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CALENDAR OF GRADUATE EVENTS
1963 - 1964

Summer Session, 1963

June 17, Monday .................................................. Registration
June 18, Tuesday ................................................. Classes begin
June 18, Tuesday ................................................. Final day for registration
June 24, Monday ................................................. Diploma applications due
July 4, Thursday ................................................. Independence day recess
July 5, Friday ..................................................... Final day for dropping courses
July 15, Monday ................................................... Theses due from summer graduates
July 22, Monday ................................................... Final communications test
July 26, Friday ..................................................... Six-week session closes
July 26, Friday (6:00 p.m.) ................................. Commencement
July 29, Monday ................................................... Final registration post session
August 9, Friday ................................................... Post-session workshops and eight-weeks sessions close

Fall Semester, 1963-1964

September 13, Friday ......................................... Final communications test for out-of-state students
September 14, Saturday ................................. Final day for regular registration
September 17, Tuesday (8:00 a.m.) .................... All classes begin
September 28, Saturday ................................. Final day for change of registration
October 11, Friday ........................................ Diploma applications due
November 2, Saturday ................................. Final day for dropping courses
November 27, Wednesday (12:00 noon) ... Thanksgiving recess begins
November 29, 30 (Friday and Saturday) ...... University offices close
December 2, Monday .................................. Classes resume
December 21, Saturday (2:00 p.m.) ............... Christmas recess begins
December 24, Tuesday ................................ University offices close
December 31, Tuesday ................................. University offices close
January 6, Monday (8:00 a.m.) ...................... Classes resume
January 8, Wednesday ................................. Theses due from fall graduates
January 16 to 24 (Thursday-Friday noon) ... Final examinations
Spring Semester, 1964

February 1, Saturday .................. Final day for registration
February 3, Monday (8:00 a.m.) ............... All classes begin
February 15, Saturday .................. Final day for change of registration
February 21, Friday ..................... Diploma applications due
March 14, Saturday .................... Final day for dropping courses
March 27, Friday ....................... Classes recess 12 noon to 2 p.m. only
March 28, Saturday (2:00 p.m.) ............. Easter recess begins
April 6, Monday (8:00 a.m.) .................. Classes resume
May 23, Saturday ...................... Final examinations (Sat. classes only)
May 25, Monday ......................... Theses due from spring graduates
May 28-June 5, Thursday-Friday .............. Final examinations
May 30, Saturday .......................... Memorial day recess
June 6, Saturday (9:30 a.m.) .................. Commencement
ADMINISTRATION

State Board of Education

Hon. Chris H. Magnusson, Detroit  Term expires June 30, 1963
Hon. Cornelia Robinson, Kalamazoo  Term expires June 30, 1965
Hon. Frank Hartman, Flint  Term expires June 30, 1967
Hon. Lynn M. Bartlett, Lansing  Term expires June 30, 1963

State Superintendent of Public Instruction

Administrative Officers

James W. Miller, Ph.D., LL.D., President
Russell H. Seibert, Ph.D., Vice President for Academic Affairs
L. Dale Faunce, Ed.D., Vice President for Student Services and Public Relations
George G. Mallinson, Ph.D., Dean, School of Graduate Studies
Leo C. Stine, Ph.D., Administrative Assistant
Margaret T. Mabie, M.A., Assistant to the Dean

Graduate Studies Council, 1963-64

George G. Mallinson, Ph.D., Dean, School of Graduate Studies
George E. Bradley, Ph.D., Department of Physics
Elwyn F. Carter, Ed.D., Department of Music
John A. Copps, Ph.D., Department of Economics
James H. Griggs, Ed.D., Dean, School of Education
George E. Kohrman, Ed.D., Dean, School of Applied Arts and Sciences
Leo Niemi, Ph.D., Department of General Business
Gerald Osborn, Ph.D., Dean, School of Liberal Arts and Sciences
Harvey W. Overton, Ph.D., Department of Education
James H. Powell, Ph.D., Department of Mathematics
Arnold E. Schneider, Ph.D., Dean, School of Business
Russell H. Seibert, Ph.D., Vice President, Academic Affairs
SECTION I
RULES AND REGULATIONS

Graduate Instruction

Through its School of Graduate Studies, Western Michigan University offers the Master of Arts degree in Biology, Chemistry, Economics, Education, English, Geography, History, Librarianship, Mathematics, Medieval Studies, Occupational Therapy, Physics, Political Science, Psychology and Sociology.

In addition to the Master of Arts degree, the School of Graduate Studies also offers the Master of Business Administration degree.

A Specialist in Education degree may be earned on the completion of a Sixth-Year Program in the areas of School Administration and School Psychological Examiner.

Permission to Enroll

A student who wishes to seek admission to the School of Graduate Studies should contact the Graduate Office and obtain an Application for Permission to Enroll and a Graduate Personal Data Sheet. These should be completed and returned to the Graduate Office together with a transcript of credits from all institutions of higher education attended previously. The application will then be processed and the department or school, concerned with the curriculum selected by the student will determine whether the student may be admitted to that curriculum. The student will be required also to take a communications test.

When the application is processed, the student will be notified concerning his admission status. In order to process applications, the student should apply for admission at least three weeks before the last admission date to the session the student wishes to attend. (See Calendar, page 4.)

The following types of admission are granted:

1. Unqualified Admission. Unqualified admission is awarded to a student whose previous academic record merits such consideration. A student who receives unqualified admission may then seek admission to the unit offering the degree program in which he is interested. The adviser of the degree program to which he is admitted will help him to plan his graduate program.

2. Tentative Admission Pending Receipt of the Bachelor's Degree. A student may receive tentative admission during the final semester
of his undergraduate work. Final admission will be determined when a transcript is submitted giving evidence of satisfactory completion of the bachelor's degree.

Senior students at Western Michigan University, who need six hours or less to complete the requirements for the bachelor's degree, may seek admission to the School of Graduate Studies during the semester prior to the graduation. If admission is granted, the student may elect graduate courses, in addition to those required at the undergraduate level to complete the bachelor's degree, to encompass a full academic program.

3. Admission with Reservations. If a student's record evidences low scholarship in certain academic areas, or if his score on the communications examination falls below the expected criterion, he will be expected to complete extra requirements to remedy such deficiencies. Any extra requirements imposed at the time of admission should be elected during the student's first graduate registration. All requirements must be completed before the student is admitted to candidacy for the master's degree.

4. Admission from a Non-Accredited College. A student who has received a bachelor's degree from a non-accredited college, but who otherwise meets all the requirements for admission may be permitted to elect six hours of graduate work with the stipulation that his admission will be reviewed after the completion of the six hours.

5. Admission for Extension Courses. All students enrolled in graduate extension courses must be admitted to the School of Graduate Studies before the completion of the courses or credit will not be granted. No conference is required for such admission. However, the student must submit an application and an undergraduate transcript indicating the receipt of the bachelor's degree. No assurance is given to the student who receives such admission that the courses elected will be accepted toward a degree program if, at a later date, he desires to work toward the master's degree.

6. Admission to Non-degree Status. A student who does not desire to enroll in a degree program but plans only to take courses, should indicate his intention on Line 4 of the Graduate Personal Data Sheet by entering the word "non-degree." A transcript of his undergraduate work must be submitted. The School of Graduate Studies gives no assurance that work taken as a non-degree student will be counted toward graduation or that the student will be later accepted into a degree program.

7. Admission as Guest Matriculant. A student who is already enrolled in the graduate school of another college or university may enroll for courses at Western Michigan University. Application forms for such admission are available at the Graduate Office.
Admission to Candidacy for the Master's Degree

A student who wishes to complete the master's degree at Western Michigan University must apply for candidacy at the beginning of the first semester following the completion of ten hours of graduate work from Western Michigan University. These ten hours may include both residence and extension courses. A student must elect not less than a minimum of six semester hours of graduate work after admission to candidacy. This requirement will not be waived except for those full-time students who, having first completed the work of a summer session followed by a full-time semester, find it impossible to complete candidacy before enrolling for their last full-time semester.

The deadline for submitting applications for candidacy will be published in the Graduate Student each semester or in the Summer Session Events during the summer session. (See p. 14.) The responsibility of the student for applying for candidacy is as follows:

1. The student must complete and file with the Graduate Office an Application for Admission to Candidacy.
2. The student must present evidence that any reservations placed on his admission by the School of Graduate Studies, or by the unit in which he seeks to obtain the degree, have been satisfied.
3. The student must submit a program of study approved and signed by his curriculum adviser.

The applications for candidacy are presented to the Candidacy Boards established by the units offering the master's degree. These Boards recommend to the Graduate Council the action to be taken on each application. The following criteria are used for evaluating these applications:

1. A B average must be attained in those courses elected on the Western Michigan University campus, and an overall B average must be attained also in all graduate courses completed to the time of applying for candidacy.
2. The completion of all requirements imposed at the time of admission.
3. Ability to use the English language effectively as evidenced by scores obtained on the examination of basic communication skills and ratings made by the student's instructors.
4. The possession of those qualities essential for success in the unit in which he is seeking the master's degree. Evidence of these qualities must be submitted by the student and may include letters of recommendation or the successful completion of qualifying examinations.
5. A certificate attesting to the applicant's physical and mental health if requested by the unit or the School of Graduate Studies.
Requirements for the Degree

The requirements of the master's degree include the following:

A. Graduate Program: All students must meet the requirements for admission to one of the graduate programs and be admitted to candidacy at the completion of ten semester hours of graduate work.

B. Average: An average of B or better in all courses earned on campus, as well as an over-all average of B. A B average is equivalent to a point-hour ratio of 2.0 under the following grading system:

\[
\begin{array}{ccc}
A & = & 3 \\
B & = & 2 \\
C & = & 1 \\
E & = & 0 \\
\end{array}
\]

Note: All grades of Incomplete (I) will automatically become E unless removed within one calendar year. This ruling does not apply to the thesis course, 700 Thesis.

C. Total Hours: A minimum of thirty semester hours of graduate work is required. At least fifteen semester hours of the program must be earned in courses open only to graduate students (600 or above).

1. Credit on Campus: Of the total thirty semester hours, a minimum of eighteen must be elected in courses offered on campus from the School of Graduate Studies. This election must include on-campus work on a full-time basis during one semester (10 hrs. minimum) or summer session (5 hrs. minimum), except for students in the School of Business. These students must register for four consecutive semesters.

2. Residence Center Credit: A student who elects graduate work from an approved Residence Center of Western Michigan University may satisfy the residence requirement by completing twenty hours of work from the offerings of the Residence Center and the campus program. Ten hours, however, must be taken in courses offered on campus.

3. Extension Credit: A maximum of twelve semester hours of graduate work may be elected through the Extension Division of Western Michigan University as part of a student's program provided the courses are approved by the student's curriculum adviser.

4. Transfer Credit: A maximum of six hours of graduate work may be transferred from other accredited graduate schools toward the master's degree. These courses will be accepted for transfer as part of the student's program of studies only with the approval of the graduate adviser. Such transfer credit must have been elected no earlier than six years before the date on which the student is to receive the master's degree, and the grade received for each course must be B or better. Transfer
credit is placed on the student's record at the time of candidacy or at graduation. A transcript of this credit may be sent, however, to the Graduate Office at any time for inclusion in the student's folder.

D. **Time Limit**: All work accepted for the degree program must be elected within six years from the date of graduation.

E. **Diploma Application**: The student must file a Diploma Application with the Graduate Office at the beginning of the semester or summer session in which he is reasonably certain of completing the degree. The final date on which Diploma Applications will be accepted each semester is found on page 4 in the Calendar of Graduate Events.

Attendance at Commencement exercises is considered to be a requirement of the degree. These exercises are held at the end of each semester and summer session. No fee is charged for the diploma nor for the loan of the academic regalia.

**Registration, Student Load and Fees**

**Registration**: Registration will be held on the dates listed in the Calendar of Graduate Events on p. 4 of this bulletin. The hours of registration are listed in the Schedule of Classes under the heading, Procedure for Registration. The Schedule of Classes will be sent upon request and should be consulted for details regarding the time and place of meeting of graduate classes.

**Changes in Enrollment**: Any changes in graduate enrollment must be made by the end of the fifth day of the summer session and by the end of the second complete week of each semester. A student may drop graduate courses through the third week of the summer session or the sixth week of the fall or spring semester. The forms for requesting such changes may be secured at the Graduate Office.

**Student Load**: The load for graduate students is governed by the following regulations:

1. Part-time graduate students, if employed during the fall and spring semesters as full-time teachers or school administrators, may elect graduate courses granting not in excess of four hours of credit. An exception to this rule is made with the course, Thesis 700, which the student may elect during one semester for six hours of credit. Students employed full time in other fields may be allowed to elect a maximum of six hours of graduate credit with permission of the Dean.

2. With permission of the Dean, a student employed full time in a field of education may elect graduate courses granting five hours of credit provided such credit shall not involve more than two graduate courses. Such an exception may be granted only once during the
work for the master’s degree. These restrictions apply to all graduate courses a student may elect during a semester whether taken on campus, in extension and/or at some other institution.

3. A normal load for a graduate student devoting full time to graduate study is twelve semester hours. With permission of the Dean, a student may elect graduate courses granting not in excess of fifteen credit hours.

4. All graduate students may elect not in excess of six hours during a regular six-weeks summer session or eight hours during the eight-weeks session. A student may elect a maximum of two hours of graduate credit in a post-session workshop.

Tuition and Fees: The following fees will be charged for graduate study:

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GRADUATE STUDENTS ARE LIMITED TO SIX SEMESTER HOURS IN SUMMER SESSION

| 7 - 8 | $50.00 | $43.00 | $93.00 |
| 9 - 10| 63.00  | 50.00  | 113.00 |
| 11 or more | 75.00 | 50.00 | 125.00 |

POST-SUMMER WORKSHOPS

| 1   | $ 7.00 | $12.00 | $19.00 |
| 2   | 13.00  | 24.00  | 37.00  |

Late Enrollment Fee: By action of the State Board of Education, all students who enroll after the regular registration days of a session will be charged an additional fee of $5.00. Checks not honored by the bank constitute late enrollment and are subject to the Late Enrollment Fee. Graduate students will be required to pay late enrollment fees if they enroll after the last regular registration day or on the second day of summer session. No enrollment is permitted after these days.

Policy for Refunds and Change of Credit Load. All changes in registration or complete withdrawals must be cleared with the Graduate Office. Tuition and Local Fees will be refunded if proper application is made at the Business Office within the prescribed time limits and after the student has completed his official withdrawal or reduction in academic
load. The refund date will be determined by the date of completion of official withdrawal. All refund requests must be accompanied by the student’s final program card and activity ticket. A refund will not be granted for reducing the credit hour load after the final day for adding a course. Tuition and Local Fees will be refunded according to the following schedule:

1. Seven calendar days or less after the last official registration day—90% of total.
2. No refunds are made after the seventh day of the summer session. More than seven calendar days and less than twenty-two days after the last official registration day of the semester—60% of total.
3. More than twenty-one calendar days and less than thirty-six days after the last official registration day—40% of total.
4. More than thirty-five calendar days and less than fifty days after the last official registration day—20% of total.
5. No refund will be granted if the student withdraws after the forty-ninth calendar day after the last official registration day.
6. No refund will be granted unless applied for by the fifty-sixth calendar day after the last official registration day of the semester in which the student withdraws.
7. No refund will be made to a student eligible for benefits under Act 245 of the Public Acts of 1935, as amended, unless request is made no more than one week after registration.
8. Refunds are not automatic but must be applied for at the Business Office within seven days after withdrawal.
9. The above refund policy does not apply to late enrollment fees.

Fee for Applied Music: A special departmental fee is charged for each registration in an Applied Music course. The fee for one hour per week of private instruction is $75 per semester or $30 for the summer session.

**Audit Status:** A graduate student may enroll as an auditor for a class for which he does not desire credit or a grade. Such auditors will pay the regular graduate fees. In order to have the course entered on the student’s permanent record with the designation “audit”, he must attend at least three-fourths of all class sessions and give evidence to the instructor that his role as an auditor has been satisfactory. No student may change from the audit status to regular enrollment or vice versa after the close of registration.

**Fellowships and University Services**

**Graduate Fellowships:** Fellowships valued at $2,000 for the academic year will be made available to selected students holding bachelor’s degrees from approved colleges and universities. These fellowships are granted on the basis of merit to persons planning to pursue full-time work on
the campus leading to advanced degrees. Such persons must possess a combination of qualities indicating potential leadership in their respective fields with specific emphasis on high scholarship and desirable personal attributes.

Professional participation of about fifteen hours per week is required of fellows, consistent with their educational aims and objectives. Candidates may carry from eight to twelve semester hours of graduate work each of the two semesters. A stipend is provided for tuition, and fees are waived. The application forms may be secured from the Graduate Office. All applications, transcripts, and letters of recommendation must be submitted by March 1.

Elmer H. Wilds Graduate Award: Each calendar year the Graduate Council may select from among the outstanding graduate students, the one whose achievement and potential bear evidence of outstanding educational leadership. This student will be designated as the Elmer H. Wilds Scholar. In order to be eligible for the award, a student must have the following qualifications:

1. A point-hour ratio of at least 2.9 for the total graduate program including transferred credit.
2. A high degree of integrity as revealed in the student's relationships with a faculty and reports of those who work with him.
3. A high moral standard as revealed in the student's personal habits.
4. Attention to personal appearance.
5. A high degree of ability to communicate in class and in conversation.

The Graduate Student: The Graduate Student, a weekly publication, is available to graduate students and faculty each Saturday morning on which classes meet. Students who are not enrolled in Saturday classes may secure copies in the Graduate Office. All graduate students should read the bulletin for information concerning the Graduate School. During the summer session such announcements are published in the Summer Session Events.

