Sr. H.S. 300 .. 3
   Directed Teaching 470—9 hrs., Seminar in Education 410—2 hrs., School and Society—3 hrs. (usually taken concurrently in one semester) .................................. 14

3. Physical Education .......................... 2-8 hrs.

NOTE: 322 Teaching of Reading—Secondary, is recommended for all students in this curriculum.

C. The candidate for the State Secondary Provisional Certificate must present a methods course in a major or minor field.

The following areas are acceptable fields for majors and/or minors in Secondary Education:
SPECIAL EDUCATION CURRICULUM

EMOTIONALLY DISTURBED

Bachelor of Science Degree

State Elementary Provisional Certificate

(For the preparation of teachers of emotionally disturbed children)

A. Minimum hours for this curriculum 130 hrs.
   (If B.A. degree is desired, see page 25 for these requirements)

B. Course Requirements

   1. General Education Requirement: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies is required for Michigan certification.

   2. Communication Arts and Sciences, Language, Literature, Philosophy or Religion 4 hrs.
      Children's Literature 282 4
   Structure of Arithmetic 150 .............................................. 4
   Psychology I 150 ............................................................. 3
4. Teacher Education .............................................................. 13 hrs.
   Human Development and Learning 250 .................................... 4
   Teaching of Reading 312 .................................................... 3
   Elementary School Social Studies 507 .................................... 2
   Directed Teaching 471 (Regular Class) .................................. 4
5. Fine Arts (Art and Music) ................................................... 7 hrs.
   Music for the Classroom Teacher 140 .................................... 4
   Art Education Workshop 150 ................................................. 3
6. Practical Arts ................................................................. 7 hrs.
   Arts and Crafts for Teachers 593 ......................................... 4
7. Emotionally Disturbed—Major* ............................................ 36 hrs.
   Education of Exceptional Children 530 ................................... 3
   Practicum in Special Education 531 ................................ ...... 2
   Communication Disorders 200 .............................................. 3
   Programs and Intervention Strategies with the Socially and Emotionally Maladjusted 589 ...................................................... 4
   Behavior Disorders in School-Aged Children 588 ...................... 3
   Diagnostic and Prescriptive Techniques in Special Education 533 ................................................................. 4
   Curricular and Instructional Provisions for Exceptional Children 534 ................................................................. 4
   Directed Teaching (Special Education) 474 .............................. 8
   Seminar in Education 410 .................................................... 2
   School and Society 450 ....................................................... 3
8. Physical Education ............................................................. 2 hrs.
   (Must include Physical Education for the Elementary Teacher 340)
   C. One Academic Minor in a subject or subject field taught in the elementary school ........................................... 20 hrs.
   D. Electives (Under Advisement) .......................................... 9 hrs.
   E. The candidate must satisfy the requirements for the B.S. degree or the B.A. degree.

SPECIAL EDUCATION CURRICULUM
MENTALLY HANDICAPPED

Bachelor of Science Degree
State Elementary Provisional Certificate
(For the preparation of teachers of mentally handicapped children)

A. Minimum hours for this curriculum 130 hrs.
(If B.A. degree is desired, see page 25 for these requirements)

B. Course Requirements
1. General Education Requirement: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the

*A minimum grade of "C" must be earned in each course listed in the major.
College of Education

College of Arts and Sciences (non-professional courses only) and/or the College of General Studies is required for Michigan certification.

2. Communication Arts and Sciences, Language, Literature, Philosophy, Religion
   Children's Literature 282 ............................ 4 hrs.
   Public Speaking I 130 ................................. 3 hrs.

3. Science, Mathematics, Psychology
   Structure of Arithmetic 150 .......................... 4 hrs.
   Psychology I 150 ....................................... 3 hrs.

4. Teacher Education
   Human Development and Learning 250 .................... 4 hrs.
   Teaching of Reading 312 ................................ 3 hrs.
   Directed Teaching 471 (Regular Class) ................ 4 hrs.

5. Fine Arts (Art and Music)
   Music for the Classroom Teacher 140 ................... 4 hrs.
   Art Education Workshop 150 ............................. 3 hrs.

6. Practical Arts
   Arts and Crafts for Teachers 593 ....................... 2 hrs.

7. Mentally Handicapped—Major*
   Education of Exceptional Children 530 ................ 4 hrs.
   Practicum 531 .......................................... 3 hrs.
   Communication Disorders 200 .......................... 3 hrs.
   Nature and Needs of the Mentally Handicapped 532 .... 4 hrs.
   Behavior Disorders in School-Aged Children 588 ...... 3 hrs.
   Diagnostic and Prescriptive Techniques in Special Edu-
   cation 533 .................................................. 4 hrs.
   Curricular and Instructional Provisions for Exceptional
   Children 534 ............................................. 4 hrs.
   Directed Teaching (Special Education) 474 .............. 8 hrs.
   Seminar in Education 410 ................................ 2 hrs.
   School and Society 450 .................................. 3 hrs.

8. Physical Education
   (Must include Physical Education for the Elementary
   Teacher 340)

   C. One Academic Minor in a subject or subject field taught in
      elementary school .................................... 20 hrs.

   D. Electives (Under Advisement) ........................ 8 hrs.

   E. The candidate must satisfy the requirements for the B.S.
      degree or the B.A. degree.

SPECIAL EDUCATION CURRICULUM
ORTHOPEDICALLY HANDICAPPED

Bachelor of Science Degree
State Elementary Provisional Certificate
(For the preparation of teachers of crippled and homebound children)

A. Minimum hours for this curriculum .......................... 130 hrs.
   (If a B.A. degree is desired, see page 25 for these require-
   ments)

*A minimum grade of "C" must be earned in each course listed in the major.
B. Course Requirements

1. General Education Requirement: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies is required for Michigan certification.

2. Communication Arts and Sciences, Language, Literature, Philosophy, Religion
   - Children's Literature 282 ........................................ 4 hrs.

3. Science, Mathematics, Psychology
   - Structure of Arithmetic 150 ....................................... 4 hrs.
   - Psychology I 150 .................................................. 3 hrs.

4. Teacher Education
   - Human Development and Learning 250 .......................... 4 hrs.
   - Teaching of Reading 312 ......................................... 3 hrs.
   - Directed Teaching 471 (Regular Class) ......................... 4 hrs.

5. Fine Arts (Art and Music)
   - Music for the Classroom Teacher 140 ......................... 4 hrs.
   - Art Education Workshop 150 .................................... 3 hrs.

6. Practical Arts
   - Arts and Crafts for Teachers 593 .............................. 2 hrs.

7. Orthopedically Handicapped—Major*
   - Education of Exceptionally Children 530 .................... 3 hrs.
   - Practicum in Special Education 531 ........................... 2 hrs.
   - Behavior Disorders in School-Aged Children 588 .......... 3 hrs.
   - Nature and Needs of Crippled and Homebound Children 543 .. 4 hrs.
   - Communication Disorders 200 .................................. 3 hrs.
   - Diagnostic and Prescriptive Techniques in Special Education 533 .................................................................. 4 hrs.
   - Curricular and Instructional Provisions for Exceptional Children 534 .......................................................... 4 hrs.
   - Orthopedic and Medical Lectures 524 ......................... 4 hrs.
   - Directed Teaching (Special Educ.) 474 ......................... 8 hrs.
   - Seminar in Education 410 ......................................... 2 hrs.
   - School and Society 450 ............................................. 3 hrs.

8. Physical Education
   (Must include Physical Education for the Elementary Teacher 340) ........................................................... 2 hrs.

C. One Academic Minor in a subject or subject field taught in the elementary school ........................................ 20 hrs.

D. Electives (Under Advisement) ........................................ 7 hrs.

E. The candidate must satisfy the requirements for the B.S. degree or the B.A. degree.

*A minimum grade of "C" must be earned in each course listed in the major.
SPECIAL EDUCATION CURRICULUM
VISUALLY HANDICAPPED

Bachelor of Science Degree
State Elementary Provisional Certificate
(For the preparation of teachers of visually impaired children)

A. Minimum hours for this curriculum 130 hrs.
(If a B.A. degree is desired, see page 25 for these requirements.)

B. Course Requirements

1. General Education Requirement: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies is required for Michigan certification.

2. Communication Arts and Sciences, Language, Literature, Philosophy or Religion 7 hrs.
   - Children's Literature 282 4 hrs.
   - Public Speaking I 130 3 hrs.

   - Structure of Arithmetic 150 4 hrs.
   - Psychology I 150 3 hrs.

4. Teacher Education 11 hrs.
   - Human Development and Learning 250 4 hrs.
   - Teaching of Reading 312 3 hrs.
   - Directed Teaching 471 (Regular Class) 4 hrs.

5. Fine Arts (Art and Music) 7 hrs.
   - Music for the Classroom Teacher 140 4 hrs.
   - Art Education Workshop 150 3 hrs.

6. Practical Arts 2 hrs.
   - Arts and Crafts for Teachers 593 2 hrs.

7. Visually Handicapped—Major* 38 hrs.
   - Education of Exceptional Children 530 3 hrs.
   - Practicum in Special Education 531 2 hrs.
   - Education of Blind and Partially Sighted 592 2 hrs.
   - Diagnostic and Prescriptive Techniques in Special Education 533 4 hrs.
   - Curricular and Instructional Provisions for Exceptional Children 534 4 hrs.
   - Braille and Other Communication Methods 591 2 hrs.
   - Methods and Techniques of Teaching Braille and Other Areas of Communication 593 3 hrs.
   - Physiology and Function of the Eye 590 2 hrs.
   - Principles of Orientation and Mobility for the Blind 594 3 hrs.
   - Directed Teaching (Special Education) 474 8 hrs.
   - Seminar in Education 410 2 hrs.
   - School and Society 450 3 hrs.

*A minimum grade of "C" must be earned in each course listed in the major.
Special Education

Bachelor of Science Degree
State Elementary Provisional Certificate
(For preparation of School speech and hearing clinicians)

A. Minimum hours required for this curriculum

B. Course Requirements

1. General Education Requirement: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies is required for Michigan certification.

2. Language, Literature, Philosophy, Religion
   Children's Literature 282 4 hrs.

3. Mathematics and Psychology
   Psychology 6 hrs.
   Structure of Arithmetic 150 4 hrs.

4. Teacher Education and Special Education
   Human Development and Learning 250 4 hrs.
   Teaching of Reading 312 3 hrs.
   Teaching and Learning (Elem.) 300 3 hrs.
   Elem. School Social Studies 507 2 hrs.
   Practical Arts Elective 3 hrs.
   Education of Exceptional Children 530 3 hrs.
   Behavior Disorders in School-Aged Children 588 3 hrs.
   Directed Teaching, Seminar in Education and School and Society 470, 410 and 450 14 hrs.

5. Fine Arts
   Music for Classroom Teacher 140 4 hrs.
   Art Education Workshop 150 3 hrs.

6. Speech Pathology and Audiology—Major
   Intro. to Communication Disorders 200 3 hrs.
   Orientation to Clinical Practice 201 1 hr.
   Anatomy and Physiology of Speech 202 3 hrs.
   Speech and Language Development 203 2 hrs.
   Phonemics 204 2 hrs.
   Bases of Speech and Hearing 3 hrs.
   Phonemic Disorders 351 2 hrs.
   Phonatory Disorders 352 2 hrs.
   Fluency Disorders 353 2 hrs.

C. One Academic Minor in a subject or subject field taught in the elementary school

D. Electives (Under Advisement)

E. The candidate must satisfy the requirements for the B.S. degree or the B.A. degree.

SPECIAL EDUCATION CURRICULUM
SPEECH PATHOLOGY AND AUDIOLOGY

Bachelor of Science Degree
State Elementary Provisional Certificate
(For preparation of School speech and hearing clinicians)

A. Minimum hours required for this curriculum

B. Course Requirements

1. General Education Requirement: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies is required for Michigan certification.

2. Language, Literature, Philosophy, Religion
   Children's Literature 282 4 hrs.

3. Mathematics and Psychology
   Psychology 6 hrs.
   Structure of Arithmetic 150 4 hrs.

4. Teacher Education and Special Education
   Human Development and Learning 250 4 hrs.
   Teaching of Reading 312 3 hrs.
   Teaching and Learning (Elem.) 300 3 hrs.
   Elem. School Social Studies 507 2 hrs.
   Practical Arts Elective 3 hrs.
   Education of Exceptional Children 530 3 hrs.
   Behavior Disorders in School-Aged Children 588 3 hrs.
   Directed Teaching, Seminar in Education and School and Society 470, 410 and 450 14 hrs.

5. Fine Arts
   Music for Classroom Teacher 140 4 hrs.
   Art Education Workshop 150 3 hrs.

6. Speech Pathology and Audiology—Major
   Intro. to Communication Disorders 200 3 hrs.
   Orientation to Clinical Practice 201 1 hr.
   Anatomy and Physiology of Speech 202 3 hrs.
   Speech and Language Development 203 2 hrs.
   Phonemics 204 2 hrs.
   Bases of Speech and Hearing 3 hrs.
   Phonemic Disorders 351 2 hrs.
   Phonatory Disorders 352 2 hrs.
   Fluency Disorders 353 2 hrs.

C. One Academic Minor in a subject or subject field taught in the elementary school

D. Electives (Under Advisement)

E. The candidate must satisfy the requirements for the B.S. degree or the B.A. degree.
The primary purpose of the Reading Center and Clinic is to provide educational and clinical experiences for mature students enrolled at Western Michigan University who are preparing to do educational and psychological work with children and adults. A secondary function of the clinic is to provide educational and psychological services to parents, teachers and college students. Special activities carried on by the clinic are designed to provide developmental and corrective instruction in reading for children and adults, and to furnish consultative services for teachers and schools in Southwestern Michigan. Furthermore, the clinic provides students in education and psychology an opportunity to see the administration of educational and clinical tests and the procedures employed in interviewing children.

University students encountering difficulty in reading or those wishing to improve their reading skills may seek assistance in the Reading Center and Clinic located in Room 300 of the Speech and Hearing Center on the East Campus. Referrals come from the students themselves as well as the Counseling Center and members of the faculty. After causal factors have been identified, treatment is provided.

The College of Education, through the Research, Evaluation, Development, Experimentation (REDE) Center, assists school systems in defining problem areas, designing strategies to solve the problems and implementing programs to solve problem areas. The REDE Center is ready to assist school systems in any problem area such as in-service education and evaluation services. The REDE Center also provides teachers and administrators with evaluative feedback through appropriate instruments.
Blind Rehabilitation

Donald Blasch, Chairman

Elizabeth Lennon  Betty Rittersdorf  Marvin Weessies
Ruth Kaarlela  Stanley Suterko  Lloyd Widerberg

The Department of Blind Rehabilitation offers clinical and educational services to students and other clients who have severe visual impairments and works cooperatively with the Michigan Division of Services for the Blind. Operating in part on grants, primarily from the Office of Social and Rehabilitation Services, Department of Health, Education and Welfare, the Department offers graduate programs in Orientation and Mobility and Rehabilitation Teachers of the Adult Blind. Part of the Department's function is to conduct workshops for people working in the field, provide consulting services and to initiate pertinent research.

Open to Upperclassmen

590 Physiology and Function of the Eye
The anatomy, structure and function of the eye. Various eye diseases and malfunctions are stressed. The student is given an opportunity to observe all types of eye conditions and eye prosthesis.

591 Braille and Other Communication Methods
Provides students with a basic knowledge of the braille literary code—reading and writing.

592 Education of the Blind and Partially Sighted
An overview of the education of visually handicapped children and adults. An introduction to the literature, history, principles, practices and problems in the field, including curricular and methodological adaptations of various educational programs.

593 Methods and Techniques of Teaching Braille and Other Areas of Communication
Provides students with the ability to teach areas of communication essential to the blind, such as: social communication, use of Braille, typing, script writing, electronic devices and other media. Opportunity for supervised practical application of methods will be afforded to the student.

594 Principles of Orientation and Mobility
An examination, and application, of the fundamental principles underlying the acquisition of sensory information by severely visually impaired individuals.

595 Introduction to Methods of Independent Mobility for the Blind
Techniques are acquired under conditions which enable the student to gain an insight into the experiences of blind individuals, as related
to travel skills. Emphasis is placed on the utilization of the remaining senses and their relevancy to interpretation of environmental information. Consent of instructor.

596 Practicum in Orientation and Mobility 4 hrs.
Orientation and mobility techniques and the proper methods of incorporating them into a person's method of travel. Guided observation and practice with blinded individuals ranging in age from the pre-kindergarten through the aged in various environments, such as: school residence, community, and work situations. Consent of instructor.

597 Introduction to Cecutiency 2 hrs.
Exploration of ways to assess the functional use of residual vision. Methods and means of increasing the functional use of residual vision and defining its limitations. Prerequisite: BLRH 590.

599 Gerontology 2 hrs.
The course offers an overview of the characteristics, circumstances and needs of the aging population of the United States, and explores the types of services available to meet their needs. The course will focus upon the demography of the aged, the physiological changes, and chronic diseases of aging, the social and economic aspects of aging, the psychological changes which come with age, and a review of the community resources which serve the aged.
The Department of Counseling and Personnel offers work in the fields of counseling and personnel. Most of the courses are open to graduate students only, but the following courses are open to qualified undergraduates.

580 Principles and Philosophy of Guidance 2 hrs.
An introductory course for elementary and secondary teachers and others interested in guidance. A thorough investigation of the philosophical concepts underlying guidance service programs; a survey of the history and principles of guidance; an overview of guidance services.

581 Interpretation and Use of Tests in Guidance 2 hrs.
Designed to familiarize students with various psychological tests and scales that may be used in school guidance programs. Tests are taken and scored by students, and the results are interpreted and evaluated.

582 The Information Service in Guidance 2 hrs.
Designed to introduce teachers and other personnel workers to: (1) basic resources available in the area of occupational, educational and personal social information, (2) theories of vocational development and their application to the process of guidance and counseling, and (3) the world of work, and especially an analysis of work's impact on American culture. (C-Card required)

583 Guidance Workshop 2-4 hrs.
Designed for teachers and counselors who wish to study particular guidance problems and procedures in relation to their local guidance program. (C-Card required)

584 Elementary School Guidance 2 hrs.
Designed to give teachers, administrators and elementary counselors an understanding of the principles and techniques of guidance in elementary schools. (C-Card required)
Courses within this Department are designed primarily to integrate the theory and practice of teaching in a laboratory situation. Students should confer with academic advisors in their major and minor fields as well as advisors within the Department of Directed Teaching to be sure that they have met departmental as well as University requirements for entrance into Directed Teaching. Students with irregularities in their professional work or with advanced credit in education will need to meet with advisors in the Department as early as possible.

Transfer students who are seeking University honors may wish to delay their Directed Teaching until their final semester in the University because some of the courses within the Department are graded credit/no credit.

The Department also assigns students for professional laboratory experiences as a part of the required Teacher Aide Participation Program. In addition, the Department sponsors the Student Volunteer Corps.

313 Problems in Elementary Education 3 hrs.
(Used for the Cooperative Internship Program)

This course is designed to deal with problems of immediate concern to beginning teachers—discipline, group activity, teacher-pupil planning, and other problems dealing with teaching in the elementary school.

410, 450, 470 Integrated Professional Education 14 hrs.
For all seniors whose programs will permit them to devote one semester entirely to professional education. A unified course for seniors which is based on needs and problems of students while doing their directed teaching. Prerequisite: 250 and 300, or equivalent; and twice as many honor points as hours attempted.

410 Seminar in Education 2 hrs.
(Taken in conjunction with Directed Teaching)
Students work individually and in groups on the kinds of problems faced in directed teaching situations in classroom, school and community. Other problems to be faced later as full-time teachers are considered. Suggestions and guidance are afforded by staff members and by resource persons. The seminar is divided into elementary and secondary sections.

450 School and Society 3 hrs.
Course content includes such matters as social, political, and economic influences on education; historical and philosophical backgrounds of present-day education; changes and trends in education; and current problems in education.
470 Directed Teaching  9 hrs.

Students devote a minimum of four and one-half days per week for one semester to Directed Teaching, at which time they have experience in both the curricular and extra-curricular program of the school in which they teach. All students expecting to do Directed Teaching should enroll at the Department of Directed Teaching well in advance of the semester in which the Directed Teaching is to be done. Prerequisite: TEED 250 and 300, or equivalent; 2.0 average in all education courses and in overall average.

471 Directed Teaching  1-8 hrs.

Only for seniors who have completed most of their professional course work prior to the senior year. Similar to description for 470. Students should enroll at the Department of Directed Teaching for Directed Teaching 471, 472 or 474 well in advance of the semester in which the Directed Teaching is to be done. Prerequisite: 2.0 average in all education courses and in overall average.

472 Directed Teaching  4-9 hrs.

Only for seniors who have previously fulfilled a part of their requirement in Directed Teaching. Similar to description for 471.

474 Directed Teaching (Special Education)  4-8 hrs.

Only for students specializing in special education. Candidates must be approved by the Head of the Special Education Department.

Educational Leadership

Harold W. Boles
James A. Davenport
Sidney Dykstra
Gerald Martin
Dorothy McCuskey

Theodore L. Ploughman
Rodney W. Roth
William P. Viall
Charles C. Warfield
Donald C. Weaver

This department offers curricula in Line Administration, Staff Administration, and Program Leadership, leading to a degree of Master of Arts, Specialist in Education, or Doctor of Education. While most of the department's courses, seminars, studies, etc., are intended for graduate students, programs of studies may be outlined and pursued by advanced undergraduate students whose career goals include positions as leaders in the many and varied educational agencies that are operative in society today. Interested students should see the Graduate Bulletin for more detail.
All undergraduate students must participate in general physical education beginning with the first semester or session of residence, until a minimum of two hours is completed. Classes meet two hours weekly for one semester of credit.

Exceptions:
1. Any student 30 years of age or older is not required to take physical education. (122 hours required for graduation)
2. Students in the marching band may count band participation towards 2 semesters of general physical education.
3. A veteran (defined as one having served one year’s continuous active duty) will be exempt from the general physical education requirement.
4. A transfer student must enroll in general physical education during the first semester or session of residence at Western and thereafter each semester or session until the 2 hour requirement is completed.
5. Students are classified for physical education activities on the basis of a medical evaluation required by the University Health Service. Students classified as ‘limited’ in terms of physical activity should enroll in the adapted physical education program. (2 semester hours are required)
6. A member of varsity athletic teams may receive up to 2 credits in general physical education by enrolling in the appropriate course in the PEM 220-230 series.
7. Only one Dance credit hour may be used to fulfill the general physical education graduation requirement.

Restrictions:
1. Up to eight hours of general physical education will be accepted as credits toward graduation.
2. A freshman, sophomore, or junior student may not enroll in more than one hour of general physical education in any one semester. A senior may enroll in two hours in one semester (just cause must be shown) upon obtaining the written consent of the Coordinator of General Physical Education.

COURSES IN GENERAL PHYSICAL EDUCATION
All are beginning courses unless designated intermediate—advanced. All courses are coed unless designated men only or women only.

PEGN
100 Adapted P. E. 1 hr. 107 Canoeing 1 hr.
101 Archery 1 hr. 120 Fencing 1 hr.
102 Badminton 1 hr. 121 Field Hockey 1 hr.
103 Bait and Fly Casting 1 hr. (Women only) 1 hr.
104 Basketball (Men only) 122 Golf 1 hr.
(Women only) 1 hr.
105 Bowling 1 hr. 123 Gymnastics—Apparatus 1 hr.
106 Campcraft 1 hr. 124 Gymnastics—Tumbling 1 hr.
1 hr.
1 hr.
128 Horsemanship 1 hr.
129 Ice Hockey (Men only) (Women only) 1 hr.
130 Judo 1 hr.
131 Karate 1 hr.
132 Lacrosse (Men only) (Women only) 1 hr.
133 Orienteering & Backpacking 1 hr.
134 Paddleball 1 hr.
135 Personal PE 1 hr.
136 Physical Fitness 1 hr.
137 Racketball 1 hr.
138 Recreational Games 1 hr.
139 Relaxation 1 hr.
140 Riflery 1 hr.
141 Sailing 1 hr.
142 Skating (Figure) 1 hr.
143 Skiing—Cross Country 1 hr.
144 Skiing—Alpine 1 hr.
145 Small Craft 2 hrs.
146 Soccer (Men only) (Women only) 1 hr.
147 Softball 1 hr.
148 Squash 1 hr.
149 Swimming—Beginning (unable to swim in deep water) 1 hr.
150 Swimming—Life Saving 1 hr.
151 Swimming—Scuba Diving 1 hr.
152 Swimming—Skin Diving 1 hr.
153 Swimming—Speed 1 hr.
154 Swimming—Springboard Diving 1 hr.
155 Swimming—Synchronized 1 hr.
156 Swimming—Water Polo 1 hr.
157 Swimming—W.S.I. (must have current life saving certificate) 1 hr.
160 Tennis 1 hr.
161 Track & Field 1 hr.
162 Trap and Skeet 1 hr.

163 Volleyball (Men only) (Women only) (Coed) 1 hr.
164 Wrestling (Men only) 1 hr.
165 Yoga 1 hr.
175 Special Activities 1 hr.
201 Archery—Intermediate (Prerequisite 101 or permission of instructor) 1 hr.
205 Bowling—Intermediate (Prerequisite 105 or permission of instructor) 1 hr.
220 Fencing—Intermediate (Prerequisite 120 or permission of instructor) 1 hr.
223 Gymnastics—Apparatus—Intermediate (Prerequisite 123 or permission of instructor) 1 hr.
241 Sailing—Intermediate (Prerequisite 141 or permission of instructor) 2 hrs.
242 Skating—Figure—Intermediate (Prerequisite 142 or permission of instructor) 1 hr.
244 Skiing—Alpine—Intermediate (Prerequisite 144 or permission of instructor) 1 hr.
249 Swimming—Intermediate (Prerequisite 149 or permission of instructor) 1 hr.
260 Tennis—Intermediate (Prerequisite 160 or permission of instructor) 1 hr.

One of the following Dance courses may be used:

DANCE
102 Beginning Jazz 1 hr.
122 Recreational (International) Dance 1 hr.
123 Beginning Contemporary Dance 1 hr.
124 Social Dance 1 hr.
126 Beginning Ballet 1 hr.
202 Intermediate Jazz 2 hrs.
223 Intermediate Contemporary Dance 2 hrs.
226 Intermediate Ballet 2 hrs.
228 Improvisation 1 hr.
Physical Education for Men

Joseph T. Hoy, Head

Donald E. Boven
Boice M. Bowman
Bill M. Chambers
J. Patrick Clysdale
Charles Comer
Robert L. Culp
George G. Dales
Fred A. Decker
David Diget
F. William Doolittle
George W. Hobbs
J. Arthur Jevert
Jack D. Jones
Eldon J. Miller
John T. Miller
Fred C. Orlofsky
Richard Raklovits
Harold L. Ray
William H. Rowekamp
Merle J. Schlosser
John F. Shaw
Richard A. Shilts
Thomas C. Slaughter
Fred L. Stevens
Ronald J. Winter
Robert F. Wyman
Roger M. Zabik

VARSITY ATHLETICS

(A varsity athlete may receive PEGN credit by taking these courses)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Football</td>
<td>1 hr.</td>
<td>Fall</td>
</tr>
<tr>
<td>Cross Country</td>
<td>1 hr.</td>
<td>Fall</td>
</tr>
<tr>
<td>Basketball</td>
<td>1 hr.</td>
<td>Winter</td>
</tr>
<tr>
<td>Swimming</td>
<td>1 hr.</td>
<td>Winter</td>
</tr>
<tr>
<td>Wrestling</td>
<td>1 hr.</td>
<td>Winter</td>
</tr>
<tr>
<td>Baseball</td>
<td>1 hr.</td>
<td>Winter</td>
</tr>
<tr>
<td>Track</td>
<td>1 hr.</td>
<td>Winter</td>
</tr>
<tr>
<td>Golf</td>
<td>1 hr.</td>
<td>Winter</td>
</tr>
<tr>
<td>Tennis</td>
<td>1 hr.</td>
<td>Winter</td>
</tr>
<tr>
<td>Gymnastics</td>
<td>1 hr.</td>
<td>Winter</td>
</tr>
<tr>
<td>Ice Hockey</td>
<td>1 hr.</td>
<td>Winter</td>
</tr>
<tr>
<td>Soccer</td>
<td>1 hr.</td>
<td>Fall</td>
</tr>
</tbody>
</table>

PROFESSIONAL PREPARATION

The professional programs for men are based on the concepts of (1) balanced preparation which enables the student to later specialize at the graduate level, (2) exposure to practical experiences throughout the professional sequence, (3) many elective choices of specific courses, (4) coeducational preparation whenever possible, and (5) continual review of curricular offerings by students and faculty.

Professional students may choose preparation which enables them to (1) teach physical education in grades K-12 and/or coach; (2) direct recreation programs in industrial, municipal, voluntary, and private agencies; or (3) teach health education, K-12.

Each professional student is expected to work closely with a departmental advisor of his choice throughout his professional preparation. To enroll in the professional sequence, he should complete the departmental Personal Data Form at the beginning of his first semester on campus.

The programs for men who desire specialized professional preparation are:
PATTERN I GROUP MAJOR IN PHYSICAL EDUCATION AND RECREATION (36 HOURS)

PATTERN IIA GROUP MINOR IN PHYSICAL EDUCATION AND RECREATION (24 HOURS)

PATTERN IIB RECREATION MINOR (20 HOURS—NON TEACHING)

PATTERN IIC GROUP MINOR IN HEALTH EDUCATION (24 HOURS)

PATTERN IID COACHING MINOR (20 HOURS—NON TEACHING, SECOND MINOR)

The details of each of these patterns, along with descriptions of specific courses, follow.

PROGRAMS FOR SPECIALIZING STUDENTS

PATTERN I—GROUP MAJOR IN P.E.R. (36 hours)

Required Core

<table>
<thead>
<tr>
<th>Course</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEM 150</td>
<td>3</td>
</tr>
<tr>
<td>PEM 190</td>
<td>1</td>
</tr>
<tr>
<td>PEM 280</td>
<td>2</td>
</tr>
<tr>
<td>PEM 290</td>
<td>1</td>
</tr>
<tr>
<td>PEM 352</td>
<td>2</td>
</tr>
<tr>
<td>PEM 375</td>
<td>3</td>
</tr>
<tr>
<td>PEM 290</td>
<td>2</td>
</tr>
</tbody>
</table>

Elect a minimum of one course from any three of the Groups I-IV. The remaining hours are elected, as desired, from Groups I-VI.

Group I—Adapted Physical Education

<table>
<thead>
<tr>
<th>Course</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEM 242 Intro. to Habilitation of the Handicapped</td>
<td>3</td>
</tr>
<tr>
<td>PEM 320 Adapted P.E. Activity Series (Repeatable)</td>
<td>2</td>
</tr>
</tbody>
</table>

Group II—Elementary Physical Education

<table>
<thead>
<tr>
<th>Course</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEM 245 Introduction to Elem. School P.E.</td>
<td>2</td>
</tr>
<tr>
<td>PEM 246 Elementary School P.E. Curriculum</td>
<td>2</td>
</tr>
</tbody>
</table>

Group III—Coaching Techniques Series

<table>
<thead>
<tr>
<th>Course</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEM 160 Intro. to Coaching</td>
<td>3</td>
</tr>
<tr>
<td>PEM 330 Fundamentals of Coaching Series (Repeatable)</td>
<td>2</td>
</tr>
<tr>
<td>PEM 561 Prin. and Problems of Coaching</td>
<td>2</td>
</tr>
</tbody>
</table>

Group IV—Recreation Education

<table>
<thead>
<tr>
<th>Course</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEM 270 Outdoor Education</td>
<td>2</td>
</tr>
<tr>
<td>PEM 370 Community Recreation</td>
<td>2</td>
</tr>
<tr>
<td>PEM 371 Procedures &amp; Materials in Recreation</td>
<td>2</td>
</tr>
</tbody>
</table>

Group V—Health Education

<table>
<thead>
<tr>
<th>Course</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEW 342 or 343 School Health and Safety</td>
<td>3</td>
</tr>
<tr>
<td>PEW 514 Health Ed. Materials and Methods</td>
<td>2</td>
</tr>
<tr>
<td>PEW 516 Issues in Health Education</td>
<td>2</td>
</tr>
<tr>
<td>H.Ec. 212 Foods and Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>H.Ec. 555 Alcohol Education</td>
<td>2</td>
</tr>
<tr>
<td>H.Ec. 220 Intro. to Human Sexuality</td>
<td>3</td>
</tr>
</tbody>
</table>
Group VI—Additional Electives

PEM 244 Sports Officiating ........................................ 2
260 Organ. and Admin. of Intramurals ............................. 2
430 Water Safety Instructors ....................................... 1
490 Dir. Field Exp. (Repeatable) .................................. 2
560 Administration of P.E. .......................................... 2
580 Prev. and Treatment of Sport Injuries ......................... 3
590 Exercise Physiology ............................................. 2

Biology 210—Mammalian Anatomy, and Biol. 219—Human Physiology are required in the science area. All candidates for both the Group Major and Group Minor are expected to pass minimum standards of proficiency in a variety of motor activities as determined by a departmental committee of students and faculty.

PATTERN II A—GROUP MINOR IN P.E.R. (24 hours)

Required Core

PEM 150 Foundations of P.E. ........................................ 3
190 Practicum I ..................................................... 1
280 Foundations of Sports Injuries ............................... 2
290 Practicum II ................................................... 1
352 Tests and Measurements ....................................... 2
375 Scientific Foundations of P.E. and Ath. ..................... 3
390 Teaching of P.E. ............................................... 2

S.H. 14

Students in this program will elect one course from any two Groups I-V. Remaining hours are elected as desired. (Each group is identical to the Group Major)

Biology 210—Mammalian Anatomy, is required in science area.

PATTERN II B—RECREATION MINOR (20 hours) (Non-Teaching)

Required Core

PEM 270 Outdoor Education ......................................... 2
370 Introduction to Community Recreation ...................... 2
PEW 370 Organization and Administration of Recreation ...... 3
PEM 371 Procedures and Materials in Recreation ............... 2
490 Directed Field Experience in Recreation ................... 2
PEW 400 Practicum in Recreation ................................ 3

S.H. 8 hrs.

ELECTIVES

Group I—Arts and Crafts ........................................... 3

Industrial Education

190 Ind. Arts for Elementary Teachers .......................... 3
O.T. 110 General Crafts ........................................... 3

Group II—Aquatics .................................................. 1

Physical Education

PEGN 149 Swimming—Beginning .................................... 1
150 Swimming—Life Saving ......................................... 1
157 Swimming—WSI ................................................ 1

OR

PEM 430 Advanced Swimming ........................................ 2
PEW 155 Teaching of Swimming .................................... 3
Students from outside H.P.E.R. normally select a minimum of 5 hours from Group IV. Majors and minors in physical education should see their Departmental counselor.

PATTERN IIC—HEALTH EDUCATION GROUP MINOR (24 hours)

See page 471.

PATTERN IID—COACHING MINOR (20 hours)

This minor is a SECOND MINOR ONLY. It does NOT certify a student to teach physical education. Based on the recommendations of a Task Force of the American Association of Health, Physical Education, and Recreation, the basic format is as follows:

<table>
<thead>
<tr>
<th>Course</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEM 160 Introduction to Coaching</td>
<td>3</td>
</tr>
<tr>
<td>280 Foundations of Sports Injuries</td>
<td>2</td>
</tr>
<tr>
<td>375 Scientific Fdtns. of P.E. and Ath.</td>
<td>3</td>
</tr>
<tr>
<td>490 Directed Field Exper. (Coaching)</td>
<td>2</td>
</tr>
<tr>
<td>561 Prin. and Prob. of Coaching</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>
Group I—Coaching Techniques Courses: Student elects any six hours.

PEM 330 Fundamentals of Coaching Series (repeatable) baseball, basketball, football, gymnastics, soccer, swimming, tennis, track, wrestling 2

Group II—Additional Electives

PEM 244 Sports Officiating 2

580 Prev. and Treatment Sprts. Injuries 3

590 Exercise Physiology 2

H.Ec. 212 Foods for Man 3

Other electives, requested on an individual basis from areas such as business or communication arts and science, determined by advisor and student. Biol. 210 Mammalian Anatomy is required in science area.

DESCRIPTION OF COURSES

150 Foundations of Physical Education 3 hrs.

Taught by a teaching team, the course provides an orientation to the profession by integrating theory and practical application. Fundamentals of a variety of sports are presented. History of sports and scientific foundations stressed. Motor readiness of professional students determined by testing program.

160 Introduction to Coaching 3 hrs.

To acquaint the prospective teacher with the ethics, responsibilities, and skills necessary for a coaching career. Emphasis is placed on fundamentals of basketball, baseball, track, and football.

190 Practicum I 1 hr.

Permits the beginning student to complete 30 hours of observation in an elementary or secondary school setting. Opportunity is provided to work directly with youngsters during the second semester on campus. Prerequisite: approval of instructor.

242 Introduction to Habilitation of the Handicapped 3 hrs.

A survey of the physical education needs of exceptional children. Basic organization and orientation to handicapped facilities. Philosophy of teaching handicapped individuals is stressed. Background in various disabilities is highlighted. Prerequisites: Biol. 210, approval of instructor.

244 Sports Officiating 2 hrs.

This course considers rules and officiating techniques with emphasis on football, basketball, and track. The student will be required to officiate in organized athletic contests and must qualify for certification as an official under the M.H.S.A.A. regulations.

245 Introduction to Elementary School Physical Education 2 hrs.

An examination of the learning process, theory of play, and developmental movement related to elementary children. Special stress is placed on the role of physical education in an elementary school program and as a part of continuing education, preschool through college. For any student who is considering the professional H.P.E.R. program.
246 Elementary School Physical Education Curriculum 2 hrs.

An in-depth study of outstanding international elementary school programs of physical education. Special emphasis placed on use of natural and inexpensive materials. Experimentation in H.P.E.R. and conceptually-based curricular patterns form a focal part of this course. Prerequisite: PEM 245.

260 Organization and Administration of Intramural Sports 2 hrs.

A study of the philosophy, objectives, rules, policies, regulations, and other administrative details of intramural sports programs. Preparation of an intramural project for use on the secondary level. Opportunity is provided for practical experience in the administration of intramural sports activities.

270 Outdoor Education 2 hrs.

Agency and school camping are stressed. The aims and values of camping, laws governing camp operation and camp counseling receive attention. Opportunity for applying skills in a real camp setting is given.

280 Foundations of Sports Injuries 2 hrs.

Advanced first aid knowledge and skills, needed by coaches and physical educators, are studied. A standard first aid card is highly recommended.

290 Practicum II 1 hr.

Students serve in a role similar to teacher aides in a setting different from that experienced in PEM 190. Approximately 30 hours of supervised participation is involved. Prerequisite: Approval of instructor.

320 Adapted Physical Education Series (Repeatable) 2 hrs.

Practical adaptation of teaching techniques to physical education in working with the handicapped. Areas include individual sports, team sports, recreation and leisure skills, horseback riding, and swimming. Opportunities for laboratory work with handicapped children form a primary emphasis. Prerequisite: PEM 242.

330 Fundamentals of Coaching Series (Repeatable) 2 hrs.

Philosophy, theory, and techniques of coaching a variety of specific sports. In some cases, offensive and defensive techniques are highlighted. In others, scouting, meet and game management, or purchase and care of equipment are emphasized. Selection and preparation of competitors is vital in each sport. Course content is presented from the standpoint of the beginning coach. (Baseball, basketball, football, gymnastics, soccer, swimming, tennis, track, wrestling.) Prerequisite: PEM 160.

352 Tests and Measurements in Physical Education 2 hrs.

The theory of measurement in physical education, the selection and administration of appropriate tests, and the interpretation of their results by fundamental statistical procedures.

370 Community Recreation 2 hrs.

Nature and function of play; age periods and adaptations of activities; social environment; needs and objectives; construction, management and supervision. Study of outstanding programs in operation.
371 Procedures and Materials in Recreation 2 hrs.
The student has an opportunity to participate in and direct recreational activities and to become acquainted with and collect materials. Emphasis will be on activities used on playgrounds, in schools and in community centers.

375 Scientific Foundations of Physical Education and Athletics 3 hrs.
Kinesiological and physiological principles are applied to physical education and athletic programs in order to better understand the functioning of the human organism. Specific areas of exploration include: efficiency of movement, recommendations for improving performance on sound anatomical and mechanical bases, environmental aspects of exercise, circulatory-respiratory adjustments, metabolism and exercise, nutrition, drugs, conditioning, and strength-endurance training programs. Prerequisite: Biol. 210.

390 Teaching of Physical Education 2 hrs.
Micro-teaching is provided in laboratory sections for elementary and secondary levels. The impact of current research on teaching techniques is stressed. Problems examined include topics such as leadership development, program planning, discipline, motor-perceptual emphases, and evaluation techniques. Prerequisites: PEM 150; approval of instructor.

430 Advanced Swimming 2 hrs.
This course is designed for students who wish to qualify for the Red Cross Senior Life Saving and Instructor's Certificate. The certificate will qualify the student for waterfront administration. Prerequisite: Approval of instructor.

490 Directed Field Experiences (Repeatable) 2 hrs.
Laboratory field work is provided to help students understand the role of professional school personnel in a variety of school and community settings. Under supervision, field experience may be gained in areas such as recreation education, coaching, health education, or adapted physical education. Prerequisite: Approval of instructor.

560 Administration of Physical Education 2 hrs.
Principles of supervision, financing, construction and equipping facilities for physical education programs. Discussion of standards for evaluating representative rural, village, and city programs. Scheduling, records management, and communicating techniques. Public relations and professional relationships are stressed.

561 Principles and Problems of Coaching 2 hrs.
Relationship of athletics to education is considered. Practical problems such as coaching ethics, contest management, practice organization and planning, scouting, selection and utilization of personnel, athletic financing and budget, safety responsibilities, program evaluation, training rules, and motivational techniques are discussed. Prerequisites: PEM 160; senior status.

580 Prevention and Treatment of Sports Injuries 3 hrs.
Survey of sport medicine with emphasis on injury prevention, diagnosis, and management. An in-depth study is made of specific injuries occurring frequently to sports' participants. Lecture: 2 hrs./week; Lab:
2 hrs./week. Prerequisites: PEM 280, Biol. 210, 219; or consent of graduate adviser.

590 Exercise Physiology 2 hrs.

The mechanics of muscular contraction, nerve impulse conduction, oxygen exchange, and circulatory efficiency are discussed. Basic principles concerning the adaptation of the human body to stress in the form of strenuous exercise are applied to the training and conditioning of competitive athletics. Prerequisites: Mammalian Anatomy 210, and Human Physiology 219.

598 Readings in Health, Physical Ed., and Recreation 1-3 hrs.

Advanced students with good academic records may elect to pursue independently a program of readings in areas of special interest. Prerequisite: Approval of department head.
Physical Education for Women

Ruth Ann Meyer, Chairwoman

Majors

Physical Education Majors will be expected to attend the Spring session of their freshman year. Transfer students are expected to attend the Spring session at the end of their first year of residence. By the end of the first two years in residence, the student must have completed a minimum of 12-25 clock hours of observing and working with young people on the elementary level and on the secondary level, usually completed in PEW 290 and 292. Proficiency tests will be offered in bowling, golf, archery, softball, badminton, tennis, basketball, social forms of dance and modern dance.

Hours Required for this Curriculum ........................................ 122 hrs.

1. General Education Requirement: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies is required for Michigan certification.

2. Required Cognates ......................................................... 11 hrs.
   Biology 101 ......................................................... 3
   Biology 210 ........................................................... 4
   Biology 219 ........................................................... 4

The Department of Physical Education for Women offers undergraduate major curricula preparation in the areas of physical education, physical education with an elementary emphasis, aquatics and recreation. Physical education minors may be obtained in elementary education, secondary education, recreation, coaching, swimming, physical education for the exceptional child, and health.

In order to be assigned an advisor in the Physical Education Department, any transfer or currently enrolled student at Western who desires to pursue a curriculum in the Department of Physical Education for Women should consult with the Department Chairman.
3. Required Professional Courses ........................................ 35 hrs.

PEW 190 Philosophical Foundations of Physical Education .................. 3
PEW 294 Analysis of Movement ........................................... 3
PEW 392 Measurement and Evaluation .................................... 3
PEW 132 Basic Motor Skills ............................................. 3
DANC 123 Beginning Contemporary Dance ................................ 1
PEW 290 Teaching of Physical Ed. in the Elem. School .................. 3
PEW 292 Teaching of Physical Ed. in the Sec. School .................. 3
PEW 390 Scientific Bases of Human Activity ............................. 3
PEW 140 Badminton and Tennis .......................................... 1
PEW 120 Stunts and Tumbling or
141 Beginning Gymnastics ............................................. 1
PEW 131 Field Sports .................................................. 1
PEW 142 Volleyball ..................................................... 1
DANC 135 Movement Activities in Education ............................. 1
PEW 360 Elect 1 officiating course ..................................... 1
PEGKN Two swimming courses from general program .................... 2
PEW 144 Track and Field ................................................ 1
DANC 122 Recreational (International) Dance ........................... 1
PEW 143 Introductory Games and Sports ................................ 1
PEGKN 105 Bowling ..................................................... 1
PEGKN 122 Golf ......................................................... 2
PEGKN 101 Archery ..................................................... 1
PEW 148 Softball ....................................................... 1
PEW 146 Basketball .................................................... 1
DANC 124 Social Dance .................................................. 1
DANC 102 Beginning Jazz ................................................ 1

PHYSICAL EDUCATION/ELEMENTARY EMPHASIS

Majors are to have directed teaching experience on both the elementary and the secondary level. By the end of the first two years in residence, the major must have completed a minimum of 15-25 clock hours of observing and working with young people on both the elementary level and the secondary level, usually completed in PEW 290 and 292. Proficiency tests are available in archery, badminton, tennis, basketball, bowling and golf.

Hours Required for this Curriculum .................................... 122 hrs.

1. General Education Requirement: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies is required for Michigan certification.
2. Required Cognates ........................................... 15 hrs.
   Biology 101 ........................................ 3
   Biology 210 ........................................ 4
   Biology 219 ........................................ 4
   Teacher Ed. 230 ...................................... 4

3. Required Professional Courses .............................. 35 hrs.
   PEW 190 Philosophical Foundations of Phys. Ed. ....... 3
   PEW 294 Analysis of Movement ........................ 3
   PEW 392 Measurement and Evaluation ................ 3
   PEW 132 Basic Motor Skills .......................... 1
   DANC 123 Beginning Contemporary Dance ............... 1
   PEW 290 Teaching of Physical Ed. in the Elem. School 3
   PEW 292 Teaching of Physical Ed. in the Sec. School ... 3
   PEW 170 Recreation and Society ....................... 3
   PEW 390 Scientific Bases of Human Activity ........... 3
   PEW 296 Physical Ed. for the Exceptional Child ....... 3
   PEW 120 Stunts and Tumbling or 141 Beginning Gymnastics 1
   DANC 135 Movement Activities in Education .......... 1
   DANC 122 Recreational (International) Dance ......... 1
   PEW 144 Track and Field ................................ 1
   PEGN Swimming — 1 course ............................ 1
   PEW 143 Introductory Games and Sports ............... 1
   PEW 172 Camp Leadership ................................ 3

AQUATICS EDUCATION

This major will qualify a student to conduct a total swimming program in a large high school. Participation is required in Aqua Sprites—one year and Speed Swimming team—one season.

Hours Required for this Curriculum .................................. 122 hrs.

1. General Education Requirement: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies is required for Michigan certification.

2. Required Cognates ........................................... 11 hrs.
   Biology 101 ........................................ 3
   Biology 210 ........................................ 4
   Biology 219 ........................................ 4

3. Required Professional Courses .............................. 35 hrs.
   PEW 190 Philosophical Foundations of Physical Ed. ....... 3
   PEW 294 Analysis of Movement ........................ 3
   PEW 392 Measurement and Evaluation ................ 3
   PEW 132 Basic Motor Skills .......................... 1
   DANC 123 Beginning Contemporary Dance ............... 1
   PEW 390 Scientific Bases of Human Activity ........... 3
   PEW 155 Teaching of Swimming ......................... 3
   PEW 250 Teaching of Speed Swimming and Diving ....... 2
   PEW 252 Teaching of Synchronized Swimming ............. 2
Physical Education

PEW 350 Swimming for the Exceptional Child .................. 3
PEW 400 Practicum ........................................... 1
PEGN 153 Speed Swimming .................................... 1
PEGN 155 Synchronized Swimming ............................... 1
PEW 120 Stunts and Tumbling or 141 Beginning Gymnastics .......................... 1
PEW 137 Small Craft ............................................ 2
PEGN 154 Springboard Diving .................................. 1

In addition, choose one of the following areas of concentration:

1. Dance
   DANC 122 Recreational (International) Dance .................. 1 hr.
   DANC 124 Social Dance ....................................... 1
   DANC 223 Intermediate Contemporary Dance ..................... 2

2. Individual Sports—Choose 4
   PEW 140 Tennis and Badminton ................................. 1 hr.
   PEGN 105 Bowling ............................................. 1
   PEGN 122 Golf .................................................. 1
   PEGN 101 Archery .............................................. 1
   PEW 144 Track and Field ....................................... 1

3. Team Sports
   PEW 131 Field Sports ......................................... 1 hr.
   PEW 142 Volleyball ............................................ 1
   PEW 146 Basketball ............................................. 1
   PEW 148 Softball ............................................... 1

RECREATION EDUCATION

Designed to prepare students in the area of recreation with an emphasis in: (1) outdoor education and camping; (2) mentally, physically and socially handicapped, and (3) recreation.

Hours Required for this Curriculum .................................. 122 hrs.

1. General Education Requirement: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies is required for Michigan certification.

2. Required Cognates .............................................. 14 hrs.
   Biology 101 .................................................. 3
   Teacher Education 230 ....................................... 4
   Communication Arts and Sciences 130 ......................... 3
   Biology 210 .................................................. 4

3. Required Professional Courses .................................. 35 hrs.
   PEW 170 Recreation and Society ................................ 3
   PEW 370 Organization and Administration of Recreation .... 3
   PEM 370 Community Recreation ................................ 2
   PEW 272 Music and Drama in Recreation ....................... 3
   PEW 143 Introductory Games and Sports ....................... 1
   IE 190 Indus. Arts for Elem. Teachers ....................... 3
College of Education

PEGN General Physical Education Activity courses 3
PEW 470 Recreational Facilities and Areas 3
PEW 342 Health Education in the Elem. School 3

Emphasis I — Outdoor Education and Camping Emphasis 11 hrs.
PEW 172 Camp Leadership 3
PEW 137 Small Craft 2
PEM 270 Outdoor Education 2
PEGN 138 Recreational Games 1
PEW 400 Practicum 3

Emphasis II — Mentally, Physically and Socially Handicapped 12 hrs.
Sp Ed 530 Education for Exceptional Children 3
Sp Ed 588 Behavior Disorders in School-Age Children 3
PEW 296 Physical Education for the Exceptional Child 3
PEW 400 Practicum 3

Emphasis III — Recreation Emphasis 11 hrs.
PEW 172 Camp Leadership 3
PEW 271 Recreation for the Exceptional Child 3
LIB 546 Story Telling 2
PEW 400 Practicum 3

Minors

PHYSICAL EDUCATION/ELEMENTARY EMPHASIS

Hours Required for this Minor 20 hrs.

1. General Education Requirement: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies is required for Michigan certification.

2. Required Cognates 11 hrs.
Biology 101 3
Biology 210 4
Teacher Education 230 4

3. Required Professional Courses
PEW 294 Analysis of Movement 3
PEW 290 Teaching of Physical Ed. in the Elem. School 3
PEW 170 Recreation and Society 3
PEW 296 Physical Ed. for the Exceptional Child 3
PEW 132 Basic Motor Skills 1
PEW 120 Stunts and Tumbling or
141 Beginning Gymnastics 1
DANC 122 Recreational (International) Dance 1
PEW 144 Track and Field 1
PEW 143 Introductory Games and Sports 1
DANC 204 Teaching Dance in the Elementary School 2
DANC 123 Beginning Contemporary Dance 1
By the end of the first two years in residence, the student must have completed 15-25 clock hours of observing and working in activity situations with elementary children, usually completed in PEW 290 and PEW 292.

SECONDARY EDUCATION

Hours Required for this Minor ........................................... 21 hrs.

1. General Education Requirement: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies is required for Michigan certification.

2. Required Cognates ...................................................... 15 hrs.
   Biology 101 .......................................................... 3
   Biology 210 .......................................................... 4
   Teacher Education 230 .......................................... 4
   Biology 219 .......................................................... 4

3. Required Professional Courses
   PEW 294 Analysis of Movement ................................ 3
   PEW 292 Teaching of Physical Ed. in the Sec. School .... 3
   PEW 390 Scientific Bases of Human Activity .............. 3
   PEW 392 Measurement and Evaluation ....................... 3
   PEW 132 Basic Motor Skills .................................. 1
   PEW 120 Stunts and Tumbling or ............................ 1
   141 Beginning Gymnastics ..................................... 1
   DANC 122 Recreational (International) Dance ............ 1
   DANC 123 Beginning Contemporary Dance .................. 1
   PEW 360 Elect one officiating course ....................... 1
   PEW Two individual sports .................................. 2
   PEW Two team sports ........................................... 2

RECREATION

Hours Required for this Minor ........................................... 20 hrs.

   PEW 170 Recreation and Society ............................. 3
   PEM 270 Outdoor Education .................................... 2
   PEM 371 Procedures and Materials in Recreation .......... 2
   PEW 400 Practicum .............................................. 3
   PEW 272 Music and Drama in Recreation ................... 3
   IE 190 Industrial Arts for Elementary Teachers .......... 3
   PEW 143 Introductory Games and Sports ................... 1
   PEW 470 Recreational Facilities and Areas ............... 3

PHYSICAL EDUCATION MAJOR — COACHING MINOR

Designed to qualify the physical education major to care for and to coach interscholastic and intercollegiate athletic teams. The coaching minor will provide instruction in the sports which are currently emphasized by the Michigan Interscholastic Sports Program: basketball, field hockey, track and field, swimming, diving, tennis, volleyball, softball, gymnastics, and golf.
College of Education

Hours Required for this Minor ............................................ 21 hrs.

Required Courses ........................................... 8-10 hrs.
PEW 160 Theory of Coaching .................. 2
PEW 220 Intercollegiate Team Participation .. 1
PEW 461 (PEM 280) First Aid and Athletic Training .. 2
PEW 368 Admin. and Organ. of Intramural Sports .. 2
PEW 400 Practicum .. 1-3

Professional Electives ........................................... 9 hrs.
PEW 260 Advanced Techniques and Coaching Series—
  Prerequisites: Must have had first level course(s) or permission of instructors. Elect
  8 hours (must include at least one team sport and include at least one individual
  sport.

  Team                      Individual
  Basketball ... 2 hrs.  Gymnastics ... 2 hrs.
  Field Hockey 2  Tennis ........ 2
  Softball .... 2  Track and Field 2

PEW 360 Officiating — Select one of the following offici-
  rating courses to complete the 9 hrs. of
  Professional Electives.
  Basketball .. 1 hr.  Speed Swimming 1 hr.
  Field Hockey 1  Volleyball ...... 1
  Gymnastics . 1

General Electives ........................................... 3-4 hrs.
PEW 146 Basketball ........................................... 1
PEW 148 Softball ........................................... 1
PEGN 153 Swimming — Speed ........................................... 1
PEGN 154 Swimming — Springboard Diving ............ 1
PEGN 157 Swimming — WSI ........................................... 1

Additional Coaching Series
PEW 260 Basketball
  Field Hockey
  Softball
  Volleyball
  Gymnastics
  Track and Field

PEW 250 Speed Swimming and Diving
PEW 360 Additional Officiating Course — 1
PEM 561 Principles and Problems of Coaching — 2
PEW 580 Prevention and Treatment of Sports Injuries — 2

COACHING MINOR

This minor is a SECOND MINOR ONLY. It does NOT certify a
student to teach physical education. The coaching minor will provide
instruction in the sports which are currently emphasized by the Michigan
Interscholastic Sports Programs: basketball, field hockey, track and
field, swimming, diving, tennis, volleyball, softball, gymnastics and golf.
**COACHING MINOR — NON-MAJOR**

Hours Required for this Minor ........................................... 21 hrs.

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEW 160 Theory of Coaching</td>
<td>2</td>
</tr>
<tr>
<td>PEW 220 Intercollegiate Team Participation</td>
<td>1</td>
</tr>
<tr>
<td>PEW 461 (PEM 280) First Aid and Athletic Training</td>
<td>2</td>
</tr>
<tr>
<td>PEW 294 Analysis of Movement</td>
<td>3</td>
</tr>
<tr>
<td>PEW 368 Admin. and Organ. of Intramural Sports</td>
<td>2</td>
</tr>
<tr>
<td>PEW 400 Practicum</td>
<td>1-3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Professional Electives</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEW 260 Advanced Techniques and Coaching Series — Prerequisites: Must have had first level course(s) or permission of instructors. Elect 6 hours (must be one team sport and one individual sport).</td>
<td></td>
</tr>
<tr>
<td>Team</td>
<td>Individual</td>
</tr>
<tr>
<td>Basketball</td>
<td>2 hrs.</td>
</tr>
<tr>
<td>Field Hockey</td>
<td>2</td>
</tr>
<tr>
<td>Softball</td>
<td>2</td>
</tr>
<tr>
<td>Volleyball</td>
<td>2</td>
</tr>
<tr>
<td>PEW 250 Speed Swimming and Diving</td>
<td>2</td>
</tr>
<tr>
<td>PEW 360 Officiating — Select one of the following officiating courses to complete the 7 hrs. of Professional Electives.</td>
<td></td>
</tr>
<tr>
<td>Basketball</td>
<td>1 hr.</td>
</tr>
<tr>
<td>Field Hockey</td>
<td>1</td>
</tr>
<tr>
<td>Gymnastics</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General Electives</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEW 131 Field Sports</td>
<td>1</td>
</tr>
<tr>
<td>PEW 141 Gymnastics</td>
<td>1</td>
</tr>
<tr>
<td>PEW 142 Volleyball</td>
<td>1</td>
</tr>
<tr>
<td>PEW 144 Track and Field</td>
<td>1</td>
</tr>
<tr>
<td>PEW 146 Basketball</td>
<td>1</td>
</tr>
<tr>
<td>PEW 148 Softball</td>
<td>1</td>
</tr>
<tr>
<td>PEGN 153 Swimming — Speed</td>
<td>1</td>
</tr>
<tr>
<td>PEGN 154 Swimming — Springboard</td>
<td>1</td>
</tr>
<tr>
<td>PEGN 157 Swimming — WSI Diving</td>
<td>1</td>
</tr>
<tr>
<td>PEGN 160 Tennis</td>
<td>1</td>
</tr>
<tr>
<td>PEGN 260 Tennis — Intermediate</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional Coaching Series</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEW 260 Basketball</td>
<td>2</td>
</tr>
<tr>
<td>Field Hockey</td>
<td>2</td>
</tr>
<tr>
<td>Softball</td>
<td>2</td>
</tr>
<tr>
<td>Volleyball</td>
<td>2</td>
</tr>
<tr>
<td>Gymnastics</td>
<td>2</td>
</tr>
<tr>
<td>Tennis</td>
<td>2</td>
</tr>
<tr>
<td>Track and Field</td>
<td>2</td>
</tr>
<tr>
<td>PEW 250 Speed Swimming and Diving</td>
<td>2</td>
</tr>
<tr>
<td>PEW 360 Additional Officiating Courses</td>
<td>1</td>
</tr>
</tbody>
</table>
College of Education

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEW 390</td>
<td>Scientific Bases of Human Activity</td>
<td>3</td>
</tr>
<tr>
<td>PEM 561</td>
<td>Principles and Problems of Coaching</td>
<td>2</td>
</tr>
<tr>
<td>PEM 580</td>
<td>Prevention and Treatment of Sports Injuries</td>
<td>2</td>
</tr>
</tbody>
</table>

**SWIMMING**

Required for this Minor

1. **General Education Requirement**: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies is required for Michigan certification.

2. **Required Cognates**
   
   - Biology 101 .................................... 3
   - Biology 210 .................................... 4

3. **Required Professional Courses**
   
   - PEW 155 Teaching of Swimming ................. 3
   - PEW 252 Teaching of Synchronized Swimming ... 2
   - PEW 250 Teaching of Speed Swimming and Diving 2
   - PEW 294 Analysis of Movement .................. 3
   - PEW 190 Philosophical Foundations of Physical Ed. 3
   - PEW 132 Basic Motor Skills .................... 1
   - DANC 123 Beginning Contemporary Dance ....... 1
   - PEW 120 Stunts and Tumbling or 141 Beginning Gymnastics 1
   - PEGN 154 Springboard Diving .................. 1
   - PEGN 155 Synchronized Swimming ............... 1
   - PEGN 153 Speed Swimming ....................... 1
   - PEW 400 Practicum ................................ 2

**PHYSICAL EDUCATION MINOR FOR THE EXCEPTIONAL CHILD**

Designed to prepare special education and physical education majors in the area of recreation, physical education, swimming, health and dance for the exceptional child. Students majoring in other curricula must take all courses listed in section 3 for Physical Education Majors and Special Education Majors.

Required for this Minor

1. **General Education Requirement**: 35 hrs. required for University General Education requirement. An additional 5 hrs. in General Education courses drawn from the College of Arts and Sciences (non-professional courses only) and/or the College of General Studies is required for Michigan certification.

2. **Required Cognates**
   
   - Biology 101 .................................... 3
   - Biology 210 .................................... 4
3. Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEW 296</td>
<td>Physical Education for the Exceptional Child</td>
<td>3</td>
</tr>
<tr>
<td>PEW 271</td>
<td>Recreation for the Exceptional Child</td>
<td>3</td>
</tr>
<tr>
<td>PEW 356</td>
<td>Seminar (Health for the Exceptional Child)</td>
<td>3</td>
</tr>
<tr>
<td>PEW 400</td>
<td>Practicum</td>
<td>3</td>
</tr>
<tr>
<td>PEW 493</td>
<td>Field Experience—Exceptional Child</td>
<td>3</td>
</tr>
</tbody>
</table>

Physical Education Majors

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sp Ed 530</td>
<td>Education for Exceptional Children</td>
<td>3</td>
</tr>
<tr>
<td>Sp Ed 588</td>
<td>Behavior Disorders in School-Aged Children</td>
<td>3</td>
</tr>
</tbody>
</table>

Special Education Majors

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEW 290</td>
<td>Teaching Physical Ed. in the Elem. School</td>
<td>3</td>
</tr>
<tr>
<td>PEW 292</td>
<td>Teaching Physical Ed. in the Sec. School</td>
<td>3</td>
</tr>
</tbody>
</table>

4. General physical education activity courses for the Special Education major who minors in Physical Education for the Exceptional Child should be selected from the following list. No more than one hour in dance or two hours in swimming may be taken.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEW 132</td>
<td>Basic Motor Skills — required</td>
<td>1</td>
</tr>
<tr>
<td>DAN 204</td>
<td>Teaching of Dance in the Elem. School</td>
<td>2</td>
</tr>
<tr>
<td>PEW 120</td>
<td>Stunts and Tumbling or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Beginning Gymnastics</td>
<td>1</td>
</tr>
<tr>
<td>DAN 122</td>
<td>Recreational (International) Dance</td>
<td>1</td>
</tr>
<tr>
<td>PEW 143</td>
<td>Introductory Games and Sports</td>
<td>1</td>
</tr>
<tr>
<td>PEGN 149</td>
<td>Beginning Swimming</td>
<td>1</td>
</tr>
<tr>
<td>PEGN 249</td>
<td>Intermediate Swimming</td>
<td>1</td>
</tr>
<tr>
<td>PEGN 150</td>
<td>Life Saving</td>
<td>1</td>
</tr>
<tr>
<td>PEGN 157</td>
<td>Water Safety Instructors</td>
<td>1</td>
</tr>
<tr>
<td>PEGN 138</td>
<td>Recreational Games</td>
<td>1</td>
</tr>
<tr>
<td>DAN 123</td>
<td>Contemporary Dance</td>
<td>1</td>
</tr>
<tr>
<td>PEGN 105</td>
<td>Bowling</td>
<td>1</td>
</tr>
</tbody>
</table>

HEALTH EDUCATION GROUP MINOR

A Group Minor is offered in Health Education. It is open to all students and is especially appropriate for those specializing in Elementary Education, in Special Education, and in Secondary Education with majors in such areas as Biology, Home Economics, Physical Education, Psychology, Sociology, and Speech Pathology and Audiology. The Health Education Group Minor consists of 24 hours. Eleven to twelve hours are required and the other twelve to thirteen are elective. Since health is a multidisciplinary program, students should not elect more than two courses in any one department exclusive of required courses.

Adviser: Margaret S. Large

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Principles of Biology or</td>
<td></td>
</tr>
<tr>
<td>101</td>
<td>Animal Biology or</td>
<td></td>
</tr>
<tr>
<td>107</td>
<td>Biological Science</td>
<td>(elect one) 3-4</td>
</tr>
<tr>
<td>205</td>
<td>Human Body in Health and Disease*</td>
<td>4</td>
</tr>
<tr>
<td>342</td>
<td>Elem. School Health and Safety Ed. or</td>
<td></td>
</tr>
<tr>
<td>343</td>
<td>Sec. School Health and Safety Ed.</td>
<td>3</td>
</tr>
</tbody>
</table>

*Mammalian Anatomy (210) or Human Physiology (219) may be substituted for Human Body in Health and Disease (205).*
Elective Courses

Biology
210 Mammalian Anatomy ........................................... 4
219 Human Physiology .................................................. 4

PEW
100 Man and His Environment ......................................... 4

Teacher Education
555 Alcohol Education .................................................. 2

Home Economics
212 Foods and Nutrition ................................................ 4

Psychology
150 Psych. I: Introduction to the Science of Behavior .......... 3
160 Personality and Developmental Psych. .......................... 3
250 Behavior Mod. I: Abnormal Psych. .............................. 3

Sociology
200 Principles of Soc. .................................................... 3
290 Modern Marriage .................................................... 2
572 Community Agency Resources ................................... 2
592 Family Life Education and Counseling ......................... 2

Special Education
530 Education of Exceptional Children .............................. 3
588 Behavior Disorders in School-Aged Children ................. 3

Speech Pathology and Audiology
200 Introduction to Communication Disorders ..................... 3

P.E.W.
150 First Aid .............................................................. 2
275 Community Health ................................................... 3
514 Health Education Materials and Methods ...................... 2
516 Issues in Health Education:
(a) Mental Health, (b) Sex Education, (c) Mood Modifiers, (d) Environmental Pollution, (e) etc. Students may register for 516 more than once but may not repeat the same issue ........................................ 1-4

SPECIAL ACADEMIC COURSES

241 Physical Education and Recreation for Teachers 2 hrs.

This course is open only to teachers. Topics included in the course are: Program planning, making of games and equipment, accident prevention, basic motor skills. Practice in games, stunts, rhythms and recreational activities will be included. Offered by extension only.

PHYSICAL EDUCATION

PROFESSIONAL ACTIVITY COURSES

PEW
120 Stunts and Tumbling ................................................ 1 hr.
131 Field Sports .......................................................... 1 hr.
132 Basic Motor Skills ................................................... 1 hr.
PHYSICAL EDUCATION ACADEMIC COURSES

100 Man in His Environment (An Introduction to Health) 4 hrs.

The focus of this introductory health course is to assist students in achieving an awareness of optimal physical, mental and social health in a changing environment. Guest lecturers from the community will present some of the topics considered important to the health of modern man. This course is open to all students, and is the first course in the Health Education program.

150 First Aid 2 hrs.

The standard course in first aid techniques leading to Red Cross certification.

155 Teaching of Swimming 3 hrs.

The techniques of water safety, swimming, diving, and pool and waterfront management. Includes participation with students.

160 Theory of Coaching 2 hrs.

The philosophy, principles, administration, organization, guidelines, and motivating techniques of coaching.

170 Recreation and Society 3 hrs.

The provision for practical experiences in program planning, instruction, and evaluation in the field of recreation which involve social environment.

172 Camp Leadership 3 hrs.

The investigation of the responsibilities and duties of the counselor in various types of camps. Aims and values of camping are emphasized. Practical experience in a camp setting.

190 Philosophical Foundations of Physical Education 3 hrs.

The application of past history and philosophy to current movements and trends in physical education.

220 Intercollegiate Team Participation 1 hr.

Students will participate as a student assistant, i.e. attend all practices, scheduled events, score, chart, do other pertinent duties the coach directs. Students that have been members of an intercollegiate team will be waived and substitute an elective for this requirement. Coaching minors or permission of instructor.

250 Teaching of Speed Swimming and Diving 2 hrs.

Teaching progressions and techniques for springboard diving and speed swimming, and procedures for conducting meets.
252 Teaching of Synchronized Swimming 2 hrs.
The progressions and teaching techniques for synchronized swimming skills; show production, organization of clubs and competitive events.

260 Coaching and Advanced Technique Series 3 hrs.
Coaching and advanced skills, selection of a team, preparation, judging and conducting competitive events. Prerequisites: Must have had first level course(s) or permission of instructor.

271 Recreation for the Exceptional Child 3 hrs.
The provision for the experience of outdoor education skill activities which have particular values to the exceptional handicapped child. Field experiences with the handicapped child will be provided.

272 Music and Drama in Recreation 3 hrs.
The study of principles and techniques for developing community creativity in music and drama through educational and recreational programs. Emphasis on puppetry, marionette, talent-variety shows, music-dance-drama, drama productions and festivals.

275 Community Health 3 hrs.
This course deals with the historical development of the principles of organized public health activities and their application to present day life. Introduces the student to the scope of public health programs.

290 Teaching Physical Education in the Elementary School 3 hrs. Fall, Winter
Concepts and practices that actuate the sequential development of an elementary physical education program are examined. Methods of instruction, program planning, and evaluation are explored. Each student must reserve one half day each week for a participation experience in an elementary school. Prerequisites: PEW 120, 132, 143; DANC 122, 135.

292 Teaching Physical Education in the Secondary School 3 hrs.
The secondary school program includes characteristics of students’ school program, methods of instruction, observation and participation with students. Each student must reserve one half day each week for a participation experience in a secondary school. Prerequisites: PEW 290 or permission of instructor.

294 Analysis of Movement 3 hrs.
The study of the movement of muscles and the application of kinesiology to physical activity. Prerequisite: Biology 210.

296 Physical Education for the Exceptional Child 3 hrs.
Principles and problems in physical education for those with physical and learning disabilities. Includes selected field experience with handicapped children and adults.

300 Seminar Series 1-4 hrs.
Designed to provide an opportunity for qualified students to examine and discuss a subject area in a field of common interest. Enrollment by written permission of the Chairman of Department of Physical Education for Women.

340 Physical Education for the Elementary Classroom Teacher 1 hr. Fall, Winter, Spring
This course is structured for the future elementary classroom teacher and/or special education teacher. It provides experience in the partici-
pation and teaching of appropriate elementary physical education movement activities in the areas of basic skills, stunts and tumbling, simple games and sports, rhythms, and classroom correlated activities. For juniors and seniors. Should be taken before the directed teaching experience. This course not for physical education majors or minors. See PEW 290.

342 Elementary School Health and Safety Education 3 hrs.
This course is directed toward prospective elementary school teachers. It is designed to provide knowledge and experiences related to the total school health program.

343 Secondary School Health and Safety Education 3 hrs.
This course is directed toward prospective secondary school teachers. Through the media of knowledge and experiences the total school health program is brought into focus as an integral part of the secondary school program.

350 Swimming for the Exceptional Child 3 hrs.
The study of various handicaps, values, of swimming and teaching techniques for the exceptional child. Includes practical experiences with handicapped children.

356 Seminar (Health for the Exceptional Child) 3 hrs.
The course is directed toward the study of the health and problems of the exceptional child.

360 Officiating Series 1 hr.
The discussion and application of rules and officiating techniques. The student will be required to officiate in out-of-class athletic programs. Prerequisites: Must have had the first level activity or permission of instructor.

368 Administration and Organization of Intramural Sports 2 hrs.
The problems, policies, finances, eligibility, awards, officiating, publicity and procedures related to the intramural program.

370 Organization and Administration of Recreation 3 hrs.
The study of methods of organization in recreational programs at local, state, and federal levels with emphasis on administrative procedures concerning personnel, facilities-areas, legalities, financing and programming.

390 Scientific Bases of Human Activity 3 hrs.
The physiological principals and facts upon which conditioning for competition in athletic activities and physical performance should be based. Special attention is given to structural, mechanical, physiological, psychological, and therapeutic aspects of exercise and fitness. Direct application to training for competition in major sports and individual activity. Prerequisites: Bio 219 or permission of instructor.

392 Measurement and Evaluation 3 hrs.
The elements of test construction, item analysis, administration of a test and elementary statistics.
College of Education

400 Practicum 1-4 hrs.
The practical field experience. The individual approach to practical field experiences in health, physical education and/or recreation for the normal and handicapped. Enrollment by written permission of the Chairman of the Department of Physical Education for Women.

461 First Aid and Athletic Training 2 hrs.
The knowledge and skill in meeting emergencies. The use of massage, strappings, and training room techniques. Prerequisite: Biology 100 and 210.