Housing: All questions about room, board, and other living expenses should be addressed to the Dean of Men or Dean of Women. Graduate students are subject to the rules of the Dean of Men and the Dean of Women and to other general regulations of this institution.

At the present time, the residence halls are used almost exclusively for undergraduate students. As the need increases for on-campus housing for graduate students, efforts will be made to provide a floor or wing exclusively for upperclassmen and graduate students. When graduate students accept quarters in a residence hall, they will be expected to accept the terms and conditions of the contract.

Placement Service Open to Graduate Students: Employing officials representing business, industry, governmental agencies, and educational
institutions frequently have desirable positions for which they are seeking candidates with training beyond the bachelor's degree. Any graduate students who wish to be considered for such positions when they are available should be on the active placement list.

Enrollment in the School of Graduate Studies entitles any student to free placement service whether or not his undergraduate work was taken at Western Michigan University. Students not already registered with the Placement Office are invited to do so. Those graduate students formerly enrolled with the Placement Office may reactivate their credentials by furnishing the office with current information concerning their employment and advanced study.

Complete information and registration materials may be secured in the Placement Office, Administration Building.
SECTION II
GRADUATE FIELDS AND PROGRAMS

General Requirements

Each degree candidate must choose a graduate program that is compatible with his professional objectives. The programs listed on the following pages have been developed to provide students with the basic experiences that implement these objectives. The programs are, however, sufficiently flexible to allow for the differing needs of individual students.

It is obvious that growth in personality and the development of professional abilities are aims of primary importance in graduate education. Hence, through the counseling process, graduate advisers will help the students choose courses, both cultural and professional, to meet their individual needs. Courses and experiences should be chosen so that the graduate student becomes a more mature and professionally proficient person—a person with greater professional skill, increased ability to analyze and interpret life situations, and greater insight into problems involved in professional leadership.

Many of the courses listed will not be offered every semester or Summer Session. By studying “Section III, Description of Courses,” the student will find the session or sessions when the desired courses are available. Occasionally a student will find that some of the suggested courses are similar to those he has elected at the undergraduate level. In such cases, with the approval of the adviser, substitutes may be made provided the general requirements for the degree are satisfied.

BIOLOGY

William C. VanDeventer, Adviser

The master's degree in Biology provides a general background in the field with a limited amount of specialization in the area of the student’s major interest. It is designed to meet the needs of people in teaching, research, laboratory and field work, and conservation. It may be used as a foundation for continued graduate work leading to a doctor's degree at another institution, or may be considered terminal.

To satisfy the requirements for the master's degree in Biology, a student must successfully complete a minimum of twenty-four hours of graduate work in Biology and six hours in a related field or fields. The choice of courses will be made with the recommendation of the student's advisory committee and must be related to the student’s goals. Successful completion of a qualifying examination is required for admission to candidacy in the Biology program.
The thesis will be required at the discretion of the advisory committee. The chairman of the student's advisory committee will be a member of the graduate faculty having competence in the area of the student's major interest. Specialization is permitted in any one of the following areas: botany, zoology, ecology, parasitology, genetics, public health, general biology, and science education.

**BUSINESS ADMINISTRATION**  Edwin Grossnickle, Chairman of Advisers

The Master of Business Administration degree program has been established to prepare men and women to operate effectively in administrative positions in business and government. The participant is challenged to develop the judgment, discriminating capacity, knowledge and understandings which will permit him to work efficiently in administrative and other leadership roles. Under the guidance of the graduate staff of the School of Business, personal programming for the participant is provided as an alternative to a set schedule of required courses.

Successful completion of a minimum of thirty hours of graduate credit is required for the Master of Business Administration degree. The degree is designed to meet the needs of students with baccalaureate degrees in business, liberal arts, science, engineering and related fields, who wish training in one or more areas of business administration. Additional work in the School of Business may be expected from students who have not taken courses in at least three of the areas of accounting, business law, management, marketing, finance, and statistics.

The requirements for the degree include (1) the selection of an area of concentration; (2) the completion of a minimum of twenty to twenty-four hours in business, which may include the thesis; (3) fifteen hours of economics in the candidate's combined undergraduate and graduate program; (4) a minimum of six to ten hours of graduate work in a related field or fields, which may include economics; (5) additional credit for fulfilling the degree requirements in subject-matter areas that meet the educational objectives of the student; and (6) the completion of courses, or the demonstration of competence, in not less than three of the subject areas of accounting, finance, management, marketing, general business and, in addition, the required area of economics.

The Graduate Committee of the School of Business may require that tests be taken by the students for entrance to, or graduation from, the MBA degree program. The residence requirements may be fulfilled by taking one or more courses during four consecutive semesters, excluding summer sessions.

**CHEMISTRY**  Lillian H. Meyer, Adviser

The master's degree in Chemistry is planned to provide a broad background in the various fields of chemistry with concentration in one. Entrance requirements include admission to the School of Graduate Studies and the attainment of a satisfactory grade in qualifying exam-
inations covering the fields of General, Analytical, Organic, and Physical Chemistry. These examinations may be taken at the beginning of each new session. Dates for the academic year 1963-4 are 9:00 A.M. and 1:00 P.M. on June 17, 1963; September 12 and 13, 1963; and January 30 and 31, 1964. Deficiencies indicated by these examinations may be removed only by the completion of appropriate undergraduate courses with a minimum grade of B.

The student is required to elect a minimum of twenty to twenty-four hours in the field of Chemistry, including the thesis. A final oral examination by the student's graduate committee is a requirement for the degree. Course work will also include from six to ten hours in a related field or fields. The course sequence will include:

2. 620 Advanced Analytical Chemistry.
3. 505 Chemical Literature.
4. 601 Graduate Seminar, to be elected for two semesters.

**ECONOMICS**

In order to earn the Master of Arts degree in Economics, the following departmental requirements must be met:

1. As a prerequisite for admission to candidacy, the student must have completed, at both the graduate and undergraduate levels, a total of at least twenty-four hours in the social sciences with a minimum of ten hours in Economics, or in equivalents approved by the graduate adviser.
2. For graduation, satisfactory completion of a minimum of twenty to twenty-four hours of graduate work in the field of Economics and from six to ten hours in a related field or fields. Specific graduate requirements for the offerings in economics include (a) six hours of course work in economic thought and theory; (b) a minimum of six hours in one of the following areas of concentration: economic theory, labor economics, governmental economics and regulated industries; (c) a course in economic statistics and a seminar in the area of concentration.
3. Upon recommendation of the major professor, the completion of a thesis.
4. Successful completion of an oral examination if required by the department.

**EDUCATION**

The degree of Master of Arts in the field of Education is awarded in twenty-four different curricula. These curricula are planned to prepare personnel for various levels of, and positions in, education. The
student should choose the one that most nearly fits his vocational objec-
tive. Students applying for candidacy in these curricula are expected to
have completed a minimum of fifteen hours of undergraduate work in
professional education or the equivalent.

The graduate programs for all these curricula, with the exception
of Teaching in the Junior College and School Psychology, have the same
general requirements. The thirty hours of graduate work required as a
minimum for graduation are elected from the following three groups:

1. Ten hours from the courses offered by the department of Edu-
cation, including (a) three of the following courses: 601 Introduction
to Research, 602 School Curriculum, 603 Foundations of American
Education, and 604 Educational Psychology; (b) four hours in edu-
cation courses that are especially oriented to the student’s curriculum.

2. Ten hours from the graduate courses offered by departments
other than Education. The courses from this group will vary accord-
ing to the student’s curriculum.
   a. The students who enroll in curricula designed for secondary
teachers in specific teaching fields may elect all of these courses
from their major departments.
   b. Those students who enroll in curricula designed to serve
elementary and junior high school teachers and those in special
education may include courses from departments in which their
background was inadequate.
   c. The students who enroll in curricula designed for the
preparation of superintendents, principals, counselors, and cur-
riculum coordinators may be expected to elect, in addition to
those courses described above, courses that will contribute to
their understanding of the human relations involved in the
positions for which they are preparing.

3. Ten hours of electives chosen by mutual agreement of the student
and adviser. Here there is likely to be considerable variation among
the selections made by students in different curricula. These courses
may be an extension of both (1) and (2). If the student writes a
thesis, the six hours of credit is usually assigned to this group.

Curricula in Education

Twenty-four curricula are offered in the field of Education. The
names of these curricula, the graduate advisers, prerequisites and special
requirements are listed below:

<table>
<thead>
<tr>
<th>Curricula</th>
<th>Advisers</th>
<th>Prerequisites and Special Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Development and Coordina-</td>
<td>Dorothy McCuskey</td>
<td>A minimum of one year of teaching experience before candidacy</td>
</tr>
<tr>
<td>tion</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Elementary Administration and Supervision  
John A. Buelke  
A minimum of one year of teaching experience before candidacy

General Administration and Supervision  
Harold W. Boles  
A minimum of one year of teaching experience before candidacy

Guidance  
Arthur J. Manske  
Kenneth Engle  
A minimum of one year of teaching experience (or equivalent) before graduation

Orientation and Mobility Specialist  
Donald Blasch  
One semester of internship at Veterans’ Hospital, Hines, Ill.

Secondary Administration and Supervision  
Donald C. Weaver  
A minimum of one year of teaching experience before candidacy

Special Education  
Kristen D. Juul  
Joseph J. Eisenbach  
Isadore Turansky  
(This curriculum is designed for the preparation of teachers of mentally handicapped children, the deaf and hard of hearing, emotionally disturbed children, and the crippled and homebound child.)

Teaching in the Elementary School  
Sara R. Swickard  
Louis A. Govatos

Teaching in the Junior High School  
Clara R. Chiara

Teaching of Art  
Harry S. Hefner  
Twenty-five hours in art or the equivalent

Teaching of Business Education  
E. L. Marietta  
Major or minor in business or the equivalent

Teaching of Distributive Education  
Adrian Trimpe  
Must qualify for a vocational certificate as a coordinator

Teaching of Home Economics  
Eunice E. Herald  
Major or minor in home economics
<table>
<thead>
<tr>
<th>Teaching of Industrial Education</th>
<th>Charles G. Risher</th>
<th>Major or minor in industrial education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching of Literature and Language</td>
<td>Clayton A. Holaday</td>
<td>Major or minor in English</td>
</tr>
<tr>
<td>Teaching of Music</td>
<td>Elwyn F. Carter</td>
<td>Major in music</td>
</tr>
<tr>
<td>Teaching of Physical Education</td>
<td>George G. Dales</td>
<td>Major or minor in physical education</td>
</tr>
<tr>
<td>Teaching of Science and Mathematics</td>
<td>Charles H. Butler</td>
<td>Major or minor in one department of the division of science and mathematics</td>
</tr>
<tr>
<td>Teaching of Social Sciences</td>
<td>Leonard C. Kercher</td>
<td>Twenty hours in combined fields of economics, history, philosophy, political science and sociology</td>
</tr>
<tr>
<td></td>
<td>William V. Weber</td>
<td></td>
</tr>
<tr>
<td>Teaching of Speech Correction</td>
<td>Charles Van Riper</td>
<td>Nine hours of undergraduate speech correction before or in conjunction with graduate work, and consent of adviser</td>
</tr>
<tr>
<td>Teaching of General Speech</td>
<td>Zack York</td>
<td>Major or minor in speech with suitable cognates</td>
</tr>
<tr>
<td>Visiting Teacher</td>
<td>Nellie N. Reid, Roland S. Strolle</td>
<td>Selected courses in social work to be taken at the University of Michigan</td>
</tr>
<tr>
<td>School Psychologist</td>
<td>Stanley Kuffel</td>
<td>Michigan teaching certificate and major or minor in psychology to include courses deemed advisable by the Psychology Department. Two years of teaching experience required before graduation.</td>
</tr>
</tbody>
</table>
To satisfy the requirements in this curriculum, the student must elect courses from the offerings in education and psychology as follows: Educ. 533, 534, 585, 604, and 610; Psych. 560, 624, 650, 651, 661, 662, 680, 681, and 682. Substitutions may be made in certain cases with the consent of the graduate adviser.

The psychology courses deemed advisable for a background in this program include Abnormal Psychology, Psychology of Personality, Laboratory in Psychological Testing, Elementary Statistical Methods in Psychology, Mental Testing, Elementary Experimental Psychology, Learning and Memory, or their equivalents. They must be taken either at the undergraduate level or made up with additional graduate courses. A minimum of thirty hours in courses approved by the Psychology Department will qualify a student for a masters degree in School Psychology.

A minimum of thirty-six hours in courses approved by the State Department of Public Instruction in the areas of sociology, psychology and education, twenty-four of which are on the graduate level, will entitle the student to apply for certification as a School Psychological Diagnostician. The pattern of courses to be followed will be arranged through a conference with the adviser.

Teaching at the Junior College Level

A certificate to teach in Michigan or fifteen hours of course credit in education suitable for a junior college teacher.

The requirements for this curriculum include courses in education and in the student’s major and minor fields.

1. Six hours from the following professional courses: Educ. 601 Introduction to Research, 650 Growth and Development in Later Adolescence, 690 The Community College, and 670 Directed Teaching.

2. A minimum of sixteen hours in the student’s major. It is assumed that the student will also have completed an undergraduate major in this field.

3. A maximum of eight hours may be elected from the student’s minor area or cognate courses related to the major field.

ENGLISH

Clayton A. Holaday, Adviser

The master’s degree program in English is designed to improve the student’s proficiency in criticism and writing and to increase his understanding of literature and language. Requirements for the degree are these:

1. An undergraduate major in English or some other preparation accepted as the equivalent by the English Department.

2. Completion of twenty to twenty-four semester hours of graduate work in English. (These courses must be included: 568 Literary
Criticism, 574 Structure of Modern English, 660 Methods of Research in English and 661 Seminar in English.) Six hours of this block may, at the department's discretion, be earned by the preparation of an acceptable thesis.
3. Completion of six to ten semester hours of graduate work in appropriate cognate fields.
4. Reading knowledge of a foreign language appropriate to the student's program of study.

GEOGRAPHY

William R. Brueckheimer, Adviser

In order to earn a master's degree in Geography, a student must satisfy the following departmental requirements:

1. An undergraduate major in Geography or its equivalent.
2. Thirty hours of graduate credit in Geography and cognate fields with at least twenty hours being in Geography.
3. An acceptable thesis and/or field assignment.
4. Demonstrated competence in:
   a. Field procedures.
   b. Documentary analysis.
   c. Cartographic and statistical presentation of data.
   d. General physical and cultural patterns.
   e. Philosophy of Geography.
5. Completion of required courses: 652, 661, and 664.
6. Completion of 4-6 hours in one area of regional concentration chosen from Africa, Asia, Europe and U.S.S.R., Latin America, Anglo-America, or any other approved area.
7. Completion of 4-6 hours in one area of systematic concentration chosen from Physical Geography, Urban Geography, Political and Historical Geography, Conservation and Resources, Economic Geography, or any other approved area.
8. An oral examination over the student's areas of concentration, thesis, and the basic competencies described in (4) above.

HISTORY

Edward O. Elsasser, Adviser

In order to earn the Master of Arts degree in History, a student must satisfy the following departmental requirements:

1. As a prerequisite for admission to candidacy, either (a) presentation of thirty hours of undergraduate credit in the social sciences and closely related subjects, including at least fifteen hours of History, or (b) possession of other preparation accepted as the equivalent by the departmental committee.
2. Completion of a minimum of twenty to twenty-four hours of work in history, including 592 The Literature of History or 593 The
Philosophy of History, 690 Historical Method, and one seminar. From six to ten hours will be required from the offerings of related departments.

3. The preparation of an acceptable thesis for which six hours of credit will be awarded. Under certain conditions, the department may waive this requirement.

4. Distribution of credit among the following fields of history in such manner that, together with his credits in advanced undergraduate courses, the candidate shall have earned not less than eight hours in each of three fields, including one European and one United States: (a) United States to 1865 and contemporary Latin America; (b) United States since 1865 and contemporary Latin America; (c) Ancient and Medieval; (d) Modern Europe, 1500-1815; (e) Modern Europe, 1815 to the present; (f) Asia, including the Middle East and Russia.

5. Pass comprehensive examinations administered by the department.

LIBRARIANSHIP

Jean E. Lowrie, Adviser

The Department of Librarianship is accredited by the American Library Association and is a member of the Association of American Library Schools. The purpose of the Librarianship curriculum is to prepare qualified college graduates for the library profession. The Librarianship curriculum involves a basic general program of studies at the graduate level in the five major areas of library science: (1) history, philosophy and background of libraries in society; (2) technical processes; (3) library resources; (4) library clientele; (5) library organization and administration. The program prepares candidates for the differentiated services in college or university, school, public and special libraries. In addition to the general admission requirements, the student must:

1. Give evidence of ability, on the basis of their scholastic record and personal characteristics, to do graduate work in library science.

2. Present a reading knowledge of at least one modern foreign language. This requirement may be met either by completing one academic year of study at the college level or by passing a proficiency examination.

In order to earn the Master of Arts degree in Librarianship, a student must satisfy the following departmental requirements:

1. Successfully complete thirty to thirty-four hours of approved graduate courses with a minimum of twenty semester hours in library science at the graduate level. The program is developed in conference with his graduate adviser.

Candidates without previous training in library science will need to take the Required Courses as specified in the following list plus Elective Courses in the fields of their special interest to total thirty-four semester hours.
2. Submit a satisfactory research paper required as partial fulfillment of a course requirement or, with the consent of the graduate adviser, present a thesis for which no more than six semester hours of course credit will be given.

3. Two semesters of resident study or the equivalent in summer sessions.

Specialization is available in various types of library service, e.g., school libraries, and special departments in public libraries such as those serving children, the adult reader, and the young adult. Programs may also be arranged for candidates who wish to specialize in college, university or special library service such as industrial, art or music, etc.

Candidates preparing for school library service must meet the teacher certification requirements in the state in which they wish to be employed.