470 Recreational Facilities and Areas 3 hrs.
The study of the design, use and maintenance of recreational areas and the facilities appropriate to those areas in relation to community needs, program objectives and physical surroundings.

491 Introduction to Research 3 hrs.
The techniques fundamental to an individual approach to research and problem solving.

493 Exceptional Child—Field Experience 3 hrs.
Includes the study of adjustment techniques and problems of the exceptional child.

514 Methods and Materials in Health Education 2 hrs.
Lectures and demonstrations with emphasis on the effective health supervision of school children, the principles and practices of health teaching in the various grades, and the interrelation of this teaching with that of other subjects in the curriculum. (Prerequisites: PEW 353, 354 or consent of instructor.)

516 Issues in Health Education 3 hrs.
The focus will be placed on current health issues. May be designed to deal with one issue or several.

545 Philosophies of Physical Education 2 hrs.
A study of the ideas and concepts of various philosophical schools as they apply to physical education.

562 Administration and Organization of Physical Education 2 hrs.
The administrative procedures and problems connected with physical education programs, including scheduling, facilities, personnel problems and public relations.

598 Readings in Health, Physical Education, and Recreation 1-3 hrs.
Advanced students with good academic records may elect to pursue independently a program of readings in areas of special interest. Prerequisite: Approval of department head.
Special Education

Joseph J. Eisenbach, Head

Lawrence L. Ashbaugh  Robert Howell  Donald F. Sellin
Alonzo Hannaford  Elizabeth Lawrence  Isadore Turansky
Donna Henderson  Abraham Nicolaou  Robert J. Westley

The Department of Special Education offers undergraduate and graduate programs for the preparation of teachers, administrators and clinical service personnel in the areas of visually impaired, emotionally disturbed, crippled and homebound, and mentally handicapped. Students in undergraduate programs are awarded an elementary provisional certificate with a major in one of the above fields, which also permits them to teach in their major throughout all grades of the school system.

The curricula in Special Education represent balanced programs of general, specialized and professional education, and are designed to meet state requirements for approval of teachers in the respective fields. Students officially admitted to, and enrolled in, undergraduate curricula in Special Education, are expected to consult with departmental advisors early in their college career. Questions regarding enrollment procedures in Special Education, course substitutions, or practicum placements, should be referred to the student's advisor.

SPECIAL EDUCATION

430 Educational Provisions for the Learning Disabled 3 hrs.

This course is specifically designed for prospective teachers who are interested in identifying and instructing learning disabled children and youth in a regular classroom setting. Emphasis will be placed on (1) identifying the exceptional pupil; (2) developing an educational profile which reveals the learner's strength and weaknesses; (3) identifying and describing methods and materials utilized in teaching the learning disabled individual. Open to all students except majors in Special Education curricula Prerequisites: TEED 250, 312, junior standing and consent of Department.

474 Directed Teaching in Special Education 4-8 hrs.


512 Workshop in Special Education 2-4 hrs.

Designed for teachers, counselors, psychologists, social workers and others interested in studying selected aspects of special education at appropriate locations, such as state hospitals and special schools. A variety of instructional experiences are provided, including conferences.

528-29 Interdisciplinary Education and Rehabilitation Techniques 4 hrs. (2 per semester)

This course is intended to develop a thorough understanding of the roles of the various disciplines involved in the diagnosis, education, and rehabilitation of exceptional children and youth. Lectures, taped and filmed interviews, and live demonstrations are utilized.
530 Education of Exceptional Children 3 hrs.
Deals with the problems and methods involved in the adjustment and training of exceptional children in the schools—the mentally retarded, the gifted, the crippled, the deaf, the blind, the emotionally disturbed, the socially maladjusted, and the mentally handicapped. Prerequisite: Junior standing.

531 Practicum in Special Education 2 hrs.
Students enrolled in this course will be assigned to special classes in public or residential schools serving exceptional children and youth. Observation and participation will be combined with weekly seminars. Undergraduate students majoring in special education are required to enroll in Special Education 530 and 531 concurrently. Admission to this offering will be determined by the number of placement opportunities available. Prerequisite: TEED 250 and Junior standing.

A course especially intended for teachers of mentally handicapped children. Also recommended for school counselors, psychologists, social workers and other auxiliary personnel. Course objectives include an understanding of the causes, diagnoses, classification and interpretation of mental deficits. Prerequisite: Spec. Educ. 530 or equivalent.

533 Diagnostic and Prescriptive Techniques in Special Education 4 hrs.
A thorough study of educational diagnostic instruments and techniques will precede the student's utilization of these measures in evaluating exceptional children in his curricular area. Diagnostic findings will be translated into individualized educational prescriptions. For majors enrolled in Special Education curricula and to be taken concurrently with Special Education 534. Prerequisites: Special Education 530, 531 and consent of Department.

534 Curricular and Instructional Provisions for Exceptional Children and Youth 4 hrs.
Critical issues in determining curricular expectations for atypical individuals will be analyzed. Essentials in ascertaining appropriate behavior for these pupils will be combined with identifying and evaluating a variety of educational methods and materials. Students enrolled in this course will be expected to delineate behavioral goals for those evaluated in Special Education 533 and translate diagnostic data into meaningful education programs. Prerequisites: Special Education 530, 531 and concurrent enrollment in 533.

536 Contemporary Issues in Special Education: Honors Seminar 1 hr.
A course especially designed for selected undergraduate majors in Special Education curricula. Emphasis will be placed on theoretical discussion of social, philosophical, economic and educational problems related to the education of exceptional children and youth. Prerequisites: Special Education 530, 531 and faculty approval of the applicant.

543 Nature and Needs of Crippled and Homebound Children 4 hrs.
Study of educational, psychological, and therapeutic needs of crippled children and the role of allied disciplines in meeting these needs. Prerequisite: Special Education 530.
588 Behavior Disorders in School-Aged Children  
3 hrs.
Deals with the psychoeducational aspects of disturbed or disturbing behavior as related to the school program. Issues and problems associated with normal development, concepts of diagnosis, and the incidence of maladjustment will be reviewed. The characteristics, causes, diagnosis, and treatment of the effects of such conditions in children as psychoneurosis, mental subnormality, juvenile delinquency, psychosis, learning disability, and social dissonance will be examined in terms of their educational implications. Therapeutic, environmental, and classroom interventions will be presented and strategies for prevention will be analyzed. Prerequisites: Special Education 530 and consent of Department.

589 Programs and Intervention Strategies for the Socially and Emotionally Maladjusted  
4 hrs.
This course, open only to majors in Special Education curricula, will emphasize techniques and procedures applicable to socially-emotionally maladjusted children in various special or public school settings. Current theories, contemporary programs and trends in behavioral change and management will be reviewed and discussed. Prerequisites: Special Education 588 and consent of Department.
Courses are designed to meet the professional needs of the student preparing to teach. All students pursuing a curriculum for a secondary provisional certificate and a degree are required to take a minimum of 21 hours of professional courses in teacher education, plus a methods course offered in the major or minor field; students in elementary education are required to complete 26 hours in professional education courses. A "C" average or better must be earned in required professional courses.

Applicants for the secondary provisional certificate are not permitted to major in Teacher Education.

Elective courses are available in the following fields: elementary education, secondary education, rural life and education, special education, methods of teaching, foundations of education, and related areas. Certain special-methods courses are available in other departments of the university.

Students take the block of Integrated Professional Education courses 410, 450, and 470 during either semester or the combined spring and summer sessions of their senior year. Students with irregularities in their professional work or with advanced credit in education should confer with the departmental adviser at the earliest possible date. Those majoring in certain fields requiring continuous study throughout the senior year may, upon application to the Directed Teaching office, be permitted to take 450 during the other semester of that year.

INTEGRATED CREATIVE ARTS MINOR

The interdepartmental minor, offered for elementary school teachers, emphasizes the integration of all the arts into the core of the elementary
school curriculum, and the development of teacher behaviors in stimulating creative processes in problem-solving. Those who select the minor must be admitted through a personal conference with one of the Teacher Education faculty whose names are on file in the Teacher Education Office. The minor consists of 24 semester hours, distributed as follows:

- Teach. Ed. 230—The Nature of Creativity ................. 4 hrs.
- Dance 341—Creative Movement in the Elementary School .... 4
- Music 140—Music for the Classroom Teacher ............... 4
- Art 200—The Creative Process through Art ................. 4
- Comm. Arts and Sci. 564—Creative Dramatics for Children ... 4
- Teach. Ed. 430—Creativity in the Elem. School ............. 4

Students enrolled in the minor must take Teacher Education 430 (Creativity in the Elementary School) after they have taken all other courses in this group.

TEACHER EDUCATION (TEED) COURSES

100 Introduction to Education 2 hrs.
This course is designed to provide an early introduction to the profession of teaching and to the educational services present in communities of the state and nation. Field trips, observations, audio-visual materials, resource persons, tests and personal inventories are used to acquaint students with the purposes and functions of education in American society, and to help students make intelligent choices of areas of specialization within the profession. Course meets three hours a week for two hours credit.

102 Techniques of Learning and Adjustment 2 hrs.
Designed to aid the student in making a more adequate academic and social adjustment. Attention is given to schedule-making, note-taking, study techniques and examination writing. Principles of effective learning are discussed and demonstrated.

104 Adult Reading 2 hrs.
Designed to show the student how to make more effective use of text and reference books in academic subjects. Attention is given to chapter reading, vocabulary building, problem solving, concentration and critical reading. Group and individual conferences are provided.

201 Curriculum Organization in Small Schools 3 hrs.
A study of the objectives of education as related to rural children and rural needs and teaching practices leading toward these objectives. Students experience through observation and participation the development of materials suitable for use in small schools.

220 Rural Sociology 3 hrs.
A study of life in the rural environment—local, regional and world wide, including cultural factors; population trends; impact of industrialization; family, village, community; social institutions, agencies and organizations; educational, recreational, religious, health and government facilities. Magazines, pamphlets, and other sources supplement textbooks.
230 The Nature of Creativity 4 hrs.
An interdisciplinary course dealing with creativity as a human function central to man’s behavior, institutions and environment. Team-taught by faculty members from the departments of Art, Communication Arts and Sciences, Music, Physical Education (Women), and Teacher Education.

231 Rural Economics 3 hrs.
Basic economic principles are considered in terms of rural conditions—local, national, international. Economic interpretations are given topics found in local school’s curricula, conservation, taxes, insurance, consumer education, cooperatives, agricultural extension, services, etc.

250 Human Development and Learning 4 hrs.
This course traces the development of human beings from conception to maturity. Consideration is given to those factors which facilitate or inhibit normal progress in the areas of physical, emotional, social and intellectual development. Attention is also given to the development of the self-concept for the purpose of helping students to become more aware of themselves and of their relationships with others. Students are required to observe and/or participate with children and/or youth during the semester enrolled. The method, purpose and location of such experiences shall be determined by the instructor.

300 Teaching and Learning (in Elementary and Secondary) 3 hrs.
This course is designed to prepare students for the responsibilities of classroom instruction. Emphasis is placed on: purposes of the school; selection and organization of learning experiences; instructional methods and materials; patterns of curriculum organization; classroom management; non-instructional duties of the teacher in school and community. Sections are divided according to school levels: elementary or secondary school. Prerequisite: TEED 250.

310 Stories for Childhood 2 hrs.
A study of stories and poems suitable to childhood. Classroom practice in story telling.

311 Reading Workshop 3 hrs.
The basic purpose of the workshop will be to study typical classroom reading problems. Tools useful in identifying problems, materials available, and techniques for the teaching of reading will be examined and experimented within the classroom. Special consideration will be given to a case study of one severe reading problem.

312 The Teaching of Reading (Elementary) 3 hrs.
A summary of the results of the scientific studies made in the field of reading. Methods of teaching reading are critically analyzed. Stress is placed on appropriate materials at various levels.

322 The Teaching of Reading (Secondary) 3 hrs.
This course deals with methods and materials for improving reading in the junior and senior high school. Both developmental and remedial procedures are stressed.

340 General Safety Education 3 hrs.
A survey course. The philosophy and psychology of accident preven-
tion in the areas of public, home, industrial, and school safety will be studied. Emphasis will be on safe human behavior. The course is intended for elementary, middle, and high school teachers.

350 The Young Child, His Family and His Society 3 hrs.
A study of the effects of family, peer group, and society on the development of young children. Emphasis will be placed on family styles and child-rearing practices, and their effects on learning and other behavior. Family constellations, the learning of sex-roles, the effects of divorce, and similar phenomena will be studied. Consideration will be given to the effect of cultural and sub-cultural differences on early childhood development, and students will look at the contemporary American scene as it affects young children. Prerequisite: TEED 250.

351 Reading and Related Communication Skills for Early Childhood 4 hrs.
A study of the young child's verbal and non-verbal language, and how he records and interprets language. An awareness of the relationship of experience to language development, and of the many approaches to reading. Emphasis will be placed on an examination and evaluation of current reading programs for young children, as well as on experiences in selecting books, story-telling, writing for and with children, and the production of a wide variety of audio-visual materials to be used with children.

352 Reading and Related Communication Skills for Middle and Upper Grades 4 hrs.
A study of the multi-ethnic language of this age group, and of how these youngsters record and interpret language. Emphasis will be placed on an examination and evaluation of reading programs in current use, on skills for teaching reading, and on individualized learning. Grouping for learning, skills for reading in the content fields, testing, and remedial techniques will be stressed. Emphasis will be placed on book selection, story-telling, creative writing, and the production of a wide variety of audio-visual materials to be used in selected classrooms.

355 Learning Experiences for Young Children 3 hrs.
This course is designed to help students become skillful in diagnosing learning needs, and in designing, practicing, and evaluating learning experiences for young children. Emphasis will be placed on the importance of play to young children's learning. Students will receive practice in producing stimulating experiences, environments, and materials for young children's concept development.

398 Special Studies in Education 1-6 hrs.
With variable topics and variable credit, this course is designed for undergraduates who, by virtue of their special interest or concerns, find it desirable to pursue in greater depth topics of problems related to children's educational development. The course will be offered under the following conditions: (1) that a written outline of the offering be approved by the Department Chairman, and (2) that prior arrangement be made with a faculty member or faculty members. The course offers variable credit from one through six semester hours. Students may repeat the course, so long as topics differ. Each offering of 398, Special Studies in Education, will be given an appropriate subtitle, which will
be listed on the student's official transcript. Students may earn up to three hours of credit for any given subtitle. No more than six hours of 398 may be applied toward meeting professional program requirements.

408 Supervision in Rural Area Schools 1-2 hrs.
Planned for supervisors, principals, and administrators. Discussion and individual reports center on curriculum problems, orienting new teachers, teaching practices and in-service education. Other supervisory problems for all types of rural schools are included.

411 Problems of Community Schools in Rural Areas 1-2 hrs.
An analysis of the community school-reorganization of school districts; functions of the local intermediate and state boards of education; school building planning, supplies, equipment, professional organizations, school law, public relations and other topics. Prerequisite: TEED 201.

416 Later Elementary Education 3 hrs.
A study of the characteristics and needs of pupils in the later-elementary grades and of the materials and methods of instruction.

430 Creativity in the Elementary School 4 hrs.
A synthesis of the principles developed in the Integrated Creative Arts minor, as applied to teaching and learning at the Elementary school level. Emphasis is placed on the integration of creative processes in elementary school curriculum and instruction on the teacher as problem-solver, and on the creation of structures which accommodate individualization of instruction and creative problem-solving in children. Team-taught by faculty members from the Departments of Art, Communication Arts and Sciences, Dance, Music, and Teacher Education.

442 Fundamentals of Driver Education 2 hrs.
Fundamentals, principles, practices, objectives, and subject matter content of high school Driver Education and Traffic Safety. Methods of teaching in the classroom. First of four required courses to certify Driver Education teachers. Prerequisites: Junior level and valid driver's license.

450 School and Society 3 hrs.
Course content includes such matters as social, political, and economic influences on education; historical and philosophical backgrounds of present-day education; changes and trends in education; and current problems in education.

455 Historical, Social, and Philosophical Perspectives on Education for Young Children 3 hrs.
A review of the history and philosophy of early childhood education in its social setting, with an application to today's programs for young children. Students will visit, appraise, and critically evaluate a variety of programs for young children. Experiences will be provided in designing and evaluating programs in the light of philosophy and specific objectives. Ways of administering and financing programs for young children will be considered.
502 Curriculum Workshop

Opportunity provided for teachers, supervisors and administrators in selected school systems to develop programs of curriculum improvement. This may include short-term offerings to resolve a particular curricular problem, as well as long-range curriculum studies. A wide variety of resources is used for instructional purposes, including several specialists, library and laboratory facilities, field trips, audio-visual materials and the like. Each offering of 502, Curriculum Workshop, will be given an appropriate subtitle, which will be listed on the student's official transcript. Students may earn up to three hours of credit for any given subtitle. No more than six hours of 502 may be applied towards a Master's degree.

506 Adult Education

This course will include such topics as organizing and financing formal public school adult education programs, promoting informal adult education activities, leadership training, program planning, and adult education group techniques. Students will be permitted to select special areas of interest for research and study.

507 Teaching of Social Studies in the Elementary Schools

This course is designed to help teachers understand the role of the social studies in the elementary school, gain insight into important considerations in the selection of content and discover how to guide and assess the learning of children in this field. Planning social studies experiences and ways of working with children in a classroom setting will be emphasized.

508 Parent Education

Places major emphasis on home problems which have educational implications for the child. Parent-teacher relationships, council programs, and cooperative efforts for improvement of education in home and in school are studied.

509 Social Studies for Culturally Different Children

Designed to help elementary teachers understand the role of social studies in a pluralistic society and the factors which tend to inhibit cooperation and communication across social class and racial barriers. Planning social studies experiences and ways of working with culturally different children in a classroom situation will be emphasized. Registration limited only to people in Career Opportunities in Grand Rapids.

510 The Elementary Curriculum

A consideration of content and procedures to adapt experiences of pupils in elementary schools to modern conditions and to child needs and interests. Individual or committee reports concerning the improvement of various aspects of the elementary school curriculum will be prepared.

511 Developmental Reading Theory and Application

Emphasizes the application of reading theory in the teaching of reading skills to elementary and secondary students. Intensive study of the theory and practice of individualized reading, language experience approaches, and basal reading materials will be made. Will focus on the actual use of materials with pupils to provide practical experiences in teaching on an individual and small group basis. Efficiency of reading
procedures will be studied through actual use with pupils. Prerequisite: TEED 312 or 322 and permission of instructor.

514  Nursery-Kindergarten Education 2 hrs.
This course will acquaint the students with the history and present-day status of nursery school and kindergarten education. Consideration will be given to the organization, equipment, curriculum and approved teaching procedures.

515  Seminar in Teaching of Social Studies 3 hrs.
Consists of two parts: perspectives and implementation. Under perspectives, a staff of social scientists will share with the participants their thinking concerning significant ideas and concepts from their disciplines that further amplify topics covered. Opportunities will be provided for the participants to implement social studies methods and skills in actual classroom and other situations. Registration limited only to people in Career Opportunities Program in Grand Rapids.

525  Rural Life 2 hrs.
Critical study of recent books in rural social life. Consideration is given to individual problems related to social aspects of community life. Special problems are selected for study by each student. Field work is encouraged. Prerequisite: TEED 220.

527  Instructional Planning in Accountability Context 1-3 hrs.
The purpose of the course is to assist the student in developing an understanding of models of accountability in education; in writing educational goals and performance objectives; in using various assessment procedures to determine the needs of the learner and the extent to which objectives have been achieved; and in determining appropriateness of instructional procedures for specified educational goals.

530  Introduction to Career Education 3 hrs.
This course is designed to acquaint teachers with the concepts of career education. Course work is centered on ways and means to incorporate career education into the existing curriculum structure at all levels of instruction.

535  Introduction to Teaching the Disadvantaged 3 hrs.
Designed for teachers and administrators who are presently working with disadvantaged children and youth. Class meetings are centered around problems arising from practical situations, particularly with respect to affective factors of environment and their relation to teaching and learning. Extensive use is made of consultants from social, governmental and educational agencies working with the disadvantaged.

542  Administration and Methods of Driver Education 2 hrs.
History, philosophy, and psychology of driver education. Emphasis on organization and administration of high school Driver Education programs. Laboratory work in dual control cars and driving range programs. Prerequisite: TEED 442.

544  Psychology of Driver Education 2 hrs.
Psychological and perceptual aspects of the driver and traffic safety. The role of the teacher in influencing driver behavior. Research in traffic safety. Prerequisite: TEED 442.
548 Audiovisual Media I  
3 hrs.

An introduction to audiovisual media as effective means for achieving educational objectives in presentational, interactive, and individualized modes of instruction. Emphasizes evaluation, selection, production, and classroom use of commercially available and locally produced instructional materials. Students are expected to participate in laboratory experiences in which they produce materials such as mounted and laminated pictures and displays, overhead projection transparencies, audio tapes and photographic slides, and to demonstrate proficiency in the operation of audiovisual equipment. In addition to texts, each student should plan to spend $15 or more for supplies and have the use of a simple camera. Limited to 30 students.

549 Audiovisual Media II  
3 hrs.

A continuation of TEED 548, in which teachers and media specialists consolidate basic audiovisual skills and deal in depth with more advanced processes and techniques. Laboratory experiences may include production of complex transparencies, photographic slides, filmstrips, and prints, super 8 films, audio and video tapes, duplicated materials, and more sophisticated charts, posters, and displays. A systematic production planning process is emphasized, with consideration given to evaluating effectiveness of media and to requirements for operating a school building level media center. In addition to texts, each student should expect to spend $15 or more for supplies and should have the use of a versatile camera. Limited to 15 students. Prerequisite: TEED 548 or equivalent experience.

550 Photography Workshop  
1-3 hrs.

Intended to sharpen visual perception while improving technical skills, this laboratory course emphasizes photography as a creative and expressive medium of visual communication. Each student is expected to produce new photographs each week and to submit one or more mounted enlargements for group critique at each class meeting. Each student must have the use of appropriate equipment and should expect to spend $25 or more for supplies. Although no prerequisite is required, it is helpful to have had some experience with basic darkroom processes. May be repeated up to a total of six credits. Limited to 15 students.

552 Comparative Education  
3 hrs.

Provides an analysis of selected educational systems throughout the world. The goals, organizational structure, curricula, and methods of education are examined in relation to the salient features of each culture, and in comparison to the American educational system.

555 Alcohol Education  
2 hrs.

Deals with problems of alcohol education in the school and community, with special emphasis on teaching methods and procedures, relationships with governmental and social agencies and administration of the program.

560 Practicum: Sociological and Psychological Foundations of Teaching the Disadvantaged  
2-6 hrs.

The initial course required of all students in this program. Designed to develop awareness of family situations, community conditions, behavior, value systems, and characteristics of the disadvantaged, as well as to develop positive attitudes toward these children and their problems.
Consists of readings, lecture-discussions, and field experiences with the disadvantaged, including home visits, visits to social and governmental agencies, and school experiences including supervised teaching. Generous use is made of consultants from all agencies dealing with the problems of the disadvantaged.

586 Clinical Studies in Reading 2 hrs.
This course is intended to provide the basic information needed in the examination of persons with reading disorders. Interviewing techniques and examination procedures will be the basic content of the course. Emphasis will be placed on the physical, psychological and sociological factors affecting reading performance.

587 Educational Therapy in Reading 2 hrs.
A study is made of the psychological, sociological and physiological factors affecting children’s reading ability, together with laboratory application of such knowledge in the prevention, diagnosis and treatment of reading problems. Open only to experienced teachers by permission of the instructor.

588 Evaluation in Education 2 hrs.
Designed to develop skills, techniques, attitudes and understandings involved in the measurement and evaluation on individual learning and development as well as in the appraisal of the total school program. Emphasis is placed on the construction, use and interpretation of formal and informal evaluation devices, and upon the development of a philosophy of evaluation as an integral part of learning.

597 Reading and Related Language Experiences 2 hrs.
A study of the current research in the many aspects of language which are involved in the process of effective reading.

598 Selected Reading in Education 1-4 hrs.
Designed for highly qualified students who wish to study in depth some aspect of their field of specialization under a member of the departmental staff. Prerequisite: Written consent of departmental adviser and instructor.
College of Fine Arts

ROBERT HOLMES,
Dean

Departments:
Art
Dance
Music
The College of Fine Arts offers a variety of curricula and subjects that prepare the student for careers in the principal interest areas of the fine and performing arts.

In Art, major concentration is possible in painting, sculpture, graphic design, printmaking, ceramics, textile design, jewelry, art history, and multi-media art. Each program is designed to prepare the student for graduate or professional work. The student may also elect an Art major with certification to teach Art at the elementary and secondary levels.

In Dance, two degrees are offered: a Bachelor of Science program which prepares the student to teach dance in the public schools, K-12; and a Bachelor of Arts in applied dance. In the latter program, students may choose among four areas of concentration: contemporary, ballet, jazz, or theatre.

In Music, programs are available in applied music, theory, composition, music history, music therapy, and music education, which provides certification in both the elementary and secondary school levels.

Students are encouraged to inquire about curricular combinations not listed specifically in the catalog such as arts management and other inter-departmental programs.

In the belief that arts understanding, involvement, and appreciation are an important part of a liberal education, the College of Fine Arts offers many opportunities for the non-arts major to participate in applied, theoretical, and appreciational curricular and co-curricular activities, such as general art and art history courses, dance, and many musical ensembles.
Charles E. Meyer, Head

T. D. Argyropoulos  Carole Harrison  John M. Metheaney
John M. Carney  Harry S. Hefner  Mary Joanne Mohr
Joseph V. DeLuca  Jon M. Henderson  Helmi Moulton
Elizabeth Dull  Alfred Hinton  Mary Eleanore Neu
Gerald C. Dumlao  Robert P. Johnston  Allegra Ockler
Robert H. Engstrom  Richard J. Keaveny  Barbara Resenhouse
Joseph A. Frattallone  Donald E. King  Curtis A. Rhodes
Gordon J. Grinwis  Dwayne M. Lowder  Louis B. M. Rizzolo
Marc F. Hansen  Paul S. Mergen  Paul A. Robbert

PROGRAMS:
The Department of Art offers programs leading to the following degrees:
1. Bachelor of Fine Arts with a major in one of the areas of the department.
2. Bachelor of Arts in the Art curriculum of the College of Fine Arts with a major in Art.
3. Bachelor of Science in the Art curriculum of the College of Fine Arts with a major in Art teaching.

The Department of Art also offers a program satisfying the minor requirement of other curricula and courses for students in other areas.

Admission in Art Courses
Classroom space for some art courses is reserved by preregistering at the department's office before the enrollment material is sent to registration.

Transfer Credit
Transfer students are required to submit a portfolio for transfer credit evaluation of art courses from other institutions one semester prior to enrollment. The application for admission as an art major includes the transfer evaluation procedure. (Portfolios for admission or transfer credit cannot be evaluated between April and August inclusive.) For portfolio requirements please write to: Screening Committee, Department of Art.

Transfer credit is granted for all courses taken at accredited institutions either for specific WMU equivalent courses or as general credit.

Advising
Art majors should see the departmental advisor as soon as they are admitted and at least once yearly afterwards. Art minors need only fill an art minor form at the department's office, but are required to see an advisor when deciding on the minor.

Exhibition Requirement
An exhibition of each Bachelor of Fine Arts major's work is included in Art 413 and the department may retain one work of art from each student for its collection.
1. The Art Curriculum

The Art curriculum is composed of the General Education requirements of the University and the Art major requirements of the B.A., B.S., or B.F.A. degrees.

2. Bachelor of Fine Arts Degree 74 credit hrs. in Art

This degree is designed for qualified students who intend to become professional artists or pursue graduate study in art. Art majors must make a special application to a departmental committee for admission to BFA candidacy in a specific major area after completing 30 hours in art and one semester residency in the department. Applications will be considered at the end of each semester.

Major areas: Art History, Ceramics, Graphic Design, Jewelry, Multimedia Art, Painting, Printmaking, Sculpture, Textile Design, Art Education. (Art Education majors must complete the requirements of one of the studio majors in addition to the certification requirements of the College of Education.)

The requirements of the Art curriculum of the College of Fine Arts have to be satisfied. Seventy-four hours in Art satisfy both the major and the minor requirements of this curriculum and are distributed as follows:

- 16 hours in the basic program (110, 111, 114, 115, 120, 121)
- 15 hours in Art History including 220, 221
- 9 hours in Advanced Drawing (210, 310, 410)
- 2 hours in the Art Seminar (525)
- 15 hours in the major area (example: Painting 240, 340, 440, 540)
- 15 hours in other art courses determined in consultation with the major advisor
- 2 hours in Graduation Presentation (413). Approval of this by a reviewing committee is necessary for the granting of the BFA degree.

3. Bachelor of Arts Degree/Art Major 52 credit hrs. in Art

This program is designed for the Liberal Arts-oriented students who want to major in the visual arts. It provides maximum flexibility in terms of electives in art and non-art courses. (Professionally oriented art students may start in this program and apply for admission to the B.F.A. after completing 30 hours in Art.)

The requirements of the Art curriculum of the College of Fine Arts have to be satisfied. Fifty-two hours in Art satisfy both the major and the minor requirements of this curriculum and are distributed as follows:

- 16 hours in the basic program (110, 111, 114, 115, 120, 121)
- 9 hours in Art History including 220, 221
- 6 hours in Advanced Drawing (210, 310)
- 2 hours in the Art Seminar (525)
- 19 hours in Art electives, including 9 hours in one of the department's nine areas of concentration.

4. Bachelor of Science Degree/Art Teaching Major 61 credit hrs.

This program is intended to develop artist-teachers certified to teach art at the elementary and secondary levels and prepared to continue their studies at a graduate school.

The requirements of the Secondary Curriculum of the College of Education (p. 439) must be satisfied. Sixty credit hours in art satisfy
the major and minor requirements of this curriculum and are distributed as follows:

16 hours in the basic program (110, 111, 114, 115, 120, 121)
9 hours composed of: drawing (210); art history (220, 221)
12 hours in art education (352, 353, 550, 551)
12 hours in one area of concentration as defined in the B.F.A. program, except art history
12 hours in elective art courses, determined in consultation with the departmental advisor

One semester of directed teaching in art, preferably in both elementary and secondary situations. All art certification students must have a permit to student teach from the art education advisor before doing directed teaching.

5. Art Minor

This program is designed to expose the student to the field of art and satisfies the minor requirements of the Liberal Arts, General, or Education curricula. The twenty-four credit hours are distributed as follows:

16 hours in the basic program (110, 111, 114, 115, 120, 121)
8 hours in art electives

All minors must be approved by the Art advisors.

6. Art Courses for Non-Art Majors or Minors

Elementary Education majors are required to take Art 150 (or a substitute such as Art 120, 130, 140) except for those students in the Integrated Creative Arts minor who are required to take Art 200.

Any course with no prerequisites may be taken by non-art students, but those seeking a broadly inclusive studio experience in art are advised to take Art 130 and/or 140. The Art Survey 120, Art 130, 140, and Art History 220 and 221 are open with no prerequisites to non-art majors and can satisfy the humanities requirements of General Education.

7. Basic Program—Courses required of all majors and minors in art as prerequisites to other advanced courses.

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<td>111 Drawing</td>
<td>2</td>
<td>120 Art Survey</td>
<td>2</td>
</tr>
<tr>
<td>114 Design</td>
<td>2</td>
<td>121 Art Survey</td>
<td>2</td>
</tr>
</tbody>
</table>

**ART DEPARTMENT COURSE OFFERINGS**

(Course descriptions in italics are approved for General Education purposes.)

110 Drawing


111 Drawing

Continuation of Drawing 110 with emphasis on composition in dark and light. The exploitation of the expressive possibilities of the various drawing media oriented towards future needs of art students. Pre-requisite: Art 110.
College of Fine Arts

114 Design 3 hrs.
The study of the elements of visual design and the principles of their organization. The mechanics of visual perception and communication. Emphasis on black and white in two dimensions.

115 Design 3 hrs.
Continuation of Design 114 with emphasis on color theory and the mechanics of color organization. Prerequisite: Art 114.

120 Art Survey 2 hrs.
An introduction to the language of art, art theory, aspects of art, and form analysis from a topical point of view.

121 Art Survey 2 hrs.
An introduction to the philosophy of art with understanding of the aesthetic values that are reflected from key movements of art in painting, sculpture, and architecture, in comparison to contemporary art. Prerequisite: Art 120, Art major or minor only.

130 Studio Experience—(3-D) 3 hrs.
A course designed for the non-art student as an enriching experience in three dimensional media; to include clay, wood, metal, and other sculptural materials. This course may not be elected by majors or minors in art or art education. It is designed primarily for the General Degree or Education student who wishes to have some experience in art.

140 Studio Experiences—(2-D) 3 hrs.
A course designed for the non-art student as an enriching experience in two dimensional media; to include painting and drawing and other graphic media. May not be elected by majors or minors in art or art education.

150 Art Education Workshop 3 hrs.
A studio course structured to provide the classroom teacher with the opportunity to explore, experiment, and develop concepts related to art, creativity, and perception. Such concepts are explored and developed through the use of a variety of art materials and techniques. Prerequisite: For the Elementary Education Minor only. May not be taken by Integrated Creative Arts minors, nor Art majors or minors.

200 The Creative Process through Art 4 hrs.
Individual involvement in the creative process related to human growth and development by means of exploration with many art media. Prerequisite: 230, The Nature of Creativity (Ed. 230). For the Integrated Creative Arts Minor only. This course waives the Art 150 requirement for the Elementary Education majors.

210 Life Drawing 3 hrs.
The study of the essential aspects of life drawing (such as gesture, contour, proportions, anatomy, structure, and articulation) and their synthesis into a coherent drawing attitude. Prerequisite: Basic Program.

214 Design Theory 3 hrs.
Development of projects utilizing design theory. Prerequisite: 115.
215 Three Dimensional Design 3 hrs.
A course stressing the definition of time and three dimensional space by use of line, plane, texture and color. Aesthetic exploration, manipulation and application of materials. Prerequisite: Basic Program.

220 History of Art 3 hrs.
An historical survey of art from pre-historic ages to the Renaissance.

221 History of Art 3 hrs.
An historical survey of art from the Renaissance through the contemporary period.

230 Ceramics 2 hrs.
A course devoted to a survey of pottery process including hand-building, technical information and a limited experience with the potter's wheel. Prerequisite: Basic Program.

231 Sculpture 3 hrs.
Introduction to sculptural concepts and techniques in clay, plaster and wood. Prerequisite: Basic Program, 210 or 210 concurrently.

232 Craft Design 3 hrs.
A course stressing creativity in the design of products through the use of varied materials. Prerequisite: Basic Program.

234 Textile Design 3 hrs.
An introductory survey of textiles to include weaving, spinning, stitchery, hooking, macrame, silk screen printing, tie-dye and batik. Prerequisite: Basic Program.

235 Multi-Media Art 3 hrs.
Various forms of art that deviate from conventional media, such as light, kinetic and performance art. Prerequisite: Permission of instructor.

237 Studio Equipment 3 hrs.
An introduction to the proper use and care of shop equipment to include hand and power tools. Students generally use hardware, canvas, and sheet metal in a succession of class problems but wood is the major material. Prerequisite: Basic Program.

238 Jewelry 3 hrs.
A survey of jewelry processes to include cutting, soldering, casting, stonetcutting, and the use of appropriate equipment. Prerequisite: Basic Program.

240 Painting I 3 hrs.
An introduction to the techniques and expressive possibilities of painting. Prerequisite: Basic Program, 210 or 210 concurrently.

241 Printmaking 3 hrs.
An introduction to the basic printing techniques as fine arts media. Includes intaglio and relief printing. Prerequisites: Basic Program, and Art 210 or 210 concurrently.

242 Watercolor Painting 3 hrs.
A survey of the application, techniques, and limitations of the watercolor painting medium. Prerequisite: Basic Program.
245 Graphic Design 3 hrs.
An introduction to problem solving for visual communication through typographic images. The fundamentals of calligraphy, typography, and typographic design are investigated in experimental and practical projects. Incorporates research in the communicative potential of color and structure. Prerequisite: Basic Program.

252 Art Education Workshop (Majors) 3 hrs.
A studio course involving projects, media and materials, handled on an aesthetic level but appropriate for the creative and maturational ability of the K-12 art student. Prerequisites: Basic Program, art major status.

310 Intermediate Drawing 3 hrs.
Drawing as the study of form and as a conclusive aesthetic statement. Model available during approximately ½ of the class meetings. Prerequisite: 210.

330 Ceramics 3 hrs.
Continuation of 230 with opportunity for concentration in the medium. Some experiment in glazing. Prerequisite: Art 230.

331 Sculpture 3 hrs.
Development of individual sculpture direction. All media. Prerequisite: Art 231, 310 or 310 concurrently.

332 Craft Design 3 hrs.
A continuation of Craft Design 232. Prerequisite: Art 232.

334 Textiles 3 hrs.
Advanced work in textile design allowing for specialization with a material or technique surveyed in 234. Prerequisite: Art 234.