Colloquium. Regular series of lectures, discussions, field trips and film demonstrations by eminent librarians, members of the staff and leaders in fields related to library interests. Required both semesters for full-time graduate students. Part-time graduate students are expected to arrange for attendance at least one semester. (No credit)

NOTE: Students who have an undergraduate minor in Librarianship may elect courses from other departments to a total of six to eight semester hours. The total number of hours required for these students is thirty instead of the thirty-four required for those with no previous library science courses.

Required Courses: Lib. 510, 512, 530 or 531, 600 and Ed. 601.

Course descriptions and courses to be chosen as electives in Library Science will be found under the listings for the Department of Librarianship on pages 78-82.

At the time of application for candidacy, the student must have completed at least two of the following courses: Lib. 510, 512 and 530.

Graduate Program for the Instructional Materials Center Specialist

Because of the increasing demand for school personnel with training in the administration of school libraries and also in the administration of audio-visual materials and equipment, the Department of Librarianship now offers a graduate curriculum for preparation of the Instructional Materials Center Specialist.

Prerequisite: Teaching certificate and one year of experience in classroom or in school library.

MATHEMATICS

Joseph C. McCully, Adviser

The degree of Master of Arts in the field of Mathematics extends the student’s knowledge in the areas of algebra, analysis, applications, geometry, and statistics. The program permits specialization in preparing for advanced study and provides additional training for teachers of
mathematics and students seeking employment in industry as mathematicians.

In addition to the general admission requirements, the student in the field of Mathematics must satisfy the following:

1. Complete with satisfactory grades an undergraduate major in Mathematics. If the student's undergraduate program in Mathematics does not meet approved standards, he may be required to elect additional courses or otherwise satisfy the requirements of the department.
2. Complete twenty to twenty-four hours of approved course work in Mathematics to include 630 Abstract Algebra I and 670 Real Analysis I.
3. Prepare an acceptable thesis if required by his graduate adviser and committee.
4. Present six to ten hours of credit from other related departments.
5. Pass a final oral examination in his field.

MEDIEVAL STUDIES

John R. Sommerfeldt, Adviser

The degree of Master of Arts in Medieval Studies is designed to provide a broad background in medieval history, languages, literatures and philosophy. The program, which is unique at Western Michigan University, is available to students with undergraduate majors in history, art, philosophy, music, English, German, French, Spanish, Italian, or Latin, or other preparation accepted as the equivalent by the Graduate Committee.

The requirements for the degree are as follows:

1. Before admission to candidacy, the student is expected to present (a) an elementary reading knowledge of Latin and either German or French, (b) six hours of a survey course in medieval history, (c) course work in philosophy.
2. The course work required would include (a) ten hours of medieval history, (b) a minimum of nine hours of medieval philosophy and religion, (c) six hours of medieval literature, and (d) a course in research methods. Course work taken on an undergraduate level may be applied toward this requirement.
3. The preparation of an acceptable thesis.

OCCUPATIONAL THERAPY

Dean R. Tyndall, Adviser

The master's degree program in Occupational Therapy is designed to prepare students for administrative and supervisory positions in the field. In addition to the general admission requirements, the candidate must present a bachelor's degree in Occupational Therapy or in a related field with a certificate in Occupational Therapy. A year of experience between undergraduate and graduate studies is recommended.
In order to qualify for a master's degree the student must successfully complete thirty semester hours of approved graduate courses according to the following pattern:

1. Ten hours selected from basic courses related to Occupational Therapy, i.e., Biology, Education, Psychology and Sociology. The course, Introduction to Research, is requirement in this group.

2. Fourteen hours from the following courses in Occupational Therapy: 632 Supervision of Occupational Therapy, 633 Administration of Occupational Therapy, 712 Professional Field Experience (in Organization and Administration of Occupational Therapy offered in cooperation with the Occupational Therapy Department of the Veteran's Administration Hospital, Hines, Illinois, and offered during the summer program), 630 Professional Literature, and 650 Clinical Training and Scheduling.

3. The remaining six hours may be selected with the help of the graduate adviser from the following group: Business 551, 552, 556; Psychology 542, 644, 645, 646; Occupational Therapy 502.

PHYSICS

The degree of Master of Arts in the field of physics provides training in both theoretical and experimental physics useful to scientists and teachers interested in research in physics.

The requirements for a Master's Degree in physics are as follows:

1. The student must complete an undergraduate major in physics or its equivalent.

2. At least 6 semester hours must be earned in the Mathematics Department chosen, in consultation with the graduate adviser, from the following: 500, Advanced Differential Equations; 530, Vectors and Matrices; 570 and 571, Advanced Calculus; 676, Complex Variables.

3. The following graduate courses are to be taken in the Physics Department: 622, Quantum Mechanics; 624, Statistical Mechanics; 630, Analytical Mechanics; 662, Electricity and Magnetism.

4. At least 6 semester hours are to be elected from the "500" courses in physics.

5. Satisfactory completion of a Master's thesis based either on an experimental or theoretical problem, under a member of the graduate faculty in physics.

POLITICAL SCIENCE

In addition to the admission requirements of the Graduate School and the Department, a student must satisfy the following to earn the Master of Arts Degree in Political Science:
1. Complete a minimum of twenty-four hours of graduate work in Political Science among the three areas of study listed below with at least four hours of credit in each:
   a. American Government and Administration.
   b. International Relations and Comparative Government.
   c. Political Theory and Methodology.
2. A Thesis for six hours of credit will ordinarily be required. This requirement may be waived on recommendation of the Departmental adviser with the approval of the Graduate Committee and the head of the Department in which case a 710 paper will be required.
3. Complete six hours in appropriate cognate areas.
4. Before being recommended for the Degree of Master of Arts in Political Science, the student will be required to pass an oral examination. The examination will cover the Thesis or 710 paper, the subject matter of the student's area of emphasis, including bibliography, and the adequacy of his preparation in the general field of Political Science.

PSYCHOLOGY

Stanley Kuffel, Adviser

In order to qualify for a master's degree in Psychology, a student must meet all the regular admission standards as well as those of the Psychology Department. In general, the requirements for the degree are as follows:

1. Completion of a major or broad minor in Psychology at the undergraduate level with satisfactory grades.
2. Completion of at least twenty hours of graduate credit in Psychology with ten hours in an allied field or fields. The distribution of credit will be determined in conference with the adviser and according to the area of psychology in which the student wishes to specialize.
3. A thesis for six hours of credit will ordinarily be required. This requirement may be waived with the approval of the student's adviser.
4. The areas in which a student may specialize are these:
   a. General—for those whose aim is to teach psychology at the college level and who intend to enroll for the doctorate.
   b. Industrial—for those wishing to specialize in industrial psychology. Five courses should be selected from Psychology 516, 517, 542, 560, 644, 645, 646.
   c. Clinical—for those interested in case work and counseling. This program requires a total of sixty semester hours and will include the following:
      (1) General Psychology Core (15 to 18 hrs.) from Psychology 516, 517, 534, 510, 512, 514, 615.
(2) Clinical Courses (13 to 15 hrs.) from Psychology 624, 682, 661, 651, 650, 681, 684, 685, 616.
(3) 700 Thesis for 6 hrs.
(4) Courses outside the Psychology Department (6 to 10 hrs.) May select from Special Education, Speech Correction, etc.
(5) Internship (12 to 15 hrs.)—supervised practice in a clinical setting.

SOCIOLOGY AND ANTHROPOLOGY Leonard C. Kercher, Adviser

The master's degree program in Sociology is designed to (1) give students a mature understanding of the significant factors and processes of contemporary society, (2) advance the preparation of those planning to teach in the social-science field, (3) lay the foundation for more advanced graduate work in Sociology, and (4) provide professional training for a variety of occupational opportunities in government, industry, research organizations, welfare agencies and correctional systems.

In order to earn the Master of Arts degree in Sociology, a student must satisfy the following departmental requirements:

1. Have completed at least twenty-four hours of undergraduate work in the combined fields of Economics, History, Political Science and Sociology with a minimum of twelve semester hours in Sociology, or in equivalent course work approved by the departmental graduate adviser.

2. Complete twenty to twenty-four hours of graduate work in Sociology courses selected in consultation with the departmental adviser, and six to ten hours of graduate work in appropriate cognate areas.

3. Unless specifically waived, complete an original thesis in which the candidates will demonstrate his competence to use appropriate methods for investigating a sociological topic. An oral examination will be administered covering the thesis problem.
SIXTH-YEAR PROGRAMS

The Sixth-Year Programs lead to the degree, Specialist in Education, and are offered in the areas of School Administration and School Psychological Examiner. The degree is awarded after satisfactory completion of a minimum of 60 semester hours of graduate work beyond the bachelor's degree. A student is ordinarily admitted to the program after the completion of a Master's degree with a point-hour ratio of at least 2.5 (B=2, A=3) in all graduate work elected previously. Students must attain that point-hour ratio in order to be eligible for candidacy at the completion of the 40th semester hour beyond the bachelor's degree and for graduation.

All applicants are expected to attain the 50th percentile on the appropriate norms of the Graduate Record Examinations that are administered and give evidence of ability to communicate satisfactorily both in speech and in writing.

As part of the requirements, students must enroll for one semester of residence work after having completed a Master's degree or its equivalent.

SCHOOL ADMINISTRATION

The program in School Administration is designed to produce educational leaders who are competent persons, broadly and deeply educated, and well versed in the professional qualifications required of their respective educational tasks. Students may elect majors at the sixth-year level in the following areas: General Administration, Secondary Administration, Elementary Administration, Curriculum Development, and Guidance.

The selection of applicants for the advanced program will ordinarily be made at the end of the fifth-year program on the basis of undergraduate and graduate records, attainment of satisfactory scores on the Graduate Record Examination, recommendation of faculty members, successful teaching and/or administrative experience, completion of examinations as determined by the School of Education Candidacy Board, and the promise of leadership qualities.

The two-year program beyond the bachelor's degree will consist of a minimum of sixty hours of graduate work, including at least fifty-four hours of credit in graduate courses and from four to six hours of credit in a field project or internship. The graduate course work will be planned by a graduate committee and will include:

1. Fourteen hours to be selected from a basic core of offerings in the field of education.
2. At least fourteen hours in a major area of concentration.
3. Twenty hours in cognate fields outside of education.
4. Twelve hours of electives.

Application for candidacy for the specialist program must be made at the completion of forty hours of academic work. Graduation require-
ments include a high scholastic average, the completion of a written project, and an oral examination as prescribed by the candidate's graduate committee.

SCHOOL PSYCHOLOGICAL EXAMINER Stanley Kuffel, Adviser

This program provides for the training of persons preparing for the position of School Diagnostician or School Psychological Examiner, as well as basic pre-doctoral study in School Psychology. Successful completion of this program is a requirement for certification as a School Psychological Examiner in the State of Michigan.

The program is designed to prepare the student in the use of the principles and techniques of psychology in the school setting. The training includes work in testing, interviewing, and psychological counseling. The student will be expected to acquire a knowledge of the deviant and exceptional child and of the basic techniques used in psychological research.

Admission requirements include the following:

1. Nine to fifteen hours of undergraduate psychology courses including Elementary Statistics and Experimental Psychology or their equivalents. Additional work to remedy deficiencies may be taken prior to application for candidacy.
2. Successful teaching experience or the evidence of potential for success in the field of education.
3. Attainment of a satisfactory score on the Graduate Record Examination and satisfactory completion of any examination that may be deemed desirable by the graduate committee.

A student may be admitted to the program either on completion of the bachelor's or master's degree. A student will be expected to apply for admission to candidacy upon the completion of twenty semester hours beyond the bachelor's degree or upon the completion of ten semester hours beyond the master's degree. It will be necessary also for the student to successfully complete a qualifying examination before admission to candidacy. This examination will be administered by the graduate committee.

In order to qualify for the Specialist degree in this field, the student must elect courses from the following groups:

I. Twelve to seventeen hours from the General Psychology Core including Psychology 510, 512, 514, 516, 517, and 615.
II. Eighteen to twenty-two hours from Clinical and School Psychology courses including Psychology 561, 616, 624, 650, 651, 661, 680, 681, 682, 684, and 685.
III. Fifteen to sixteen hours from courses outside the Psychology Department including Education 530, 532, 533, 534, 540, 551, 580, 581, 585, 587, 604, 610, and 660; Speech 656.
IV. Fifteen to eighteen hours of internship to include 500 or more clock hours of supervised practice.
SECTION III

DESCRIPTION OF GRADUATE COURSES

Two types of courses are offered in the School of Graduate Studies: (1) Those numbered 600 and above open only to graduate students, and (2) those numbered 500 through 599 open to both upperclassmen and graduate students. In all courses open to both upperclassmen and graduates, a distinction is made between the work expected from graduate students and that from undergraduates. The work expected from graduates may be of higher quality or greater quantity or both. This applies to courses offered in extension as well as in residence. The student should consult the Schedule of Classes for hours, days of week and place of meeting for all classes.
School of
Applied Arts and Sciences

GEORGE E. KOHRMAN,
Dean

Graduate Offerings:
Agriculture
Distributive Education
Home Economics
Industrial Education
Occupational Therapy
Paper Technology
Vocational Division
SCHOOL OF APPLIED ARTS AND SCIENCES

The School of Applied Arts and Sciences includes the following departments: Agriculture, Distributive Education, Engineering and Technology, Home Economics, Industrial Education, Military Science, Occupational Therapy and Paper Technology.

The School of Applied Arts offers a graduate program in Occupational Therapy and cooperates with the School of Education in providing teacher education programs in Teaching of Distributive Education, Teaching of Home Economics and Teaching of Industrial Education (See Education, Section II of this bulletin for these programs).

AGRICULTURE

Baker, Head.

For Graduates and Upperclassmen

530 Agriculture in Michigan 2 hrs. Fall

A survey of Michigan agricultural production including the areas, volume and types of production, and the marketing systems in operation. This course deals with relationships between Michigan agriculture and national and international production. Different types of agricultural education in Michigan will be studied.

For Graduates Only

600 Soil Science 2 hrs. Spring

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

Trimpe, Head.

Open to Graduates and Upperclassmen

570 Organization and Operation of Distributive Education 2 hrs. Fall

Deals with the organization and operation of distributive education in relation to the total education program. It is concerned with preparatory, cooperative and adult programs. Consideration is given to advisory committees and local, state and federal relationships.
571 Job Supervisory Training 2 hrs. Spring

Provides for mastery of the techniques and skills used in supervision of employees. It deals with conference leading, how to train, how to develop the skills of leadership and the corrective interview. This training is useful for vocational teachers and those preparing for supervisory positions.

572 Teaching Techniques for Cooperative Education 2 hrs. Fall

Deals with the methods and techniques used in teaching 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. Spring, Summer

A study of the duties and responsibilities of the coordinator. Includes the organization of training programs, supervision of trainees on the job and the development of working relationships among the school, business and home.

HOME ECONOMICS

Herald, Head; Professor Taylor; Associate Professor Savage.

Open to Graduates and Upperclassmen

500 Textile Fiber Clinic 2 hrs.

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. Not offered 1963-64.

510 Advanced Nutrition 3 hrs.

Study of recent developments in nutrition through readings and experiences. Prerequisite: Nutrition and Meal Planning and Food Preservation. Not offered 1963-64.

512 Institutional Management 3 hrs. Spring

Study of institutional administration, job analysis, labor policies, personnel problems and cost control in different types of food-service institutions. Prerequisite: Meal Planning and Food Preservation, Quantity Foods.

514 Food Technology 2 hrs.

Food preparation with special emphasis on individual problems related to school food teaching units. Study of commercial food preparation. Not offered 1963-64.

516 Consumer Buying 2 hrs. Summer, Spring

Study of marketing problems and consumer credit. Students work on individual problems which concern the technique of buying a specific type of consumer goods.
518 Experimental Foods 2 hrs. Fall

520 Demonstration Techniques 2 hrs. Fall
A study of principles and techniques for demonstrations in all areas of home economics. Practice will be included. Offered for homemaking teachers, demonstration agents and home economists in business.

550 Family Living in the Schools 2 hrs.
Problems of organizing materials in Family Living for the purpose of teaching classes and working the groups in the school program. Not offered 1963-64.

552 The Homemaking Center and 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. Not offered 1963-64.

554 Housing 2 hrs. Fall
A study of economic and social aspects of housing. Single, duplex and multiple housing problems are considered. Prerequisite: Home Furnishings, or consent of the instructor.

598 Readings in Home Economics 2-4 hrs. Summer, Fall, Spring
Graduate students who have completed an undergraduate degree in Home Economics or related fields may enroll with permission of the head of the department to do supplementary work in a specific area to meet requirements for graduate courses.

Open to Graduates Only

600 Advanced Clothing Techniques 2 hrs. Workshop (July 15-26)
Planned to meet the needs of the advanced student in clothing construction techniques. Prerequisites: Clothing, Family Clothing and consent of instructor.

602 Advanced Tailoring Techniques 2 hrs.
Specialized tailoring techniques in coats and suits. Problems in the use and performance of new textiles in clothing included. Prerequisite: Tailoring and Advanced Clothing, or consent of instructor. Not offered 1963-64.

618 Teaching of Foods and Nutrition 2 hrs.
Designed to interpret the foods and nutrition area of Homemaking to include worthwhile learning experiences fundamental to better living. Areas to be included are: curriculum planning related to various grade
levels, management and application of principles of purchasing, use of equipment and a practical use of the class hour.

620  **Teaching of Home Furnishings**  2 hrs.  
Workshop (July 1-9)

Designed to develop an understanding and appreciation of the related art area in the secondary homemaking program with emphasis on the application of the principles of design and color to everyday living.

640  **Supervision of Home Economics**  2 hrs.

New developments in the teaching of home economics and the supervision of student teaching will be studied. Problems of the students will receive major consideration. Not offered 1963-64.