335 Multi-Media Art 3 hrs.
Continuation of 235. Prerequisite: Permission of instructor.

338 Jewelry and Metalwork 3 hrs.
Advanced work in the jewelry processes. Prerequisite: Art 238.

339 Metalsmithing 3 hrs.
Provides an opportunity to build metal objects of larger than jewelry scale. Offers technical instruction in moving, shaping, forming non-ferrous metals by hammering. (Sterling, brass, copper, bronze, aluminum, pewter). Prerequisite: Basic Program.

340 Painting II 3 hrs.
Continuation of Art 240. Prerequisites: Art 240, 310 or 310 concurrently.

341 Printmaking 3 hrs.
A continuation of printmaking 241, exploring the possibilities of one of the printing media in a more thorough manner. Includes one of the following: etching, lithography, screen printing. Prerequisites: Art 241, 310 or 310 concurrently.
342 Watercolor 3 hrs.
Advanced problems in watercolor techniques to include composition. Prerequisite: Art 242.

345 Graphic Design 3 hrs.
The study and practice of graphic design for two dimensional media. Emphasis is placed on the conceptual development of geometric figurative, and decorative imagery for posters, covers, promotionals, magazine and newspaper advertising. Includes thematic development, graphic planning, comprehensive and finished art production. Prerequisite: Graphic Design 245.

352 Preparation for Art Teaching (Elementary) 3 hrs.
A teaching laboratory course designed to familiarize the elementary art teacher with teaching philosophies, methods and creative teaching procedures using varied media, and materials. Emphasis is placed upon qualitative art programming in the elementary school. Prerequisites: Art 252 and art major status.

410 Advanced Drawing 3 hrs.
Continuation of Art 310. Prerequisite: Art 310.

413 Graduating Presentation 2 hrs.
Preparation and presentation of graduating exhibition, portfolio and oral examination or written thesis, with the assistance of the student's major advisor. Evaluation by a departmental reviewing committee. Prerequisite: Senior standing, B.F.A. candidacy.

430 Ceramics 3 hrs.
Continuation of 330 with some experience in stacking and firing procedures. Prerequisite: Art 330.

431 Sculpture 3 hrs.
Continuation of 331. Emphasis on welding and sheet metal techniques. Prerequisites: Art 331, 310.

434 Textiles 3 hrs.
Continuation of 334. Prerequisite: Art 334.

435 Multi-media Art 3 hrs.
Continuation of 335. Prerequisite: Permission of instructor.

438 Jewelry 3 hrs.
Advanced work in the jewelry processes. Prerequisite: Art 338.

439 Metalsmithing 3 hrs.
Continuation of 339. Prerequisite: Art 339.

440 Painting III 3 hrs.
An intermediate course introducing a variety of contemporary techniques and media. This course emphasizes the matching of technique and medium to the characteristics of the desired image. Prerequisites: Art 310, 340.

441 Printmaking 3 hrs.
Continuation of printmaking 341. Prerequisites: Art 310, 341.
529 Advanced Ceramics

Advanced work in ceramics including glaze calculation. Prerequisite: Art 529. Repeatable for credit.

445 Graphic Design

A basic photography studio course designed to familiarize the graphic design student with the aesthetic, technical, and communicative potential of photography. Emphasis is placed upon the development of imagery for visual communication. Prerequisite: Graphic Design 345.

452 Preparation for Art Teaching (Secondary)

A teaching laboratory course specifically designed to familiarize the middle and high school art teacher with philosophies, methods and creative teaching procedures using varied media and materials. Emphasis is placed upon qualitative art programming in the secondary school. Prerequisites: Art 352 and Art major status.

500 Independent Studies

An opportunity for qualified undergraduates to elect an area of special interest and pursue it in depth. Prerequisite: Permission of department. Repeatable for credit.

510 Drawing

Continuation of Art 410. Prerequisite: Art 410. Repeatable for credit.

520 Independent Study in Art History

Problems in art history from ancient times to the present selected by the individual student in consultation with the instructor. Prerequisites: Art 220, 221 and a 500 level course in the area of interest; permission of instructor. Repeatable for credit.

521 Topics in Art History: Variable Topics

Investigation of changing topics in Art History in class or seminar sessions by advanced students. Course title varies from term to term. Prerequisites: Art 220, 221 for majors. None for other students. Repeatable for credit under a different title.

525 Seminar in Art

Investigation and discussion of contemporary philosophies of art and their relationship to each student's work. Prerequisite: Junior Art Major.

529 Advanced Ceramics

Advanced work in ceramics including glaze calculation.

530 Ceramics

Advanced work in ceramics on an independent basis. Prerequisite: Art 529. Repeatable for credit.

531 Sculpture

Continuation of Sculpture 331. Emphasis on bronze and aluminum casting and related techniques. Prerequisite: Art 331. Repeatable for credit.

534 Textiles

Continuation of 434 with advanced work in textile design. Prerequisite: Art 434. Repeatable for credit.
535  Multi-media Art  3 hrs.
Continuation of 435. Prerequisite: Permission of instructor. Repeatable for credit.

538  Jewelry  3 hrs.
Continuation of 438; advanced work in jewelry processes. Prerequisite: Art 438. Repeatable for credit.

539  Metalsmithing  3 hrs.
Continuation of 439. Prerequisite: 439. Repeatable for credit.

540  Painting IV  3 hrs.
Continuation of Painting III. Prerequisites: Art 410, 440. Repeatable for credit.

541  Printmaking  3 hrs.
A continuation of printmaking, 441. Prerequisites: Art 410, 441. Repeatable for credit.

542  Watercolor  3 hrs.
Continuation of advanced watercolor techniques with emphasis on experimentation. Prerequisite: Art 442. Repeatable for credit.

545  Graphic Design  3 hrs.
The fundamentals and procedures of graphic design for sequential, three-dimensional, and serial forms. Problems in design continuity, and coordination are explored through editorial, corporate identity, campaign, product, and packaging design. Incorporates investigation of graphic processes and papers. Prerequisite: Graphic Design 445. Repeatable for credit.

552  Preparation for Art Teaching  3 hrs.
A course dealing with: the current problems and issues on the social scene which affect teaching and learning in the visual arts at all levels of the public school; the creative person, product, process, and press (environment); phenomena of perceptual learning; the actual construction of an operant art curriculum for the elementary, middle, and high school programs. Prerequisites: Art 452, and art major status.

553  Independent Studies in Art Education  1-6 hrs.
An arranged elective course in which the student investigates and researches a problem, a project, or trends in art education.

560  Arts Education for the Elementary Teacher  3 hrs.
A studio course for the elementary classroom teacher to provide experiences in qualitative elementary art and integrated arts programming in the elementary public school. (Repeatable for credit.)

581  History of Ancient Art  3 hrs.
Selected topics from the art and architecture of ancient Egypt, the ancient Near East, the Aegean proto-Greek, Classical and Hellenistic Greece, Etruria, and Rome to the Early Christian period. Prerequisite: Art 220 for Art majors and minors, none for other students.

583  History of Medieval Art  3 hrs.
Discussion of art and architecture from the decline of the Roman Empire through the Gothic Period (3rd-13th Centuries). Prerequisites: 220 and 221 for Art majors and minors; none for other students.
585 History of Renaissance Art  
3 hrs.

The development of art through the early Renaissance to the Late Renaissance and Mannerism. Some of the major artists discussed are: Giotto, Donatello, DaVinci, Michelangelo, Titian, Van Eyck, Breughel and Durer. Prerequisites: Art 220 and 221 for Art majors and minors, none for other students.

586 History of Baroque Art  
3 hrs.

Art of the late 16th, 17th and early 18th centuries. Major artists and architects discussed are: Caravaggio, the Carracci, Rembrandt, Rubens, Poussin, Velasquez, Bernini, Borromini, and Neumann. Prerequisites: Art 220 and 221 for Art majors and minors, none for other students.

588 History of 19th Century Art  
3 hrs.

Major developments, such as Neo-Classicism, Romanticism, Realism, Impressionism, and Post-Impressionism, are discussed. Key figures whose works lie at the roots of modern art are considered in relationship to their times. Prerequisites: Art 220 and 221 for art majors and minors, none for non-art majors and minors.

589 History of 20th Century Art  
3 hrs.

Major developments, including Fauvism, Cubism, Non-Objective art, Expressionism, Surrealism, Abstract Expressionism, and recent art movements, are discussed. Emphasis is placed upon the roots of contemporary trends and the contributions of individuals to new modes of presentation. Prerequisites: Art 220 and 221 for art majors and minors, none for non-art majors and minors.

590 History of Prints  
3 hrs.

Major developments in printmaking, including origins of woodcut and engraving. Renaissance and Baroque master etchers and engravers. (Durer, Rembrandt, etc.) Lithography in the 19th century. (Delacroix, Daumier, Toulouse-Lautrec) 20th century printmaking. Prerequisites: Art 220 and 221 for Art majors and minors, none for other students.

593 History of American Art  
3 hrs.

Art in the United States from the Colonial Period to the present. Topics discussed are: Colonial portraiture and Copley; the evolution of 19th and 20th century painting, sculpture and architecture with emphasis on the work of Stuart, Cole, Bingham, Homer, Eakins, Ryder, Sullivan, Wright, Marin, Pollock, and Smith. Prerequisites: Art 220 and 221 for Art majors and minors, none for other students.

594 History of Afro-American Art  
3 hrs.

Painting and sculpture in the United States by Americans of African ancestry from the Colonial period to the present. Includes examination of the African art background and the continuation of African art traditions and skills in America. Prerequisites: Art 220 and 221 for art majors; none for other students; Junior standing required.

596 History of Architecture  
3 hrs.

A general introduction to the development of architectural styles including European, Asian, and Pre-Columbian. Considers the evolution of styles and their cross-cultural relationships.
597 History of Modern Architecture 3 hrs.

Major developments in architecture since c. 1750 with emphasis on late 19th and 20th century developments in domestic and commercial architecture and city planning in the West and in Asia. Especial consideration given the works and influences of Wright, Le Corbusier, and van der Rohe.
Degrees: Bachelor of Arts or Bachelor of Science with major in Dance. Two majors and two minors are offered in the Department of Dance. They are:

1. Major in Dance
   a. Major for students planning to teach Dance*
   b. Major for students not planning to teach Dance

2. Minors in Dance
   a. Minor for students planning to teach Dance
   b. Minor for students not planning to teach Dance

Introductory courses are offered for non-major/minors. Some of these function to partly fulfill graduation requirements in Physical Education.

Advising:
Upon admission to the University, major and minor dance students should complete a declaration form of their major or minor from the secretary in the Department of Dance and be assigned a personal departmental advisor. Each semester, advisors will meet with students to prepare them for their next semester's registration. Each student should complete his major slip with his advisor during his junior year and secure a graduation audit statement before registration for the final semester.

Participation Requirement:
Each major and minor dance student participates in University Dancers activities and performance auditions each semester on campus after declaration of his major. Explicit details are outlined under appropriate majors and minors.

Jury:
Teaching Major in Dance: During the sophomore year the student must pass a performance and oral jury and prior to student teaching will pass a performance, oral and teaching jury.
Non-teaching Major in Dance: During the sophomore year the student must pass an oral and performance jury and during the junior year must pass an oral, performance and choreographic jury.
Minors: Teaching minors must pass an oral and teaching jury prior to student teaching. Non-teaching dance minors have no jury requirement.

Extra-University Study:
Students are encouraged to study with professional concert dancers whenever possible and to afford themselves the opportunity for study with artists-in-residence on Western's campus for which a limited number of scholarships are available.

*Pending certification — State Department of Education approval.
Teaching Major in Dance*

A student must complete all general education requirements as outlined on page of this catalog. Within these requirements it is suggested that dance majors select Biology 101, 210 and Teacher Education 230.

Requirements in the Department of Teacher Education shall be completed for this degree as described on pages .

Teaching Major in Dance*

Required courses in technique:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>123</td>
<td>Beginning Contemporary Dance</td>
<td>1 Waived by competency</td>
</tr>
<tr>
<td>223</td>
<td>Intermediate Contemporary Dance</td>
<td>2 Prerequisite 123 or competency</td>
</tr>
<tr>
<td>523</td>
<td>Advanced Contemporary Dance</td>
<td>3 Prerequisite 223</td>
</tr>
<tr>
<td>102</td>
<td>Beginning Jazz</td>
<td>1</td>
</tr>
<tr>
<td>126</td>
<td>Beginning Ballet</td>
<td>1</td>
</tr>
<tr>
<td>228</td>
<td>Improvisation in Dance</td>
<td>1 Prerequisite 123 or permission of instructor</td>
</tr>
<tr>
<td>122</td>
<td>Recreational Dance</td>
<td>1</td>
</tr>
</tbody>
</table>

Required courses in theory:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Foundations of Dance Education</td>
<td>2</td>
</tr>
<tr>
<td>182</td>
<td>Beginning Choreography</td>
<td>3 Prerequisite 123 or 223</td>
</tr>
<tr>
<td>282</td>
<td>Dance Accompaniment</td>
<td>2 Prerequisite 123 or 223</td>
</tr>
<tr>
<td>PEW 294</td>
<td>Analysis of Movement</td>
<td>3 Biology 210</td>
</tr>
<tr>
<td>204</td>
<td>Teaching of Dance in the Elementary School</td>
<td>2 With Saturday Lab</td>
</tr>
<tr>
<td>342</td>
<td>Teaching of Dance in the Secondary School</td>
<td>3 With Saturday Lab</td>
</tr>
<tr>
<td>PEW 392</td>
<td>Measurement and Evaluation</td>
<td>2 To be taken with 342</td>
</tr>
<tr>
<td>500</td>
<td>Dance History and Philosophy</td>
<td>3 Prerequisite 182</td>
</tr>
<tr>
<td>582</td>
<td>Advanced Choreography</td>
<td>2</td>
</tr>
</tbody>
</table>

Nine hours elected from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>Dance Notation</td>
<td>3 Prerequisite 223</td>
</tr>
<tr>
<td>202</td>
<td>Intermediate Jazz</td>
<td>2 Prerequisite 102</td>
</tr>
<tr>
<td>226</td>
<td>Intermediate Ballet</td>
<td>2 Prerequisite 126 or competency</td>
</tr>
<tr>
<td>300</td>
<td>Seminar in Dance</td>
<td>1</td>
</tr>
<tr>
<td>302</td>
<td>Jazz Workshop</td>
<td>1 Prerequisite 202</td>
</tr>
<tr>
<td>325</td>
<td>Specialized Dance Styles</td>
<td>1-6</td>
</tr>
<tr>
<td>326</td>
<td>Ballet Workshop</td>
<td>1 Prerequisite 226</td>
</tr>
<tr>
<td>328</td>
<td>Stage Dance Forms</td>
<td>2 Prerequisite 122</td>
</tr>
<tr>
<td>400</td>
<td>Practicum in Dance</td>
<td>1-3</td>
</tr>
<tr>
<td>423</td>
<td>Repertory</td>
<td>2 Prerequisite 223</td>
</tr>
<tr>
<td>482</td>
<td>Dance Thesis</td>
<td>1-3</td>
</tr>
<tr>
<td>528</td>
<td>Musical Theatre Workshop</td>
<td>3 Prerequisite 182</td>
</tr>
<tr>
<td>548</td>
<td>Dance and the Related Arts</td>
<td>3</td>
</tr>
<tr>
<td>588</td>
<td>Staged Productions</td>
<td>3</td>
</tr>
</tbody>
</table>

*Pending certification — State Department of Education approval.
College of Fine Arts

GPE 123 or 124 Gymnastics
120 Fencing
139 Relaxation
142 Ice Skating
155 Synchronized Swimming
165 Yoga
175 Special Activities
1-3 Maximum of 3

Non-credit requirement: Participation in University Dancers activities and performance auditions each semester on campus after declaration of major.

Initial jury—During the sophomore year, the student must pass a performance and an oral jury.

Final jury—The Student must pass a performance, an oral, and a teaching jury prior to student teaching.

Non-teaching Dance Major (refer to p. 23 in this catalog regarding certification)
A student must complete all General Education requirements as outlined on pages 26 of this catalog. Within these requirements it is suggested that he enroll in Teacher Education 230.

1. Core

Technique Required:
123 Beginning Contemporary Dance
223 Intermediate Contemporary Dance
523 Advanced Contemporary Dance
228 Improvisation in Dance
102 Beginning Jazz
126 Beginning Ballet
323 Performance

Theory Required:
182 Beginning Choreography
582 Advanced Choreography
282 Dance Accompaniment
500 Dance History and Philosophy
548 Dance and the Related Arts
588 Staged Productions
482 Dance Theses (attendance at seminar, DANC 300 included) 2-3 Minimum 2 hours

2. Areas of Concentration: Select one of the following four programs in Contemporary Dance, Ballet, Jazz or Theatre:

Contemporary Dance:
200 Dance Notation
423 Repertory

Hrs.

40-41 hrs.
### 3. Electives: 5 to 7 hours from the following list:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>122 Recreational Dance</td>
<td>1 Dance Majors only</td>
</tr>
<tr>
<td>126 Intermediate Ballet</td>
<td>2 Prerequisite 126 or competency</td>
</tr>
<tr>
<td>122 Recreational Dance</td>
<td>1 Prerequisite 126 or competency and 122</td>
</tr>
<tr>
<td>325 Specialized Dance Styles (character dance)</td>
<td>1 Prerequisite 226</td>
</tr>
<tr>
<td>326 Ballet Workshop</td>
<td></td>
</tr>
<tr>
<td>202 Intermediate Jazz</td>
<td>5 Hrs.</td>
</tr>
<tr>
<td>302 Jazz Workshop</td>
<td>2 Prerequisite 102</td>
</tr>
<tr>
<td>325 Specialized Dance Styles (tape)</td>
<td>1 Prerequisite 202</td>
</tr>
<tr>
<td>423 Repertory</td>
<td>1</td>
</tr>
<tr>
<td>290 Kinesiology for the Dancer</td>
<td>2 Prerequisite 223</td>
</tr>
<tr>
<td>328 Stage Dance Forms</td>
<td></td>
</tr>
<tr>
<td>528 Musical Theatre Workshop</td>
<td>3 Prerequisite 182</td>
</tr>
<tr>
<td>400 Practicum (repeat to 3 hours)</td>
<td></td>
</tr>
<tr>
<td>423 Repertory</td>
<td>1-8 Approval of Department Chairman</td>
</tr>
<tr>
<td>490 Tour Company (repeat to 8 hours)</td>
<td>1-6</td>
</tr>
<tr>
<td>498 Readings in Dance</td>
<td>1 Prerequisite 226</td>
</tr>
<tr>
<td>499 Non-reading Independent Study in Dance</td>
<td>2 Prerequisite 122</td>
</tr>
<tr>
<td>528 Musical Theatre Workshop</td>
<td></td>
</tr>
<tr>
<td>598 Readings in Dance</td>
<td>1-3 Approval of Department Chairman</td>
</tr>
<tr>
<td>599 Non-reading independent study in Dance</td>
<td>2 Prerequisite 223</td>
</tr>
</tbody>
</table>

Initial Jury—during the sophomore year, the student must pass an oral jury and performance jury.
Final Jury—during the junior year, the student must pass an oral performance and choreographic jury.

University Dancers activities—tryouts, auditions, and performance (studio or concert) each year on campus after declaration of major.

Minors in Dance

Teaching Minor in Dance 24 hrs.

Students must meet all general education requirements as outlined on page 26 of this catalog. Within these requirements it is suggested that dance majors select Biology 101, 210 and Teacher Education 230.

A student within this minor should be an education major within another subject area.

Required courses in technique: 24 hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>123 Beginning Contemporary Dance</td>
<td>1</td>
</tr>
<tr>
<td>223 Intermediate Contemporary Dance</td>
<td>2</td>
</tr>
<tr>
<td>523 Advanced Contemporary Dance</td>
<td>3</td>
</tr>
<tr>
<td>102 Beginning Jazz</td>
<td>1</td>
</tr>
<tr>
<td>228 Improvisation in Dance</td>
<td>1</td>
</tr>
<tr>
<td>122 Recreational Dance</td>
<td>1</td>
</tr>
</tbody>
</table>

Required courses in theory: 9

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 Foundations of Dance Education</td>
<td>2</td>
</tr>
<tr>
<td>182 Beginning Choreography</td>
<td>3</td>
</tr>
<tr>
<td>282 Dance Accompaniment</td>
<td>2</td>
</tr>
<tr>
<td>PEW 294 Analysis of Movement</td>
<td>3</td>
</tr>
<tr>
<td>Either 204 Teaching of Dance in the</td>
<td></td>
</tr>
<tr>
<td>Elementary School</td>
<td>2</td>
</tr>
<tr>
<td>or 342 Teaching of Dance in the Secondary</td>
<td>3</td>
</tr>
<tr>
<td>School</td>
<td></td>
</tr>
<tr>
<td>PEW 392 Measurement and Evaluation</td>
<td>2</td>
</tr>
</tbody>
</table>

Electives to total 24 hours.

Non-credit requirement: participation in University Dancers activities—tryouts, auditions and performance (studio evening or concert) for two semesters.

Jury—the student must pass an oral and teaching jury prior to student teaching.

Non-Teaching Dance Minor

Each student must meet all General Education requirements as outlined on page 26 of this catalog. Within these requirements it is suggested he enroll in Teacher Education 230, Nature of Creativity.
# Dance

**Technique Required:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>123 Beginning Contemporary Dance</td>
<td>1</td>
<td>Prerequisite 123 or permission of instructor</td>
</tr>
<tr>
<td>223 Intermediate Contemporary Dance</td>
<td>1</td>
<td>Prerequisite 123</td>
</tr>
<tr>
<td>228 Improvisation in Dance</td>
<td>1</td>
<td>Waived by competency</td>
</tr>
<tr>
<td>523 Advanced Contemporary Dance</td>
<td>1</td>
<td>Prerequisite 223</td>
</tr>
<tr>
<td>102 Beginning Jazz</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>126 Beginning Ballet</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>122 Recreational Dance</td>
<td>1</td>
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</tbody>
</table>

Elec four hours from concentration listed under non-teaching Major in Dance.

University Dancers: Non-credit requirement. Participation in University Dancers activities: tryouts, auditions, and performance (studio evening or concert) for two semesters.

## COURSE DESCRIPTIONS

**100 Foundations of Dance Education**

Investigation of selected topics relative to the prospective dance educator.  

**102 Jazz—Beginning**

A study and exploration of jazz technique and the basic elements of composition. The emphasis is placed on movement which requires the use of bent knees, isolated body parts and strong rhythmic awareness. The creation and development of movement sequences is encouraged.

**122 Recreational Dance**

Investigation of folk, square and social forms of dance, with a concentration on overlapping dance skills.

**123 Beginning Contemporary Dance**

An introduction to the art of contemporary dance primarily concerned with the development of technique.

**124 Social Dance Forms**

Attention is given to efficient body mechanics, rhythmic structure, and basic dance steps. A study of traditional ballroom dance steps, mixers and the dance styles of today.
126 Beginning Ballet 1 hr.
Integration of the physical, intellectual and aesthetic values of dance through the investigation and practice of the techniques of classical ballet.

135 Movement activities in Education 1 hr.
A study of movement activities and methods applicable to various types of educational experiences and age levels.

182 Beginning Choreography 3 hrs.
The study of an experimentation in compositional principles of dance.

200 Dance Notation 3 hrs.
Study of Labanotation—a practical system of recording human movement for purposes of analysis and reading. The course includes reading (interpretation), theory, and practice.

202 Intermediate Jazz 2 hrs.
The creation and exploration of movement composition and technique of the jazz style above the beginning level emphasizing the aspect of performance and the development of ensemble awareness. At least one choreographed composition is required. Prerequisite: DANC 102.

204 Teaching of Dance in the Elementary School 2 hrs.
Concerned with methods and techniques of teaching dance to elementary age children. Laboratory experience provides an opportunity for practical application. Should not be elected by students taking DANC 341.

223 Intermediate Contemporary Dance 2 hrs.
A second level exploration of contemporary dance techniques. Prerequisite: DANC 123 or permission of instructor.

226 Intermediate Ballet 2 hrs.
Study and practice to develop skill, grace, precision and facility in the artistic style and distinct character of ballet. Prerequisite: DANC 126 or consent of instructor.

228 Improvisation in Dance 1 hr.
The extemporaneous exploration of motion through neuro-muscular logic. Interaction resulting from such stimuli as sound, space, force, props and ideas, provides a deeper understanding of the temporal and spatial relationships of the self to others through motion. Prerequisite: DANC 123 or permission of instructor.

282 Dance Accompaniment 2 hrs.
The study of the visual and rhythmic analysis of the composition of dance movement, the creation of new instruments and the exploration of new ways to use them for accompanying movement. The culmination of the course is an original musical composition for dance.

300 Seminar in Dance 1 hr.
To be attended by students enrolled in DANC 482 or elected for one hour credit. The content of the seminar varies to provide an opportunity for qualified students to examine and discuss areas of common interest within the discipline.
302 Jazz Workshop  
A workshop experience which provides students an opportunity to create and perform jazz compositions on the advanced level in different jazz styles. The culmination of the course is a major work. The course is team taught. Prerequisites: 102, 202 or consent of instructor.

323 Performance  
An experience in student-choreographed or faculty-choreographed concert material. Registration to occur after performance has been completed.

325 Specialized Dance Styles  
A study of dance styles not included as a separate course. Also offered with a visiting instructor or artist-in-residence. Possesses a style which would otherwise not be available.

326 Ballet Workshop  
Exploration and practice of theatrical dance whose choreographic virtuosity is distinguished by the variety, intricacy and expressiveness of movement which is uniquely ballet. Prerequisites: DANC 126 and 226 or consent of instructor.

328 Stage Dance Forms  
Investigation and practice of dance as it has been and is being used for theatre presentation such as in vaudeville, plays, musical comedies. Prerequisite: DANC 122.

341 Creative Movement for the Elementary School  
This course is open to students in the Integrated Creative Arts Minor and explores the principles, materials and techniques of creative movement for elementary school children. A concentrated study is made of how children discover movement and explore problem-solving within their own physical abilities. Lecture, participation, observation and laboratory experience are provided.

342 Teaching of Dance in the Secondary School  
An investigation into procedures for presentation of information related to the dance forms most commonly taught at the secondary school level.

344 Dance for the Exceptional Child  
Study of movement possibilities and their use in dance therapy. Emphasis on methods, techniques, and practical laboratory experience.

400 Practicum  
An individual approach to a practical field experience in dance. Through reading and practice the student will have an opportunity to explore a topic or problem of interest in the dance areas. Enrollment by written permission of the chairman of the Dance Department.

423 Repertory  
A study of, and experience in, previously choreographed dances with an intensive analysis of style, structure and form.

482 Dance Thesis  
An individual's development of a written or choreographed dance work. Prerequisite: Permission of advisor.
490 Tour Company 1-8 hrs.
This course is designed to provide qualified students an opportunity to gain experience in the various activities of a touring dance company. The Company is a major performing ensemble which provides master classes, lecture/demonstrations and mini concerts for the campus and community. Because of the nature of these activities, members must show a proficiency in the areas of performance, improvisational skills—ability to adapt, rearrange and invent meaningful material. Membership involves a series of auditions and is open to members of the University Dancers only.

499 Non-Reading Independent Study in Dance 1-3 hrs.
Approval of Department Chairman.

500 Dance History & Philosophy 3 hrs.
The history of Dance through the philosophies of man from primitive cultures to the contemporary concert dancer.

523 Advanced Contemporary Dance 3 hrs.
The advanced study of contemporary dance technique designed for the dance student seeking the greatest proficiency and versatility in this dance form.

528 Musical Theatre Workshop 3 hrs.
Designed for students from dance, music and theatre orientations who wish to learn the concepts, methods, techniques, organizational, and communicational approaches useful in creating effective production of musical theatre. An understanding of the integration of dance, music and theatre elements is provided through lectures, discussions, demonstrations and student-directed scenes from musical theatre pieces. Course is team taught by faculty members from the departments of Dance, Music, and the theatre area of Communication Arts and Sciences. Prerequisites: DANC 182 and 328 or permission of instructor.

548 Dance and the Related Arts 3 hrs.
Related study of cross-sections of art discipline at various points in the historical development of man. Assumes prior knowledge of historical and philosophical development of at least one of the disciplines.

582 Advanced Choreography 2 hrs.
A non-literal approach to design in dance through the study of varied use of time, space and force in solo and group choreography. Prerequisite: DANC 182 or permission of instructor.

588 Staged Productions 3 hrs.
Study of the production aspects of dance and related types of performance situations. Aspects of management including budget, publicity and programming as well as technical aspects of scenery, lighting, sound, costuming and make-up is considered.

598 Readings in Dance 1-3 hrs.
Graduate students may enroll in this course after consultation with graduate advisor.

599 Non-Reading Independent Study in Dance 1-3 hrs.
Graduate students may enroll in this course after consultation with graduate advisor.
In America today the responsibility to carry on a vital tradition of the musical profession falls increasingly upon the university. The music faculty of Western Michigan University seeks to fulfill this responsibility through creative performance, composition, scholarship, and community service. Above all, we strive in our teaching to produce students who share the excitement of music as a living art, who possess the wisdom to appreciate and the courage to defend the highest artistic ideals, who will bring the finest in music to their fellow men with skill and dedication.

The Department of Music offers courses of study which lead to the Bachelor of Music, the Bachelor of Science, and the Bachelor of Arts degrees. The Bachelor of Music degree is highly professional, offering the student an opportunity to elect a major in Applied Music, Composition, Music Education, Music History, Music Theory, and Music Therapy. The Bachelor of Science degree is in elementary education and carries a major in music studies. The Bachelor of Arts degree affords the student the opportunity to major in music and minor in some non-music area of study.

Three majors carry certification upon completion of degree requirements: the Bachelor of Music with a major in Music Therapy carries certification as a Registered Music Therapist upon completion of a six-month internship; the Bachelor of Music with a major in Music Education carries certification to teach music in the public schools, grades K-12; and the Bachelor of Science carries certification to teach in the elementary classroom and/or to teach as a music specialist in the elementary classroom, grades K-6.

A music minor program is offered through the Department of Music for students who have a background in music and who wish to extend their formal education in that field of study. Two programs of study lead to a music minor, one for the elementary education student (24 hours), and one for the student who is not seeking teaching certification (18 hours). Those students seeking a music minor must secure a minor slip from the Student Advisor in the Department of Music in order that the declaration of the minor be official. Official declaration of the music
minor must be made prior to registration for the final eight hours of music course-work which will apply to that minor. The student who does not read music will be required to complete MUS 164 Fundamentals of Music before commencing course-work leading to the music minor.

Specific requirements for majors and minors in music are found in the Music Supplement which may be obtained from the Department of Music Office.

Enrollment in a music curriculum is contingent upon admission to the University and approval of the Department of Music, obtained through the music audition and testing program. The student may proceed by making application to the University at which time he will be notified about the audition and testing program in the Department of Music, or he may request an opportunity to audition and be tested prior to making application to the University by obtaining an Audition Request Form from the Department of Music. The student is urged to commence application procedures early in his senior year, or in his final year at a community college.

Music credit from another institution is normally acceptable provided course substance is equivalent to a similar course required in the student's curriculum at Western and the student has earned a grade of C or better in that course. No credit hours exceeding the number granted for parallel work at Western will be accepted for transfer from another institution. All music credit to be transferred is tentative and is conditioned upon the successful completion of one semester's work at Western. Three areas—applied music, theory, and piano proficiency for non-piano majors, are, by nature, skills courses which require competency at one level before the student is ready for the next level of course in a sequence. This competency can only be determined by demonstration and/or examination which precludes the automatic transfer of credit in these areas.

Further information regarding admission and transfer of credits to a music curriculum may be obtained by contacting the Music Student Advisor in the Department of Music.

The Department of Music is a member of the National Association of Schools of Music. The requirements for entrance and for graduation are in accordance with the published regulations of the NASM and the National Council for Accreditation of Teacher Education.

DEPARTMENTAL COURSES

(Course descriptions in italics are approved for General Education purposes.)

Ensembles

109 Marching Band  (Director: C. Bjerregaard)  1 hr.

The University Marching Band is the major performing ensemble for Fall football activities. Positions are open to all students who play wind or percussion instruments. Music Education: Instrumental majors who play a wind or percussion instrument are required to take this course during two Fall semesters. (Credit in Marching Band may be substituted for P.E. credit.) Membership is by audition.

110 Symphonic Band  (Director: C. Bjerregaard)  1 hr.

An organization which performs a wide range of symphonic band
literature. This group furnishes music at many University events. Membership by audition.

111 University Orchestra  (Director: H. Butler)  1 hr.
The orchestra is open to all students who have had a reasonable amount of orchestra experience. Many fine compositions are studied and played during the year, and the orchestra joins with other campus organizations in joint programs. Instruments are available for the use of students. Membership is by audition.

112 University Choir  (Director: T. Hardie)  1 hr.
The University Choir, open to all students, is an a cappella choir with selected membership. The ensemble seeks to develop and to perpetuate a high standard of choral singing. Each year the choir performs frequently on campus, for regional high schools, and for professional organizations. Membership is by audition.

113 University Singers  (Director: J. Frey)  1 hr.
University Singers is open to all students who wish to obtain a knowledge of choral music. The Singers present concerts on campus and for organizations in the area.

114 Wind Ensemble  (Director: C. Bjerregaard)  1 hr.
An organization which performs a wide range of literature for the modern wind ensemble. This group performs both on and off campus. Membership by audition.

115 Men's Glee Club  1 hr.
Open to all men with musical ability who have had experience in singing. The club makes a concert tour during the spring in addition to filling numerous other engagements and taking an active part in the musical life of the campus.

116 Women's Chorus  1 hr.
Membership in the Women's Chorus is open to all women of the University. The Chorus seeks to provide and develop artistic training in ensemble singing. The Women's Chorus takes an active part in the musical life of the campus and community.

117 Special Music Ensemble  1 hr.
Special instrumental or vocal ensembles may be formed with the permission of the Chairman of the Department of Music. Where a sufficient number of hours of rehearsal per week warrant it, one hour of credit will be granted.

118 Campus Chorale  (Director: W. Appel)  1 hr.
This choir prepares traditional choral literature for performance on campus and for area high schools. The University Choir and the Campus Chorale are joined for performance of major choral compositions. Membership is by audition.

119 Varsity Choir  (Director: E. Carter)  1 hr.
A highly selective mixed vocal group which specializes in folk music, specialty numbers, and popular arrangements. The repertoire of the group is designed to please all ages and musical tastes with high
quality entertainment. Quartets, dance routines, and a Dixieland Combo are included. Membership is by audition.

210 Jazz Lab Band  (Director: R. Davidson)  1 hr.
This organization affords the student an opportunity to develop in all areas of modern jazz and dance music. Concerts may be given both on and off campus. The band may also provide music for some athletic events.

211 Studio Accompanying  (Coach: P. Rappeport)  1 hr.
A laboratory experience in accompanying solo music. This course may serve as a substitute for two semesters of the Public School Music—Keyboard majors’ eight semester large ensemble requirement. Students will be assigned three to four hours of studio accompanying per week. This course may be repeated for credit not to exceed a total of two semester hours.

212 Contemporary Music Ensemble  1 hr.
A performing organization which is committed to the performance of music and mixed media works in the avant garde style. The ensemble is open to vocalists and instrumentalists on an audition basis.

219 Madrigal Singers  (Director: T. Hardie)  1 hr.
Membership is open to a limited number of students who are interested in madrigal singing. This group sings concerts on campus and for other organizations in the area. Membership is by audition.

317 Opera Workshop  (Director: W. Appel)  1 hr.
A production experience in the acting, singing, accompanying, and producing of musical theatre. The class is offered each semester and culminates in the performance of an opera or operatic scenes. Open to advanced singers, pianists, and persons interested in production techniques. Admission is by personal interview with the instructor.

517 Collegium Musicum  (Director: J. Boucher)  1 hr.
Performance of early Western music. Open to all students of the University. Required of Music History majors. Additional transcription, arranging, editing, and conducting of early music is required of Music History majors. Graduate students may count not more than two hours of this course for graduation. Membership by audition.

Applied Music
Private lessons (applied music) in organ, piano, voice and all orchestral and band instruments are offered to all university students to the extent that instructor time and practice facilities are available. Priority in applied music study is given first to music majors, second to music minors, and third to students wishing to take the study on an elective basis. All students who take private lessons must always register for applied music by reporting to the Music Office to be placed on the reserve list, after which that course must be requested by the students through the standard pre-registration or final registration procedures. Students are required to make arrangements for a lesson time with the private teacher in the first days of classes each term. Every student should have a lesson during the first week of the term. Final examinations are required of all students in applied music. Examinations will be heard and graded by a panel of members of the music faculty.
100 Applied Music 1-2 hrs.
This course number indicates "lower division" standing in applied music and is used to designate freshman and sophomore level applied music. All non-music majors electing applied music must register for this level. A maximum of two credits per semester may be earned at this level.