642  **Coordinated Program in Home Economics**  6 hrs.

A workshop type program for experienced teachers. Three areas of homemaking will be emphasized. Clothing construction problems of teachers, teaching of foods on a meal basis and problems in teaching family living. Special consultants will be secured to assist the staff. Not offered 1963-64.

644  **Curriculum Planning in Home Economics**  2 hrs.  
Post-Session Workshop (July 29-August 9)

Consideration of changes in family living and society in relationship to the developmental needs of students as a basis for curriculum building in junior and senior high school. Programs in homemaking education.

646  **Evaluation in Home Economics**  2 hrs.


648  **Adult Education in Homemaking**  2 hrs.

A study of the developmental needs of adults and changes in society affecting families as a basis for developing adult programs in homemaking education. Not offered 1963-64.

650  **Advanced Study of Home Management**  2 hrs.

Emphasis on the philosophy, current concepts and methods of home management. Attention will be given to the newer aspects of time and motion study with special projects in work simplification. Analysis of the use of resources for achieving goals in stages of family life cycle. Prerequisite: 350-352. Not offered 1963-64.

652  **Teaching of Homemaking**  2 hrs.

Designed to develop ways of implementing newer methods and techniques used in an effective homemaking program. Planned for experienced homemaking teachers. Not offered 1963-64.
INDUSTRIAL EDUCATION

Feirer, Head; Associate Professor Lindbeck and Risher; Assistant Professor Stegman.

Open to Graduates and Upperclassmen

506 Furniture Construction 2 hrs. Spring
The use of power machinery in furniture and cabinet construction. Special emphasis is given to the following: (1) operation of woodworking machines and equipment, (2) project design and construction, (3) shop safety, (4) plywood, and (5) furniture construction. A written report in an area of a special interest will be required for graduate credit.

508 Building Construction Techniques 2 hrs. Summer
Examines modern construction methods in the area of cement, metal, electricity, wood, glazing and other related areas as applied to home building. It also studies construction methods both in custom building and in prefabrication.

524 Architectural Planning and Design 2 hrs. Fall
Architectural details, plans, elevations, rendering, tracing and blueprinting, and estimating to simple one- and two-story buildings. Outside reading for architectural appreciation. Prerequisite: 120, 226 or equivalent.

525 Architectural Planning and Design 2 hrs. Spring
Plans, elevations, details, mechanical perspective, rendering, tracing, and prints of a modern house. Emphasis placed on styles of architecture and architectural appreciation. Prerequisite: 524.

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. Not offered 1963-64.

540 Industrial Arts for the Elementary School 2 Hrs. Spring, Summer
Deals with the problems of organizing and teaching industrial arts for the elementary grades. Course materials, techniques and methods in the industrial and craft areas will be stressed.

542 Course Planning and Construction 2 hrs. Fall, Spring
Principles and techniques of selecting and analyzing suitable teaching activities and arranging such material into a functional instructional order. Instructional units prepared will be based on an analysis of a trade, occupation or activity. Opportunity will be provided to prepare a detailed course of study.
570 Arts and Crafts Techniques 2 hrs. Summer
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. Course content will be adapted to individual needs.

572 Arts and Crafts for Teachers 2 hrs. Fall
Covers craft techniques in the areas of art metal, jewelry, leather, plastics, wood crafts and other related experiences. Teaching procedures, methods and materials will be emphasized. Prerequisite: 174.

573 Mechanics and Conditioning of Equipment 1-2 hrs. Summer
A study of the cutting mechanics of 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.

582 Aviation for Classroom Teachers 2 hrs.
Designed for elementary and secondary school teachers desiring an understanding of various phases of aviation and their relation to social, political, economic and educational problems in the modern world. Opportunities will be provided to analyze various educational activities that are appropriate to different grade levels, and provision will be made for visiting airports and acquiring some flight experience. Not offered 1963-64.

588 Advanced Power Laboratory 2 hrs. Fall
Designed to enable teachers to add a power mechanics area to existing Industrial Arts Programs. The course will include a study of internal combustion engine operating principles. Laboratory experiments will be conducted in mechanical and hydraulic power transmission. The teachers will investigate and prepare reports of recent developments in new types of internal and external combustion power units. The school shop organization, equipment and safety requirements unique to this area of instruction will be studied. A course of study including text materials, charts and film will be developed. Instructional materials will be designed illustrating scientific principles.

598 Special Problems in Industrial Education 1-3 hrs. Summer, Fall, Spring
Designed for qualified individual graduate students wishing to pursue special problems of individual need or interest under the direction of a member of the graduate faculty. May be elected once in the industrial education department, and once in an associated department, with the approval of the Industrial Education Department Head and the faculty member under whom the student desires to work. Applications must be submitted and approved prior to the election of the course.
Open to Graduates Only

605 Problems in Woodworking 2 hrs. Summer

Advanced laboratory experiences in the areas of woodworking. Content selection, project building and new techniques will be covered. Written reports based on current literature will be required. The areas to be covered will be dependent on individual needs.

620 Advanced Drafting Practices 2 hrs.

Advanced laboratory experiences in mechanical, architectural and machine drawing in conjunction with a study of current technical literature. Written reports are required. Advanced instruction in engineering drawing and descriptive geometry will be included. Not offered 1963-64.


Study and analysis of current practices in technical representation. Course content is based on current industrial practices and techniques, plus the development of skill to teach this material at the high school and junior college level. Not offered 1963-64.

630 Research in Machine Shop Practices 2 hrs. Summer

For teachers who wish to carry out advanced techniques in the area of machine shop.

641 Trends in Industrial Education 2 hrs. Summer

A study of current literature in the field. Research studies will be reviewed. Commercial and industrial publications will be studied to determine their place in the school shop program.

643 Measurement in Industrial Education 2 hrs. Summer

A study of the techniques involved in the preparation and use of teacher-constructed written and practical tests. Attention will be given the interpretation of test results and the evaluation of student achievement.

644 Project Planning and Designing 2 hrs. Summer

A study of the principles of design and their application to shop projects. Special attention will be given to planning and designing new projects that will enrich the school shop program.

645 Shop Planning 2 hrs.

Planning of the shop and selecting the equipment and supplies for an industrial arts laboratory. A study of the basic principles of planning and equipment selection to harmonize with modern industrial education philosophy. Not offered 1963-64.

646 Teaching Problems in Industrial Education 2 hrs.

Special attention will be given to teaching methods and the techniques that are useful to experienced industrial education teachers. Emphasis will be placed on problem solving in industrial education, pupil
planning and the demonstration technique. Each student will be required
to work out a program of teaching methods useful in his particular
school. Not offered 1963-64.

647 Modern Technological Practices—Foundry, Power
   Mechanics, Machine Shop, Welding, Electronics  2 hrs.  Fall

   This in-service course for our industrial teachers will provide op-
portunities for them to learn the latest in technological practices in
industry. Whenever possible, cooperation of an industrial group such
as the American Foundrymen’s Society will be utilized in planning
and organizing the course. This course will be offered for two semester
hours per unit and may be elected for a total of four semester hours.

648 Modern Technological Practices—Foundry, Power
   Mechanics, Machine Shop, Welding, Electronics  2 hrs.  Spring

   (Description same as Industrial Education 647.)

650 Advanced Problems in Graphic Arts  2 hrs.

   Opportunity is provided for the individual student to undertake ad-
vanced study of the technical problems in the field of graphic arts.
Advanced instruction in imposition, presswork and linotype composition
will be available. Not offered 1963-64.

661 Electricity for Shop Teachers  2 hrs.

   For students who wish to plan an electrical area in their general
shop or plan to teach electricity on a unit shop basis. Special attention
will be given to the development of suitable projects and technical in-
formation related to them. Prerequisite: Electricity, Adv. Electricity.
Not offered 1963-64.

670 Problems in General Shop  2 hrs.

   Practical experiences in drawing and planning, woodworking, metal-
working, electricity, and craftwork will be required. Course will include
selection, development and preparation of materials and instructional
media for instruction at the junior and senior high school levels. Not of-
fered 1963-64.

671 Industrial Education Materials  2 hrs.

   A study of all the basic materials of industry with special emphasis
on new materials. Written reports on the material will be based on
a review of government studies, handbooks, industrial publications and
scientific reports. Each material will be evaluated as to its working
characteristics and its possible application in the school shop. Not of-
fered 1963-64.

672 Studies in General Shop Content and Practice  2 hrs.

   Study of current general shop content with emphasis on new instruc-
tional areas, science application in industry, multiple-activity instruc-
tional practices, and the selection and purchasing of equipment, tools,
and supplies. The adaptation of experiments and exercises to general
shop instruction will be included. Not offered 1963-64.
Kiss, Head.

For Graduates and Upperclassmen

502 Advanced Weaving 2 hrs.
Studies in the more complex forms of fabric structure and design. Not offered 1963-64.

510 Instructional Aids 2 hrs.
Procurement, construction and use of equipment and devices needed as aids in the instruction of patients and occupational therapy students. In addition to an explanation of effective uses of such visual helps as models, labels and posters, bulletin boards and exhibits, and the evaluation of available audio-visual materials, there will be a study of the organization of tools, equipment and materials as it relates to the learning situation. Not offered 1963-64.

520 Kinesiology 3 hrs. Fall, Spring
A basic study of the muscles of the body, classified as to joint motion. Each muscle studied according to origin, insertion and action. This study accompanied by a review of the skeletal and nervous systems and basic terminology. Prerequisite: Anatomy 216, Physiology 217.

523 Introduction to Orthopedics 2 hrs.
A study of the musculo-skeletal system and integrative mechanisms for students in special education. Admission on approval of instructor. Not offered 1963-64.

524 Orthopedics 2 hrs. Spring
A series of lectures on neurological and orthopedic conditions. Prerequisite: Anatomy 216, Physiology 217, or with the consent of the instructor.

532 Training of Amputee Patients 2 hrs.
Provides instruction in the rehabilitation of both the child and adult amputee. Course will involve some field work at hospitals in Michigan specializing in this area. Not offered 1963-64.

550 Occupational Therapy Modalities 2 hrs.
A course designed for the therapist who needs additional skill and knowledge of technical application of certain occupational therapy activities. These modalities will include weaving, ceramics, splints and braces, and self-help devices. Not offered 1963-64.
For Graduates Only

630 Professional Literature 2 hrs. Spring
Study and discussion of the trends, philosophy and practices in Occupational Therapy. Consideration will be given the use, analysis and appraisal of current professional literature.

632 Supervision of Occupational Therapy 2 hrs. Fall
Place and function of supervision in Occupational Therapy. Practical problems in the supervision of staff therapists, students and volunteer groups. Techniques of effective leadership will be demonstrated and emphasis will be placed on the relationship of these techniques to the achievement of departmental, hospital and community goals.

633 Administration of Occupational Therapy 2 hrs. Spring
A study of problems confronting the administrator of occupational therapy such as functional organization, personnel policy, planning of physical facilities, finance, legal aspects and hospital-community relationships.

640 Advanced Clinical Training 2 hrs.
A specialized course of study in cerebral palsy, poliomyelitis or physical disabilities. This work must be taken on an advanced level at specified training centers. Prerequisite: Clinical Training 411. Not offered 1963-64.

650 Clinical Training and Scheduling 2 hrs. Fall
Objectives and management of clinical training from the viewpoint of the school and the affiliating center. Mechanics of the student-training schedule and the student-rating program.

PAPER TECHNOLOGY

Savage, Head; Professors Diehm and Fanselow; Assistant Professor Schulz.

For Graduates and Upperclassmen

530 Polymer Chemistry 2 hrs. Fall
A general survey of the chemistry and technology of plastics with emphasis upon the synthetic resinous materials used by paper makers and converters. Prerequisite: Organic Chemistry.

540 Principles and Practice of Coated Paper Manufacture 2 hrs. Summer
Lectures on the formulation, preparation and application of pigmented coatings to paper. Lectures on rheology, on control methods, on finishing methods and on printability. Laboratory experience in for-
mulation, methods of application, testing and calendering. Experimental runs on pilot coater. Visits to nearby mills engaged in coating paper and paperboard.

550 Microbiology of Pulp and Paper 2 hrs. Spring
A lecture course on morphological characteristics and biochemical activities of micro-organisms in the pulp and paper mill. Methods of controlling micro-organisms in the paper industry are evaluated. Prerequisite: A course in bacteriology or consent.

570 Problem Analysis 2 hrs.
Laboratory development work pertaining to pulp and paper technology preceded by a survey of available literature. Not offered 1963-64.

571 Problem Analysis 2 hrs.
A continuation of course 570. Not offered 1963-64.

VOCATIONAL DIVISION

Kohrmann, Dean.

For Graduates and Upperclassmen

520 Principles of Practical Arts and Vocational Education 2 hrs. Summer, Fall
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.

522 Occupational Laboratory Experience 2 hrs. Summer, Fall
A supervised business and industrial experience program involving full-time employment for at least six weeks or equivalent. Students will study and participate in experiences in a specific occupational area. Prerequisite: consent of instructor.

For Graduates Only

625 Administration and Supervision of Practical Arts and Vocational Education. Post-session workshop (July 29-August 9) 2 hrs.
The functions of administration and supervision; problems involved in the organization and operation of practical arts and vocational education programs. For administrators, supervisors of vocational education and those wishing to prepare for such positions.

626 Trends in Technology and Employment 2 hrs.
Major occupational shifts resulting from recent advances in science and technology. The changing nature of the labor force, economic and sociological implications of automation and atomic power. Attention
will be given to educational programs needed to meet technical and skilled manpower requirements. Not offered 1963-64.

628 Seminar in Vocational Education 2 hrs. Spring

An intensive study of problems related to vocational education. For teachers, coordinators and administrators who have completed at least fifteen hours of graduate credit.
School of Business

ARNOLD E. SCHNEIDER,
Dean

Graduate Offerings:
Accounting
Business Education
General Business
Management
Marketing
SCHOOL OF BUSINESS

The School of Business includes the departments of Accounting, Business Education, General Business, Management and Marketing. The function of the School of Business is to prepare students for positions in business and industry. The program leading to the degree, Master of Business Administration, is designed to prepare graduate students to function effectively in administrative positions in these fields.

The student is challenged to develop the judgment, discriminating capacity, knowledge and understanding which will permit him to work efficiently in administrative and other leadership roles. Under the guidance of the graduate staff of the School of Business, personal programming for the participant is provided as an alternative to a set schedule of required courses.

The School of Business cooperates with the School of Education in providing a program, The Teaching of Business Education (See Education, Section II of this bulletin for a description of this program).

ACCOUNTING

Burke, Head; Professor Wetnight; Assistant Professors Everett and Stevenson; Instructor Morris.

For Graduates and Upperclassmen

510 Advanced Accounting 3 hrs.
This course is designed specifically for the balance sheet accounts. Also included will be corporations and determination of net income. Prerequisite: Accounting 211. Not offered 1963-64.

511 Advanced Accounting 3 hrs.
This is a study of accounts for special sales, consolidations and miscellaneous accounting methods. Not offered 1963-64.

512 Cost Accounting 3 hrs. Summer, Fall, Spring
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 costs and budgetary control. Prerequisite: Accounting 310, or consent of instructor.

514 Income Tax Accounting 3 hrs. Fall, Spring
Federal income tax laws for individuals, partnerships and corporations. Prerequisite: Accounting 310, or consent of instructor.

516 Auditing 3 hrs. Fall
The theory and practice of making audits of business enterprises. Prerequisite: Accounting.
518 Accounting Theory and Problems 3 hrs. Summer, Spring
Theoretical consideration of accounting problems. Nature and analysis of the type of problems that are to be found in C. P. A. examinations. Prerequisite: Accounting.

598 Readings in Accounting 1-4 hrs. Summer, Fall, Spring
Directed individual study of bodies of knowledge not otherwise treated in departmental courses.

For Graduates Only

610 Advanced Accounting Theory—Income Determination 3 hrs. Fall
A study of the underlying concepts and principles of the determination of income. Includes the study of the development of these concepts and principles and their future outlook. A study is made of asset evaluations as they relate to income determination.

611 Advanced Accounting Theory—Equities 3 hrs. Spring
A study of the underlying concepts and principles of corporate equities. Includes a study of capital stock, retained earnings, the entity theory and related materials.

612 Advanced Cost Accounting 3 hrs. Fall
A study of the more mature methods of cost measurement and control. Includes standard costs, budgetary control, profit-volume analysis, direct cost and return on employed capital.

613 Accounting Systems 3 hrs. Spring
The principles of accounting system development. Will include the systems of various types of businesses.

BUSINESS EDUCATION
Marietta, Head.

For Graduates Only

680 Principles of Business Education 2 hrs. Fall

682 Curriculum in Business Education 2 hrs.
Principles, practices and problems involved in the evaluation and construction of business curricula. Not offered 1963-64.
684 Improvement of Instruction in Shorthand and Secretarial Subjects
2 hrs. Spring

A study of the latest research findings, materials, teaching procedures, tests and measurements, and possible future development in shorthand.

686 Improvement of Instruction in Typewriting
2 hrs.

A study of the latest research findings, materials, teaching procedures, tests and measurements, and possible future development in typewriting. Not offered 1963-64.

688 Improvement of Instruction in Bookkeeping in General Business Subjects.
2 hrs. Summer

A study of the latest research findings, materials, teaching procedures, tests and measurements, and possible future developments in the business subject-matter of this field.

689 Organization and Teaching of Office Practice
2 hrs. Summer

A consideration of aims and content of office-practice course in the secondary school, with plans and techniques for organizing and teaching the subject-matter of the course and its laboratory material.

GENERAL BUSINESS

Schneider, Head; Professors Burdick and Grossnickle; Associate Professors Healey and Niemi; Assistant Professor Morrison.

For Graduates and Upperclassmen

520 Security Analysis
3 hrs. Spring

Analysis of securities, market values and investment programs. Interpretation of financial reports, factors and conditions. Prerequisite: 326 Investments, or consent of instructor.

524 Financial Management
3 hrs. Fall, Spring

Study of the principles and problems underlying the management of capital employed in the business. Prerequisites: Core subjects for the B.B.A., or consent of instructor.

526 Advanced Life and Health Insurances
3 hrs. Fall

The topics covered include Business Life and Health Insurance; insured pension plans, the use of life insurance in estate and tax planning; the relationship of social security programs to life insurance; professional ethics in life insurance; and new developments in the life and health insurance fields. Prerequisite: 422 Life Insurance, or consent of instructor.
528 Problems in Multiple-Line Insurance 3 hrs. Spring
This course uses the case analysis method in dealing extensively with both personal and commercial risk surveys and analyses. Special problems in rating, loss adjustment, marketing, underwriting, and finance in the property and casualty fields are also solved. Prerequisite: 424 Property Insurance or 426 Casually Insurance and Bonding.

542 Law of Real Property 3 hrs. Spring
The study of the law of Real Property including Property Rights, Mortgages, Leases and Land Contracts.

544 Law of Business Organizations 3 hrs. Spring
The study of the law of Business Organizations including Partnership, Corporations and Trust Organizations.

598 Readings in Business 1-4 hrs. Summer, Fall, Spring
Directed individual study of bodies of knowledge in business administration which will enhance the student's areas of interest and competence.

For Graduates Only

600 Seminar in Business 3 hrs. Summer, Fall, Spring
Intensive problem solving in the primary business fields. Consent of instructor required.

620 The Capital Market 3 hrs. Fall
Study of the courses and flow of demand and supply of credit. The business application of monetary theory to financial institutions and their operational problems. Prerequisite: 520 Security Analysis, or permission of the instructor.

626 Insurance and Government 3 hrs. Fall
This course covers the historical development, legal background, and methods of governmental supervision of the insurance industry. Principal emphasis will be placed upon state supervision of insurance, but the role of the federal government in present and future regulation is also considered. Detailed consideration is given to insurance department administration and staff, licensing and examination of companies, rate and policy filings, and control of insurance agents and adjusters. Prerequisite: consent of instructor.

640 Legal Controls of the Business Enterprise 3 hrs. Fall
An analysis of the current legal problems as they apply to the control and regulation of various types of business enterprises.

642 Statistical Interpretation 3 hrs. Spring
A survey of the advanced statistical techniques as applied to business problems. Includes probability theory; estimation of proportion, means and variances; test of hypothesis, simple and multiple regressions.
Also include topics selected from the following fields: sequential analysis; nonparametric methods; elements of experimental design; analysis of variance and introduction to statistical decision theory. Prerequisite: A course in statistics or consent of instructor.

**MANAGEMENT**

Hartenstein, Head; Associate Professors Booker and Niemi; Assistant Professor Keenan.

For Graduates and Upperclassmen

550 Management Problems 3 hrs. Summer, Fall, Spring

An opportunity to approach business from the case-study method by working solutions to actual management problems.

551 Administrative Behavior 3 hrs. Summer, Fall, Spring

Designed to integrate the contributions and implications of the behavioral sciences to modern business practice to promote and maintain effective human relations for the individual and the group. Extensive use of cases and conference methods is made. Prerequisite: Business 350.

552 Management Report Writing 3 hrs. Fall, Spring

A study of the techniques in and applications of management reports and management-report writing. Actual management reports in the various fields will be studied. The development and practice of technical report writing will be stressed.

553 Planning and Analysis for Production 3 hrs. Fall

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: Principles of Economics, Statistics.

554 Introduction to Management Science 3 hrs. Fall, Spring

Modern scientific techniques used in business and industry for controlling operations, maximizing profits and minimizing costs. Allocation of men, money, and machines among alternative uses. Other strategies and control methods applicable to management, marketing, the finance.

556 Office Management 3 hrs. Spring

Areas of office services from the managerial viewpoint. A brief overview of the problems of organizing, constructing, installing and maintaining office systems.

598 Readings in Management 1-4 hrs. Summer, Fall, Spring

Directed individual study of bodies of knowledge not otherwise treated in departmental courses.
Open to Graduates Only

650 Managerial Aspects of Labor Law 3 hrs. Spring

Background and consequences for business policy of law governing collective relationships between employers, employees, and their representatives with special emphasis on interpretation and evaluation of current legislation.

652 Business Policy 3 hrs. Spring

Integration of background acquired by the student from such varied fields of instruction as accounting, finance, industrial management, law, personnel administration and marketing. Top management problems emphasized. Discussion of actual business cases.

654 Problems of Personnel and Industrial Relations 3 hrs. Fall

A critical examination of current practices and trends in personnel administration and industrial relations in the light of recent research and findings in the field of human relations in industry. A review of personnel and labor relation functions in the enterprise, with attention to the application of theory and principles, the conduct of personnel research activity, and the relation of the industrial function to the goals of the enterprise as a whole.

655 Organization Theory 3 hrs. Fall

An interdisciplinary approach towards the analysis of the variables affecting the modern business organization with emphasis on the relationship of the role of the social sciences to the behavior of the segments of the firm. Prerequisite: Management Principles or consent of instructor.

656 Electronic Data-Processing 3 hrs. Fall, Spring

Examination of current literature in electronic data processing with special emphasis on systems analysis, applications of computers to business problems, and feasibility studies.

658 Advanced Management Practices 3 hrs. Fall

Current trends and advanced problems in the organization and management of business enterprises. Prerequisite: Consent of instructor.

MARKETING

Trader, Head; Associate Professor Hardin.

Open to Graduates and Upperclassmen

558 Purchasing Problems 3 hrs. Fall, Spring

A case study course of purchasing problems such as organization, operation, materials management, vendors' relations, value analysis and the evaluation of purchasing department performance.
570 Advanced Salesmanship 3 hrs. Summer
A detailed course with background of basic principles and analysis of selling techniques applied principally to specialty fields.

572 Advanced Advertising 3 hrs. Fall
A detailed course with special concentration on media, copy and layout. Study and projects on radio, television, newspapers and magazines.

573 Retail Buying Techniques 3 hrs.
This course analyzes the role of the store buyer; what, where, when, and how to buy. Terms, prices, invoices, legal aspects, and other relations with vendors are studied. Analysis is made of sales planning, dollar and unit control, six months buying plans, model stocks, calculation of customer demand, and the development of leadership essential in retail buying. Prerequisite: 6 hrs. Retailing or permission of instructor. Not offered 1963-64.

574 Marketing Problems 3 hrs. Fall, Spring
A study of problems concerning specific areas of marketing. Problems involving the marketing of consumer or industrial products with special attention toward the influence of market conditions on marketing decisions, channels of distribution, sales and advertising, pricing and legislation. Case method. Prerequisite: Marketing 240 or consent of instructor.

576 Marketing Research 3 hrs. Summer, Fall, Spring
Designed to give business students experience in using maps, map analysis and other geographic techniques in presenting market data, evaluating market potential, delineating trading and selling territories and selecting locations for wholesale, retail and service establishments. Prerequisites: Business 222, or approval of instructor.

579 International Marketing 3 hrs. Fall, Spring
An examination of the theories and principles of international marketing. Attention directed to related commercial policies, trade practices and procedures, and marketing research tools and techniques needed to locate and evaluate foreign markets.

598 Readings in Marketing 1-4 hrs. Summer, Fall, Spring
Directed individual study of bodies of knowledge not otherwise treated in departmental courses.

For Graduates Only

672 Marketing Management 3 hrs. Spring
Analysis of marketing activities from the management point of view. Includes study and decision making relative to competition, demand analysis, cost analysis, product design, promotion, pricing and channels of distribution.
674 Market Programming 3 hrs. Fall

Designed for special emphasis toward developing a total marketing strategy within an organization. Practical application of the marketing tools and techniques to a current problem originating in a business organization.
School of Education

JAMES H. GRIGGS,
Dean
Roland S. Strolle,
Assistant Dean

Graduate Offerings:
Education
Physical Education for Men
Physical Education for Women
SCHOOL OF EDUCATION

The School of Education includes the following departments and units: Education, Physical Education for Men, Physical Education for Women, Directed Teaching, Campus School, Paw Paw School and Educational Service Library.

Its purpose is to prepare carefully selected students through well defined teacher education curricula for administrative, supervisory and instructional positions in the public schools.

The twenty-four curricula offered in Education are described in Section II of this bulletin.

EDUCATION

Griggs, Dean; Strolle, Assistant Dean; Professors Bryan, Buelke, Carter, Chiara, Frederick, Govatos, Mallinson, Manske, McCuskey, Sebaly and Swickard; Associate Professors Boles, Davis, Eisenbach, Juul, Kanzler, Overton, Robinson, Snow and Weaver; Assistant Professors Blasch, Davenport, Eddy, Engle, Jackson, Lamper, Myer and Turansky; Instructors Blaha and Suterko.

For Graduates and Upperclassmen

502 Curriculum Workshop 2 hrs.

Opportunity is provided for teachers, supervisors and administrators in selected school systems to develop programs of curriculum improvement. 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. Not offered 1963-64.

504 Workshop in Human Relations 2 hrs.

Opportunity is provided for teachers, administrators and other school personnel to work together in the study and solution of problems in human relations, particularly in the fields of intercultural relations, group process, communication and home-school-community relations. Resource persons in sociology, psychology, speech, business and education will participate in the workshop. Not offered 1963-64.

506 Adult Education 2 hrs.

Includes 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 interests for research and study. Not offered 1963-64.

508 Parent Education 2 hrs. Spring, Summer

Places major emphasis on home problems which have educational implications for the child. Parent-teacher relationships, council pro-
grams and cooperative efforts for improvement of education in home
and in school are studied.

510 The Elementary Curriculum 2 hrs. Fall, Summer
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 The Elementary Curriculum 2 hrs.
A continuation of 510. Emphasis will be placed on developing and
organizing resource materials for actual use in school systems repre-
sented by those taking the course. Not offered 1963-64.

512 Workshop in Special Education 2-4 hrs. Summer
Post-session workshop (Coldwater)
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
with specialists, special library facilities, audio-visual materials, and
library activities with handicapped children.

520 The Junior High School 2 hrs. Summer, Fall
A detailed consideration of the basic concepts underlying an effective
junior high school program. Study of the development and purposes
of the junior high school; curricular organization and problems; co-
curricular activities; instructional materials.

530 Education of Exceptional Children 2 hrs. Summer, Fall, Spring
Deals with the problems and methods involved in the adjustment
and training of exceptional children in the schools—the mentally re-
tarded, the gifted, the crippled, the deaf, the blind, the emotionally
unstable and the delinquent.

531 Methods and Materials for the Deaf 2 hrs.
Deals with curricula, curricular materials and special methods
to be employed in teaching deaf and hard-of-hearing children. Not
offered 1963-64.

532 Mental Deficiency 2 hrs. Summer, Fall, Spring
The psychology and pathology of mental deficiency including causa-
tion, diagnosis, classification, prognosis and therapy at all levels.

533 Education and Control of the Mentally Handicapped 2 hrs. Summer, Fall, Spring
Deals with roles of courts, institutions, schools and other agencies
in control, education and custody of the mentally handicapped.
534  Methods and Materials for Mentally Handicapped Children  
2 hrs.  Summer, Fall, Spring

Principles of learning and instructional practices applicable to mentally handicapped children. Special attention is given to problems of the mentally retarded child with elementary curricular materials.

535  Introduction to Lip Reading  
2 hrs.  Summer, Fall

Acquaints the student with the various methods of lip reading and the problems encountered in the teaching of this skill. The student is given opportunity to acquire elementary lip reading skill as well as practice in the techniques of teaching.

536  Speech for the Deaf  
2 hrs.

Teaching methods used for the development of speech in congenitally deaf children. The formation of speech elements and their combination into words. Use of residual hearing for speech and voice improvement. Not offered 1963-64.

537  Language for the Deaf  
2 hrs.

The development and application of the principles of the English language and presentation to the deaf children. Attention will be given to the Language Principle Method, the Barry Five Slate System, Straight Language for the Deaf and Wing Symbols. Not offered 1963-64.

538  Anatomy and Pathology of the Aural Mechanism  
2 hrs.  Summer, Spring

A survey of anatomical and physiological subject matter bearing on the speech field of hearing; functional tests of hearing; and discussion of the pathological conditions of the ear and labyrinth.

539  Clinical Audiometry and Audiology  
2 hrs.  Summer, Fall

Deals with the physics of sound, with ear as a sound receiver and with clinical methods of measuring hearing. The interpretation of test results for the purposes of re-education and the necessary follow-up measures in an educational hearing program are studied. Students will be given actual practice in group and individual audiometric testing.

540  Organization and Administration of Special Classes for the Mentally Handicapped  
2 hrs.  Summer, Fall, Spring

Principles and practices of organization and administration at state, county and district levels. Legal aspects including state aid will be given consideration.

542  Therapeutic Care of Crippled Children  
2 hrs.  Summer, Fall

A study of therapies, services and orthopedic appliances necessary for the care, education and rehabilitation of crippled children. Identification of crippling conditions and their management in home, school and community. Lectures, demonstrations, clinics by physicians, physical and occupational therapists.
543 Education of Crippled Children 2 hrs. Spring

Study of educational and psychological needs of crippled children. Characteristics, types and special class placement of crippled children. Methods and materials with special emphasis on individual differences in learning ability. Special educational problems involved in teaching the brain-injured child.

545 Hearing Rehabilitation 2 hrs. Fall

Considers lip reading, hearing aids, auditory training and speech re-education as rehabilitative measures. Laboratory teaching of hard-of-hearing children and adults.

546 Driver and Safety Education Post-Session Workshop 2 hrs. Fall, Spring

Deals with several aspects of safety education in the home, school and community, with special emphasis on preparing secondary school teachers of driver training and safety education. Materials and methods, psycho-physical testing, sound driving practices, pedestrian protection, "Behind-the-Wheel" training in dual-control cars and accident prevention procedures are an integral part of the course.

548 Audio-Visual Education 2 hrs. Summer, Fall

Acquaints teachers and administrators with the principles and practical uses of multi-sensory aids to education, including field trips, machines and creative materials.

549 Production of Instructional Materials Post-Session Workshop 2 hrs. Fall, Spring

Provides many laboratory experiences in making such instructional materials as: bulletin board displays, charts, wet and dry mounting of pictures, film strips and 2" x 2" slides, silk screen process, magnetic boards, handmade slides, mimeograph techniques, etc. Opportunity will be given for students to work on those materials which interest them.

550 Workshop: Education for Moral and Spiritual Values 2 hrs.

Designed as a pilot project of the AACTE Committee on Teacher Education and Religion. Open to teachers, counselors, administrators and others who are interested in helping children and youth develop desirable behavior patterns based on fundamental moral and ethical principles. Involves a study of procedures and activities designed to develop good value-judgments which will carry over in family, school and community relationships. Not offered 1963-64.

551 Philosophy of Education 2 hrs. Fall

For graduate students and teachers of experience. Analyzes and interprets changes in education taking place in this and other countries.

580 Principles and Philosophy of Guidance 2 hrs. Summer, Fall, Spring

Basic introductory course for all elementary and secondary teachers. A thorough investigation of the democratic philosophical concepts.
underlying guidance service programs; a survey of the history and principles of guidance; an overview of guidance services.

581 Individual Appraisal
2 hrs. Summer, Fall, Spring
A development of competencies in the use of questionnaires, school records, evaluations, autobiographies, anecdotal records, sociometrics, rating scales, case studies and conferences, parent-teacher conferences, placement, follow-up and community resources.

582 Occupational and Educational Information
2 hrs. Summer, Fall, Spring
Discussion of theories of occupational and educational choice stressing knowledge of sources, use, evaluation and techniques of imparting occupational and educational information including college choice, loans, fellowships, scholarships and grants in education.

583 Guidance Workshop
2 hrs.
Designed for teachers, counselors, supervisors and administrators in selected school systems to study particular guidance problems and procedures in relation to their local guidance program. A wide variety of workshop methods and resources is used. Not offered 1963-64.

585 Mental Hygiene of Childhood and Adolescence
2 hrs. Summer, Fall, Spring
Deals with the problems of emotional adjustment and maladjustment in childhood and adolescence.

587 Educational Therapy in Reading
2 hrs. Summer
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 Psychopathology of Childhood
2 hrs. Fall
A comprehensive study of the causes, manifestations, treatment and prognoses of psychiatric conditions in children suffering from neuroses, psychoses, schizophrenia, behavior disturbances, psychopathic personality disorders, organic malfunctioning, sexual deviations, etc. The learning difficulties and educational problems presented by emotionally disturbed children. Terminology and concepts needed for an understanding of mental illness and for effective communication with members of related psychiatric professions.

589 Education of Emotionally Disturbed Children
4 hrs. Spring
Taken concurrently with directed teaching in this field, this course provides group and individual guidance regarding problems encountered in teaching the emotionally disturbed. Methods of teaching, evaluation, cooperation with other agencies and professions, staff diagnostic conferences, and inter-disciplinary teamwork are among the areas covered. Resource persons include psychiatrists, psychologists, social workers, etc.
590  Physiology and Function of the Eye  2 hrs.  Summer, Fall, Spring
The anatomy, structure and function of the eye. Various eye diseases and malfunctions will be stressed. The student will be given an opportunity to observe all types of eye conditions, eye prosthesis and low visual aids.

591  Braille and Other Communication Methods  2 hrs.  Summer, Fall, Spring
Acquaints the student with the basic rudiments of Braille reading and writing. Familiarization with other means of communication used by the blind.

592  Education of the Blind and Partially Sighted  2 hrs.  Summer, Fall, Spring
An overview of the education of visually handicapped child. An introduction to the literature, history, principles, practices and problems in the field, including curricular and methodological adaptations of various educational programs.