300 Applied Music 1-3 hrs.
This course number indicates "upper division" standing in applied music and is used to designate junior and senior level applied music. A maximum of three credits per semester may be earned at this level.

Students who register for one hour of credit per semester receive one twenty-five-minute lesson per week and pay an applied music fee of $38 in addition to tuition charges. Students who register for 2-4 hours of credit per semester receive one fifty-minute lesson per week and pay an applied music fee of $75. Registration for credit beyond two hours implies additional materials to be covered through extra practice.

Music Classes

101 Music Convocation No Credit
A series of special musical events required of music majors. Programs include lectures and recitals by faculty, selected students, and guest artists.

120 Piano Class 1 hr.
A basic course required of music majors and minors who have inadequate proficiency on piano. Opportunity is provided for some individual instruction. Recommended for piano majors to gain knowledge of piano class instruction.

121 Piano Class 1 hr.
A continuation of 120.

122 Voice Class 1 hr.
A study of the fundamental processes of breath control and tone production, providing some individual instruction in preparing and singing standard song literature. The course is designed to benefit students interested in solo and choral singing.

123 Voice Class 1 hr.
A continuation of 122. Repertoire will include early English songs and seventeenth and eighteenth century Italian songs as well as other standard literature, with a minimum of five songs to be memorized during the semester.

128 Violin Class 1 hr.
This course is designed to acquaint the student with basic problems encountered in playing the violin, including terminology and conventions of string performance. The course is intended for students with a piano or vocal major in Public School Music who are occasionally faced with the need to include string groups in the preparation of operettas, cantatas, or solo accompaniments.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>129</td>
<td>String Class</td>
<td>2 hrs.</td>
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<tr>
<td></td>
<td>A thorough examination of all string instrument performance, pedagogy, materials, methods and maintenance. For wind and percussion majors in Public School Music.</td>
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<tr>
<td>130</td>
<td>Percussion Class</td>
<td>1 hr.</td>
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<td></td>
<td>Fundamentals of percussion instrument pedagogy and performance. The student is required to perform on the snare drum in an acceptable manner and to demonstrate a working knowledge of percussion instruments, including methods and materials, care and maintenance, and the function of the percussion section in a band or orchestra. For music majors only.</td>
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<tr>
<td>131</td>
<td>Flute Class</td>
<td>1 hr.</td>
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<td></td>
<td>Fundamentals of flute pedagogy and performance. For music majors only.</td>
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<tr>
<td>132</td>
<td>Oboe Class*</td>
<td>1 hr.</td>
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<tr>
<td></td>
<td>Fundamentals of oboe pedagogy, performance and reed-making. For music majors only.</td>
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<tr>
<td>133</td>
<td>Clarinet Class*</td>
<td>1 hr.</td>
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<tr>
<td></td>
<td>Fundamentals of clarinet pedagogy and performance. For music majors only.</td>
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<tr>
<td>134</td>
<td>Bassoon Class*</td>
<td>1 hr.</td>
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<tr>
<td></td>
<td>Fundamentals of bassoon, pedagogy, performance, reed-making and instrument maintenance. For music majors only.</td>
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<tr>
<td>135</td>
<td>Saxophone Class*</td>
<td>1 hr.</td>
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<td></td>
<td>Fundamentals of saxophone pedagogy and performance. For music majors only.</td>
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<tr>
<td>136</td>
<td>Trumpet Class*</td>
<td>1 hr.</td>
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<tr>
<td></td>
<td>Fundamentals of trumpet pedagogy and performance. For music majors only.</td>
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<tr>
<td>137</td>
<td>French Horn Class*</td>
<td>1 hr.</td>
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<tr>
<td></td>
<td>Fundamentals of French horn pedagogy and performance. For music majors only.</td>
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</tr>
<tr>
<td>138</td>
<td>Trombone Class*</td>
<td>1 hr.</td>
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<tr>
<td></td>
<td>Fundamentals of trombone pedagogy and performance. For music majors only.</td>
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<tr>
<td>139</td>
<td>Tuba Class*</td>
<td>1 hr.</td>
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<td></td>
<td>Fundamentals of tuba pedagogy and performance. For music majors only.</td>
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<tr>
<td>140</td>
<td>Music for the Classroom Teacher</td>
<td>4 hrs.</td>
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<tr>
<td></td>
<td>Designed for elementary education students without regard to previous musical training. Students are prepared to use music functionally and developmentally in the elementary classroom through singing, through playing the piano and informal instruments, and through responding to music rhythmically. Creative aspects and values of music are empha-</td>
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</tbody>
</table>

*For music majors only.
Music

sized, and materials are studied in relation to their future uses in the classroom.

Students who need special help in singing are required to enroll in 141. Prerequisite: Ed. 230 for Elementary Teachers in Creative Arts minor. Otherwise no prerequisite.

141 Vocal Clinic for Non-Singers  No Credit

Students are taught to sing through the development of pitch and breath control. Prerequisite: Must be enrolled in 140.

142 Piano for Classroom Teachers  1 hr.

A beginning piano course for elementary education students who are not majors or minors in music. Emphasizes the fundamentals of music through the medium of the keyboard. Provides some opportunity for individual instruction.

150 Music Appreciation: Live Music  4 hrs.

An introduction to music and music literature in conjunction with attendance at music concerts and recitals on campus. Classroom discussion and readings will guide the student through a variety of listening experiences that will stimulate his perception and enjoyment of music on a visual as well as aural level. This approach will also insure a wide sampling of musical styles and media while encouraging the student to become more aware of his musical surroundings. A schedule of the musical events required for the semester will be issued during the first week of the semester.

151 Music Appreciation: Pop and Jazz  4 hrs.

The music of America's greatest popular song composers together with important foreign influences such as the Beatles. Composers will include Gershwin, Rogers, Porter, Kern, Bernstein, Bacharach, Simon, and Dylan. Many songs will be performed in class and their cultural as well as musical attitudes examined. Jazz and its sociological implications will be explored through reading, discussion, and listening to the outstanding jazz artists. Stress will be placed on those artists who have influenced the art form most (e.g., Louis Armstrong, Dizzy Gillespie, Charlie Parker, Lester Young, Art Tatum, Thelonius Monk, and Ornette Coleman).

152 Music Appreciation: Rock and Electronic Music  4 hrs.

A study of rock and electronic music from a cultural and musical point of view. Essentials of rock harmony, melody, rhythm, and instrumentation will be presented. The following will also be dealt with: The Moog synthesizer—its use in rock, electronic, and commercial music; demonstration of the techniques of sound alteration using components of the synthesizer; recording studio techniques, tape editing and recording; live demonstrations of rock and electronic music. Throughout the course an attempt will be made to deal with the esthetic principles behind rock and electronic styles and to relate these to the student's own experience. Parallel cultural developments in the allied arts will also be studied.

160 Basic Music  3 hrs.

A study of the structure and function of the language of music through analysis and written harmony. Students with no piano facility or a limited piano background also must be enrolled in piano class.
(120, 121, 220, 221). Students also must be enrolled in 162. Prerequisite: Departmental acceptance as a Music Major.

161 Basic Music 3 hrs. A continuation of 160. Students with a limited background in piano also must be enrolled in piano class (121, 220, 221). Students also must be enrolled in 163. Prerequisite: 160 with a grade of C or better.

162 Aural Comprehension 1 hr. Training in the basic skills of music reading and ear training. Students must also be enrolled in 160.

163 Aural Comprehension 1 hr. A continuation of 162. Prerequisite: 162.

164 Fundamentals of Music 3 hrs. A study of the structure and function of the language of music integrated with basic skills in music reading, ear training, keyboard, and written harmony.

165 Fundamentals of Music 3 hrs. A continuation of 164. Prerequisite: 164.

190 Accompanying 1 hr. Supervised experience in accompanying vocal and instrumental music, both solo and ensemble.

191 Accompanying 1 hr. A continuation of 190. Prerequisite: 190.

220 Advanced Piano Class 1 hr. A continuation of 120-121. Prerequisite: 120-121 or consent of instructor.

221 Advanced Piano Class 1 hr. A continuation of 220.

227 Violin Class 1 hr. A specialized course for the string major presenting the techniques and materials of violin. Students also attend the pedagogy lectures given in String Class 129. Prerequisite: string majors.

228 Cello Class 1 hr. A specialized course for the string major presenting the techniques and materials of cello. Students also attend the pedagogy lectures given in String Class 129. Prerequisite: string majors.

229 String Bass Class 1 hr. A specialized course for the string major presenting the techniques and materials of string bass. Students also attend the pedagogy lectures given in String Class 129. Prerequisite: string major.

230 English and Italian Diction and Song Literature 1 hr. English and Italian diction and song literature are studied, and opportunity is provided for solo performance.
231 French Diction and Song Literature 1 hr.
French diction and song literature are studied, and opportunity is provided for solo performance.

232 German Diction and Song Literature 1 hr.
German diction and song literature are studied, and opportunity is provided for solo performance.

240 General Music Methods 2 hrs.
A study and survey of sequential musical experiences in general music classes in grades K-8. The course will include education objectives, philosophical concepts, instructional methods and materials and various innovative approaches used in the general music class. Administration and implementation of the class will be examined. The course is especially designed to acquaint the student with various teaching techniques. Each student will have an opportunity to participate in general music classes in area schools one-half day a week. Prerequisite: 160-161.

244 Elementary Music Practicum 3 hrs.
This course is designed to meet the needs of the elementary music teacher in the areas of theory and piano. Special emphasis is given to keyboard facility in accompaniments in the elementary classroom, harmonizations of melodies, the playing of rhythms, modulations, and a continuation of ear-training. Prerequisite: 160-161.

246 Basic Music: Analysis of Basic Forms 2 hrs.
An analytical study of music in the smaller forms. Prerequisite: 161 with a grade of C or better.

261 Basic Music: Contemporary Techniques 2 hrs.
Recent compositional techniques including total serialization, aleatoric procedures, musique concrete, electronic and computer music. Written assignments. Prerequisite: 161 with a grade of C or better.

262 Composition 2 hrs.
Beginning work in composition, with emphasis on the phrase, period, and double period. Attention given to melodic, rhythmic, and harmonic devices. Prerequisite: 161.

263 Composition 2 hrs.
A continuation of 262.

266 Musical Acoustics 2 hrs.
A course specifically for the music student. Study includes overtone series, frequency, tone quality, wave length, air columns, noise, and temperaments. Prerequisite: 161.

270 Music History and Literature 3 hrs.
A survey of the growth of music from the earliest times through the Medieval, Renaissance, and Baroque periods.

271 Music History and Literature 3 hrs.
A survey of the growth of music from the Classical period to the present time.
280 Field Experience in Music Education 1 hr.
Class meetings will be devoted to establishing a philosophy of music education as it exists in the total education program in the public schools. Criteria for recognizing qualities of successful music teachers will be established. Observation and participation in public school classrooms and rehearsals shall be an integral part of this course. This course will be ten weeks in length.

281 Field Experience in Music Therapy 1 hr.
Class meetings will be devoted to the study of the history and development of music therapy, the function of music in a total therapeutic program, and of disability areas using music. Participation in music on hospital wards and with exceptional children shall be an integral part of this course. The course will be ten weeks in length.

290 Recreational Music 2 hrs.
Function of music in a recreation program. Fundamentals of non-symphonic instruments. Techniques and materials to be used in leading singing and other group music activities.

291 Functional Piano 1 hr.
Designed to develop pianist's ability to invent and organize musical ideas at the piano. Emphasis is placed on the use of piano in children's rhythmic activities, the harmonization and transposition at sight of songs with appropriate accompaniment, and the improvisation of music in various forms.

292 String Technology 1 hr.
An introduction to string instrument maintenance and repair, the course is designed to train the music teacher in rudimentary repairs and adjustments of an emergency nature which may arise in the teaching situation. Not intended to train repairmen.

293 Piano Technology 1 hr.
An introduction to piano technology in which various aspects of the technician's art are investigated. Important topics covered include mechanics of the musical scale, art of tuning in equal temperament, and construction of modern grand and upright pianos. The course is designed to give the student valuable insights into the field of piano technology in order that he might intelligently purchase and care for this instrument. Not intended to train tuners.

320 Advanced Piano Class 1 hr.
A continuation of 220-221. Prerequisite: 221.

321 Advanced Piano Class 1 hr.
A continuation of 320. Prerequisite: 320.

330 Choral Conducting and Literature 2 hrs.
The fundamentals of choral conducting are presented, including patterns and rehearsal techniques. The study and selection of literature appropriate to various levels of junior and senior high school choirs is included. Each student will be sent into the local schools during the part of the course in order to work with younger students.
331 Instrumental Conducting and Literature 2 hrs.
Beginning homogeneous and heterogeneous methods will be used with students acting as conductor-teachers and playing secondary instruments. Literature appropriate to various levels of junior and senior high school bands and orchestras will serve as materials for conducting with students performing on major instruments. Each student will have the opportunity to rehearse with the Symphonic Band at least once, and will be sent into local schools during part of the course to work with younger students.

332 Choral Conducting 2 hrs.
A continuation of 330 with added emphasis on rehearsal and choral conducting techniques, choral literature (selection, conducting), voice classification and selection. Prerequisite: 330.

340 Teaching Vocal Music in the Schools 2 hrs.
Extensive involvement with actual teaching of vocal music in public schools is the central part of this course. In addition, the student will be exposed to various philosophies of vocal music. The student will be acquainted with such administrative duties as scheduling, budget, fund-raising, equipment purchase, and public relations. Technical problems such as the changing voice and voice testing will be discussed. Matters relating to job seeking and professional growth will also be covered.

342 Organization and Administration of Church Choral Groups 1 hr.
A course designed for vocal teachers who may be involved in the directing of church choirs. A short history and philosophy of church music and an extensive survey of church music literature. Prerequisite: 240 for music majors; otherwise, no prerequisite.

344 Teaching Wind/Percussion Instruments in the Schools 2 hrs.
Extensive involvement with actual teaching of band music in public schools is the central part of this course. In addition, the student will be exposed to various philosophies of instrumental music. The student will be acquainted with such administrative duties as budget, fund-raising, equipment purchase and inventory, instrument maintenance and repair (including actual experience with repair), and public relations. Job seeking and professional growth will also be discussed.

345 Teaching String Instruments in the Schools 2 hrs.
Extensive involvement with actual teaching of string music in public schools is the central part of this course. In addition, the student will be exposed to various philosophies of instrumental music. The student will be acquainted with such administrative duties as budget, fund-raising, equipment purchase and inventory, instrument maintenance and repair (including actual experience with repair), and public relations. Job seeking and professional growth will also be discussed.

346 Marching Band Techniques 2 hrs.
The student will be exposed to and required to work with the planning and charting of halftime shows. This experience will include arranging and methods of working with students in learning a show. One requirement of the course will be the planning and execution of at least one show with a local high school band. The student will also learn techniques appropriate to street parades.
347 Music in the Humanities in Secondary Schools  2 hrs.
This course attempts to prepare the music student to participate in the teaching of humanities in secondary schools. The student learns to participate in setting the goals, content, and techniques for the humanities program.

348 Public School Music Production  2 hrs.
A course in methods and materials for use in public school music productions with particular attention to the selection and evaluation of materials for such productions.

A survey of the diverse styles of the music of the United States from the Pilgrims to the present. The development of popular music and jazz will be explored as well as that of church, band, and concert music. Folk song and regional styles will be observed as social-musical statements. Cultural change in this country's history will be viewed from the perspective of its musical heritage.

351 Music Literature: Western Art Music  4 hrs.
A survey of Western European composers and musical styles from the Middle Ages to the present. Forms such as the Lied, mass, motet, concerto, sonata, and symphony as used by the well-known composers of traditional "art" music will be listened to and discussed. Acquaintance will also be made with musical scales, modes, harmonies, and rhythms as well as with a great variety of musical instruments. Examples from art, architecture, and literature will be compared with music to illustrate corresponding tendencies within the main style epochs (e.g., Renaissance, Classic, Romantic).

352 Music Literature: Non-Western Music  4 hrs.
A study of the traditional music of non-literate cultures around the world (American Indian, Australian Aborigine, African, Micronesian, etc.) in addition to the literate cultures of China, Japan, Southeast Asia, Indian, and the Arabic countries. One or several cultures will be selected for close study and a particular attempt will be made to understand the customs and attitudes of a people through their music.

360 Style Analysis of Instrumental Music  2 hrs.
An analytical study of instrumental music with an emphasis on the larger forms such as the sonata, symphony, quartet, concerto, etc. Prerequisite: 260 with a grade of C or better. May be repeated for credit.

361 Style Analysis of Vocal Music  2 hrs.
An analytical study of vocal music with an emphasis on lieder, opera, oratorio, etc. Prerequisite: 260 with a grade of C or better. May be repeated for credit.

362 Composition  2 hrs.
A study of the techniques of twentieth century composition with original work in vocal and instrumental forms. Prerequisite: 263.

363 Composition  2 hrs.
A continuation of 362.
Music

364 Electronic Composition I 2 hrs.
An introductory course in electronic music including a study of the studio techniques since 1950, applications of studio technique to sound production, and the operation of the synthesizer as a performance instrument. Prerequisite: 263.

365 Electronic Composition II 2 hrs.
A continuation of 364 with emphasis on studio oriented acoustics and the functions of sound generating and modifying instruments. Prerequisite: 364.

366 Instrumental Arranging 2 hrs.
A course designed to give the student experience in arranging music for instrumental groups with emphasis placed on making use of available resources. Prerequisite: 261 with a grade of “C” or better.

367 Analysis of 20th Century Music 2 hrs.
An analytical study of major works of the 20th century. Prerequisite: 261 with a grade of C or better. May be repeated for credit.

368 Survey-Review of Basic Music 2 hrs.
A course required of transfer students who have satisfactorily completed their music theory (equivalent to Basic Music 160, 161, 260, and 261 at WMU) requirements at another institution. The course consists of a review of chromatic harmony and contemporary techniques, with emphasis on correlation and reconciliation of the various terminologies used in music theory. This course may not be applied as credit earned toward the theory requirements of the Bachelor of Music degree.

369 Jazz 2 hrs.
A comprehensive study of jazz as a musical art from both a theoretical and historical perspective. Special attention to the musical contribution of black Americans, outstanding jazz composers and performers. Study of the “blues,” jazz melodic and harmonic structures, arranging for jazz ensembles, the art of improvisation and rhythmic analysis. Prerequisite: 161 with a grade of C or better.

374 Graderoom Music Literature 3 hrs.
Designed to meet the needs of the elementary teacher in music literature and application in the classroom. Included are: (1) works of great composers in relation to the age and culture; (2) native and foreign folk music; (3) historical development, structure, timbre and use of instruments. Prerequisite: 140 or 240.

375 20th Century Music Literature 2 hrs.
A survey of 20th Century literature through listening. Some study of the chronological evolution of modern structure and harmony. Special emphasis on the atonal concepts and electronic media.

380 Psychology of Music 2 hrs.
Physical, psychological and physiological aspects of sound and systems of tonal relationships. The effects of music on the individual and the consideration of music as a form of communication; the nature and measurement of musicality; the nature of musical memory; the underlying bases for musical taste and for aesthetic experience in music with emphasis on cultural influences. Prerequisite: Psychology I.
382 Influence of Music on Behavior 3 hrs.
A study of the relationship between music and personality and of the function of music in personality adjustment and development. The study of research methods shall be pursued through analysis and evaluation of published studies, and skills essential to research shall be developed. Prerequisite: Psychology I.

384 Music in Special Education 4 hrs.
Designed for teachers of exceptional children. Study of methods and materials for singing, rhythmic, and creative activities in classes for mentally and physically handicapped. The student learns functional use of piano and informal instruments. Values of musical activities for all exceptionalities are emphasized. For Special Education majors only. Substitutes for MUS 140.

460 Counterpoint 2 hrs.
A study of the contrapuntal techniques of the 18th, 19th and 20th Centuries. Written assignments are closely correlated with the contrapuntal styles of significant composers. Prerequisite: 261 with a grade of C or better.

461 Counterpoint 2 hrs.
A continuation of 460. Prerequisite: 460.

462 Composition 2 hrs.
Original work in composition with emphasis on chamber music and orchestral music. Prerequisite: 363.

463 Composition 2 hrs.
A continuation of 462.

464 Electronic Composition III 2 hrs.
Students will develop and submit an outline of a compositional project which can be realized in the electronic music studio. Prerequisite: 365.

465 Electronic Composition IV 2 hrs.
A continuation of 464. Prerequisite: 464.

466 Seminar in Music Theory 2 hrs.
Research projects in music theory. Research methods and analytic discipline are stressed. Study will be focused in an area of the student's need or interest.

467 Seminar in Music Theory 2 hrs.
A continuation of 466. Prerequisite: 466.

468 Orchestration 2 hrs.
A study of the characteristics of instruments, arranging for the various individual choirs, for combinations of choirs, and for full orchestra. Prerequisite: 366.

469 Orchestration 2 hrs.
A continuation of 468.

470 Classroom Procedures in Theory 2 hrs.
Literature and methodology for the teaching of Theory with analysis of several representative texts. Observation and participation in the basic music courses are an integral part of the course.
471 Classroom Procedures in Theory  
A continuation of 470. Prerequisite: 470.  

480 Music Therapy Methods and Materials  
Survey of materials available for use in music therapy programs and methods of adapting such materials to institutional use. Study of publications and techniques developed specifically for use in music therapy programs. Prerequisite: Music therapy major.  

490 Undergraduate Workshop in Special Problems  
Designed for students interested in some special field or music not formally listed for instruction. All special problems must be approved by the Chairman of the Music Department, but may be under the direct guidance of any member of the Music faculty. This course may be elected as many as three times.  

517 Collegium Musicum  
Performance of early Western Music. Open to all students of the University. Required of Music History majors. Additional transcription, arranging, editing and conducting of early music is required of Music History majors. Graduate students may count no more than two hours of this course for graduation. Membership by audition.  

518 Improvisation  
A course in the fundamentals of instrumental improvisation. Assignments will be made in such areas as improvisation in the early music tradition, improvisation on given melodic, harmonic, and/or rhythmic materials, as well as “free” improvisations. Prerequisite: Music 161 or 165.  

530 Advanced Choral Conducting  
Supervised experience in conducting vocal ensembles. The complete preparation of choral music will be stressed. The student may be called upon to prepare an ensemble for public performance. Prerequisite: 330.  

531 Advanced Instrumental Conducting  
Supervised experience in conducting instrumental groups. The student may be called upon to prepare an ensemble for public performance. Prerequisite: 331.  

540 Elementary School Music  
Emphasizes the place of music in the curriculum and the use of music in the day-to-day activities of the classroom. The fundamental musical skills are developed in order to assist the teacher to achieve these objectives.  

541 Music Supervision and Consultation  
A study of the structuring and implementation of a music education program in the schools, in terms of three organizational relationships: the music administrator or supervisor, the scheduled music teacher, and the unscheduled music consultant. Relation of music specialist to classroom teacher.  

542 Studies in Music Education  
Topics to be announced. Selection will be made from the following or similar topics: Music in the Humanities, Evaluation of Music Educa-
tion Materials, and Curriculum Planning for innovation in Music Education. This course may be repeated to an accumulation of not more than four credits.

543 Psychology of Music Education 2 hrs.
Personal and social needs, motives and goals in relation to music in education. The function of musical achievement and aptitude tests in music education. Psychological aspects of behavior pattern in musical organizations. Physical, social and psychological factors involved in a developmental music program.

544 Analysis and Evaluation of Music Education Materials 2 hrs.
A study of the theoretical bases for, and practice in, analyzing and evaluating music for use in music education programs.

562 Advanced Composition 2 hrs.
A study of Twentieth Century techniques in composition with original work in vocal and instrumental forms. Prerequisite: 460.

463 Advanced Composition 2 hrs.
A continuation of 562.

570 Introduction to Musicology 3 hrs.
History, purposes, scope of musicology; leading historians, past and present; modern methods of research, with special emphasis on primary sources and bibliography of the field.

571 Introduction to Musicology 3 hrs.
A continuation of 570.

572 Baroque Music (1600-1750) 2 hrs.
A survey of the choral and instrumental music of the Baroque masters such as J.S. Bach and G. F. Handel. Special attention to the development of style from monody through harmonic polyphony. Prerequisite: 270-271.

573 Classical Music (1750-1800) 2 hrs.
Examination of the chief works of Mozart and Haydn, with intensive study in symphonic form and the development of the classic opera. Prerequisite: 270-271.

574 Romantic Music (1800-1910) 2 hrs.
Music of the important composers of the period beginning with Beethoven, along with the historical, cultural, and political background of the era. Special attention is given to the development of Nationalism. Prerequisite: 270-271.

575 Musicology and Research 2 hrs.
Presentation of musicological material in formal writing as well as informal classroom lecture; specific research projects with emphasis on selection and qualitative judgment of materials used.

576 Musicology and Research 2 hrs.
A continuation of 575.

577 Symphonic Literature 2 hrs.
A survey of music written for symphony orchestra during the Classic and Romantic periods.
578 Chamber Music Literature  2 hrs.
A survey of chamber music literature of the Classic and Romantic periods.

579 Operatic Literature  2 hrs.
A survey of opera from 1600 to the present.

580 Music Therapy Internship  2 hrs.
Six months clinical training through resident internship in an approved neuropsychiatric hospital with an established music program. Prerequisite: Completion of music therapy major and staff approval.

590 Studies in Pedagogy  1-3 hrs.
Topics to be announced. Selection will be made from the following: Piano Pedagogy, Vocal Pedagogy, String Pedagogy, Brass Pedagogy, Woodwind Pedagogy, Pedagogy of Teaching Theory, or similar topics. This course may be repeated for credit.

598 Readings in Music  1-4 hrs.
Graduate students may enroll in this course after consultation with the graduate adviser.
College of General Studies

NORMAN C. GREENBERG, Dean

OLLIN J. DRENNAN, Associate Dean

Academic Areas:

Humanities
Science
Social Science
The goals of the College of General Studies will be compatible with the goals of the University.

2. The most comprehensive goal of the College of General Studies is to assist students in developing the ability to think critically and to engage successfully in intellectual pursuits. The General Studies program seeks to engender the disposition to seek knowledge and the habit of bringing knowledge of all kinds to bear on decision making.

3. The College of General Studies will assist students in developing confidence in their ability to make judgments while acquiring a willingness to reconsider their judgments in the light of new insights, information, and patterns of values.

4. The College of General Studies will acknowledge positively more than one mode of inquiry and encourage exploration of cross- and/or trans-disciplinary interests and programs of study.

5. The College of General Studies will develop and maintain a coherent program which assists students in developing a responsible awareness of themselves as human beings and of their social and physical environments.

Within the framework of these goals the faculty of the College has developed Integrated Programs to provide a closely knit means for students to satisfy the general education requirement. In addition, individual courses have been developed by the faculty to provide opportunity, within the General Education Distribution Program, for students to experience the transdisciplinary approach to knowledge and thought.

A student in an Integrated Program should discover it to be a unique and concise way of satisfying the general education requirement. Series of integrated courses have been developed around thematic material which in the course of study would provide the student with broad and recognizable perspectives regarding the integration of knowledge. It is hoped that the student would therefore perceive ways which will assist him in integrating and applying the information he receives in more specific disciplines.

All General Studies courses have been approved for General Education purposes.

Additional information concerning each of the Programs or any of the specific courses described below can be obtained from the office of the Dean of the College of General Studies.
Integrated Programs

The Integrated Programs developed within the College of General Studies are designed to satisfy a number of minimal goals. Each Program will include in its beginning course, designed for first semester freshmen, a consideration of the various benefits that may be derived from attending a college or university and a consideration of expectations that are unrealistic with reference to colleges as they must exist. An integral part of such beginning courses will be an exploration of ways in which the remainder of the student’s general education requirement may be satisfied to form a coherent program within the thematic development of the particular Integrated Program and the personal goals and interests of the student. So far the following Programs have been developed to give to students options with a broad diversity in theme and structure.

PROGRAM A: The Getting It Together Program (GIT)

David DeShon, Coordinator

The program title, “Getting It Together” refers to the problem of making sense of the great variety of human knowledge and experience. Students at Western soon realize that this is a problem for they are quickly exposed to courses which range from “hard science” to “broad generalities.” The GIT faculty believe that the fully functioning person learns to live effectively with both—not rejecting the one over the other. The faculty wants students who care about what it means to be here, and who desire to make the most of what the University has to offer. They will counsel and advise students interested in the program on how to use the University toward these ends.

The courses in the program are built upon the quest for a unity of knowledge and experience. To do this it is necessary to see the self as always in a context. Consequently, some of the courses emphasize a “self perspective,” some a “context perspective,” and others attempt to look at the reciprocal effect of these when viewed together. By elaborating this simple idea through several courses, one can come to better interpret the University and life in general. This is a simple idea, but it has many facets. It is what ties the whole program together.

The program requires the completion of any four courses from the following list. Doing this will satisfy the breadth requirement of the General Education Requirement. Additional courses from the program may be taken at the student’s option to complete the entire Requirement of 35 hours. It is recommended that IN PURSUIT OF AWARENESS be taken first and PERSONAL WORLD VIEWS last, but this is not mandatory. Students who make it known to the program coordinator that they intend to complete the program will be given first chance to enroll in classes.

155 In Pursuit of Awareness 4 hrs.

It is assumed that people want to make a difference for having lived at all, to be noticed, to be taken into account. This course links that wish into awareness in action—a critical consciousness is useful for effectively
making a difference. Models of alert insight are available and are offered. Opportunities are provided for the students to check out the usefulness of these models in terms of their own goals and expectations.

222 The Status of Women
(See description, p. 544.)

255 Self-Images and Images of Social Reality
(See description, p. 552.)

256 Beyond Survival
(See description, p. 552.)

315 Human Communication
(See description, p. 547.)

331 The Many Faces of Nature
(See description, p. 544.)

355 Post-Freudian Thought
(See description, p. 552.)

424 Science, Mysticism and Creative Mythology
(See description, p. 545.)

430 Science as a Cultural Process: The Copernican Revolution
(See description, p. 550.)

431 Science as a Cultural Process: The Darwinian Revolution
(See description, p. 550.)

455 Personal World Views
(See description, p. 553.)

456 Aspects of Evolution
(See description, p. 553.)

457 The Frankfurt School
(See description, p. 553.)

PROGRAM B: World Explorations Program

Ted Bank, Coordinator

An integrated program of courses designed to acquaint students with the drama and the discoveries occurring at today's frontiers of knowledge, and to involve students in active exploration of the world around them. Courses may be selected from the following list. Credit hours are variable, depending upon the number of courses elected. A student may elect as many courses as desired, but no course can be taken for credit more than once. Ideally a student will enter the Program by electing one or more introductory courses in PART 1, usually in the freshman or sophomore year. In subsequent semesters, the student will select courses from PARTS 2 to 5. It is strongly recommended that the student complete PART 3 Field Experiences prior to electing any of the Summer Institutes and Expeditions in PART 4. The Summarizing Interdisciplinary
Studies in PART 5 are designed to serve as "capstone" courses which will complete a student's Program.

PART 1. Entry Course

160 Man the Explorer 3-5 hrs.
The focus is upon the quest and human drama in exploration, the on-going research that occurs at the frontiers of knowledge in various disciplines. Multi-media lectures, demonstrations and opportunities for independent study.

161 The Circle of Human Experience 4-6 hrs.
 Begins with a brief survey of the principal social-economic-political features of contemporary American society; then focuses upon the environmental factors, major threads in American history, and the influences upon American society from other cultures through time and space.

162 Mainstreams of World Cultures 4-6 hrs.
An examination through time and space of selected world cultures at high points of accomplishment in developing arts and philosophies of life.

PART 2. Introductory Field Experiences

260 World Exploration 4 hrs.
Course content is partly determined by the students; focus is upon recent findings at the frontiers of research in many fields, and particularly upon the active involvement of the students in exploring the world around them. Multi-media lectures, seminars, and student-planned expeditions to nearby areas of special interest.

Introduction to Field Study Methods*

PART 3. Field Experiences in Great Lakes Regional Studies
(Usually offered only Spring and/or Summer Sessions.)

360 Explorations in Urban Environments and Ecological Studies 4-8 hrs.
Cultural and human ecologies of urban environments; a study of man in his total environment from the humanistic perspective, particularly the urban experience and its environmental implications; an exploration of the variety of alternative life styles and adjustments that are possible in the urban environment. Lectures and seminars, with a block of time (1-4 weeks) devoted to field projects in urban environments.

399 Field Experience 2-8 hrs.
This course is for students who wish to pursue a program of independent study combining academic work with social, civic or political field work. Prerequisites: A written outline of the student's project, approved by a faculty supervisor, and approval from the office of the Dean. Elective credit only.
In the WORLD EXPLORATION PROGRAM credit will be allowed if 399 is taken with 360.

*This course is under preparation and will not be offered in 1973-74.
Explorations in Natural Environments and Ecological Studies*
Exploring with a Camera*
Survival Techniques on Land and Sea*

PART 4. Summer Institutes and Expeditions
(Requires commitment of an entire school term off campus.)

461 Aleutian-Bering Sea Expeditions (July-August) 8 hrs.
Field seminars in various disciplines; emphasis upon interdisciplinary practice aimed at understanding the environmental and cultural ecologies of the Bering Sea region of western Alaska; training in field techniques in anthropology, biology, etc. Opportunities to participate in a variety of field research on a major expedition.

British Honduras Tropical Studies**
Urban Area Work-Study**
Outward Bound Experience**
Summer Study Abroad**

PART 5. Capstone Courses

460 Field Experience in Environmental and Ecological Studies 4-6 hrs.
Cultural and natural environments in ecological perspective; a hard look at past, present and future options open to man in his use and misuse of planet earth, together with an exploration into the relatively new frontiers of inner and outer space. Lectures, seminars and field trips.

424 Science, Mysticism and Creative Mythology
(See description, p. 545.)

499 Independent Study in General Studies
(See description, p. 545.)

Frontiers of Modern Exploration*
Great Explorations*

PROGRAM C: The Twentieth Century Experience
Howard Dooley, Coordinator

The 20th Century has been an age of high drama and recurrent crisis, of seismic change in the ways men live and in the myths they live by. Humankind's most triumphant achievements stand side by side in our time with a roster of the most disgusting crimes. While each succeeding generation places itself at the apex of history, this astonishing

*This course is under preparation and will not be offered in 1973-74.
**This field experience is under preparation and will not be offered in 1973-74.
century seems peculiarly to merit such a position. It is a watershed period within which the human condition is being irrevocably, if unpredictably, transformed.

The Twentieth Century Experience is an integrated program of three parts planned to be taken in sequence. It aims to examine our immediate past, difficult present, and perhaps uncertain future. Interdisciplinary methods provide the most direct way of grasping our "Promethean Epoch" by drawing together the complimentary insights and discoveries of the humanities, social sciences and natural sciences within the framework of contemporary world history. The Twentieth Century Experience, then, is intended as a learning experience in depth, one in which stress is laid on the ways in which things tie together, on exploration of the total process, and on the development of both a global and historical perspective about our time.

PART 1. Entry Course

165 The Twentieth Century Experience 8 hrs.

A lecture and discussion course to be taken at any level, but aimed at freshmen and sophomores. The lectures will constitute an introductory survey of the events, conditions and evolution of the 20th century. The discussion groups will consider issues such as population growth, the growth of technology and its effects, the fragmentation of consciousness. The lectures will be presented in panel form to permit exchange of viewpoints and will blend historical narrative, analysis and interpretation.

PART 2. Two Courses (minimum) Relevant to the 20th Century (min. 8 hrs.)

The courses making up PART 2 are to be selected by the student from the General Studies contribution to the Distribution Program (for example: 402 Towards 2000: Utopian Visions and Futurism). A range of these courses will be offered each semester by the staff of the program itself, with first chance to enroll given to students enrolled in the Program. Other General Education courses may be taken to satisfy the requirement with the advice and consent of the program staff that such courses are relevant to the 20th century experience.

PART 3. A Capstone Course

465 Seminar in the Twentieth Century Experience 4 hrs.

The student will have the opportunity to identify, define and research a specific problem or topic of his choice centering on the 20th century, and to present the fruits of this labor for group discussion. Program staff will provide continuous assistance at all stages of the inquiry.

PROGRAM D: The Non-Western World Studies Program

Visho Sharma, Coordinator

It is increasingly being accepted that national and cultural boundaries are artificial and irrelevant limitations on the scope of learning. The student obtains a better grasp of his own culture if he is enabled to compare it with others, to see it as only one aspect of the unfolding human record. Non-Western civilizations have produced a magnificent
corpus of aesthetic creation, philosophical thought and social organization. To ignore it is to deprive ourselves of the benefit of a sizeable portion of human achievement. Such achievements of the mind and hand of man are part of the heritage of every civilized person and have influenced the Western world more than is commonly acknowledged, but they are nevertheless ignored to all intents and purposes in formal education. Thus the essential purpose of this program is not to enlarge the fraction of the world that the student knows about but to redress the glaring neglect of some of the varieties of human experience that must be taken into account in general education. By participating in this program, the student will be able to understand in depth cultures which have developed essentially apart from the stream of the Greco-Judaic-Christian tradition; he will be enabled to pursue a systematic study of the Non-Western world.

The Non-Western World Studies Program is comprised of a minimum of 16 credit hours and three parts. A student taking the whole Program will complete PART 1, the introductory course; PART 2, at least one of the follow-up courses of regional studies listed below; and PART 3, at least one of the "capstone" courses of topical study.

The introductory course will fulfill Western's Non-Western World requirement in General Education. If the student completes the entire program the distribution portion of the General Education Requirement will be satisfied. To accomplish this the student must consult with the Coordinator of the Program.

**PART 1. Entry Course**

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<tr>
<th>Course Code</th>
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<th>Hours</th>
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<tr>
<td>304</td>
<td>Introduction to the Non-Western World</td>
<td>4 hrs.</td>
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<tr>
<td></td>
<td>A survey of the traditional cultures of certain major societies which have developed essentially apart from the stream of Western civilization. This is followed by an analysis of the Western impact on these societies and their reactions thereto, and by a study of contemporary social, economic, and political problems of Non-Western countries.</td>
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**PART 2. Regional Studies**

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<th>Course Code</th>
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<tr>
<td>371</td>
<td>Non-Western Societies in the Modern World: East Asia</td>
<td>4 hrs.</td>
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<td>An analysis of the distinctive “style” of the civilizations of East Asia. The types of transition being made in this area from a traditional to a modern society will be explored through an examination of the inter-relationship between technology, social structure, and ideology.</td>
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<tr>
<td>372</td>
<td>Non-Western Societies in the Modern World: Southeast Asia</td>
<td>4 hrs.</td>
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<td></td>
<td>An analysis of the distinctive “style” of the civilizations of Southeast Asia. The types of transition being made in this area from a traditional to a modern society will be explored through an examination of the inter-relationship between technology, social structure, and ideology.</td>
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<tr>
<td>373</td>
<td>Non-Western Societies in the Modern World: South Asia</td>
<td>4 hrs.</td>
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<td></td>
<td>An analysis of the distinctive “style” of the civilizations of South Asia. The types of transition being made in this area from a traditional to a modern society will be explored through an examination of the inter-relationship between technology, social structure, and ideology.</td>
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374 Non-Western Societies in the Modern World: West Asia and North Africa 4 hrs.

An analysis of the distinctive “style” of the civilizations of West Asia and North Africa. The types of transition being made in this area from a traditional to a modern society will be explored through an examination of the inter-relationship between technology, social structure, and ideology.

375 Non-Western Societies in the Modern World: Sub-Saharan Africa 4 hrs.

An analysis of the distinctive “style” of the civilizations of Sub-Saharan Africa. The types of transition being made in this area from a traditional to a modern society will be explored through an examination of the inter-relationship between technology, social structure, and ideology.

PART 3. Topical Studies (min. 4 hrs.)

470 Non-Western World Through Literature 4 hrs.

An introduction to life and thought in the Non-Western world as depicted through its literature. This course is designed to throw light on the ideals and aspirations forming the basis of the traditional worldview, the complexes of social problems arising from the clash of the old and new, and the agonizing change from self-enclosed systems to open, multi-group societies.

471 Minorities in the Non-Western World 4 hrs.

An analysis of social and cultural dynamics of minority communities and the determinants and consequences of inter-community relations in pluralistic societies with special reference to points of tension and possibilities of harmony in the fluid context of changing social systems.

472 Science and Technology in the Non-Western World 4 hrs.

This course will examine the role science and technology has played in the culture of the Non-Western world, with particular reference to India, West Asia, and China.

PROGRAM E: Environments of Man: Patterns of Change

Robert Poel, Coordinator

The integrated general education program, Environments of Man: Patterns of Change will combine the views of science, social science, and the humanities in an exploration of the responses man has made and will be required to make to his environments of nature, of society, of culture, and of self. The primary thrust of the program is an examination of diversity and change in human environments in an effort to understand present patterns and alternatives for the future.

The entire program consists of a minimum of 24 credit hours up to a maximum of 35 credit hours, the entire general education requirement. The program consists of three distinct parts which are designed to be completed in sequence.
PART 1. Entry Course

175 The Environments of Man 8 hrs.

An integrated course for first-semester freshmen taught by six faculty from the sciences, social sciences, and humanities. The course is designed to acquaint students with the methods of inquiry used in different disciplines and the broad issues which man currently is facing and which he will face in the future. The single course of PART 1 will:

a. give 8 credit hours if successfully completed
b. consist of 8 contact hours with faculty, per week; 2 hours in a large lecture, and 6 hours in groups of 20 and/or 40
c. allow contact with all participating faculty in the lecture and with closer contact with two faculty who will also serve as academic advisors
d. be offered only in the Fall Semester each year and will be designed for freshmen

PART 2. Related Courses

Part 2 consists of from 12 to 24 credit hours of discrete courses or programs approved for general education credit and selected by the student in consultation with a faculty member from PART 1. The second Part is designed cooperatively by the student and a faculty advisor to examine some of the issues more fully, to develop specific inquiry skills, and to seek answers to these questions. PART 2 will be considered complete if it includes:

a. a minimum of 12 hours of credit
b. an introduction to the Non-Western World
c. a minimum of 4 credit hours at the 300-400 level
d. a spread of intellectual approaches and skills used in the different academic divisions of knowledge
e. course selection in consultation with a faculty advisor from PART 1

PART 3. A Capstone Course

475 The Environments of Man Seminar 4 hrs.

A seminar offered during a student’s junior or senior year. It is designed for individual and group investigation into patterns of change—past, present, and future—and the alternative responses man may have to it. This final capstone experience would allow for maximum opportunity for individual effort and independent study under faculty supervision. The SEMINAR has three requirements:

a. substantive research on a topic of interest to the student in which he has developed knowledge and presentation of the results to the class
b. regular attendance and constructive reaction to the reports of others
c. an attempt by the class as a whole to synthesize the individual reports into consistent and defensible answers to the general questions: What is likely to happen? and How should we respond?
PROGRAM F: Technology in Culture Program

Roger Bennett, Coordinator

The Technology in Culture Program is designed to help the student learn more about the important role of technology in our culture, to see the many facets of the interactions between various aspects of technology and the other segments of our culture, to develop an awareness of everyone's responsibilities for the problems brought about by these interactions, and to acquire some skills to use in meeting these responsibilities. The Program is divided into four Parts.

PART 1. Entry Course

180 Technology in Culture: Past and Present 4 hrs.

An introductory course which gives a brief historical study of the technology from the 17th Century to the present, defining technology and its various aspects, relating technology to other segments of our culture and defining some of the advantages of modern technology as well as some of the problems that now face us. As a part of this first course each student will be introduced to the other parts of the program and will be aided in planning his general education program in technology. This course is for freshmen, preferably in their first semester.

PART 2. Related Courses

PART 2 consists of three BLOCKS, each containing several courses. All students in the Program are required to elect at least three courses from these BLOCKS in order to provide them with experiences in all three areas.

BLOCK I. Environment and Technology

133 Issues in Social Biology (See description on p. 550.)

330 Radiation, Society, and Man (See description on p. 550.)

Geography 100 World Ecological Problems and Man* 4 hrs.

Physics 102 Physics and the Environment* 3 hrs.

Geology 444 Environmental Geology* 3 hrs.

338 Thermal Pollution 3 hrs.

A course for students in environmental studies that considers the concepts of thermodynamics as related to energy resources and thermal pollution. Students will learn to evaluate critically current literature for the soundness of its statements in matters of thermal pollution.

Transportation in the United States**

*See Departmental listing.
**This course is under preparation and will not be offered in 1973-74.
BLOCK II. Man and Technology

410 Art and Technology  4 hrs.
An inquiry into the contemporary visual and musical arts as they relate to technology.

English 105 Thought and Language: Option D:
  Writing and Popular Scientific Literature  4 hrs.

English 311 Perspectives Through Literature  4 hrs.
  Option C: Images of Progress
  Communication Agencies*
  Technology and American Music*

BLOCK III. Society and Technology

Military Science 100 Contemporary Problems in National Defense*
Business Education 140 Industrial and Business World*
Sociology 171 Social Impacts of Science and Technology*
Engineering Technology 378 Development of American Technology*
The Social Responsibility of Business**

PART 3.

472 Science and Technology in the Non-Western World  
(See description on p. 539.)

PART 4. Capstone Course

480 Technology in Culture: Present and Future  4 hrs.
A course that attempts to summarize and unite the knowledge and concepts of the other parts of the program, and examine some prospects of the future, in an effort to better equip students to leave college and join our technological society.

PROGRAM G: Self-Instructional Inquiry Program

Dale Porter, Coordinator

One of the traditional aims of liberal education is to develop habits of independent inquiry, so that people may continue learning with greater depth and purpose after their formal education is completed. Such habits include asking useful questions, mobilizing resources, and designing systematic investigations. It is difficult to develop independence when subject matter and its significance are pre-determined by the teacher. But it is equally difficult to begin independent study without previous training and the support of others.

Self-instructional Inquiry is based on a series of exercises and assignments which lead the student gradually toward independent inquiry. By helping others explore new horizons and challenge old prejudices,

*See Departmental listing.
**This course is under preparation and will not be offered in 1973-74.
the student learns to do these things for himself. And as inquiry skills develop, study projects emerge with increasing clarity. Faculty support and guidance are freely given so long as the student needs them.

A specially designed Center for Self-Instructional Inquiry provides a training workshop for those entering the program, a meeting place for on-going group projects, and research facilities for students and faculty developing new materials and projects.

Four courses designed to aid successful independent study are offered.

195 Self-Instructional Inquiry 8 hrs.
An interdisciplinary approach to independent study. Students are trained to formulate questions, find resources, and design study projects on topics of individual interest. Helps average students determine their own curricular programs.

196 Seminar in Self-Instructional Inquiry 6 hrs.
Provides initial guidance and support for students pursuing study projects designed in 195, above. Instructor's consent required.

395 Self-Instructional Inquiry 8 hrs.
An interdisciplinary approach to independent study for juniors and seniors. Students are trained to formulate questions, find resources, and design study projects on topics of individual interest.

396 Seminar in Self-Instructional Inquiry 6 hrs.
Provides initial guidance and support for students pursuing study projects designed in 395, above. Instructor's consent required.

The structure of the Self-Instructional Inquiry Program provides the opportunity for each student to plan his entire general education program in consultation with a faculty member and with approval of a faculty panel. This planned program may include courses as well as independent study projects. Such a plan may well continue beyond the end of the Seminar and a student would then enroll in 299 or 499 Independent Study in General Studies to obtain credit for his approved projects of independent study.
Distribution Program Courses

GENERAL

100  Ways of Knowing  4 hrs.
Students will investigate the differences and similarities among the ways of knowing in the sciences, the social sciences, and the humanities. Students will explore types of evidence, laws of logic, inferential processes and the application of these, as tools of critical inquiry, to contemporary issues and problems, particularly those operating among fact, attitude, value, and action.

101  Yesterday, Today, and Tomorrow  4 hrs.
A readings-discussion course which will examine the trends and movements of the immediate past that continue to shape the present and conditionally affect the future. Students will be asked to do a considerable amount of writing in order to examine their own past and present experiences, toward the objective of envisioning a desirable and workable future.

222  The Status of Women  4 hrs.
This course is designed as a general exploration of the content and the effect (including affect) of the traditional definition of "woman." Attention is given to such sources as law, religion, literature and art, mass media, psychology, biology, and social conventions, and to the social processes which transmit and reinforce sex role behavior.

299  Independent Study in General Studies  1-8 hrs.
Various extra-classroom activities, including independent reading or research under the direction of a faculty member or projects associated with field experience or travel of recognized educational value. Prior arrangement with a faculty member and prior approval of a General Studies Area Chairman and/or the office of the Dean of the College. May be repeated for credit.

304  Introduction to the Non-Western World  4 hrs.
A survey of the traditional cultures of certain major societies which have developed essentially apart from the stream of Western civilization. This is followed by an analysis of the Western impact on these societies and their reactions thereto, and by a study of contemporary social, economic, and political problems of Non-Western countries.

331  The Many Faces of Nature  4 hrs.
A lecture-discussion course designed to explore the dominant Western attitudes toward nature as they have been expressed during the past 2600 years and as they are manifested in the cultural patterns of today. The extent to which homocentrism and egocentrism, emanating from both the Classical Greek tradition and the Judeo-Christian tradition, have shaped these attitudes will be central to this investigation.

399  Field Experience  2-8 hrs.
This course is for students who wish to pursue a program of independent study combining academic work with social, civic or political field work. Prerequisites: a written outline of the student's project,
Distribution Program Courses

approved by a faculty supervisor, and approval from the office of the Dean. Elective credit only.

499 Independent Study in General Studies 1-8 hrs.
Various extra-classroom activities, including independent reading or research under the direction of a faculty member or projects associated with field experience or travel of recognized educational value. Prior arrangement with a faculty member and prior approval of a General Studies Area Chairman and/or the office of the Dean of the College. May be repeated for credit.

INTEGRATED

(These courses serve as Entry Courses or Capstone Courses in Integrated Programs as well as in the Distribution Program)

155 In Pursuit of Awareness
(See description on p. 533.)

260 World Exploration
(See description on p. 535.)

424 Science, Mysticism and Creative Mythology 4 hrs.
A comparative study of Oriental and Occidental mythologies with respect to their mystical, cosmological, sociological and psychological functions. Investigations center upon altered states of consciousness, changes in scientific views of life, the relevance of archetypal processes to cultural forms, parapsychology and an introduction to general systems theory.

HUMANITIES AREA

Phillip D. Adams, Chairman

Harold O. Bahlke  Richard DePeaux  F. Theodore Marvin
Lynwood H. Bartley  Doug DiBianco  Milo M. Meadows, Jr.
Pearl Baskerville  Howard Dooley  Harvey Overton
Gary P. Bergel  James M. Ferreira  Dale H. Porter
James Butterworth  Reginald Gammon  Donald Raiche
Joseph M. Condic  Michael Geis  William Routt
Beverly David  Arnold Gerstein  Stephen Schicker
Audrey Davidson  Richard Joyce  Bonnie Sigren
Doug Davies  John Keary

102 Direct Encounter with the Arts 4 hrs.
A course which adopts a sensory approach to the Humanities by introducing the student to his cultural world, and by guiding him through first-hand experiences in a number of art areas: cinema, photography, theater, sculpture, music, poetry, dance, and architecture. Based on these experiences, the student will discuss the individual and/or group reaction to the experience with individual instructors, write a journal or response paper, and participate in seminar-workshops.
200  The Arts in the Twentieth Century 4 hrs.

This course is a comprehensive examination of the arts of modern Western culture—architecture, dance, film, literary arts, music, painting, and sculpture—demonstrating their relationship to the major intellectual and social currents of the twentieth century. The stress in the course is on helping the students discover meaningful ways to respond to the arts by stimulating him to develop his own powers of observation and critical response through the materials and activities of the course.

201  The Popular Arts 4 hrs.

This course focuses upon one or more of the popular arts of contemporary Western culture, demonstrating significant relationships to several of the major intellectual currents of the twentieth century. Stress will be laid on the merits of the popular arts as aesthetic and as social products, and the student will be called upon to make use of a new consciousness of this portion of his surroundings.

202  Alternate Visions in Western Arts 4 hrs.

This course is intended to introduce the student to a sampling of non-Western and alternate cultural influences on modern Western art and culture. Beginning from a common position in the here-and-now, the course will trace several of these outside influences on at least three modern Western art forms.

203  Uses of the Past in the Present 4 hrs.

A comparison of themes, structures, symbols, and techniques which appear in the arts of the past and have reappeared on a more or less regular basis throughout history up to and including the present. The course will deal with at least three of the following arts: literature, painting, music, sculpture, dance, theater, architecture, and film.

204  Practicum 4 hrs.

This course is not designed to serve as an introduction to the practice of any art; rather, it is intended to serve the non-specialist by stimulating his interest in himself and in the world around him, by involving the students intimately in the process of aesthetic creation, and by exposing them to practitioners in three of the following areas: dramatics, film, graphics, music, new media, three-dimensional forms, visual arts, and writing. The Practicum is united thematically so that the three individual experiments in the arts will have a common foundation.

205  The Arts and Cultures of Africa 4 hrs.

An introduction to African cultures through a study of the most significant concepts and arts which reflect the uniqueness of Africa. The course will focus on the student's knowledge of the relation of these arts and cultures to himself.

206  Religious Arts of Asia 4 hrs.

An introduction to the uniqueness of Indian, Chinese, and Japanese cultures through a study of significant religious precepts and their corresponding artistic representations.

207  Secular Arts of Asia 4 hrs.

An introduction to the secular arts of India, China, and Japan which reflect distinctive cultural, aesthetic, and ideological patterns not directly related to the major organized religions.
208 The Arts and Culture of India

An historical introduction to the evolution of Indian thought and art utilizing those modes of artistic expression which reflect the unique South Asian World View.

209 The Arts and Culture of Black America

An introduction to the Afro-American culture through a study of the significant concepts and arts which reflect Black America. The course will focus on the student's knowledge of himself in relation to an increasing awareness of the arts of this subculture.

300 Man's Search for Meaning

A unified study of the Humanities in the Western tradition, from classical times to the Renaissance, at moments of high cultural achievement.

301 Man's Search for Meaning

A unified study of the Humanities in the Western tradition, from the Renaissance through modern times, at moments of high cultural achievement.

302 American Culture

A study of significant issues in American life focusing on the relationship of the individual to society as seen from the perspectives of literature, the arts, and social and political theory.

303 African Cultures

An exploration of the unique adaptations made by African societies to their particular environments through a study of the cultural values manifested in their religious, philosophic, social, political and artistic systems.

305 Buddhism and Culture

A study of Buddhist values, whose presence in diverse Asian cultures has resulted in reshaping those cultures as well as being modified by them.

315 Human Communication

An investigation of the processes by which man uses symbol systems, centrally concerned with both personal and cultural communication behavior. The course is intended to increase understanding of and sensitivity to communication processes and their limitations through increasing the student's consciousness of his own communication behavior and through exposing him to the ideas of various communication specialists.

316 Mass Media: Messages and Manipulation

An examination of mass communication in general and of a variety of mass media in particular. Students will consider the processes, effects, and functions of mass media through considering relevant scholarship from such diverse fields as sociology, history, psychology, anthropology, art, and literature, and the student's personal response to these will be analyzed.

400 The Twenties

A study of one of the most creative and explosive decades in modern times. The growth of jazz and modern art, Prohibition, the New Woman,
the Klan, the Red Scare, the movies—all this and more serve as a pre-
scription for our own times.

401 Creating History 4 hrs.
An attempt to discover and create new ways of describing historical
change, based on a perspective of history as creative process, and using
insights from science, philosophy, and the creative arts.

A discussion course which introduces the student to the classic litera-
ture of utopias and contemporary futurology, covering utopias of escape
and reconstruction from Plato to Skinner, the anti-utopias of Huxley
and Orwell, and futurist views of the world of 21st century.

403 How it Really Happened 4 hrs.
An investigation of the problem of historical truth, through literature, art,
and electronic media. Comparison and evaluation of different per-
ceptions of the same historical events.

404 America Since World War II 4 hrs.
A study of the critical issues in American culture since the Second
World War as embodied in the art, literature, and social movements of
the last three decades. The Beat Generation, the Black Revolution,
Abstract Expressionism, Pop and Conceptual Art, and the impact of
existentialism on traditional values will be examined to determine how
they can expand our understanding of the present.

405 Common Metaphors in the Arts 4 hrs.
An exploration of the hypothesis that works of art present a recurring
body of philosophical assumptions about the nature of human life, rang-
ing on a spectrum from optimism through pessimism, and including at-
titudes such as celebration, acceptance, dissection, rebellion, and despair.

406 The Arts and National Character 4 hrs.
Nations and tribal societies have clearly defined characteristics, often
transcending or engendering artistic styles, which enable us to speak of
phenomena such as “the Italian spirit,” “the Russian temperament,” “the
typically American,” “the Japanese character,” or “the African mind.”
Several cultures will be examined in an attempt to define such cultural
dispositions. Various artistic products will be discussed with the major
focus on the art of music.

407 The Creating Audience 4 hrs.
A study which will examine the perspectives of individual artists in re-
lationship to their art and the audience. This course proposes to analyze
the artistic process from the context of individual involvement both as
artist and audience, culminating in a discussion of active and passive
audience participation in the creative process in the works of such men
as John Cage and Robert Rauschenberg.

408 Marx, Mao and the Chinese Tradition 4 hrs.
A study of Chinese organic thought, as expressed in art and philosophy,
and its Western interpretations. The course focuses upon the way this
mode of thought and its interpretations relate to the development of
Mao’s domestic and foreign affairs.
409 Makers of Modern Architecture
This non-specialized, non-technical, inter-disciplinary course will provide the general student with an opportunity to consider the questions: what is architecture (particularly modern architecture)? Who creates it? How is it created? Why is it important?

410 Art and Technology
An inquiry into the contemporary visual and musical arts as they relate to technology.

411 Woman: Past, Present and Future
This course will concern itself with the subject of "women" as a legitimate field for scholarly inquiry in order to establish the facts and explore the myths of woman's role in Western Culture. The approach will be interdisciplinary: historical for background, biological to explore facts versus myths, artistic models, literary tradition, changing social forces and the contemporary world of female consciousness.

412 Southern Thought and Culture
An examination of the uniqueness of the South as a civilization and as a reflection of American Society as a whole. Topics will range from religious revivalism and slavery in the Old South to fundamentalist and segregationist practices in the New South, while also discussing outstanding Southern writers, including Faulkner, Warren, Caldwell, Page, and Glasgow.

413 Modern African Artists
A cooperative inquiry into the arts of modern Africa and the various relationships which exist between these arts and the social, political, and philosophical contexts of modern African cultures. The course will be concerned with what can be called "modern African culture," a distinctively African philosophy or world-view, relationships between the arts of traditional Africa and contemporary Africa, and how modern African artists view themselves in relation to their societies.

SCIENCE AREA

Carl J. Engels, Chairman

Shirley Bach  Ronald Flasphohler  Robert H. Poel
Roger Bennett  David Hargreave  Michael D. Swords
Ollin J. Drennan  Phillip T. Larsen  James J. Ziegelmaier
Franklin G. Fisk

107 Planetary Science in Elementary Education
An interdisciplinary study of the earth, atmosphere, solar system and universe and the relationships and interactions among these. Taught by cooperating faculty from four departments, the course will provide a survey of geology, meteorology and climatology, and astronomy. Students will study each of the three topics for five weeks with different instructors. Classes will be limited to 30 students in order that instructors may use techniques which emphasize the relevancy of their disciplines in elementary education and its significance in the present and future lives of children. (No prerequisites) Not recommended for science majors.
130  The Nature of the Physical World  4 hrs.
This course offers students the opportunity to increase their awareness of, and curiosity about, some of the fundamental laws of nature found in the physical sciences: astronomy, chemistry, and physics. This course also develops an understanding of what science is, how it is advanced, and what its role in society is. Some sections involve laboratory work.

131  Physical Science in Elementary Education  4 hrs.
This course is designed to introduce students to some of the broad concepts of physical science and to the methods of inquiry that have been useful in developing these concepts. Student experiences are designed to further understanding of the inter-relationships between the physical sciences and society, as well as those between the physical sciences and elementary general education, and will be taught in laboratory groups no larger than thirty.

132  Aims and Achievements of Science  4 hrs.
This course is designed as a broad philosophical and historical view about science in general. It examines the aims or goals of science and compares these to the achievements of the scientific enterprise, as well as demonstrating the inter-relationships between science and other aspects of our culture.

133  Issues in Social Biology  4 hrs.
This course involves a study of some recent advances in biology and medicine, their social and ethical implications, and the public policy problems raised by such questions as organ transplantation, drugs, controlling population size, genetic engineering, controlling environmental factors affecting health and disease, and the ethical and moral concerns implicit in these.

330  Radiation, Society, and Man  4 hrs.
This course is designed as an introduction to basic ideas of ionizing-radiation and radiation sources and how the use of ionizing-radiation affects society and the individual. The course will use lectures, discussions, laboratory work, independent, and small-group study.

A lecture-discussion course designed to explore the interplay between the growth of scientific ideas and the cultural horizons from which they came. Attention will be directed towards the question, “what is the nature and shape of the universe and man’s relationship to it?” by focusing upon the Copernican Revolution in astronomy and its ultimate impact on post-Renaissance Europe.

431  Science as a Cultural Process: The Darwinian Revolution  4 hrs.
A lecture-discussion course designed to explore the interplay between the growth of scientific ideas and the cultural horizons from which they came. Pre-Darwinian responses will be investigated together with the Darwinian Revolution in the life sciences, the opposition to it, and the far-reaching influence of Darwin’s ideas during the past one hundred years.

432  Thoughts and Scientific Thinkers  4 hrs.
This course has, as its purpose, the examination of the thinking of prominent scientists. While other courses may investigate “scientific
thought" and contrast it with "artistic thought" or "creative thought" and the like, that is not the goal of this course. Rather, the intention is to determine the mode of thinking of particular scientists, whatever that mode may be.

433 Science, Technology, and Society 4 hrs.

This course will consist primarily of seminars and discussions centering on scientific and technological impacts upon contemporary society, viewed from a variety of perspectives. One objective will be to assist the student in acquiring knowledge about current scientific and technological problems.

SOCIAL SCIENCE AREA

Nita Hardie, Chairperson

Syed Abedin  Francis Gross  Minoru Mochizuki
Ted Bank     Bruce Haight     Evan Richards
Robert Brewer  Barbara Havira  Ira Rutherford
Ken Byerly  Arthur Helweg  Visho Sharma
Do Young Chang  Charles Houston  Larry Tyler
Sushi Datta  Pat Klein  Cliff Walker
Don DeLong  Larson Kuoh  Dick Williams
Dave DeShon  Hung Peng Lee  Karen Yinger
Thomas Dube  George LeBonte  Wilfred Young
Norman Greenberg  Barbara Lex  Bryce Zender

120 Understanding Man 4 hrs.

The course is an inquiry into man's search for meaning in life and an evaluation of some of the answers that social scientists have put forward as explanations of man's nature and his behavior.

121 Dimensions of Human Behavior 4 hrs.

A series of learning experiences designed to explore the social, psychological, and cultural dimensions of human behavior, using both individual and group approaches to learning. The emphasis is upon the dilemmas and strengths of a person which stem from processes which impose restraints upon social behavior.

122 Dynamics of Race and Culture 4 hrs.

An analysis of the origins, development, and consequences of "Race" as a significant concept in the contemporary world. Subject matter will emphasize the reciprocity of environment, culture, social forces, and the individual.

123 Man and Society 4 hrs.

A study of the biological and social aspects of human diversity. Discussions of the structure of society and its institutions will give special attention to such contemporary topics in the American scene as values, political and economic systems, ethnic relations, environmental quality.

220 Background of the Contemporary World 4 hrs.

An inquiry into the "roots" of our contemporary world. The course examines, against a background of rapid technological and social change, key movements, ideologies, institutions, events, and personalities of the
20th century, emphasizes the complex links among these factors, and supplies a coherent framework for further study of current world affairs.

221 Minority Groups and Human Rights 4 hrs.
A general study of the multi-national society in the United States dealing with racial-ethnic groups, designated as minorities, such as the American Indian, the Mexican-American, the Oriental, and the Black American. The course will focus on the cultural and biological process of human differentiation, formation of minority-majority populations, social forces and institutions, and contemporary minority cultures and their viewpoints.

223 American Ethnic Groups 4 hrs.
Attention will focus primarily upon ethnic groups in the urban setting. Particular emphasis is placed on mainstream American beliefs and values expressing ethnic stereotypes, such as “Melting Pot versus Salad Bowl,” “the American Dream,” and “ethnic backlash.” The course deals with the experiences of ethnic groups not usually treated in race relations classes.

224 Americans Called Indians 4 hrs.
A study of the results of European encroachments in the New World on native peoples, focusing on those in the geographic area of the United States. Cultural myths and fallacies about native Americans will be explored and the perpetuation of common stereotypes in theology, popular literature, politics, and in the social sciences will be examined.

225 Alternate Life Styles 4 hrs.
The focus of this course will be upon the interpersonal relationships that do not follow the traditional life style patterns (i.e., coupling, marriage, nuclear family). Psychological and sociological frameworks will be used to examine several alternate life styles, such as communes, “group marriage,” and women’s collectives.

255 Self-Images and Images of Social Reality 4 hrs.
An inquiry into the nature of self-images, their social origin and growth and the nature of one’s perceptions of the political, social and economic world. The aim of the course is to bring about an understanding of the factors which influence perceptions and an increased knowledge of the form and quality of self-images of the social world.

256 Beyond Survival 4 hrs.
As Rene Dubos has suggested, the real issue is not “Will man survive?” but rather “What can be the quality of life available to the survivors?” This question will form the substance of the content of this course.

355 Post-Freudian Thought 4 hrs.
A course designed to help the student gain a knowledge of man’s life as a quest. Selected post-Freudian thinkers, each of whom is concerned with the hidden motivational factors in man’s life, are studied in order to shed light on man’s search for meaning and productivity.

421 Protest Movements and Counter Culture 4 hrs.
A workshop study of contemporary (especially American) socio-cultural conflict and change. Because of the controversial and complex nature of the topics, the seminar will focus upon the investigation of selected protest movements and counter cultures.
**Distribution Program Courses**

422 **Technology and Culture** 4 hrs.
A workshop of contemporary technology, ranging from “the pill” to the computer, and the impact of modern technology on key aspects of culture. Instead of just talking and reading about these developments, the emphasis will be upon experiencing first-hand these processes and then reflecting upon them.

423 **Role Portrayal in the Mass Media** 4 hrs.
An analysis of the content of various types of the mass media, emphasizing sex-role and ethnic-role portrayals in television, popular magazines, films, and popular song lyrics. It is important that the students enrolling in the course have access to television.

455 **Personal World Views** 4 hrs.
The world view of the student and some basic perspectives on the construction of world views in general are the chief concerns of this course. The origins, patterns and possible resolutions of existential crises arising from world views in conflict are investigated in terms of secularization and sacralization, belief and alienation and anxiety, and courage. These themes are approached through the perennial experiences of laughter, play, hope, damnation, and order.

456 **Aspects of Evolution** 4 hrs.
In this course different aspects of cosmic, organic, social and cultural evolution are to be explored. The course will face the plurality of scientific approaches to evolution in the hope of achieving a fruitful exchange and possibly a critical synthesis between materialists and the upholders of a spiritual interpretation, between determinists and finalists. The whole course will concentrate on the cardinal question: Is man totally enmeshed in the causal structure of biological and cosmic development or does freedom operate in the central process of evolution?

457 **The Frankfurt School** 4 hrs.
In this course the critical theory of societal process of the Frankfurt School will be explored as it has been developed by Horkheimer, Adorno, Marcuse, Fromm, Habermas and others. The course will concentrate on the following central issues of the Frankfurt School: the authoritarian personality, the totally administered society, escape from freedom, the connection of utopias and ideologies, the critical function of philosophy and art, the great refusal, and possibilities of personal, social and cultural liberation, peace, the future.
The Graduate College

GEORGE G. MALLINSON, Dean

RICHARD T. BURKE, Associate Dean

SID DYKSTRA, Associate Dean

School of Librarianship
THE GRADUATE COLLEGE

The Graduate College offers a wide variety of programs leading to the Master's, Specialist's and Doctor's degrees.

The University has fifty-nine Master's degree programs. Master of Arts degrees are awarded in twenty-three programs in the following general categories within the College of Education: Educational Leadership, Counseling-Personnel, Special Education, Blind Rehabilitation, Audiovisual Media, Teaching the Economically and Educationally Disadvantaged, Teaching of Reading, Teaching in the Community College, and Curricula in Teaching. Twenty-three other educational programs at Western also lead to the Master of Arts degree: Anthropology, Art, Biology, Chemistry, Communication Arts and Sciences, Earth Science, Economics, English, Geography, Geology, History, Home Economics, International and Area Studies, Modern and Classical Languages, Mathematics, Medieval Studies, Occupational Therapy, Physics, Political Science, Psychology, School Psychology, Sociology, and Speech Pathology and Audiology. The University also offers the Master of Science degree in Accountancy, Business, Computer Science, Librarianship, Operations Research, Paper Science and Engineering, Technology, and Statistics, as well as the Master of Business Administration, Master of Fine Arts, Master of Music, Master of Occupational Therapy, and Master of Social Work degrees.

In 1960 programs leading to the Specialist in Education degree were introduced. Upon completion of a sixth-year program, this degree is offered in Educational Leadership, Counseling-Personnel, Special Education, and School Psychology. In addition, the University offers Specialist in Arts degrees in Business Education, English, History, International and Area Studies, Librarianship, Mathematics, and Science Education.

Doctoral programs were initiated in 1966 and were fully accredited by the North Central Association in 1971. Four of these programs, those in Chemistry, Mathematics, Science Education, and Sociology, lead to the Doctor of Philosophy degree. A program leading to the Doctor of Education degree is offered by the Departments of Educational Leadership and Counseling-Personnel.

Please refer to The Graduate College Bulletin for further information on these programs.
The undergraduate curriculum in librarianship offers preparation for the teacher-librarian or for the student who expects to enter the graduate program in library science either at Western Michigan University or at some other library school. Starred courses are open to prospective teachers or others who desire a wider acquaintance with books and library materials and methods.

Students in the elementary or secondary curricula may meet certification requirements for teacher-librarianship by taking the undergraduate minor in library science and a subject-matter major. The Librarianship minor consists of the following courses: 100, 230, 416, 510, 512, 530, and 542 or 546. School Library Experience 407 is required during the last year of work. A portion of the Directed Teaching assignment is also spent in one of the cooperating school libraries. A course in audiovisual media is highly recommended.

A departmental laboratory containing books and other materials in library science and related fields is provided in the School of Librarianship.

**PRE-PROFESSIONAL CURRICULUM**

Bachelor of Arts or Bachelor of Science Degree

Candidates in the College of Arts and Sciences who enroll in the Librarianship Curriculum must fulfill the requirements for the B.A. or the B.S. degree including: (1) general education; (2) a major in a subject field; and (3) a minor in librarianship.

A typical pre-professional library science program of studies follows:

**Course Requirements:**

Total hours required for this curriculum 122 hrs.

1. General Education requirements
   - Modern Language 8
   - English electives 8
   - Communication Arts & Sciences 130 3
   - Elective 3

2. Humanities
   - Electives 3

3. Sciences
   - Electives 3
The Graduate College

4. Social Sciences
   Government elective 3
   History elective 3
   Sociology 200 3
   Elective 3

5. Librarianship
   Librarianship as a Profession: Introduction 100 2
   Fundamentals of Library Organization 230 3
   Building Library Collections 510 3
   Reference Service 512 3
   Introduction to Classification and Cataloging 530 3
   Reading Interests of Young Adults 542 or
   Storytelling 546 or Teacher Ed. 548 2-3

6. Physical Education 2

7. Electives and Departmental Requirements for Subject Major

DESCRIPTION OF COURSES

UNDERGRADUATE

100 Librarianship as a Profession: Introduction* 2 hrs. Fall, Winter
   An introductory survey to acquaint students with the various types of
   services offered in the modern library as a social, cultural and educational
   institution. Students will be able to explore areas of interest, to observe
   various activities performed in selected libraries, and to discuss current
   issues with notable librarians.

230 Fundamentals of Library Organization 3 hrs. Fall, Winter
   A study of the practical methods for acquisition, processing and
   circulation of books and other materials and the maintenance of essential
   business records. Emphasis on simple organization of library materials
   for effective use in schools and small public libraries.

407 School Library Experience 3 hrs. Fall, Winter
   An introduction to library activities and services through assignment
   to a selected school library. A minimum of 90 hours of observation and
   participation under supervision of the cooperating school librarian and
   a library school faculty member is required. Grades on a credit-no credit
   basis. Must be completed before Directed Teaching.

416 Instructional Materials, K-12* 3 hrs. Fall, Winter
   Identification and characteristics of media which support classroom in-
   struction in the elementary and secondary schools. Introduction to broad
   range of print and non-print materials and the process of evaluation in
   the light of instructional needs.