Open to Graduates Only

601  Introduction to Research  2 hrs.  Summer, Fall, Spring
An introduction to the nature and methods of research, with special emphasis upon the practical application of research findings to problems in each student's area of major interest.

602  The School Curriculum  2 hrs.  Summer, Fall, Spring
Educational programs for children and youth, with emphasis on principles and problems of curriculum development common to all levels of instruction.

603  Foundations of American Education  2 hrs.  Summer, Fall, Spring
A study of American education as affected by the great traditions and movements of Western culture. Consideration is given to historical, socio-economic and philosophical factors in the interpretation of modern educational issues and the solution of present-day educational problems.

604  Educational Psychology  2 hrs.  Summer, Fall, Spring
*Post-Session Workshop, Walden Woods, near Hartland, Michigan
A study of the forces which motivate behavior and affect the learning process, with particular reference to problems of growth, develop-

*The Inter-Institutional Seminar in Child Development, of which Western Michigan University is a member, is sponsoring a seminar for graduate students in the study of child development and related areas. The teaching staff consists of distinguished child development specialists and educators from foreign and American universities. The seminar is accredited on the graduate level by all the participating universities. A limited amount of scholarship support is available.

For further information, please contact Dr. Louis A. Govatos, 102 Education Building, Western Michigan University.
ment of meanings and individual differences. Provisions are made to meet the needs of students with varying backgrounds in psychology.

605 The Process of Curriculum Development 2 hrs.
This course, designed for instructional leaders, will deal with forces causing and inhibiting curricular change, techniques of organizing and supporting curriculum improvement, perceptions of individuals and groups in relation to change, and communication with professional and lay groups involved. Prerequisite: Education 602 or consent of instructor. Not offered 1963-64.

610 Guiding Child Development in the Elementary School 2 hrs. Summer, Fall
Designed to help nursery, kindergarten and elementary school teachers gain an understanding of the manner in which skills, information, attitudes and behavior patterns are acquired and modified. The contributions of each curricular area, such as: language, arts, arithmetic, science, social studies, health, etc., are stressed with emphasis on suitability of experience for different stages of growth, instructional practices and appropriate procedures of evaluation.

613 Elementary School Supervision 2 hrs. Fall
Emphasis is placed on practical problems of educational leadership and supervision in the elementary school. The roles of supervisors, principals, superintendents and teachers are studied.

614 Elementary School Administration 2 hrs. Summer, Spring
Deals with problems confronting the elementary school principal, such as organization of the school program, parent and community relationships, personnel problems, discipline, evaluation and the like.

615 Seminar in the Teaching of Reading 2 hrs. Summer, Spring
Designed to acquaint teachers, reading specialists and administrators with the current literature, research, methods and materials used in teaching children how to read. Special emphasis is placed on reading in relation to other aspects of language and on reading in the content fields.

620 Improvement of Teaching in Secondary Schools 2 hrs. Summer, Fall
For teachers of experience, high-school principals, and superintendents who desire to consider the larger problems of classroom instruction. Open also to graduate students without teaching experience.

621 The Secondary School Curriculum 2 hrs.
Covers modern practices and recent emphases and trends in subject areas of the secondary school curriculum. Prerequisite: 502 The School Curriculum or equivalent. Not offered 1963-64.
622 Common Learnings Program  
2 hrs.  Fall, Spring
Designed for teachers and administrators engaged in or preparing for unified programs in junior and senior high schools. Deals with newer practices regarding integration of knowledge from several fields around the needs of secondary youth.

623 The Role of the Secondary School in American Society  
2 hrs.  Spring
Considers the place of the high school in the American social scene. Preparation for vocation, citizenship, marriage and family life and other problems of high school youth are discussed in relationship to major social trends and forces.

624 Secondary School Administration and Supervision  
2 hrs.  Summer, Spring
Designed for superintendents, principals and experienced teachers interested in administrative matters. Makes detailed study of the general problems of organization, supervision and management of the high school.

630 Clinical Study of Exceptional Children  
2 hrs.  Post-Session Workshop (Coldwater)
This course is intended to illustrate methods of diagnosing and treating problems of exceptional children. Students make observations and interpretations of the children and carry on remedial work with them. The contributions of other professions will be incorporated.

632 Problems in Education of the Mentally Handicapped 2 hrs.  Fall
Problems in education of mentally handicapped children including educability; philosophy of education of the mentally handicapped; organization of programs; and functions of institutions.

633 Education of Gifted and Talented Children and Youth  
2 hrs.  Summer
This course is designed to develop a student’s understandings of and appreciation for the abilities, interests, talents, and problems and of gifted children and youth. Attention will be given to methods and criteria used in identifying gifted, talented and creative individuals. Through the use of available research data students will be required to complete a critical evaluation of educational provisions including segregation, acceleration, and enrichment. Personal, social, and cultural factors which directly or indirectly influence the growth and development of these individuals will be considered.

646 Advanced Driver and Safety Education  
2 hrs.  Post-Session Workshop
Advanced professional preparation to meet the traffic and safety needs of schools, home and community. Special emphasis on traffic safety engineering and research, psychology of the motorist, and tech-
niques of driving instruction. Laboratory experiences including driving range. Prerequisite: Education 546 or the equivalent. Not offered 1963-64.

**650 Growth and Development in Later Adolescence** 2 hrs.

Designed to develop an understanding of the behavior patterns, problems and adjustments of college-age youth. Special emphasis is placed on the role of the junior college teacher in guiding the social and emotional as well as the intellectual development of the students. Not offered 1963-64.

**652 Comparative Education** 2 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 with the American educational system. Not offered 1963-64.

**658 The Challenge of Soviet Education** 2 hrs.

A study of education in a large totalitarian state. The subject of education will be examined against the background of Russian history, Marxism, Leninism, the Soviet social system, and the world situation. The question of meeting the challenge will then be considered. Not offered 1963-64.

**660 Principles of Educational Administration** 2 hrs. Summer, Fall

The philosophy and principles underlying school administration including governmental control, school plant, finance, personnel and the internal organization. Presupposes a rudimentary knowledge of administration and some practical field experience.

**661 Social Interpretation** 2 hrs. Spring

Deals with community education with respect to the educational program. Considers the principles of educational interpretative service and their application in every phase of the system.

**662 Educational Leadership** 2 hrs.

Designed for present and prospective administrators, supervisors and college instructors interested in improving educational programs through constructive methods of leadership. Special emphasis is placed on the importance of human relations in curricular change. Not offered 1963-64.

**663 Workshop in Educational Administration** 2 hrs. Summer (Post Session)

Open to experienced administrators and others interested in working through administrative problems in school systems. Areas to be studied include: school buildings, finance, public relations, internal administrative problems, personnel policies and educational leadership.
664 **School Plant Planning**  
2 hrs. **Summer**  
Designed for present and prospective administrators and supervisors interested in the process of planning school plants. It includes such aspects as building surveys, the determination of needs, and legal and financial considerations. Emphasis is on planning for the building. Some field visits will be expected.

665 **Financial Aspects of School Administration**  
2 hrs. **Spring, Summer**  
Considers school expenditures, sources of revenue, principles of budget making, techniques of borrowing, bonding, tax allocations, state aid formulas, accounting procedures and similar financial problems facing school administrators.

666 **School Business Management**  
2 hrs. **Fall**  
Designed for present and prospective school administrators and school business officials. Treats such items as principles of business management, budgetary practices, financial accounting, purchasing and supplies, payroll management, school activity fund accounting, financial reporting and auditing, and business management of auxiliary services.

667 **Administration of School Personnel**  
2 hrs. **Summer, Fall**  
Problems related to teaching and non-teaching personnel in the public schools. Consideration given to policies and procedures relating to selection, assignment and promotion of personnel; orientation of new staff; salary schedules; retirement; tenure; in-service education; teacher evaluation; teacher organizations; and professional ethics.

668 **School Law**  
2 hrs.  
Focuses attention on basic legal principles, on the interpretation of school legislation, and on the legal responsibilities facing the administrator, the teacher, the school board, and the parent. Not offered 1963-64.

669 **Supervision of Student Teaching**  
2 hrs. **Summer, Fall**  
Deals with the significance of student teaching in the pre-service education of teachers, the role of the supervising teacher, and the problems associated with providing high quality student teaching experiences. Many types of student teaching programs and their components of planning, evaluation, supervisory conferences and follow-up are analyzed.

670 **Directed Teaching**  
2-6 hrs. **Summer, Fall, Spring**  
Open to graduate students who have completed the major portion of professional courses required for certification.

674 **Directed Teaching, Special Education**  
3-6 hrs. **Summer, Fall, Spring**  
This course is a requisite for students who are preparing to teach in special education. The course is preferably taken after directed teaching has been completed in a regular classroom.
680 Seminar in Guidance 2 hrs. Fall
A critical review of the research literature relating to guidance and allied fields. Emphasis will be placed upon the practical application of these findings in the respective schools of the participants.

681 Interpretation and Use of Tests in Guidance 2 hrs. Summer, Fall, Spring
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.

683 Organization and Administration of Guidance Programs 2 hrs. Summer, Fall, Spring
Administrative and supervisory problems of guidance directors. Need for local and state administration, function of administration and supervision, improvement of group guidance programs in homeroom and classroom.

684 Elementary School Guidance Post-Session Workshop 2 hrs. Spring
Designed to give teachers, administrators and guidance workers an understanding of principles and techniques of guidance programs in elementary schools.

686 Theory and Techniques of Counseling 2 hrs. Summer, Fall, Spring
Theories of counseling and laboratory experience in counseling. Activities provided which can make theory concrete and practical, such as tape recordings, role playing, and actual counseling interviews. For guidance majors.

687 Improvement of Reading in Secondary Schools 2 hrs.
Designed to aid teachers in developing the reading abilities and skills of their students at the secondary level. Emphasis aims, materials and procedures. Not offered 1963-64.

688 Evaluation in Education 2 hrs.
Designed to develop skills, techniques, attitudes and understandings involved in the measurement and evaluation of 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 evaluative devices, and upon the development of a philosophy of evaluation as an integral part of learning. Not offered 1963-64.

689 Supervised Counseling Practicum 2 hrs. Summer, Fall, Spring
Practical application and integration of theory and methods in realistic settings. The supervised experience will consist of various
aspects of counseling, including vocational, educational, and social with counselees at all age levels. Extensive use is made of tape recordings and one-way vision screens. For guidance majors.

690 The Community College  2 hrs.
Studies the historical development of the junior and community college movement; the function of the community college in the total educational program; the divergent aims and curricular requirements of pre-professional, academic and pre-vocational courses; the problem of guidance and counseling as an integral part of the program; and methods and materials of instruction at the college level. Not offered 1963-64.

691 Advanced Counseling Practicum  2 hrs. Fall, Spring
A continuation of Education 689.

692 The Dynamics of Blindness and Rehabilitation  2 hrs. Fall, Spring
The development of the status of the blind and their integration into a sighted society. The relationship of the emotional and social correlates of blindness to the development of the blind individual as a contributing member of society.

693 Counseling of the Blind  2 hrs. Summer, Fall, Spring
(Hines V. A. Hospital)
Acquaints the intern with techniques and procedures used in testing and counseling blind individuals.

694 Orientation and Mobility  2 hrs. Summer, Fall, Spring
Techniques will be acquired under conditions simulating blindness. Emphasis will be placed on the use of the remaining senses, common objects, the muscles and the skeleton in activities of daily living.

695 Advanced Orientation and Mobility  4 hrs. Summer, Fall, Spring
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 the: school, residence, community, and work situations.

696 Internship in Orientation and Mobility.
(Hines V. A. Hospital)  8 hrs. Summer, Fall, Spring
The intern, under close supervision of a Master Therapist, will instruct blinded children and adults in all phases of orientation and mobility. The intern will be afforded the opportunity to work with all levels of students in various environments. He will aid the Master Orientator in working with blinded individuals who have additional severe disabilities.
PHYSICAL EDUCATION FOR MEN

Gary, Head; Associate Director of Athletics Gill; Professor Maher; Associate Professors Boven, Dales and Schlosser.

For Graduates and Upperclassmen

561 Problems in Interscholastic and Intercollegiate Athletics  
2 hrs. Summer

Relationship of athletics to education is considered. Problems in the organization of an athletic program including eligibility, finance, liability, transportation, safety, facilities and equipment will be discussed.

For Graduates Only

630 Advanced Techniques in the Coaching of Football  
1 hr. Summer

Considers problems in the coaching of fundamentals, the organization of practice periods and offensive and defensive strategy. Prerequisite: Either coaching experience or completion of an undergraduate course in the sport concerned.

631 Advanced Techniques in the Coaching of Basketball  
1 hr. Summer

The same as 630.

632 Advanced Techniques in the Coaching of Baseball  
1 hr. Summer

The same as 630.

633 Advanced Techniques in the Coaching of Track  
1 hr. Summer

The same as 630.

634 Advanced Techniques in the Coaching of Minor Sports  
2 hrs. Summer

Problems and coaching techniques in minor sports such as wrestling, tennis and golf. Rules and regulations governing meets and play are discussed. Actual participation in the activities is required. Either coaching experience or completion of an undergraduate major or minor in the field of Physical Education is a prerequisite.

642 Physical Fitness Workshop  
2 hrs.

An intensive study of problems related to the development and maintenance of physical fitness, including the areas of administration, curriculum, prescription of activities, and evaluation. Course will provide opportunity for cooperative exploration of significant factors contributing to physical fitness and recommendations for their implementation at the elementary and secondary school levels. Not offered 1963-64.
Tests and Measurements in Physical Education 2 hrs. Spring

Acquaints students with the theory, selection, construction, administration and interpretation of appropriate tests in the field. Class activity will include study and discussion of selected tests, application, scoring, interpretation and construction of tests.

Current Studies in the Administration of Physical Education 2 hrs. Spring

For administrative officers as well as for teachers and directors of physical education. Includes a study of representative programs of physical education and a discussion of standards for evaluating such programs.

Community Recreation 2 hrs. Fall

Problems in community recreation. The essential elements pertaining to leadership, areas, facilities, programs, activities and methods of organization and administration are considered. A study is made of outstanding programs in operation. Recreation material is surveyed.

Camp Administration 2 hrs. Summer

The organization and administration of camps and their program requirements and standards. Consideration is given to philosophy and objectives, personal skills in camp activities and methods of teaching them. Visits to camps are made and out-of-door activities are experienced.

Methods and Materials in Recreation 2 hrs. Summer

Best methods and materials for the teaching and organization of recreation activities. Activities used in recreation will be presented. Opportunities for organization and actual participation and leadership will be given. This course is open to all graduate students.

PHYSICAL EDUCATION FOR WOMEN

Roell, Head.

For Graduates and Upperclassmen

Methods in Physical Education 2 hrs. Spring, Fall

Fundamental principles underlying the selection of subject matter and the technique of teaching gymnastics, games and rhythmic work for elementary and high-school pupils. Opportunity for observation and making of lesson plans.

Administration and Organization of Physical Education 2 hrs. Fall

Topics considered are administration of activities, physical examinations, excuses, special cases, records, schedules and relations with other services in the school.
610 **Rhythms in Elementary Education** 2 hrs. Summer

A study of the rhythmic movement needs of the elementary school child—(a) suggested methods of teaching through which children are stimulated to create their own ways of doing—(b) folk and social dancing as outgrowths of movement fundamentals—(c) teaching examples, sample lesson plans and up-to-date reference sources. The course will consist of lecture and activity classes.

641 **Physical Education for the Elementary Classroom Teacher** 2 hrs. Summer

A study of the developmental needs of the child in terms of physical activity; the role of physical education in childhood education; the responsibility of the classroom teacher in this area; demonstrations and practice in teaching activities.

661 **Problems and Trends in Physical Education** 2 hrs. Fall

Deals with modern trends and with instructional and supervisory problems involved in conducting an effective program of physical education. Critical appraisal of present practices.

662 **Curriculum Building in Physical Education** 2 hrs

A course in the development of a practical progressive physical education program for the elementary schools and for secondary school girls. A review of children's characteristics, particularly those concerned with physical education, will be used as a basis for thorough analysis of the development of the fundamental and basic skills at the various age levels. Not offered 1963-64.
School of
Graduate Studies

GEORGE G. MALLINSON,
Dean

Departments:
Librarianship
Thesis, Independent Research
Professional Field Experience
GRADUATE STUDIES

For Graduates Only

700 Thesis 6 hrs. Summer, Fall, Spring

Candidates for the Master of Arts degree may elect to write a thesis in their field of specialization under the supervision of one or more faculty advisers.

A student may elect this course in units of from two to six hours. The election should not be made in more than two units and must be made within a calendar year. Application forms must be submitted at the time of election of the thesis.

710 Independent Research 2 hrs. Summer, Fall, Spring

Designed for highly qualified advanced graduate students, or small groups, who wish to pursue individual studies or projects under the direction of a member of the graduate faculty. It may be elected in any department or division with permission of the Dean of the School of Graduate Studies, the student's graduate adviser and the faculty member under whom the student desires to work. Applications must be submitted prior to the election of the course.

711 Independent Research 2 hrs. Summer, Fall, Spring

A continuation of Graduate Studies 710. May be elected in any department or division with permission of the student's graduate adviser, Dean of the School of Graduate Studies, and the faculty member under whom the student desires to work. Prerequisite: Acceptance for Candidacy for the Master's Degree, and completion of Graduate Studies 710 with superior accomplishment. Application forms may be obtained at the Graduate Office and must be submitted prior to the election of the course.