UPPERCLASSMEN AND GRADUATE STUDENTS

506 Introduction to Computers 1 hr. Fall, Winter
   Flow charts and computer programs will be prepared in the BASIC
   LANGUAGE to be run on a digital computer. Prerequisite: 1½ yrs. h.s.
   algebra or Math 100.
510 Building Library Collections  3 hrs. Fall, Winter

512 Reference Service  3 hrs. Fall, Winter
Introduction to a variety of materials which can serve as sources of reference and bibliographic information. Critical examination and evaluation of reference materials is a basic emphasis. Attention is given to organization and methods of reference services in libraries.

530 Introduction to Classification and Cataloging  3 hrs. Fall, Winter
Introduction to basic cataloging and classifying principles and procedures. Includes theoretical study and practical application of descriptive cataloging, rules for determining main and secondary entries, subject cataloging, and classifying according to the Dewey Decimal Classification scheme. Processing non-book materials and the development, use and maintenance of library catalogs are included. Laboratory experience is required.

542 Reading Interests of Young Adults*  3 hrs. Fall, Winter
Study of the fields of literature suited to the interests of young people. Students are given opportunity through wide reading to develop principles and standards for the selection of the book collection. Includes an introduction to methods of stimulating broader reading interests and conducting group book discussions with young people.

546 Storytelling*  3 hrs. Fall, Winter
Underlying principles of the art of storytelling; techniques; content and sources of materials. Practice in telling stories before groups of children is provided. Planning the story hour program for various ages as a means of developing appreciation of literature and stimulating an interest in reading.

598 Readings in Librarianship  1-3 hrs. Fall, Winter
Offers a program for the advanced student for independent study in a special area of interest. Arranged in consultation with the advisor.

*Open to students in other departments.
Division of Continuing Education

The Division offers off-campus educational opportunities to persons who desire to pursue their education on a part-time basis.

Serving primarily the sixteen counties of Southwestern Michigan, Western's offerings provide a variety of services including extension classes and correspondence courses, conferences, short courses and seminars for teachers, business leaders and other interested adults. Course offerings in the sixteen counties are planned in conference with community leaders and departmental representatives from our campus. Credit courses are offered on both the undergraduate and graduate levels. The Division is emphasizing the development of a degree program known as General University Studies for adult students at community colleges who are unable to study on campus. That program is described below.

Correspondence courses may be taken for credit and applied toward an undergraduate degree subject to limitations defined by the university or the college in which the student is studying.

In-service education programs are planned with schools, business, professional and civic groups. Advisory services are offered, as well as actual training programs.

In the field of adult education the office provides program planning, speakers, discussion leaders, and persons qualified to handle leadership training programs. Such services are available to farm, business and industrial groups, governmental and social agencies, labor unions, schools, churches, and other organizations.

Off-campus services are channeled through three Centers located in Benton Harbor, 777 Riverview Drive 49022; Grand Rapids, 105 Division Avenue, North 49502; Greater Muskegon, 3312 Glade, Muskegon Heights 49444. Individuals interested in further information should contact the Division Office in Walwood Union Building or the Center nearest them.

General University Studies

The General University Studies Curriculum is being planned primarily for the part-time student. The specific requirements will vary depending upon the Area of Concentration of the student. All student programs must be planned by the student upon the advice of the advisor for the particular Area which the student wishes to emphasize. The Curriculum is supervised by the Division of Continuing Education.

Interested students should contact one of the offices listed above.

General requirements for a degree in the General University Studies Curriculum include:

1. 122 semester hours of college level credit of which at least 60 must be taken in an institution offering a 4 year college degree program.
2. Completion of a planned Area of Concentration involving at least 45 semester hours of credit.
Areas which are likely to be developed by Fall Semester 1973 include:
- Business Studies
- Health Studies
- Humanistic Studies
- Social Service Studies
- Technical and Scientific Studies

3. Completion of the General Education requirements of 35 semester hours of work identified by the College of General Studies. This work does not have to be exclusive of work included in the Area of Concentration.

Students completing this curriculum may earn either a BA or BS degree depending upon the subject matter content of their Area of Concentration.

Much of the work required of students in this curriculum may be completed by study on a part-time basis through the Division of Continuing Education.
WESTERN MICHIGAN UNIVERSITY
LIST OF FACULTY — 1973-74

Abedin, Syed Z., 1970, Assistant Professor of Social Science
B.A., M.A., Aligarh Muslim (India); M.A., Pennsylvania

Adams, David W., 1956, Professor of Teacher Education
B.A., Ohio Wesleyan; M.A., Ed.D., New York

Adams, Phillip D., 1964, Associate Professor and Area Chairman of Humanities
B.A., Western Michigan; M.A., Ph.D., Ohio; F.R.S.A.

Adams, Richard G., 1970, Assistant Professor of Social Work
B.A., Omaha; M.S.W., Nebraska

Alavi, Yousef, 1958, Professor of Mathematics
B.S., M.S., Ph.D., Michigan State

Albert, Elaine A., 1965, Assistant Professor of English
B.A., Western College for Women; M.A., Middlebury

Allen, Francis W., 1953, Associate Professor, Library
B.S., Colby; B.A.L.S., M.A.L.S., Michigan

Allen, Teri, 1971, Instructor in Occupational Therapy
B.S., Western Michigan

Allgood, William T., 1969, Assistant Professor of Music
B.M., East Carolina; M.M., Illinois

Alvarez, Elsa, 1964, Associate Professor of Spanish
M.A., Iowa; Ph.D., Havana; Ph.D., Michigan State

Anderson, Mardell B., 1968, Instructor in Women's Physical Education
B.S., Western Michigan

Anderson, M. Joy, 1968, Assistant Professor of Occupational Therapy
B.A., David Lipscomb College; Certificate in Occupational Therapy, Texas Women's; M.A., Western Michigan

Anderson, Robert H., 1957, Associate Professor of Chemistry
B.A., Baker; M.A., Ph.D., Columbia

Ansel, James O., 1949, Professor of Teacher Education and Director of Rural Education
B.A., Western Michigan; M.A., Northwestern; Ed.D., Columbia

Appel, William C., 1965, Associate Professor of Music
B.S., State Teachers of Indiana (Pa.); M. Mus., Indiana

Apple, Loyal E., 1966, Lecturer in Blind Rehabilitation
B.A., William Jewell

Argyropoulos, Triantafilos, 1964, Associate Professor of Art
B.S., M.F.A., Michigan

Armstrong, James W., 1969, Assistant Professor of Teacher Education
B.S., Northwestern; Ed.D., Indiana

Ashbaugh, Lawrence L., 1969, Associate Professor of Special Education
B.S., Clarion State; M.Ed., Ed.D., Pennsylvania State

Asher, Eston J., Jr., 1954, Director of Institutional Research and Professor of Psychology
B.S., Kentucky; M.S., Ph.D., Purdue
Atkins, Michael B., 1971, Assistant Professor of Industrial Education  
B.S., M.S., East Texas State; Ed.D., Texas A & M

Averitt, R. Douglas, 1970, Instructor in History  
B.S., M.A., Memphis State

Bach, Shirley, 1964, Assistant Professor of Natural Science and Research Associate in Chemistry  
B.S., Queens College; Ph.D., Wisconsin

Baechtold, Marguerite, 1967, Associate Professor of Librarianship  
B.A., Montclair; B.S.L.S., Columbia; Ed.S., Western Michigan

Bahlke, Harold O., 1962, Professor of Humanities  
B.Ed., Wisconsin State; M.A., Ph.D., Minnesota

Bailey, Frederick S., 1958, Director of Off-Campus Education and Assistant Professor of Teacher Education  
B.S., M.A., Western Michigan; Ph.D., Michigan State

Bailey, Keith D., 1955, Assistant Professor of Directed Teaching  
B.S., M.A., Western Michigan

Bailey, Thomas C., 1970, Assistant Professor of English  
B.A., Oberlin; M.A., Missouri

Baker, Don R., 1972, Instructor in Music  
B.A., Adrian; M.Ed., Indiana University of Pennsylvania

Baker, Lee O., 1954, Professor and Head, Department of Agriculture  
B.S., Wisconsin State (Platteville); M.S., Wisconsin; Ed.D., Michigan State

Baldwin, Elizabeth E., 1964, Associate Professor of Anthropology  
B.A., Wellesley; M.A., Radcliffe; Ph.D., Harvard

Balkin, Alfred, 1971, Associate Professor of Music  
B.A., M.A., Indiana; M.A., Ed.D., Columbia

Ballard, Robert M., 1972, Assistant Professor of Librarianship  
B.A., Morehouse; M.S.L.S., Atlanta; M.A., Eastern Michigan; Ph.D., Michigan

Bank, Theodore Paul II, 1967, Associate Professor of Social Science  
B.S., M.S., Michigan

Barbiers, Arthur R., Jr., 1968, Adjunct Assistant Professor of Biology  
B.S., M.A., Bowling Green State

Barstow, Robert H., 1965, Associate Professor of Social Work  
B.A., Western Michigan; M.S.W., Michigan

Bartley, Lynwood H., 1963, Assistant Professor of Humanities  
B.S., Eastern Michigan; M.A., Western Michigan

Baskerville, Pearl L., 1972, Adjunct Assistant Professor of General Studies  
B.A., William Penn; M.A., Western Michigan

Batch, Nicholas C., 1972, Assistant Professor of General Business  
A.B., Michigan; M.B.A., Western Michigan; J.D., Wayne State

Bate, Harold L., 1964, Professor of Speech Pathology and Audiology  
B.A., Butler; M.A., Florida; Ph.D., Wisconsin

Beck, Roy A., 1967, Assistant Professor of Communication Arts and Sciences  
B.S., Southeast Missouri State; M.S., Southern Illinois

Beech, Beatrice, 1971, Assistant Professor, Library  
B.A., Michigan State; M.S.L.S., Western Michigan
Beech, George T., 1960, Professor of History
    B.A., Michigan State; Ph.D., Johns Hopkins

Beelick, Delbert B., 1970, Assistant Professor of Business Education and Administrative Services

Behm, Harley D., 1967, Professor and Chairman, Department of Transportation Technology
    B.S., Northern Montana; M.Ed., Ed.D., Missouri

Bendix, John L., 1955, Professor of Industrial Education
    B.S., Stout State; M.A., Minnesota; Ed.D., Indiana

Benne, Max E., 1964, Associate Professor of Directed Teaching
    B.S., M.S., Ed.D., Michigan State

Bennett, Roger A., 1965, Associate Professor of Natural Science
    B.S.E. (EE), Michigan; M.S., Western Michigan; P.E.

Bennett, William S., Jr., 1968, Professor of Sociology
    B.A., Denison; M.A., Ph.D., Missouri

Bergel, Gary P., 1971, Instructor in Humanities
    B.S., M.A., Wisconsin

Berkey, Ada E., 1947, Associate Professor, Library
    B.A., Mount Holyoke; B.A.L.S., Michigan; M.A., Iowa

Berndt, Donald C., 1962, Associate Professor of Chemistry
    B.S., Ph.D., Ohio State

Berneis, Regina F., 1965, Assistant Professor of Librarianship
    B.A., Wayne State; M.A., Western Michigan

Bernstein, Eugene M., 1968, Professor of Physics
    B.S., M.A., Ph.D., Duke University

Betz, Robert L., 1961, Professor of Counseling and Personnel
    B.A., Albion; M.S., Illinois; Ph.D., Michigan State

Beukema, Henry J., 1943, Professor of Engineering and Technology
    B.S., Western Michigan; M.A., Michigan

Beuving, Leonard J., 1970, Assistant Professor of Biology
    B.A., M.A., Ph.D., University of California (Berkeley)

Bibza, Irene S., 1965, Assistant Professor of Home Economics
    B.S., Carnegie Institute of Technology; M.S., Auburn

Birch, William G., Sr., 1971, Adjunct Professor of Biology
    B.M., M.D., Northwestern

Bischoff, Guntram G., 1965, Associate Professor of Religion
    University of Bonn, University of Gottingen; B.D., Th.D., Princeton Theological Seminary

Bjerregaard, Carl, 1968, Associate Professor of Music
    B.M., Western Michigan; M.M., Michigan State

Blacking, John A. R., 1971, Professor of Anthropology
    B.A., M.A., Ph.D., Cambridge

Bladt, Dorothy L., 1968, Associate Professor of Teacher Education
    B.S., University of Chicago; M.S., Ed.D., Northern Illinois

Blagdon, Charles A., 1957, Assistant Professor of Business Education and Administrative Services
    B.A., Kalamazoo; M.A., Michigan State

Blasch, Donald, 1961, Professor and Chairman, Department of Blind Rehabilitation
    B.E., Northern Illinois; M.A., Chicago
Blefko, Robert L., 1968, Associate Professor of Mathematics
B.A., Kutztown State College of Pennsylvania; M.A., Ph.D., Pennsylvania State

Bliss, James R., 1968, Associate Professor of General Business
B.A., Nebraska Wesleyan; J.D., Michigan

Blocksma, Ralph, 1970, Adjunct Professor of Speech Pathology and Audiology
B.A., Calvin; M.D., Michigan

Bluman, Dean E., 1970, Associate Professor and Chairman, Department of Mechanical Engineering Technology
B.A., Hiram; B.S.M.E., Carnegie Institute of Technology; M.S., Michigan State; Ph.D., West Virginia

Bodine, Gerald L., 1957, Assistant Professor of Teacher Education
B.S., Wisconsin State (Milwaukee); M.A., Northwestern

Body, Alexander, 1966, Assistant Professor, Library
Doctor of Political Science, Elisabeth University Pécs, Hungary; M.S., Western Michigan

Boettcher, Richard E., 1969, Professor of Social Work
B.A., Augustana; M.S.W., Washington; Ph.D., Minnesota

Boles, Harold W., 1961, Professor of Educational Leadership
B.S., Indiana State; M.A., Ph.D., Ohio State

Booker, Gene S., 1960, Professor and Chairman, Department of Management
B.S., Ball State; M.A., Ph.D., Indiana

Boothroyd, Gregory W., 1970, Assistant Professor, Counseling Center
B.A., M.A., Western Michigan; Ph.D., Michigan

Bornstein, Sandra L., 1972, Instructor in Occupational Therapy
B.S., Wayne State

Borr, Earl, 1957, Associate Professor of Teacher Education
B.S., M.A., Western Michigan

Bosco, James J., 1965, Professor of Teacher Education
B.Ed., Duquesne; M.Ed., Pittsburgh; Ed.D., Columbia

Boucher, Joan Ann, 1966, Assistant Professor of Music
B.M., M.M., Chicago Musical; Ph.D., Boston

Boughner, Robert, 1967, Associate Professor of Engineering and Technology
B.S.I.E., Wayne State; M.B.A., Western Michigan

Bowen, Donald H., 1960, Professor of Sociology
B.A., Calvin; M.A., Michigan; Ph.D., Michigan State

Bournazos, Kimon, 1965, Professor of Business Education and Administrative Services
B.S., M.S., Ph.D., Michigan State

Bourziel, Esther M., 1966, Assistant Professor of Directed Teaching
B.A., Wayne State; M.A., Michigan State

Boven, Donald E., 1953, Associate Professor of Men's Physical Education
B.S., M.A., Western Michigan

Bowers, Robert S., 1937, Professor and Head, Department of Economics
B.A., Kansas Wesleyan; M.A., American; Ph.D., Wisconsin

Bowler, Michael, 1972, Assistant Professor of Social Work
B.S., College of the Holy Cross; M.S.W., Boston College
Bowman, Boice, 1969, Instructor in Men's Physical Education  
B.S., M.A., Western Michigan

Boyd, William S., Jr., 1969, Assistant Professor of Mathematics  
B.S., Southwestern at Memphis; Ph.D., Tennessee

Bradfield, Leila A., 1970, Assistant Professor of Sociology  
B.S., M.S., Ph.D., Cornell

Bradley, George E., 1951, Professor of Physics  
B.A., M.S., Ph.D., Michigan

Bradley, Hugh, 1967, Adjunct Associate Professor of Management and Economics  
B.S., M.S., M.I.T., Ph.D., Johns Hopkins

Brail, Frederick R., 1958, Associate Professor of Teacher Education  
B.S., Central Michigan; M.A., Ohio State

Braithwaite, Lloyd, 1968, Associate Professor of Sociology and Social Work  
B.A., M.Crim.; D.Crim., California (Berkeley)

Branchaw, Bernadine P., 1971, Assistant Professor of Business Education and Administrative Services  
B.A., College of St. Francis; M.S., Ed.D., Northern Illinois

Brashear, Robert M., 1969, Assistant Professor of Teacher Education  
B.S., Memphis State; M.R.E., Southwestern Seminary; M.Ed., Texas Christian; Ph.D., Texas

Brawer, Milton J., 1960, Professor of Sociology and University Ombudsman  
B.A., Harvard; Ph.D., Columbia

Brayton, Thomas R., 1970, Instructor in Management  
B.B.A., M.B.A., Western Michigan

Breed, Sterling L., 1956, Associate Professor, Counseling Center  
B.S., M.A., Western Michigan

Breisach, Ernst A., 1957, Professor and Chairman, Department of History  
Matura, Realschule Knittelfeld and Vienna VII; Dr. rer. oec., Hochschule fuer Welthandel

Breisach, Herma E., 1967, Assistant Professor, Library  
Matura, Oberschule fuer Maedchen, Vienna IV; M.L.S., Western Michigan; Ph.D., Vienna

Brennan, Margaret Jane, 1965, Professor of Home Economics  
B.S., Western Michigan; M.A., Columbia; Ed.D., Pennsylvania State

Brenton, Beatrice, 1969, Assistant Professor of Teacher Education  
B.S., Stout State; M.A., Ph.D., Michigan State

Brewer, Richard, 1959, Professor of Biology  
B.A., Southern Illinois; M.S., Ph.D., Illinois

Brewer, Robert N., 1970, Instructor in Social Science  
B.S., Utah

Brightman, Jerome B., 1972, Assistant Professor of Management  
B.A., Clark; M.B.A., American; D.B.A., George Washington

Brink, Lawrence J., 1940, Associate Professor, Industrial Education and Director, Printing Services  
B.A., Western Michigan; M.A., Michigan

Brown, Alan S., 1955, Professor of History  
B.A., M.A., Ph.D., Michigan
Faculty

Brown, Charles T., 1948, Professor and Chairman, Department of Communication Arts and Sciences, and Director, Center for Communication Research
B.A., Westminster; M.A., Ph.D., Wisconsin

Brown, Donald J., 1960, Associate Professor of Chemistry
B.A., Ph.D., Syracuse

Brown, Helen, 1947, Associate Professor of Dance
B.S., M.A., Northwestern

Brown, Mary C., 1965, Assistant Professor of Women's Physical Education
B.A., Albion; M.S., Syracuse

Brown, Russell W., 1951, Associate Professor of Music
B.P.S.M., Oklahoma State; M.Mus.Ed., Notre Dame

Bruce, Phillip L., 1963, Associate Professor of Industrial Education
B.S., M.S., Kansas State College of Pittsburg; Ed.D., Missouri

Brune, Elmer J., 1956, Associate Professor of Engineering and Technology
B.S., M.A., Western Michigan

Brunhumer, Walter J., 1957, Professor of History
B.A., M.A., Marquette; Ph.D., Northwestern

Buchanan, Richard W., 1972, Instructor in Marketing
B.S., Illinois; M.B.A., Washington University

Buckley, Joseph T., 1970, Associate Professor of Mathematics
B.S., Boston College; Ph.D., Indiana

Buckner, Michael J., 1968, Assistant Professor, Library
B.S., M.S., Michigan State; M.L.S., Western Michigan

Buelke, John A., 1949, Professor of Teacher Education
B.S., Wisconsin State (Oshkosh); M.A., Northwestern; Ed.D., Cincinnati

Bullmer, Kenneth, 1970, Assistant Professor of Counseling and Personnel
B.S.B.A., Washington; M.A., Michigan; Ed.D., Indiana

Bullock, Donald P., 1963, Professor of Music
B.M.E., M.M., Colorado

Burdick, William L., 1949, Professor of General Business
B.A., Milton; M.B.A., Ph.D., Wisconsin

Burian, William A., 1969, Professor of Social Work
B.S., John Carroll; M.S.W., Boston College; Ph.D., Chicago

Burke, John T., 1962, Professor and Head, Department of Accountancy
B.S., Carroll; M.A., Ph.D., Michigan State; C.P.A., Wisconsin

Burke, Richard T., 1964, Associate Dean, The Graduate College, and Associate Professor of History
B.A., M.A., Boston; Ph.D., Northwestern

Burns, James W., 1968, Associate Professor of Teacher Education
B.S., Central Connecticut; M.Ed., Ed.D., Pennsylvania State

Burns, Mary E., 1969, Professor of Social Work
B.A., M.S.W., Michigan; Ph.D., Chicago

Buthala, Darwin A., 1970, Associate Professor of Biology
B.S., South Dakota State; M.A., Oklahoma State; Ph.D., Iowa State

Butler, Herbert, 1960, Professor of Music
American Conservatory of Music; Eastman School of Music;
B.M., M.M., Indiana
Butterworth, James M., 1971, Assistant Professor of Humanities
B.A., North Park; M.F.A., Minnesota

Buys, William E., 1964, Professor of Communication Arts and Sciences
B.A., Albion; Ph.M., Ph.D., Wisconsin

Byerly, Kenneth B., 1970, Assistant Professor of Social Science
B.A., LaVerne College; B.D., Bethany Theological Seminary

Byle, Arvon D., 1963, Associate Professor of Industrial Education
B.S., M.A., Western Michigan

Cain, Mary A., 1962, Professor of Teacher Education
B.A., Michigan; M.A., Western Michigan; Ph.D., Michigan State

Callan, Edward T., O.D., 1957, Professor of English
B.A., Witwatersrand; M.A., Fordham; D.Litt. et Phil., University of South Africa

Callan, Rita C., 1972, Instructor in Humanities
B.A., Illinois; M.A., Loyola

Cannon, Zane, 1965, Assistant Professor of Marketing
B.S., M.A., Western Michigan

Capozzi, Captain Roy M., 1973, Assistant Professor of Military Science
B.A., Canisius; M.A., Western Michigan

Cardenas, Mercedes R., 1966, Assistant Professor of Spanish
B.A., M.A., Michigan State; Ed.D., Havana; Ph.D., Michigan State

Carlay, David D., 1964, Associate Professor of Physics
B.A., Western Michigan; M.S., Michigan; Ph.D., Florida

Carlson, Bernadine P., 1953, Assistant Professor of English
B.A., M.A., Western Michigan; Ed.D., Michigan

Carlson, Lewis H., 1968, Associate Professor of History
B.A., M.A., Michigan; Ph.D., Michigan State

Carlson, Norman E., 1963, Associate Professor of English
B.A., Carleton; M.A., Ph.D., Rutgers

Carlson, Theodore L., 1947, Professor of Economics
B.A., Augustana; M.A., Ph.D., Illinois

Carlson, William A., 1966, Professor of Counseling and Personnel

Carney, John M., 1966, Assistant Professor of Art

Carroll, Hardy, 1970, Assistant Professor of Librarianship
B.A., Guilford; B.D., Hartford Theological Seminary; M.S.L.S., Drexel

Carter, Elwyn F., 1945, Professor of Music
B.A., Alma; M.A., Ed.D., Columbia

Caruso, Phillip P., 1967, Assistant Professor of Economics
B.A., M.A., Michigan State

Casey, James S., 1967, Associate Professor of General Business
B.A., Western Michigan; J.D., Notre Dame

Castel, Albert E. III, 1960, Professor of History
B.A., M.A., Wichita; Ph.D., Chicago

Cha, Ellen, 1966, Assistant Professor, Library
B.A., Korea; M.A., Bucknell; M.A.L.S., Michigan

Chambers, Bill M., 1960, Associate Professor of Men's Physical Education
B.A., Kentucky; M.A., Marshall
Faculty

Chang, Albert Y., 1971, Adjunct Assistant Professor of Biology
B.S., National Taiwan; M.A., California; Ph.D., Illinois
Chang, D. Young, 1971, Associate Professor of Social Science
B.A., Michigan; M.A., Ph.D., Michigan
Chapel, Joe R., 1965, Associate Professor, Reading Center and Clinic, and Teacher Education
B.A., Western Michigan; M.A., Michigan State
Chaplin, David, 1972, Professor and Chairman, Department of Sociology
B.A., Amherst; M.A., Ph.D., Princeton
Chartrand, Gary, 1964, Professor of Mathematics
B.S., M.S., Ph.D., Michigan State
Cheatum, Billye Ann, 1967, Associate Professor of Women's Physical Education
B.S., Oklahoma College for Women; M.S., Smith; Ph.D., Texas Women's
Chiara, Clara R., 1949, Professor of Teacher Education
B.S., Miami; M.A., Western Reserve; Ph.D., Ohio State
Christensen, Arthur L., 1959, Assistant Professor of Directed Teaching
B.A., Michigan; M.A., Western Michigan
Clampit, Maryellen, 1971, Assistant Professor of English
B.A., Brooklyn College; M.A., Bowling Green State
Clark, Michael J., 1971, Assistant Professor of Speech Pathology and Audiology
B.A., Oberlin; M.A., Ph.D., Michigan
Clark, Samuel I., 1948, Director of Honors College and Professor of Political Science
B.A., Ph.D., Chicago
Clarke, A. Bruce, 1967, Professor and Head, Department of Mathematics
B.A., Saskatchewan; M.S., Ph.D., Brown
Clay, Shirley S., 1970, Assistant Professor of English
B.A., M.A., Kent State
Clysdale, J. Patrick, 1958, Associate Professor of Men's Physical Education and Assistant Director of Athletics
B.S., M.A., Western Michigan
Coffey, Thomas L., 1971, Associate Professor of Social Work
B.S., Central Michigan; M.S.W., Michigan
Cohen, Eckford, 1971, Visiting Professor of Mathematics
Ph.D., Duke
Cohen, Martin, 1960, Assistant Professor of Librarianship
B.A., Harvard College; B.S., Simmons; M.A., Boston Teachers College
Cole, Roger L., 1959, Professor and Chairman, Department of Modern and Classical Languages
B.A., M.A., Ph.D., Michigan
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Comaromi, John P., 1970, Associate Professor of Librarianship
B.A., M.A.L.S., M.A. (English), Ph.D., Michigan
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B.A., Mississippi; M.A., Ph.D., Harvard
Comer, Charles D., 1968, Assistant Professor of Men's Physical Education
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Condie, Joseph M., 1966, Assistant Professor of Humanities  
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Cooke, Dean W., 1966, Professor of Chemistry  
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Cooley, John, 1968, Assistant Professor of English  
B.A., M.A., Syracuse; Ph.D., Massachusetts  
Cooney, Seamus, 1971, Assistant Professor of English  
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Copps, John A., 1959, Professor of Economics  
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B.A., Northern Iowa; M.A., Michigan State; Ed.S., Western Michigan  
Cordier, Sherwood S., 1956, Professor of History  
B.A., Juniata; M.A., Yale; Ph.D., Minnesota  
Cornish, Wendy L., 1967, Assistant Professor of Dance  
B.S., Michigan; M.A., Western Michigan  
Cothran, Tilman C., 1972, Associate Dean, College of Arts and Sciences and Professor of Sociology  
B.A., A. M. & N. College; M.A., Indiana; Ph.D., Chicago  
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B.S., M.A., Western Michigan  
Coulter, Myron L., 1966, Vice President for Institutional Services and Professor of Education  
B.S., Indiana State Teachers; M.S., Ed.D., Indiana  
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B.S., Lewis; M.A., Chicago Teachers College  
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Gamble, Clara, 1965, Associate Professor of Dance
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<table>
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<tr>
<th>Faculty</th>
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<tr>
<td>Gammon, Reginald, 1970, Assistant Professor of Art and Humanities Philadelphia Museum College of Art; Stella Elkins Tyler School of Fine Art</td>
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<tr>
<td>Gardiner, Jeffrey B., 1970, Assistant Professor of German B.A., Stanford; M.A., Ph.D., Colorado</td>
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<td>Gardiner, Donald F., 1969, Instructor in French B.A., Central Michigan; M.A., Michigan State</td>
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<tr>
<td>Gardner, Wayland D., 1964, Associate Professor of Economics B.A., Doane; M.S., Ph.D., Wisconsin</td>
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<td>Garg, Ramesh C., 1971, Assistant Professor of General Business B. of Comm., M. of Comm. (India); M.B.A., Kent State</td>
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<tr>
<td>Garland, William, 1962, Professor and Chairman, Department of Anthropology B.A., Texas; Ph.D., Minnesota</td>
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<td>Gault, Frederick P., 1968, Professor and Chairman, Department of Psychology B.A., Rutgers; M.A., Ph.D., Indiana</td>
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<td>Geis, Michael J., 1972, Assistant Professor of Humanities B.S., M.A., Ohio University</td>
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<td>Gheen, W. Lloyd, 1970, Assistant Professor of Industrial Education B.S., Brigham Young; M.Ed., Ed.D., Texas A &amp; M</td>
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B.S., M.B.A., Ph.D., Georgia State University

Hall, A. Louise, 1970, Instructor in Music
B.M., Capital University; M.M., Illinois Wesleyan

Hall, Rex E., 1961, Associate Professor of Industrial Education
B.S., M.Ed., Texas A & M

Halvas, Earl E., 1971, Assistant Professor of Business Education and Administrative Services
B.S., M.A., Northern Michigan
Hamelink, Jerry H., 1968, Assistant Professor of Mechanical Engineering Technology
B.S., M.S., Michigan Technological University

Hamilton, Richard L., 1971, Assistant Professor of Mechanical Engineering Technology
B.S.M.E., General Motors Institute; M.S., Western Michigan

Hamlin, Lois, 1951, Assistant Professor of Occupational Therapy
B.S., Western Michigan; M.F.A., Columbia

Hammack, Paule, 1964, Assistant Professor of French
Baccalaureat de philosophie, Lycee de St. Quentin; B.A., M.A., Western Michigan

Hammer, H. Nicholas, 1956, Professor of History
B.A., M.A., Emory; Ph.D., Ohio State

Haniuk, Einard S., 1972, Director, Office of Research Services
B.S., British Columbia; M.S., Ph.D., Utah State

Hannafor, Alonzo E., 1970, Associate Professor of Special Education
B.S., M.S., Illinois State; Ed.D., Northern Colorado State

Hannah, Robert W., 1970, Secretary, Board of Trustees
B.A., Yale; M.A.T., Harvard; Ph.D., Michigan State

Hannah, Susan B., 1972, Assistant Professor of Political Science
B.A., Agnes Scott; M.A.T., Harvard; Ph.D., Michigan State

Hannon, Herbert H., 1947, Professor of Mathematics
B.A., Western Michigan; M.A., Michigan; Ed.D., University of Northern Colorado

Hansen, Marc F., 1957, Professor of Art
B.A., San Jose State; M.A., Ohio State

Hanson, David P., 1969, Assistant Professor of Political Science
B.A., Haverford; M.A., Ph.D., Florida

Hardie, Gerald, 1965, Professor of Physics
B.S., M.S., Manitoba (Canada); Ph.D., Wisconsin

Hardie, Nita G., 1964, Assistant Professor and Area Chairman, Department of Social Science
B.A., North Texas State; M.A., Indiana

Hardie, Thomas C., 1957, Associate Professor of Music
B.Mus., M.Mus., North Texas State

Hardin, Frances S., 1957, Professor of Marketing
B.S., M.A., Nebraska; Ph.D., Colorado

Hargreave, David, 1969, Assistant Professor of Natural Science
B.S., Clarkson College of Technology; M.L.A., Johns Hopkins; M.A., University of Wisconsin

Harmon, Robert E., 1961, Professor of Chemistry
B.S., Washington State; Ph.D., Wayne State

Harrington, Richard L., 1968, Associate Professor of Teacher Education
B.S., M.A., Eastern Michigan; Ed.D., Indiana

Harrison, Carole, 1960, Associate Professor of Art
B.F.A., M.F.A., Cranbrook Academy of Art

Hartenstein, Fred V, 1959, Professor of Management
B.A., M.A., Ph.D., Pittsburgh

Hatch, Richard A., 1969, Associate Professor of Business Education and Administrative Services
B.S., Boston; Ph.D., Illinois (Urbana)
Havens, Gail Ann, 1968, Assistant Professor of Home Economics
B.S., M.A., Western Michigan

Havira, Barbara S., 1969, Instructor in Social Science
B.A., Webster College; M.A., Western Michigan

Hawkins, Robert P., 1971, Associate Professor of Psychology
B.S., Lewis and Clark; M.S., Ph.D., Pittsburgh

Hawks, Graham P., 1960, Associate Professor of History
B.A., Rochester; M.S., Ph.D., Wisconsin

Haynes, William O., 1958, Associate Professor of Distributive Education
B.S., M.A., Western Michigan

Healy, Helen Jean, 1965, Assistant Professor, Library
B.A., M.A., Western Michigan

Hedrick, Mildred, 1964, Lecturer in Librarianship
B.S., South Dakota State; B.S.L.S., Illinois

Heersma, H. Sidney, 1967, Adjunct Associate Professor of Occupational Therapy
B.A., Hope; M.D., Rush Medical College

Hefner, Harry S., 1940, Professor of Art
B.A., Western Michigan; M.A., Columbia

Heger, Frank E., 1963, Associate Professor of Teacher Education
B.A., Eastern Michigan; M.A., Ph.D., Michigan

Heim, Marilynn Y., 1965, Associate Professor of Music
B.M., Michigan State; M.A., Western Michigan; M.S., Ithaca

Heinig, Edward J., 1963, Professor of Teacher Education
B.A., Indiana State; M.A., Ph.D., Michigan

Heinig, Ruth M., 1964, Assistant Professor of Communication Arts and Sciences
B.A., Valparaiso; M.A., Pittsburgh

Helgesen, Ann, 1972, Instructor in Business Education and Administrative Services
B.A., Nazareth; M.A., Western Michigan

Helgesen, Charles, 1955, Professor of Communication Arts and Sciences
B.S., St. Cloud; M.A., Ph.D., Denver

Hellenga, Robert D., 1963, Director of Career Planning and Placement and Associate Professor of Educational Leadership
B.A., Western Michigan; M.A., Michigan; Ed.D., Michigan State

Heller, Charles F., 1961, Professor of Geography
B.A., M.A., Kansas; Ph.D., Illinois

Helmus, Christian, 1970, Adjunct Professor of Speech Pathology and Audiology
B.A., Calvin; M.D., Michigan

Helweg, Arthur W., 1972, Assistant Professor of Social Science
B.A., Miami; M.A., Michigan State

Henderson, Donna L., 1971, Assistant Professor of Special Education
B.A., M.A., Idaho; Ed.D., Northern Colorado

Henderson, Jon M., 1964, Associate Professor of Art
B.F.A., M.F.A., Kansas

Hendriksen, Daniel P., 1966, Associate Professor of Linguistics
B.A., Calvin; M.A. (Edu.), M.A. (Linguistics), Ph.D., Michigan
Herman, Deldee M., 1947, Associate Professor of Communication Arts and Sciences
B.A., Western Michigan; M.A., Michigan

Herman, John E., 1966 Associate Professor of Physics
B.S.E., M.S.E., M.S., Ph.D., Michigan

Herrmann, Frank, 1972, Instructor in Art
B.A., Western Kentucky; M.F.A., Cincinnati

Hesla, Steven K., 1972, Instructor in Music
B.M., Oberlin Conservatory; M.M., Illinois

Hesselberth, Cassius, 1963, Professor and Chairman, Department of Electrical Engineering Technology
B.S.E.E., M.S.E.E., Ph.D. (E.E.), Illinois

Hetherington, Elisabeth, 1963, Professor and Chairman, Department of Dance
B.S., Miami; M.A., Ohio State; Ed.D., University of Northern Colorado

Heuschele, Daniel A., 1972, Adjunct Assistant Professor of Accountancy
B.A., Alma; M.B.A., Michigan; C.P.A., Michigan

Hill, James W., 1970, Associate Professor of Management
B.A., Detroit Institute of Technology; M.A., Ph.D., Wayne State

Hines, Charles E., 1972, Instructor in Accountancy
B.B.A., Western Michigan; C.P.A., Michigan

Hinkel, Robert, 1968, Assistant Professor of English
B.A., Washington and Lee; M.A., Ph.D., Northwestern

Hinton, Alfred F., 1970, Assistant Professor of Art
B.A., Iowa; M.F.A., Cincinnati

Hitzing, E. Wade, 1968, Adjunct Assistant Professor of Psychology
B.A., Florida; M.S., Ph.D., Florida State

Ho, Alfred K., 1967, Professor of Economics
B.A., Yenching (China); Ph.D., California (L.A.); Ph.D., Princeton

Ho, Marjorie K., 1967, Associate Professor, Library
B.A., Sarah Lawrence; M.L.S., U.C.L.A.

Hobbs, George W., 1965, Assistant Professor of Men's Physical Education
B.A., Michigan State; M.A., Michigan

Hoffert, Sylvia, 1969, Instructor in History
B.A., Indiana; M.A., Western Michigan

Hokenstad, Merl C., Jr., 1968, Professor and Director, School of Social Work
B.A., Augustana College; M.S.W., Columbia; Ph.D., Brandeis

Holaday, Clayton A., 1956, Professor of English
B.A., Miami; M.A., Western Reserve; Ph.D., Indiana

Holkeboer, Paul E., 1955, Professor of Chemistry and Coordinator of Science Education Ph.D. Program
B.A., Hope; M.S., Ph.D., Purdue

Holland, David, 1970, Associate Professor of Home Economics
B.A., State University of Iowa; Ph.D., Iowa State

Holmes, Robert, 1966, Dean, College of Fine Arts and Professor of Music
B.Mus., M.A., Ph.D., Boston

Holt, Imy Vincent, 1961, Professor of Biology
B.S., New Mexico State; M.S., Ph.D., Iowa State
Horst, Oscar H., 1956, Professor and Chairman, Department of Geography
B.S., M.A., Ph.D., Ohio State

Horton, Paul B., 1945, Professor of Sociology
B.A., Kent; Ph.D., Ohio State

Houdek, John T., 1969, Assistant Professor of History
B.A., M.A., Ph.D., Michigan State

House, Clifford M., 1968, Instructor in History
B.A., Olivet College; M.A., Wayne State

Houser, Thomas, 1964, Associate Professor of Chemistry
B.S., Illinois Institute of Technology; M.S., Ph.D., Michigan

Houston, Charles O., Jr., 1965, Professor of Social Science
B.A., Miami (Ohio); Ph.D., Columbia

Howell, James A., 1964, Associate Professor of Chemistry
B.A., Southern Illinois; M.S., Illinois; Ph.D., Wayne State

Howell, Robert W., 1971, Assistant Professor of Special Education
B.S., M.A., Western Michigan; Ph.D., Southern Illinois

Howson, Arthur T., 1967, Director, Muskegon Center and Assistant Professor of Directed Teaching
B.A., M.A., Michigan State

Hoy, Joseph T., 1952, Head and Professor of Men's Physical Education and Director of Athletics
B.S., Western Michigan; M.A., Michigan; Ed.D., Indiana; P.E.

Hsieh, Philip Po-Fang, 1964, Professor of Mathematics
B.S., National Taiwan (Formosa); M.S., Ph.D., Minnesota

Hubert, William M., 1969, Instructor in English
B.A., M.A., Central Michigan

Hughes, Robert D., 1964, Assistant Professor of Teacher Education
B.S., M.A., Western Michigan

Hughes, Theone, 1965, Assistant Professor of English
B.A., Kalamazoo; M.A., Western Michigan

Huitema, Bradley E., 1968, Associate Professor of Psychology
B.A., Southern Illinois; M.A., Western Michigan; Ph.D., Colorado State

Humiston, Robert G., 1961, Associate Professor of Music
B.M., Oberlin; M.A., Ph.D., Iowa

Hungerford, Norma L., 1968, Assistant Professor of Directed Teaching
B.S., M.A., Western Michigan

Hunt, Chester L., 1948, Professor of Sociology
B.A., Nebraska Wesleyan; M.A., Washington; Ph.D., Nebraska

Hunt, Mary Ida, 1966, Assistant Professor of Speech Pathology and Audiology
B.S., M.A., Western Michigan

Huston, Susan, 1968, Instructor in History
B.A., Oberlin; M.A., Western Michigan

Hutchings, Gilbert R., 1955, Professor of Industrial Education
B.S., Western Michigan; M.A., Michigan

Hutchins, Forrest O., 1966, Instructor in Transportation Technology
B.S., Southeastern Louisiana

Hutchinson, Ronald R., 1966, Adjunct Associate Professor of Psychology
M.S., Southern Illinois; M.S., Ph.D., Yale
Ifland, Don C., 1956, Professor and Chairman, Department of Chemistry  
B.S., Adrian; M.S., Ph.D., Purdue

Iman, Ronald L., 1973, Assistant Professor of Mathematics  
B.S., Kansas State; M.A., Kansas State Teachers; M.S., Ph.D., Kansas State

Inselberg, Edgar, 1966, Associate Professor of Biology  
B.S., Cornell; M.S., Ph.D., Illinois

Inselberg, Rachel M., 1966, Professor of Teacher Education  
B.S., Philippine Women's University; M.S., Illinois; Ph.D., Ohio State

Irvin, Laura J., 1970, Associate Professor of Communication Arts and Sciences  
B.S., Northwestern

Isaak, Alan C., 1966, Associate Professor of Political Science  
B.A., Western Reserve; M.A., Ph.D., Indiana

Israel, Lawrence J., 1973, Coordinator of Faculty and Curriculum Development and Associate Professor of Social Science  
B.A., Colorado State; M.S., Montana; Ph.D., George

Jackman, Albert H., 1959, Professor of Geography  
B.S., Princeton; Ph.D., Clark

Jaksa, James A., 1967, Associate Professor of Communication Arts and Sciences  
B.A., Central Michigan; M.A., Michigan; Ph.D., Wayne State

Jamison, Frank R., 1967, Associate Professor, Division of Instructional Communications  
B.A., Missouri; M.S., Syracuse; Ed.S., Colorado State College

Janes, Raymond L., 1957, Professor and Head, Department of Paper Science and Engineering  
B.S., Western Michigan; M.S., Ph.D., Institute of Paper Chemistry (Lawrence College)

Jasso, Arturo F., 1970, Assistant Professor of Spanish  
B.A., New Mexico; M.A., Kansas; Ph.D., Missouri

Jennings, Helen, 1960, Associate Professor of Teacher Education  
B.S., M.A., Ed.S., Western Michigan

Jetty, Albert J., 1968, Assistant Professor of Speech Pathology and Audiology  
B.S., Northern; M.A., Western Michigan; Ph.D., Michigan State

Jevert, Joseph A., 1962, Associate Professor of Men's Physical Education  
B.S., Wisconsin State; M.A., Western Michigan (Dir. P.E., Indiana)

Johnson, A. Elizabeth, 1949, Professor of Teacher Education  
B.A., Kalamazoo; M.A., Columbia; Ed.D., Wayne State

Johnson, Gordon O., 1960, Associate Professor of Industrial Education and Administrative Assistant, College of Applied Sciences  
B.S., Northeast Missouri State; M.Edu., Missouri; Ed.D., Indiana

Johnson, G. Stewart, 1960, Professor of Mechanical Engineering Technology  
B.S.E. (M.E.), Michigan; M.S. (M.E.), Michigan State; P.E.

Johnson, Walter E., 1972, Assistant Professor of Biology  
B.S., M.Ed., Texas (El Paso); Ph.D., Texas (Austin)

Johnston, Robert P., 1967, Associate Professor of Art  
B.A., M.A., Pennsylvania State; M.A., Wyoming
Johnston, Wm. Arnold, 1966, Associate Professor of English
Ph.B., Wayne State; M.A., Ph.D., Delaware

Jones, Darrell G., 1962, Associate Dean, College of Business and
Professor of Business Education and Administrative Services
B.S., M.A., Northern Iowa; Ph.D., Michigan State

Jones, Herb B., 1948, Associate Professor of Spanish
B.A., Nebraska State; M.A., Mexico

Jones, Jack D., 1956, Associate Professor of Men's Physical Education
B.A., Texas; M.A., Western Michigan

Jones, Robert L., 1969, Instructor in English
B.A., Fresno State; M.F.A., California (Irvine)

Jones, Stephen G., 1972, Instructor in Music
B.S., Ohio State; M.M., Wichita State

Jordan, Anne, 1970, Instructor in English
B.A., M.A., Michigan

Josten, John J., 1968, Associate Professor of Biology
B.S., Cincinnati; M.S., Miami; Ph.D., Indiana

Joyce, Richard E., 1970, Assistant Professor of Humanities
B.S., M.A., Western Michigan

Junker, Louis J., 1961, Professor of Economics
B.A., Denver; M.A., Connecticut; Ph.D., Wisconsin

Kaarlela, Ruth, 1963, Associate Professor of Blind Rehabilitation
B.A., M.S.W., Wayne State

Kabbe, Jon C., 1972, Instructor in Transportation Technology
B.S., Western Michigan

Kana'an, Adli S., 1965, Associate Professor of Chemistry
B.S., Arts and Sciences College (Baghdad); M.S., Colorado State; Ph.D., Wisconsin

Kanamuller, Joseph M., 1966, Associate Professor of Chemistry
B.S., St. Joseph; Ph.D., Minnesota

Kanzler, Janet, 1964, Assistant Professor of Women's Physical Education
B.S., George Washington; M.A., Columbia

Kanzler, William H., 1961, Professor of Teacher Education
B.S., U.S. Naval Academy; M.A., Columbia; Ed.D., Wayne State

Kapoor, S. F., 1967, Associate Professor of Mathematics
B.S., M.S., B.L., Bombay; Ph.D., Michigan State

Karsten, David, 1967, Assistant Professor of Communication Arts and Sciences
B.A., Hope; M.A., Northwestern

Kaufman, Maynard L., 1963, Associate Professor of Religion
B.A., Bethel; M.A., Ph.D., Chicago

Kaufman, Robert W., 1959, Professor of Political Science, Director of Institute of Public Affairs, Director of Environmental Studies
B.S., Wisconsin; M.A., Ph.D., American

Kaul, R. Dean, 1967, Associate Professor of Physics
B.S., Ph.D., Case Institute

Kavanaugh, Alice M., 1963, Associate Professor of Home Economics
B.S., M.A., Ed.S., Western Michigan

Kazmerski, Kenneth J., 1970, Assistant Professor of Social Work
B.A., M.S.W., Michigan
Keary, John P., 1967, Assistant Professor of Humanities  
B.F.A., M.F.A., Michigan State

Keaveny, Richard, 1968, Associate Professor of Art  
B.S., Massachusetts College of Art; M.F.A., Rhode Island School of Design

Keely, Charles B., 1970, Associate Professor of Sociology  
B.A., M.A., Ph.D., Fordham University

Keenan, J. Michael, 1962, Professor of Management  
B.A., M.S., Colorado; Ph.D., Ohio State

Kelemen, Joseph A., 1968, Associate Professor of Electrical Engineering Technology  
B.S. (E.E.), M.S. (E.E.), St. Louis

Keller, Fred S., 1968, Distinguished Adjunct Professor of Psychology  
B.S., Tufts; M.A., Ph.D., Harvard

Kent, Louise M., 1967, Adjunct Assistant Professor of Psychology  
B.A., M.A., Indiana; Ph.D., Iowa

Kent, Neil D., 1965, Professor of Psychology  
B.A., M.A., Baylor; Ph.D., Indiana

Kercher, Dorotha, 1966, Assistant Professor, Library  
B.A., M.A., Western Michigan

Kettner, Peter M., 1972, Assistant Professor of Social Work  
B.A., Valparaiso; M.S.W., Washington (St. Louis); D.S.W., Southern California

Khaled, Chafic, 1966, Instructor in History  
B.A., Berea College; M.A., Denver

Kiewiet, Maureen E., 1971, Adjunct Assistant Professor of Business Education and Administrative Services  
B.A., M.A., Western Michigan

Kilty, Ted, 1968, Assistant Professor of Teacher Education  
B.A., M.A., Andrews; Ph.D., Michigan

Kim, C. I. Eugene, 1961, Professor of Political Science  
B.A., King; M.A., Vanderbilt; Ph.D., Stanford

King, Dale D., 1957, Associate Professor of Mechanical Engineering Technology  
B.S., M.A., Western Michigan

King, Donald E., 1966, Assistant Professor of Art  
B.F.A., California College of Arts and Crafts; M.F.A., Mills College

King, Peggy, 1971, Adjunct Assistant Professor of Social Work  
B.A., M.S.W., Howard University

Kiraldi, Louis, 1960, Professor, Library  
M.A., Western Michigan; Dr. of Laws, Royal Pazmany University of Budapest

Kirchherr, Eugene C., 1957, Professor of Geography  
B. Ed., Chicago State College; M.S., Ph.D., Northwestern

Kirk, Wyatt D., Jr., 1970, Instructor, Counseling Center  
B.S., M.A., Western Michigan

Kirton, Kenneth T., 1971, Adjunct Associate Professor of Biology  
B.S., Kansas State; M.S., Ph.D., Michigan State

Kiss, Rosalia A., 1952, Professor of Occupational Therapy  
B.S., Wayne State; B.S., O.T. Certificate, Eastern Michigan; M.A., Western Michigan; Ph.D., Michigan
Faculty

Kissel, Johannes A., 1968, Assistant Professor of German
B.A., Mercer; M.A., Ph.D., Michigan State

Klammer, Opal, 1962, Assistant Professor of Women's Physical Education
B.A., St. Olaf; M.A., Western Michigan

Klammer, Waldemar E., 1956, Associate Professor of Industrial Education
B.A., Mankato State; M.S., Stout State

Klein, George, 1958, Professor of Political Science
B.A., M.A., Ph.D., Illinois

Klein, Patricia, 1967, Assistant Professor of Social Science
B.A., M.A., Illinois

Klein, Roy S., 1967, Assistant Professor of Engineering and Technology
B.S.M.E., Drexel Institute of Technology; M.S.M.E., Newark College of Engineering

Klich, Beatriz de M., 1968, Lecturer in Blind Rehabilitation
Lyceum Stidles (Portugal, Brazil, Goa, England, France); M.A., Ph.D., Loyola

Kline, James E., 1963, Associate Professor of Paper Science and Engineering
B.S., M.S., Western Michigan

Kohrman, George E., 1951, Professor of Industrial Education
B.S., M.A., Ed.D., Missouri

Koronakos, Chris, 1960, Professor of Psychology
B.A., Colorado; M.A., Ph.D., Nebraska

Kotecki, Robert G., 1962, Assistant Professor of Directed Teaching
B.A., Western Michigan; M.A., Michigan

Kramer, Philip H., 1970, Associate Professor of Social Work
B.A., Brooklyn; M.S.W., Columbia; Ph.D., Brandeis

Krawutschke, Peter W., 1967, Assistant Professor of German
ABITUR, Goethegymnasium Karlsruhe (Germany); B.A., M.A., Western Michigan

Krieger, LaVerne, 1964, Associate Professor of Transportation Technology
B.S., Western Michigan; B.S.M.E., Michigan; M.S.A.E., Chrysler Institute

Kripalani, Gangaram K., 1968, Associate Professor of Economics
M.S., Bombay; M.S., Ph.D., North Carolina State

Kruglak, Haym, 1954, Professor of Physics
B.A., M.A., Wisconsin; Ph.D., Minnesota

Kuenzi, W. David, 1964, Associate Professor of Geology
B.S., Washington State; M.S., Ph.D., Montana

Kukolich, Stephen I., 1965, Professor of Paper Science and Engineering
B.S., Grinnel College; M.S., Ph.D., (Lawrence) Institute of Paper Chemistry

Kuo, Kung-Mo, 1972, Assistant Professor of Marketing
B.S., Chug-Hsing University (China); M.B.A., Ph.D., Oklahoma

Kuoh, Larson Y-Y, 1970, Assistant Professor of Social Science
B.A., New Asia (Hong Kong); Dipl. rer. pol., Dr. rer. pol., Marburg (West Germany)

Kurilik, Norman A., 1969, Instructor in English
B.A., Oakland University; M.A., Boston
Kusmiss, John H., 1965, Associate Professor of Physics
B.S., Massachusetts Institute of Technology; Ph.D., University of North Carolina

Kyriazis, John P., 1969, Instructor in History
B.A., M.A., Colorado

Kyser, Daniel A., 1947, Professor of Music
B.S.M., Oberlin; M.M.E., Michigan

Laing, Robert A., 1970, Assistant Professor of Mathematics
B.S., Indiana University of Pennsylvania; M.A., Kent State; Ph.D., Ohio State

Lambe, Cameron W., 1962, Professor of Teacher Education
B.S., M.Ed., Ed.D., Wayne State

Lamper, Neil, 1959, Associate Professor of Counseling and Personnel
B.A., Calvin; M.A., Michigan; Ph.D., Michigan State

Lancaster, Major J. Frank, 1972, Assistant Professor of Military Science
B.S., Loyola (Chicago); M.A., Western Michigan

Landis, Joseph Boyd, 1969, Assistant Professor of Sociology
B.A., Wooster; Ph.D., Yale

Large, Margaret S., 1949, Professor of Women's Physical Education
B.A., Toronto; M.A., Wayne State; Ph.D., Michigan

Large, Wilda F., 1964, Associate Professor of Social Science
B.A., M.A., Ed.S., Western Michigan

Larsen, Phillip T., 1970, Associate Professor of Natural Science
B.A., Rutgers; M.Ed., Ed.D., Pennsylvania State

Larsen, Ronald M., 1971, Instructor in Accountancy
B.B.A., Western Michigan; M.B.A., Michigan State; C.P.A., Michigan

LaRue, Robert, 1964, Associate Professor of English
B.A., Occidental College; M.F.A., Oregon

Lawrence, Elizabeth Ann, 1972, Associate Professor of Special Education
B.S., State University (Buffalo); M.A., Columbia; Ph.D., Syracuse

Lawrence, Jean McVay, 1959, Associate Professor of Biology
B.A., Yankton; M.A., Wellesley; Ph.D., Northwestern

Lawson, E. Thomas, 1961, Professor of Religion
B.D., M.A., Ph.D., Chicago

Leader, Alan H., 1963, Professor of Management
B.S., M.S., Rochester; D.B.A., Indiana

LeBonte, George, 1972, Assistant Professor of Social Science
B.B.A., M.P.A., A.B.D., Missouri (Kansas City)

Lee, Hung Peng, 1970, Assistant Professor of Social Science
B.A., National Northeastern (Peiping); M.A., New York

Leja, Stanislaw, 1967, Professor of Mathematics
M.A., University of Lwow; Ph.D., Cornell

Lemanski, Patricia A., 1966, Assistant Professor of Women's Physical Education
B.S., Illinois State Normal; M.A., Colorado State

Lennon, Elizabeth M., 1968, Assistant Professor of Blind Rehabilitation
B.A., Indiana; M.A., Columbia

Leonardelli, D. B., 1951, Director of In-Service Education, Division of Continuing Education and Assistant Professor of Education
B.A., Northern Michigan; M.S., Michigan
Faculty

Lewis, Alice E., 1956, Associate Professor of Occupational Therapy
  B.A., Mount Holyoke; M.A., Southern California;
  O.T. Certificate, Western Michigan

Lewis, David M., 1962, Professor of Sociology
  B.A., M.A., Maryland; Ph.D., Michigan State

Lewis, Helenan S., 1963, Assistant Professor of Political Science
  B.A., M.A., Ph.D., Michigan State

Lex, Barbara W., 1970, Assistant Professor of Anthropology
  and Social Science
  B.A., M.A., Ph.D., Syracuse

Lick, Don Raymond, 1965, Professor of Mathematics
  B.S., M.S., Ph.D., Michigan State

Lindbeck, John R., 1957, Professor of Industrial Education
  B.S., M.A., Ph.D., Minnesota

Lindemeyer, Carl R., 1969, Assistant Professor of Engineering and
  Technology
  B.S.I.E., Northwestern; M.S., Western Michigan

Linder, Herman W., 1970, Assistant Professor of Transportation
  Technology
  B.S., M.Ed., Illinois (Urbana)

Lindquist, Jay D., 1973, Assistant Professor of Marketing
  B.S., United States Naval Academy; M.S.E., M.B.A., Michigan

Lindstrom, Carl A., 1959, Associate Professor of Directed Teaching
  B.S., Western Michigan; M.A., Michigan

Livingston, William, 1964, Assistant Professor of Communication
  Arts and Sciences
  B.A., Humboldt State; M.A., Illinois

Lloyd, Bruce A., 1967, Professor of Teacher Education
  B.S., M.Ed., Ph.D., Ohio University

Locke, William L., 1973, Adjunct Clinical Instructor in Speech
  Pathology and Audiology
  B.S., Indiana; M.A., Western Michigan

Loew, Cornelius, 1956, Dean, College of Arts and Sciences and
  Professor of Religion
  B.A., Elmhurst; B.D., S.T.M., Union Seminary; Ph.D., Columbia

Loffler, Reinhold L., 1967, Assistant Professor of Anthropology
  B.A., Innsbruck Teacher Training College;
  Ph.D., University of Mainz (West Germany)

Lohr, Frances E., 1968, Associate Professor of Speech
  Pathology and Audiology
  B.A., Michigan State; M.A., Northwestern; Ph.D., Michigan

Lowder, Dwayne M., 1966, Associate Professor of Art
  B.A., M.A., North Carolina

Lowe, James J., 1965, Professor, Counseling Center
  B.A., Indiana; M.A., Western Michigan; Ph.D., Michigan State

Lowrie, Jean E., 1951, Professor and Director, School of Librarianship
  B.A., Keuka; B.S.L.S., Western Reserve; M.A., Western Michigan;
  Ph.D., Western Reserve

Lowry, George G., 1968, Associate Professor of Chemistry
  B.A., Chico State; M.S., Stanford; Ph.D., Michigan State
Luke, Robert A., 1972, Adjunct Assistant Professor of Music
L.R.A.M., Royal Academy of Music (London)

Lukens, Shirley Ann, 1972, Assistant Professor of Occupational Therapy
B.S., Wisconsin; M.Ed., Illinois

Lyon, David O., 1963, Associate Professor of Psychology
B.A., Hamilton; Ph.D., Indiana

MacDonald, Richard R., 1967, Assistant Professor of Sociology
B.A., Michigan State; M.A., Ph.D., Missouri

MacLeod, Garrard D., 1959, Associate Professor, Division of Instructional Communications
B.A., M.A., Western Michigan

MacQueen, C. Bruce, 1966, Assistant Professor, Counseling Center
B.S., M.A., Western Michigan

Macrorie, Ken, 1961, Professor of English
B.A., Oberlin; M.A., North Carolina; Ph.D., Columbia

Magnus, Bernice, 1972, Instructor in Humanities
B.A., M.A., Western Michigan

Maher, Robert F., 1957, Professor of Anthropology
B.S., M.S., Ph.D., Wisconsin

Maier, Paul L., 1959, Professor of History
B.A., B.D., Concordia Seminary; M.A., Harvard; Ph.D., Basel

Malanchuk, Iona, 1970, Assistant Professor, Library
B.A., Adelphi; M.L.S., Indiana

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<tr>
<th>Name</th>
<th>Title and Years</th>
<th>Education Details</th>
</tr>
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<tbody>
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Administrative Staffs

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  Off Campus Programs, Director ................................. Albert W. Laaksonen, M.A.
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Assistant to the Director of Registration ...................... Mary K. Leamy
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Campus Planning, Director ................................................. William J. Kowalski, M.A.
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Controller ....................................... Robert W. Beecher, J.D.
Chief Accountant and
Assistant Controller ......................... Gerald Schwemmin, B.B.A., C.P.A.
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Manager ......................................... John G. Hungerford, M.A.
Bursar ............................................ Jerry Fuss
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Management Services, Director .......... James M. Stephenson, B.A.
Payroll Supervisor ............................. Michael Weber, B.B.A.
Purchasing Agent ............................... Maxel D. Kerby, B.A.
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Campus Bookstores, Director ............... Joseph T. MacLean, B.S.
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Residence Halls, Manager ..................... Robert Peterson, M.A.
Miller Auditorium, Manager .................. Gordon Smith
University Student Center, Director ...... Roger Pruis, B.A.
Married Student Apartments, Manager ...... Robert Sprick, B.S.
Physical Plant, Director ...................... Robert H. Williams, B.S.
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Security Coordinator .......................... V. Lemar Curran
Safety Coordinator ............................ Robert S. Wirbel, B.S.
Employee Relations and
Personnel, Director ............................ Stanley W. Kelley, M.B.A.

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News and Publications, Director .......... Robert G. Rubom, M.S.
Associate Director ............................. Joe B. Freeman, M.A.
Sports Information, Director .............. John W. Beatty, B.A.
Alumni Affairs and Development, Director Frank H. Bentz, M.A.
Alumni Relations, Director .................. Rick Markoff, M.Ed.
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<tr>
<th>Name</th>
<th>Department</th>
<th>Years</th>
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<tr>
<td>Rachel Acree, M.A.</td>
<td>Associate Professor of Home Economics</td>
<td>1929-1960</td>
</tr>
<tr>
<td>Ethel G. Adams, M.A.</td>
<td>Professor of Music</td>
<td>1946-1973</td>
</tr>
<tr>
<td>Sam B. Adams, M.A.</td>
<td>Associate Professor of Music</td>
<td>1946-1973</td>
</tr>
<tr>
<td>Agnes E. Anderson, M.S.</td>
<td>Assistant Professor of Business Education</td>
<td>1943-1965</td>
</tr>
<tr>
<td>Thelma Anton, M.A.</td>
<td>Associate Professor of English</td>
<td>1939-1972</td>
</tr>
<tr>
<td>Hugh G. Archer, M.A.</td>
<td>Associate Professor of Teacher Education</td>
<td>1917-1951</td>
</tr>
<tr>
<td>Laverne Argabright, M. A.</td>
<td>Associate Professor of Biology</td>
<td>1929-1959</td>
</tr>
<tr>
<td>Maude Arthur, M.A.</td>
<td>Associate Professor of Education</td>
<td>1922-1946</td>
</tr>
<tr>
<td>Grover C. Batoo, M.A.</td>
<td>Professor of Mathematics</td>
<td>1948-1972</td>
</tr>
<tr>
<td>Harriette V. Bartoo, Ph.D.</td>
<td>Assistant Professor of Teacher Education</td>
<td>1944-1971</td>
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<tr>
<td>Edith C. Beals, M.A.</td>
<td></td>
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<tr>
<td>Fred A. Beeler, Ph.D.</td>
<td>Professor of Mathematics</td>
<td>1946-1968</td>
</tr>
<tr>
<td>Isabel Beeler, M.A.</td>
<td>Associate Professor of Counseling</td>
<td>1946-1968</td>
</tr>
<tr>
<td>Elmer R. Beloof, Ed.D.</td>
<td>Professor of Music</td>
<td>1946-1971</td>
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<tr>
<td>Margaret Felts Beloof, M.A.</td>
<td>Assistant Professor of Engineering and Technology</td>
<td>1952-1970</td>
</tr>
<tr>
<td>Donald J. Black, Ed.D.</td>
<td></td>
<td>1921-1951</td>
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<tr>
<td>Jane A. Blackburn, M.A.</td>
<td>Assistant Professor of Teacher Education</td>
<td>1950-1970</td>
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<tr>
<td>Ruth Boot, M.S.</td>
<td>Associate Professor, Campus School</td>
<td>1953-1968</td>
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<tr>
<td>Ruth L. Bosma, M.A.</td>
<td>Assistant Professor of Physical Education for Women</td>
<td>1925-1956</td>
</tr>
<tr>
<td>Mary Bottje, M.A.</td>
<td>Associate Professor of Chemistry</td>
<td>1924-1968</td>
</tr>
<tr>
<td>James W. Boynton, M.A.</td>
<td>Professor of English</td>
<td>1917-1956</td>
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<tr>
<td>William R. Brown, Ph.D.</td>
<td>Professor of School Services</td>
<td>1937-1968</td>
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<tr>
<td>Roy C. Bryan, Ph.D.</td>
<td>Assistant Professor of English</td>
<td>1948-1965</td>
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<tr>
<td>Georgiann Burge, M.A.</td>
<td>Assistant Professor of Education</td>
<td>1930-1949</td>
</tr>
<tr>
<td>Grace L. Butler, M.A.</td>
<td>Professor of Mathematics</td>
<td>1920-1955</td>
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<tr>
<td>William H. Cain, M.A.</td>
<td>Periodicals Librarian</td>
<td>1927-1964</td>
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<tr>
<td>Edith E. Clark, A.B.L.S.</td>
<td>Assistant Professor of Counseling</td>
<td>1923-1960</td>
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<tr>
<td>Isabel Crane, M.A.</td>
<td></td>
<td>1922-1962</td>
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<tr>
<td>Lewis D. Crawford, M.A.</td>
<td>Assistant Professor of Teacher Education</td>
<td>1947-1970</td>
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<tr>
<td>Golda Crisman, M.A.</td>
<td>Associate Professor of Physics</td>
<td>1957-1971</td>
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<tr>
<td>Jacob P. Dewitt, M.S.</td>
<td>Assistant Professor of Education</td>
<td>1930-1955</td>
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<tr>
<td>Cora Ebert, M.A.</td>
<td>Associate Professor of Speech</td>
<td>1954-1972</td>
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<tr>
<td>George O. Egland, M.A.</td>
<td>Pathology and Audiology</td>
<td>1922-1960</td>
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<tr>
<td>Manley M. Ellis, Ph.D.</td>
<td>Professor of Education</td>
<td>1951-1971</td>
</tr>
<tr>
<td>Wendall B. Fidler, Ed.M.</td>
<td>Associate Professor of Distributive Education</td>
<td>1941-1972</td>
</tr>
<tr>
<td>Orie I. Frederick, Ph.D.</td>
<td>Associate Professor of Biology</td>
<td>1947-1967</td>
</tr>
<tr>
<td>Anne V. Fuller, M.A.</td>
<td>Associate Professor of Physical Education for Men</td>
<td>1948-1972</td>
</tr>
<tr>
<td>Edward A. Gabel, M.A.</td>
<td>Associate Professor of English</td>
<td>1925-1962</td>
</tr>
<tr>
<td>Lorena M. Bary, M.A.</td>
<td>Head and Professor, Department</td>
<td>1939-1968</td>
</tr>
<tr>
<td>Joseph W. Giachino, Ed.D.</td>
<td>Engineering and Technology</td>
<td>1928-1969</td>
</tr>
<tr>
<td>John W. Gill, M.A.</td>
<td>Associate Professor of Physical Education</td>
<td></td>
</tr>
</tbody>
</table>
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Grace I. Gish, M.A.  Associate Professor of Education  1929-1962
Clarence Hackeny, M.A.  Associate Professor of Mathematics  1936-1973
Marion I. Hall  Assistant Professor of Education  1922-1954
Lucia C. Harrison, M.S.  Associate Professor of Geography  1909-1947
John B. Healey, J.D.  Associate Professor of General Business  1947-1970
H. Glenn Henderson, M.M.  Associate Professor of Music  1914-1956
Eunice E. Herald, Ph.D.  Head and Professor, Department of Home Economics  1955-1971
Bernice G. Hesselink  Assistant Comptroller  1916-1961
Frank J. Hinds, M.A.  Professor of Biology  1935-1970
Elizabeth Householder, M.A.  Social Director, University Student Center  1937-1940 and 1953-1970
Frank C. Householder, M.A.  Associate Professor of English  1934-1970
Fred S. Huff, M.A.  Associate Professor of Industrial Arts  1920-1958
Mate Graye Hunt, M.A.  Associate Professor of Librarianship  1946-1959
Doris L. Hussey, B.S.  Assistant Professor of Physical Education  1918-1961
John G. Kemper, M.A.  Professor of Art  1942-1970
Leonard C. Kercher, Ph.D., LL.D.  Professor of Sociology  1928-1972
Edna F. Kirby, M.A.  Assistant Professor of Business Education  1938-1965
George A. Kirby, M.A.  Associate Professor of Accounting  1936-1966
Ruth Kirby, M.A.  Associate Professor of Teacher Education  1945-1968
Lawrence G. Knowlton, Ph.D.  Professor of Chemistry  1941-1968
Eunice E. Kraft, M.A.  Associate Professor of Language  1920-1962
Stanley Kuffel, Ed.D.  Professor of Psychology  1952-1970
Robert Limpus, Ph. D.  Professor of Humanities  1947-1973
Carl V. Lindeman, M.S.  Assistant Professor of Education  1928-1963
M. Dezena Loutzenhiser, M.A.  Associate Professor of English  1923-1957
Phoebe Lumaree, M.S.  Assistant Librarian  1923-1961
Vern E. Mabie, M.A.  Director of Placement  1930-1932; 1948-1970
C.B. MacDonald, M.A.  Comptroller  1923-1962
Margaret B. Macmillan, Ph.D.  Professor of History  1920-1934; 1944-1969
Walter R. Marburger, M.S.  Professor of Physics  1925-1963
Helen E. Master, M.A.  Associate Professor of English  1921-1962
Holon Matthews, Ph.D.  Professor of Music  1948-1973
Eloise McCorkle, M.A.  Assistant Professor of Education  1926-1965
Emeline J. McCowen, M.A.  Associate Professor, Campus School  1947-1969
Florence E. McLouth, M.A.  Assistant Professor of Education  1921-1947
Lillian H. Meyer, Ph.D.  Head and Professor, Department of Chemistry  1942-1968
Robert Miller, Ph.D.  Associate Professor of Physics  1956-1972
Evelyn A. Monroe, B.S.  Assistant to the Director, Career Planning and Placement  1954-1972
Lois B. Monroe, M.A.  Assistant Professor of Spanish  1925-1961
Louise C. Myers, M.A.  Assistant Professor of Education  1925-1961
Leonard Newton  Assistant Director of the Physical Plant  1952-1973
Frances E. Noble, Ph.D.  Professor of French  1931-1973
Gerald Osborn, Ph.D., LL.D.  Professor of Chemistry  1939-1969
Emeriti

Hilda Oster, M.A. Assistant Professor of Teacher Education 1946-1972
Lauri Osterberg, M.A. Assistant Professor of Chemistry 1948-1962
Hazel I. Paden, M.A. Assistant Professor of Art 1929-1960
J. Kimbark Peterson, M.A. Associate Professor of Mathematics 1947-1973
Effie B. Phillips, M.A. Assistant Professor of Education 1925-1949
John H. Plough, M.A. Assistant Professor of Industrial Education 1941-1956
Gayle Pond, R.N. Director of Nursing Service 1946-1966
Myrtle M. Powers, M.S. Assistant Professor of Biology 1941-1972
Don O. Pullin, M.A. Associate Professor of Industrial Education 1926-1958
Paul L. Randall, B.S.L.S. Assistant Professor, Library 1925-1967
Glen C. Rice M.A. Associate Professor of Counseling 1943-1965
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Frederick J. Rogers, Ph.D. Professor of English 1946-1971
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Paul Rood, Ph.D. Professor of Physics 1916-1964
Hermann E. Rothfuss, Ph.D. Professor of German 1944-1970
Gladys L. Rowe, M.A. Associate Professor of Home Economics 1950-1967
Hazel M. DeMeyer Rupp, B.S.L.S. Associate Professor, Library 1946-1971
Robert R. Russel, Ph.D. Professor of History 1922-1960
Hazel E. Saye, A.B.L.S. Assistant Professor, Library 1939-1965
William A. Schreiber, M.A. Assistant Professor of Engineering and Technology 1953-1971
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Donald N. Scott, M.A. Director, University Student Center and Residence Halls 1943-1969
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Laura V. Shaw, M.A. Associate Professor of Industrial Education 1910-1948
Ethew Shimmel, M.A., Associate Professor, Campus School 1923-1966
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Lydia Siedschlag, M.A. Professor of Art 1921-1958
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M. Elizbeth Smutz, M.A. Professor of Art 1947-1972
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Marion R. Spear, M.A.  Associate Professor of Occupational Therapy 1944-1958
Opal Stamm, M.A.  Assistant Professor of Home Economics 1934-1963
Charles R. Starring, M.A.  Professor of History 1928-1969
Mathilde Steckelberg, M.A.  Professor of Language 1927-1961
Edwin B. Steen, Ph.D.  Professor of Biology 1941-1972
Elaine L. Stevenson, M.A.  Assistant Professor of Art 1917-1960
Bess L. Stinson, M.A.  Associate Professor, Campus School 1929-1960
Katharine M. Stokes, Ph.D.  Director of Libraries 1948-1967
Cyril L. Stout, Ph.D.  Professor of Geography 1947-1968
Louise F. Struble, M.A.  Assistant Professor of Education 1923-1952
Julius Stulberg, M.A.  Professor of Music 1945-1972
Clella Stufft, M.A.  Assistant Professor of Education 1924-1950
Jane Thomas, M.A.  Assistant Professor of Occupational Therapy 1944-1954; 1958-1971
Eulalia Toms, M.A.
Adrian Trimpe, M.A.  Assistant Professor of Teacher Education 1947-1970
Jean Vis, M.A.  Head and Associate Professor, Department of Distributive Education 1947-1972
Reva Volle, M.A.  Associate Professor of Education 1927-1955
Louise J. Walker, M.A.  Associate Professor of Home Economics 1940-1965
Ernest Weber, M.A.  Assistant Professor, Campus School 1923-1961
William V. Weber, Ph.D.  Professor of Political Science 1937-1966
Ethel B. West, M.A.  Assistant Professor of Communication Arts and Sciences 1960-1971
Roy J. Wietz, M.A.  Associate Professor of Physical Education for Men 1942-1970
Ruth VanHorn Zuckerman, M.A.  Associate Professor of English 1922-1964

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