712 Professional Field Experience 2-6 hrs. Summer, Fall, Spring

Designed for superior graduate students who wish to pursue internships or apprenticeships in off-campus activities in industries or institutions. May be elected in any department or division with permission of the student's graduate adviser, a faculty sponsor and the Dean of the School of Graduate Studies. Prerequisite: An outline of the purposes of the student's internship or apprenticeship. Application forms and information about established programs may be obtained at the Graduate Office and must be submitted prior to the election of the course.
LIBRARIANSHIP

Lowrie, Head.

510 Selection of Books and Related Materials 3 hrs. Summer, Fall, Spring


512 Reference Service 3 hrs. Summer, Fall, Spring

Study and evaluation of basic reference and bibliographic sources. Critical examination of the publications of governmental agencies, societies and institutions especially as reference sources. Attention given to organization and methods of reference services in the library.

*516 Elementary School Library Materials 2 hrs. Spring, Summer

Problems in the selection and evaluation of books, periodicals, films, recordings and other materials for children with special emphasis on the content areas in the elementary school curriculum. Methods of stimulating interest in reading with attention to the retarded as well as to the gifted child. For teachers, parents, librarians and others who work with children. Prerequisite: 282 Children’s Literature or the equivalent.

520 Field Assignment and Seminar 2 hrs. Summer, Fall, Spring

An assignment in selected cooperating libraries for the purpose of giving the student experience in the organizational and administrative activities in specific types of libraries as basis for understanding their function and the principles underlying policy. The assignment may precede the opening of college or may be carried on during the term. Laboratory period for discussion of problems is held throughout the term. Term project also required of graduate students enrolled.

530 Introduction to Classification and Cataloging 4 hrs. Fall, Summer

Introduction to the principles of cataloging and classifying the book collection. Includes study and practice in making the dictionary catalog and in classifying according to the Dewey Decimal Classification scheme. Students are taught to use the unit card system and are given practice in adapting Library of Congress and Wilson printed catalog cards, in assigning subject headings and in cataloging non-book materials.

*Starred courses are open to students from other departments.
531 Technical Processes: Instructional Materials Centers  4 hrs.  Fall

An introductory course in classification and cataloging in which emphasis is placed on processing materials for the instructional materials center. Includes processing of books and other printed matter and audio-visual materials. Includes also principles of application of the Dewey Decimal classification system, the assignment of subject headings, adaptation of printed catalog cards and introduces various methods of processing audio-visual materials both for individual schools and centralized processing for systems. Includes laboratory experiences.

*542 Reading Interests of Young Adults  2 hrs.  Summer, Spring

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 of methods of stimulating broader reading interests and of conducting group book discussions with young people. Open to students in the Education Department and to others who expect to work with youth.

*546 Storytelling  2 hrs.  Fall, Summer

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.

Open to Graduates Only

600 Foundations of Librarianship  2 hrs.  Fall, Summer

Gives the student professional background through study of the historical development of the library, European and American; the function of the modern library and its contribution to society; current trends in librarianship and current library literature.

*602 History of Books and Printing  2 hrs.  Spring

Study of the development of the book from the earliest period to modern times. Considers the appraisal of the physical book as well as its relationship to social and cultural developments. Includes history of the alphabet, early writing materials, manuscripts, invention and spread of printing and evolution of book production.

612 Subject Bibliography: The Humanities and Social Sciences  3 hrs.  Fall, Summer

A study and evaluation of the bibliographical sources in the social sciences and the humanities. Each student will be expected to compile a bibliography on a topic of his choice. Prerequisite: an introductory course in Reference. 612 need not precede 613.

*Starred courses are open to students from other departments.
613 Subject Bibliography: The Sciences 3 hrs. Spring
A study and evaluation of the bibliographical sources in the sciences including the technical fields. Each student will be expected to compile a bibliography on a topic of his choice. Prerequisite: an introductory course in Reference. 612 need not precede 613.

616 Curriculum Enrichment Materials 2 hrs. Fall
Study of the sources for selection of teaching materials with emphasis on the content areas in the secondary school curriculum. Includes evaluation of books, pamphlets, periodicals, map and other audiovisual materials. Methods of instruction in the use of such materials are also studied and students are expected to complete a term project. Open to teachers and librarians.

617 Reading Guidance for Children 2 hrs. Fall
A study of the development of children's literature from approximately the 8th century in England and the Colonial period in the United States to the present time. Includes principles and techniques in guidance of children's reading interests; establishment of policies for selection of books especially in building the collections of public library children's departments.

620 Public Library Service 2 hrs. Spring, Summer
Origin and development, purposes and functions of the tax-supported public library (county and regional) in a democracy. Relation to other educational units in the community; distinctive problems and practices in public library organization and administration. Prerequisite: Library Organization and Administration or equivalent.

622 Library Organization and Administration 2 hrs. Fall
Organizational and administrative factors requisite for effective library service. Consideration given to governmental and community relations, to personnel, finance, buildings and equipment. Individual projects, lectures and class discussion supplemented by observation trips.

623 Elementary School Library Service 2 hrs.
Opportunities for individual and group study to investigate methods and techniques for establishing, extending and improving elementary school library service. Lectures, field trips, and discussion augmented by resource consultants. Laboratory periods in Campus Elementary School Library. Not offered 1963-64.

624 Children's Library Services 2 hrs.
Organization and administration of public library service to children; emphasis on coordination with elementary school library service. Not offered 1963-64.

*Starred courses are open to students from other departments.
625 School Library Administration 2 hrs. Fall, Summer

The function of the library as a department in elementary and secondary schools. Includes study of special problems in personnel, in planning for space and equipment, in budgets and in the administration of centralized school library services in a school system. Standards for evaluation of school libraries are also studied. Open to graduate students in school administration as well as to librarianship students.

626 Library Service to Youth 2 hrs. Spring

The function and administration of youth service in public libraries; study of methods in use in various library systems and the coordination with secondary school libraries.

627 Administration of the Instructional Materials Center 3 hrs. Spring, Summer

Presentation of the single agency concept of multi-media instructional materials (school library plus audio-visual center) and the educational role of mass communications (language laboratory, educational television, etc). Techniques for organization and administration, distribution and accessibility within the individual school or within a school system. Use and care of printed materials, non-book materials and equipment. Laboratory work and field trips.

629 Library Research 3 hrs. Fall

Evaluation of library studies and their influence on library organization, administration and services. Opportunity for investigation and research in current problems in public, college or school libraries. Prerequisite: 622 Library Organization and Administration, or equivalent.

630 Advanced Classification and Cataloging 3 hrs. Spring

A continuation of Introduction to Classification and Cataloging. Attention is given to comparison of classification systems; to cataloging of special types of materials including audio-visual materials and to methods of organizing centralized cataloging units.

632 College and University Library Service 3 hrs. Spring

College and university library organization and administration, and the place of the library in academic institutions; effectiveness of library procedures; problems of acquisition, finance, buildings, equipment and the handling of special materials. Prerequisite: 622 Library Organization and Administration.

640 Government Publications 3 hrs. Spring

Study of city, state and federal documents and those of selected international agencies such as the United Nations. Problems of acquisition, organization and use of such collections in various types of libraries. Prerequisite: 512 Reference Service or equivalent.
644 Adult Reading Interests 2 hrs. Spring

Evaluation of the findings of reading interest studies and their implications in library service. Survey of the field of popular reading in various subject areas. Development of an understanding of the reading habits, abilities, and needs of adults.

648 Adult Education Methods in Libraries 2 hrs. Summer, Fall

Function of the library in the continuing education of adults; relationship to other adult education agencies: Introductory leadership training and development of techniques in group work, book discussions, and film forums.
School of
Liberal Arts and Sciences

GERALD OSBORN,
Dean

Graduate Offerings:
Art
Biology
Chemistry
Economics
English
Geography and Geology
History
Languages
Mathematics
Music
Philosophy
Physics
Political Science
Psychology
Science Division
Social Science Division
Sociology and Anthropology
Speech
SCHOOL OF LIBERAL ARTS AND SCIENCES

The School of Liberal Arts and Sciences includes the departments of Art, Basic Studies, Biology, Chemistry, Economics, English, Geography and Geology, History, Languages, Mathematics, Music, Philosophy and Religion, Physics, Political Science, Psychology, Sociology and Anthropology, and Speech.

The School of Liberal Arts and Sciences offers a variety of subjects that familiarize the graduate student with the world of ideas, and deepen his understanding of the cultural heritage. The programs are designed to train the student to think objectively, critically, and creatively.

Graduate programs are offered in Biology, Chemistry, Economics, English, Geography and Geology, History, Mathematics, Medieval Studies, Philosophy, Physics, Political Science, Psychology, and Sociology and Anthropology.

The School of Liberal Arts and Sciences cooperates with the School of Education in offering the following teacher education programs: Teaching of Art, Teaching of Literature and Language, Teaching of Music, Teaching of Science and Mathematics, Teaching of Social Science, Teaching of Speech Correction and Teaching of General Speech.

ART

Hefner, Head.

For Graduates and Upperclassmen

515 Advanced Commercial Art 3 hrs. Spring

Emphasizes typographic layout, booklet design, letterheads, mailing pieces, packaging and display design and construction. Covers technical methods essential to commercial art. Prerequisite: Commercial Art, or equivalent.

541 Art Supervision 3 hrs. Fall, Spring

A study of the curriculum and its needs in art activities. A course of study will be outlined and administration problems discussed. Prerequisite: Art Structure, Elementary Design, Art Composition, History of Art, Commercial Art, or equivalents.

550 Painting 2 hrs. Fall

Painting of still life and landscape, in the studio and outdoors. Water colors are used. The course involves the study of composition, color value and technique. Prerequisite: Art Structure, Elementary Design, or consent of instructor.
For Graduates Only

640 Workshop in Art for Elementary Teachers  2 hrs.  Summer, Fall, Spring

Provides the foundations of art for elementary teachers who have little or no work in the area. Emphasizes handwork and use of scrap material.

642 Studio Course in Art  4 hrs.  Summer, Fall, Spring

Advanced art problems or projects creatively conceived and executed to fulfill student or college needs; such as sculpture and murals.

643 Studio Course in Art  2 hrs.  Summer, Fall, Spring

A continuation of 642.

645 Creative Crafts for Secondary Teachers  2 hrs.

Designed for the teacher who is not an art specialist. Survey of art materials, methods and techniques related to the instructional and learning processes for secondary students with emphasis on the junior high school level. Not offered 1963-64.

BIOLOGY

Van Deventer, Head; Professors Bartoo, Hinds, Steen and Wiseman; Associate Professors Robinson, Schultz and VanderBeek; Assistant Professors Brewer, Davis, Holt, Lawrence and Minckley.

For Graduates and Upperclassmen

500 Selected Experiences in Biology  2 hrs.  Spring

Designed for pre-service or in-service elementary and secondary teachers who need to develop their background in biology. Problems to be studied will be selected under the guidance of the instructor. Laboratory work will consist of independent studies of living plants and animals. These will be done outside of class time, utilizing procedures outlined by the instructor. Prerequisite: consent of instructor.

508 Modern Biology  2 hrs.  Fall

Presents the results of recent research findings in biology and recommendations of professional organizations interested in biology education. Prerequisite: at least a minor in biology.

509 Modern Biology  2 hrs.  Spring

A continuation of 508. May be taken without the fall semester. Prerequisite: at least a minor in biology.
512 Health Problems 2 hrs.
An intensive study of those diseases and practices which constitute major social problems. Frequent reports are made and an investigative project is required for graduate credit. Prerequisite: at least a minor in biology and/or chemistry, or consent of the instructor. Not offered 1963-64.

514 Methods and Materials for School Health Education 2 hrs. Fall
Emphasis is placed 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 to other subjects in the curriculum. Prerequisite: consent of instructor.

515 Alcohol Problems 2 hrs. Fall
An objective study of a major social problem, examined critically with regard to its physiological, psychological, legal, cultural and sociological aspects. Frequent reports are made and an extensive project is required of graduate students. Prerequisite: at least a minor in biology or sociology or consent of the instructor.

516 Neurology 3 hrs.
Lecture and laboratory work on the structure, development, and functioning of the nervous system in mammals, with particular reference to humans. Both normal and pathological aspects are considered. Prerequisite: at least a minor in biology, including a semester each of anatomy and physiology. Not offered 1963-64.

517 Cellular Physiology 2 hrs. Summer, Fall
Concerned with details of the structure and functioning of cells. Both plant and animal cells are considered. The current status of major problems in the field is studied. Laboratory work consists of individual projects dealing with various aspects of cellular physiology. Prerequisite: at least a minor in biology. A working knowledge of chemistry is strongly recommended.

518 Endocrinology 2 hrs. Fall
The glands of internal secretion, the active principles produced by each, and their effects on bodily metabolism. Prerequisite: eight hours of college biology.

522 Phytogeography 2 hrs. Fall
Deals with present geographical distribution of plants over the earth, emphasizing rainfall, soils, geological and ecological factors which contribute to this distribution. Family, genera and species names will be used in the study. Prerequisite: at least a minor in biology.

523 Paleobotany 3 hrs. Spring
Designed to give the student a knowledge and appreciation of plant life of the past. Plant fossils most commonly found in and around Michigan are the subjects of discussion from the standpoint of identification.
and classification, as well as from that of their structure. At least two extended field trips are arranged during the semester. Prerequisite: at least a minor in biology.

524 Economic Botany 3 hrs.
Plants useful to man for food, flavoring, drugs, clothing and building purposes. Field trips are planned to places where plant products are grown, manufactured, exhibited or sold. Emphasis is placed on a knowledge of plant life of value to teachers at elementary and secondary levels. Desirable also for students in business, economics and industrial education. Prerequisite: eight hours biology or consent of instructor. Not offered 1963-64.

525 Biological Constituents 2 hrs.
The elements present in plants and animals, as well as the synthesis, characterization and degradation products of the more important compounds. Prerequisite: at least a minor in biology. Not offered 1963-64.

530 Conservation Education 2 hrs.
Survey of the total field of conservation through lecture, laboratory, library and field experiences. Consideration will be given to ways of including conservation in the elementary and secondary curricula. Students will have contact with personnel of local, state and federal conservation agencies. Prerequisite: consent of the instructor. Not offered 1963-64.

542 Entomology 2 hrs. Fall
A general study of insects, their structure, classification, life histories, ecological relationships, economic importance, and methods of control. Prerequisite: eight hours of college biology.

543 Protozoology 2 hrs. Fall
The anatomy, physiology and ecology of the free-living protozoa, with considerations of their evolutionary relationships. Prerequisite: at least a minor in biology.

545 Ichthyology 2 hrs. Fall
The anatomy, physiology, taxonomy and ecology of the fresh-water fishes, with particular emphasis on those occurring in Michigan. Prerequisite: at least a minor in biology.

547 Advanced Ornithology 3 hrs.
A study of details of song, habits and identification of shore and marsh birds in their native habitats. Skins of birds of Michigan, both resident and migrant, are provided for identification. Prerequisite: eight hours of biology. Early morning field trips. Not offered 1963-64.

551 Parasites and Parasitism 2 hrs. Fall
A study of parasitism and its effects on parasite and host. Typical representatives of the principal groups of animal and plant parasites
will be studied in detail. Special attention will be given to the parasites of humans. Prerequisite: at least a minor in biology.

553 Limnology 2 hrs. Summer

The biological, chemical and physical aspects of lakes and streams. Emphasis is placed on the ecological relationships of invertebrate animals and lower plants. The course consists of lectures, field studies and independent investigations under supervision of the instructor. Prerequisite: at least a minor in biology.

554 Field Studies in Ecology 2 hrs.

Designed for students who have had sufficient experience in field biology to enable them to carry on studies of specific ecological problems in the field. Prerequisite: at least a minor in biology. Not offered 1963-64.

557 Natural History of Invertebrates 3 hrs.

Acquaints students and teachers with the ecology, distribution and taxonomy of the invertebrates of the region with special reference to life histories and economic importance. Students will prepare their own teaching collections. Prerequisite: eight hours of college biology. Not offered 1963-64.

For Graduates Only

600 Recent Developments in Biological Science 2 hrs.

Students will be expected to survey extensively current literature in biology at the popular and semi-technical levels, and to carry on an intensive investigation on a specific topic. Prerequisite: eight hours of college biology, or consent of instructor. Not offered 1963-64.

602 Human Ecology 2 hrs. Summer, Fall

A study of the man-dominated biotic community of civilization and its interrelationships. Lectures and field work. Prerequisite: at least a minor in biology.

605 Advanced Studies in Genetics 2 hrs.

Special problems in genetics, including a study of the genetic systems of populations and the formation of species. Lectures include material on the nature and function of the gene, and its relation to evolution. Prerequisite: at least a minor in biology, including a course involving an understanding of basic genetics. Not offered 1963-64.

609 Historical Studies in Biology 2 hrs.

A study in the history and literature of biology, stressing its development as a scientific discipline, and the growth of the fields of specialization and areas of research which it includes. Prerequisite: at least a minor in biology. Not offered 1963-64.
621 Plant Taxonomy 2 hrs. Summer
Identification, classification and ecological distribution of the higher plants. Students should have some knowledge of plant families and classification. They should be able to use plant keys and be familiar with the organization of an herbarium. A special project is required. Pre-requisite: at least a minor in biology.

627 Advanced Studies in Plant Physiology 2 hrs. Spring
Covers such topics as photosynthesis, respiration, tropisms, plant-growth regulators and enzymes. Especially adapted for those who wish to teach biology, but whose training has been largely in the area of animal or general biology. Students are required to carry out individual investigations. Prerequisite: at least a minor in biology.

631 Advanced Conservation 2 hrs.
Special studies in selected areas of conservation of natural resources. Prerequisite: at least a minor in biology and/or geography. Not offered 1963-64.

648 Herpetology 2 hrs. Summer
An investigation of the life history, ecology and taxonomy of the members of the Classes Amphibia and Reptilia, through field work, lectures and examination of pertinent literature. Prerequisite: at least a minor in biology.

649 Mammalogy 2 hrs. Spring
An investigation of the life history, ecology and taxonomy of members of the Class Mammalia, through field work, lectures and examination of pertinent literature. Prerequisite: at least a minor in biology.

652 Plant Ecology 2 hrs. Fall
A study of plant communities and their relationship to the physical and biotic environment, with particular reference to their development through succession. Prerequisite: at least a minor in biology.

653 Aquatic Environments 2 hrs. Spring
Designed to acquaint advanced students with environmental characteristics and relationships in a variety of aquatic habitats, through lectures, field trips and a series of directed research projects. Prerequisite: at least a minor in biology.

655 Terrestrial Micro-Environments 2 hrs.
Intended to acquaint advanced students with the methods and problems of instrumentation and analysis in micro-meteorology as they relate to ecology, and to familiarize students with the literature in the field. Each student will conduct an individual research project. Prerequisite: at least a minor in biology. Not offered 1963-64.
CHEMISTRY

Meyer, Head; Professors Iffland, Knowlton and Osborn; Associate Professors Anderson, Holkeboer and Nagler; Assistant Professors Berndt, Brown, Harmon and Smith.

For Graduates and Upperclassmen

505 Chemical Literature 2 hrs. Spring
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 a search of the literature in fields of analytical, inorganic, bio, organic and physical chemistry. Prerequisite: 24 hours of Chemistry.

530 Physical Chemistry 3 hrs. Fall
Includes studies of gases, liquids, solids, solutions, thermodynamics, molecular structure, thermo-chemistry, colloids, etc. Prerequisite: Physics 113, and Calculus 221 or 223.

531 Physical Chemistry 3 hrs. Spring
A continuation of course 530. The course includes study of surface chemistry, macromolecules, chemical thermodynamics, homogeneous equilibria, heterogeneous equilibria, etc. Prerequisite: Physical Chemistry 530.

532 Physical Chemistry Laboratory 2 hrs. Fall
Includes experiments on molecular-weight determination, viscosity, surface tension, vapor pressure, distillation of liquid mixtures, spectrophotometry, etc. Corequisite: 530, 222.

533 Physical Chemistry Laboratory 2 hrs. Spring
A continuation of 532. Includes experiments in adsorption, colloids, kinetics, phase rule, electrochemistry, etc. Corequisite: 531. Prerequisite: 222.

536 Theoretical Chemistry 3 hrs.
Acquaints the high school science teacher with elementary knowledge of physical chemistry. It includes the properties of gases, liquids, solids, solutions and colloids. Prerequisite: Quantitative Analysis, one year of Physics, College Algebra, Analytical Geometry. Not offered 1963-64.

537 Theoretical Chemistry 3 hrs.
Thermochemistry, homogeneous and heterogeneous equilibrium, electro-chemistry, kinetics, etc. Prerequisite: 536. Not offered 1963-64.

540 Food Chemistry 2 hrs.
This is a discussion and laboratory course on the chemistry of foods for such important components as carbohydrates, proteins, fats, minerals, vitamins, and food pigments. Prerequisite: 220, 361, or 363. Not offered 1963-64.
551 Biochemistry  
Elementary study of the chemistry of the body, digestion, metabolism, excretion. Prerequisites: 361, 363, or 265.

552 Biochemistry Laboratory  
Preparation and analysis of body fluids and tissues and experiments on carbohydrates, lipides, and proteins. To accompany 551 Biochemistry. Prerequisites: 222 361, 363, or 265.

553 Special Topics in Biochemistry Laboratory  
Further topics in biochemistry laboratory. This course will accompany Biochemistry 551 and 552.

560 Qualitative Organic Analysis  
A course in the methods of identification of organic compounds in the pure state and in mixtures which has as secondary goals the familiarization with many organic reactions and the development of deductive reasoning in the field of organic chemistry. Prerequisite: 361 or 363, and 24 hours of chemistry.

564 Organic Preparations  
A course in the application of principles and techniques of handling aliphatic and aromatic compounds on a preparative scale. Typical standard procedures are assigned. Emphasis is placed on good yields as well as quality of product. Eight hours of laboratory each week. Consult instructor before enrolling. Prerequisite: 361, and consent of Head of Department.

580 History of Chemical Theory  
The history of chemical theory in which the evidence for the theories is critically presented. Prerequisite: 24 hours of college chemistry, or consent of Head of Department.

590 Special Problems in Chemistry  
Advanced students who have completed certain basic work in chemistry may select a special problem in the fields of analytical, organic, bio- or physical chemistry. Prerequisite: 24 hours of chemistry and consent of Head of Department. Given on request.

591 Special Problems in Chemistry  
A continuation of special problem work started under 590. Given on request.

For Graduates Only

601 Graduate Seminar  
Graduate seminar in Chemistry. Required of all candidates for the master's degree in Chemistry. (Two semesters, 1 hr. credit)
605 Advanced Chemistry Laboratory 2 hrs. Spring
Methods of working under controlled atmospheres and conditions, manipulations of low boiling point substances, and unstable, or reactive substances, and other procedures not generally covered in the elementary laboratory courses. These will be applied to problems in preparation, and separation of compounds, determination of equilibria, rates of reactions, and measurements of physical properties.

610 Advanced Inorganic Chemistry 3 hrs. Fall
Covers the principles of inorganic chemistry and the chemical elements. Such topics as extranuclear structure of the atoms, periodic classification of the elements, valency and the chemical bond, complex ions and coordination compounds, acids and basis, and nonaqueous solvents are included in the study of chemical principles. The remainder of the course concerns the chemical elements and their compounds. Prerequisite: 24 hours of chemistry.

613 Current Developments in Chemistry 2 hrs. Summer
Five or six new developments selected from significant advances in chemistry will be considered. Course content will vary from year to year with growth of the science. Prerequisite: 16 hours in chemistry or chemistry and physics.

620 Advanced Analytical Chemistry 3 hrs. Summer
The theory and technique involved in the more complex separations and determinations in quantitative analysis. In addition to gravimetric and titrimetric methods, such physicochemical methods as spectrophotometry, colorimetry, chromatography, and potentiometry are discussed. The laboratory work is an application of the above techniques. Prerequisites: 531, and 222.

630 Advanced Physical Chemistry 3 hrs. Spring
Includes a more intensive study, than was possible in Introductory Physical Chemistry, of the following fields: Kinetic Molecular Theory, Statistical Mechanics, Thermodynamics and Quantum Theory. Applications will be made to equations of state, molecular diameters, reaction kinetics, dipole moments, heat capacities, spectra, and their relation to molecular structure. Prerequisite: 531.

631 Colloids 2 hrs. Fall
The fundamentals of colloid chemistry including the nature of the colloid state, adsorption, types of colloids, methods of colloid formation, properties of colloids, plastics and polymers. Prerequisite: 531.

632 Electrochemistry 2 hrs.
Includes chemical thermodynamics, conductivity of solutions, transport number, electrode potentials, electrolysis and over voltage. Prerequisites: Physics 113, Calculus, 531, and 222. Not offered 1963-64.
650 Advanced Biochemistry
3 hrs. Fall
Study of enzymes and hormones. Methods of enzyme chemistry, mode of action, role in metabolism, the chemistry of hormones and their functions. Prerequisite: 551.

660 Advanced Organic Chemistry
3 hrs. Spring
The following topics are considered: relation between structure and reactivity of organic compounds, stereochemistry, chemistry of the hydrocarbons (particularly the alkenes) and chemistry of carbonyl compounds. Prerequisite: 361 or 363.

ECONOMICS

Bowers, Head; Professor Carlson; Associate Professors Beinhauer, Copps, Ross and Wend; Assistant Professors Klein and Junker.

For Graduates and Upperclassmen

500 Managerial Economics
3 hrs. Fall
Describes and illustrates the ways in which the tools of the economist can be useful to industrial management in its analysis of the past and present experience of the firm and, in particular, in its efforts to arrive at intelligent decisions with respect to the future. The course deals with the basic types of decisions management faces including the analysis of demand, costs, and capital requirements. Prerequisites: 200 and 201.

502 Modern Economics
3 hrs. Fall, Spring
Designed for students who do not intend to major or minor in economics and hence do not take Principles of Economics. The basic economic principles necessary for a better understanding of present-day economic problems are illustrated by current developments. This course should be of value to prospective teachers, graduate students and others who have the opportunity for only one beginning course in economics. Credit in Principles of Economics will preclude credit in 502.

503 Price Theory
3 hrs. Summer, Fall
A basic course in economic theory with emphasis on production and income distribution theory. Prerequisite: Principles of Economics.

504 Industrial Structures and Competition
3 hrs. Spring
A logical continuation of Price Theory 503. An appraisal of those parts of extant price theory which are most directly applicable to the industrial sector of the economy. The interest of this course will center on the areas where markets are characteristically monopolistically, competitive or oligopolistic. Prerequisite: Price Theory 503 or the consent of the instructor.
506 Business Cycles 2 hrs. Spring

An historical and theoretical analysis of business cycles. Prerequisites: Economics 200 and 201.

508 Institutional Economics 3 hrs. Fall

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. Prerequisite: Principles of Economics.

510 Labor Problems 3 hrs. Fall, Spring

An analysis of the nature and underlying causes of the problems facing the worker in modern society. Includes an examination of unions, collective bargaining, labor legislation, wages, unemployment and economic security. Prerequisite: Principles of Economics.

512 Collective Bargaining 3 hrs. Spring

An analysis of the major problems in present-day collective bargaining including the negotiation of collective agreements, the practical aspects and the economic implications. Prerequisites: Labor Problems 510 and 511 or consent of instructor.

513 Economic Security 3 hrs. Spring

An analysis of the problems of the individual worker and the efforts of the government to aid in the solution of these problems. It deals with unemployment, old age, benefits and medical care.

514 Labor and Government 3 hrs. Spring

Deals with the government's role in the problem arising from labor-management relations and from labor's search for security. It covers the court's attitude toward labor organization from the rule of conspiracy through Taft-Hartley. It also includes protective legislation and the development of security legislation.

536 Advanced Consumer Economics 3 hrs. Spring

A study of the place of the consumer in the economic system. The relationships of personal income to price levels, and of consumer liquid assets and availability of consumer credit to total consumer demand will be analyzed. Special consideration will be given to the role of the consumer in determining the amount of national income and the stability of the economic system. Prerequisite: Principles of Economics or Economics of Consumption.

542 Business and Government 3 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. Prerequisite:
Principles of Economics. Work in political science may be substituted in special cases by permission of the instructor.

546 Public Utilities 3 hrs. Fall
The nature and problems of public utility industries and the reason for and methods of government regulation. Prerequisites: Economics 200, 201.

584 Comparative Economic Systems 3 hrs. Fall
The economic institutions and conditions of capitalism, socialism, communism, facism and the cooperative movement are critically examined as to ideology and actual operation. Prerequisite: Principles of Economics.

586 The Economics of the Soviet Union and Eastern Europe 3 hrs. Spring
A study of Soviet and East European planning practices including an examination of the development in commerce, agriculture and industry in these areas. Also trade among the several East bloc nations will be covered. Prerequisites: Economics 200, 201.

587 Studies in Asian Economics 3 hrs. Spring
The course concentrates on the study of the Japanese, Chinese and Indian economic systems. These models are then applied as basis of comparison to the other Asian economies.

588 Economic Development 3 hrs. Spring
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 pattern 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. Prerequisite: Principles of Economics.

590 Contemporary Communism-A Survey 2 hrs. Post-session workshop
This workshop on Communism is designed to give the student an insight for the range of problems that resulted from the spread of Communism in the wake of World War II. The philosophy, economic doctrines, and government of Communism will be covered. The Workshop will be of particular value in acquainting teachers with the available materials on Communism.

Open to Graduates Only

604 Economic Problems 2 hrs. Fall
Some contemporary economic problems in such areas as economic security, labor relations, finance matters related to public expenditures
and taxation, governmental controls and the balance between freedom and order are analyzed and studied. Some previous work in economics is desirable but not mandatory.

606 History of Early Economic Thought 2 hrs. Fall

Gives students the historical background for economic thinking. The main currents of such thinking are brought from the leaders of ancient economic thought through feudalism, mercantilism, the physiocrats and Adam Smith and his contemporaries. Prerequisite: At least 9 hours of Economics.

607 History of Classical Economic Thought 2 hrs. Spring

A continuation of Economics 606 from Adam Smith to the present. Major emphasis is upon the economic theories and writers of the 19th century. Prerequisite: 606.

609 Seminar in Economics 2 hrs. Spring

Offers the graduate an opportunity to investigate contemporary problems in economic theory and analysis. Prerequisite: 4 hours of advanced economic theory or consent of staff.

612 Labor Union Structure and Practice 2 hrs. Summer, Spring

An analysis of the government and operation of American labor unions with particular reference to the problems of union leadership, disciplinary procedures, membership control and the economic and social consequences of these practices.

628 Applied Economics for Teachers 2 hrs. Summer

Designed as a modern aid to in-service teachers and others who desire practical help in managing some of their economic affairs which are more personal than professional. Among items stressed are credit buying, savings, insurance programs, home ownership vs. renting, personal investments, taxes, wills and trust plans.

662 National Income Analysis 3 hrs. Spring

A basic course in economic theory with emphasis on modern theories of output of the economy as a whole and on the uses of these theories as guides to policy.

ENGLISH

Rogers, Head; Professors Limpus and Miller; Associate Professors Callan, Denenfeld, Freund, Holaday, Lo, Macrorie, Malmstrom, McNally, Nelson, Sadler and Woods; Assistant Professors Bahlke, Combs, Galligan, Goldfarb, Phillips and Shafer.
519 Chinese Literature in Translation 3 hrs. Summer, Spring
A study of significant forms in Chinese literature and their reflections of values and patterns of Asian society.

522 American Realism 3 hrs. Fall
The rise of realism in American literature in the late nineteenth and early twentieth centuries.

534 Neo-Classical Literature 3 hrs. Fall
English literature 1660-1730 with major emphasis on Dryden, Pope, and Swift.

535 Eighteenth-Century Literature 3 hrs. Spring

536 Romantic Literature 3 hrs.
Readings in poetry and criticism, with emphasis on Blake, Burns, Wordsworth, Coleridge, Scott, Byron, Shelley, Keats. Not offered 1963-64.

537 Victorian Literature 3 hrs.
Readings emphasizing Carlyle, Mill, Dickens, Thackeray, Tennyson, Browning, and Arnold. Not offered 1963-64.

548 Studies in Satire 3 hrs.
Studies concentrating chiefly on the satire of Pope and Swift. Not offered 1963-64.

566 Creative Writing Roundtable 3 hrs. Fall
Writing of poetry and fiction; designed for teachers and advanced students.

567 Creative Writing Roundtable 3 hrs. Spring
Offered alternate semesters with 566. A student may elect either or both courses.

568 Literary Criticism 3 hrs. Fall
A study of ancient and modern critics, with writing of practical criticism. Prerequisite: two courses in English beyond the required freshman English course.

574 Structure of Modern English 3 hrs. Summer, Spring
A study of the evolution of modern syntax.

582 Source Material for Literature in the Elementary Grades 2 hrs.
Books and materials about children's literature — indexes, lists, studies both critical and historical. Prerequisite: Children's Literature. Not offered 1963-64.
Open to Graduates Only

622 American Literary Themes  
2 hrs. Summer, Spring
A study of the "search for a subject" evident in the works of selected 19th century American authors.

640 Poetics  
3 hrs.
Systematic analysis of a number of poems with regard to tone, statement, imagery, prosody, and other formal elements. Not offered 1963-64.

641 Studies in Modern Poetry  
3 hrs. Spring
An intensive study of the writings of several modern poets.

642 Studies in European Drama  
3 hrs.
Selected areas of European drama in translation from classical times to the present. Not offered 1963-64.

643 Studies in British Drama  
3 hrs.
Selected areas, other than the Shakespearean, of British and Irish drama from medieval times to the present. Not offered 1963-64.

644 The Novel: Form and Technique  
3 hrs. Fall
An examination of the significant forms and techniques employed in the novel from its prototypes through its more recent development.

645 Studies in the Modern Novel  
3 hrs. Summer
An intensive study of the works of some important novelists of the twentieth century.

652 Studies in Shakespeare: Tragedy  
2 hrs. Summer, Spring
Selected tragedies of Shakespeare. Not offered 1963-64.

653 Studies in Shakespeare: Comedy  
2 hrs. Fall
Selected comedies of Shakespeare.

660 Methods of Research in English  
3 hrs. Summer, Fall
Practice in the efficient use of library resources for studies in literature and language.

661 Seminar in English  
3 hrs. Spring
Study of a problem involving an author, a period, or a genre.

680 Teaching of High School English  
2 hrs. Spring
A study of recent theories and methods of teaching literature and language in the high school.

681 Teaching of Freshman English  
2 hrs.
A consideration of the philosophies underlying various courses in freshman English and of methods suited to teaching the communication skills. Not offered 1963-64.
GEOGRAPHY AND GEOLOGY

Brueckheimer, Head; Professor Stout; Associate Professors Horst, Kirchherr and Schmaltz; Assistant Professors Heller, Jackman, Moore and Raup.

For Graduates and Upperclassmen

510 Geography of Michigan  2 hrs.  Summer, Fall, Spring
A study of Michigan in which the major economic, social and recreational activities are covered. The geographical implications of the location of the activities are explained.

512 Problems of Regional Development in South America  2 hrs.
Intensive study is directed toward problems of regional development in Latin America. These are considered in light of varied resource bases and involve a consideration of socio-economic, political and geographic conditions. Prerequisite: 105, 212 or consent of instructor. Not offered 1963-64.

513 Seminar in Geography of Middle America  2 hrs.  Spring
The seminar will involve an investigation and analysis of the interplay of physical and cultural factors as they pertain to human occupancy in the circum-Caribbean region of Latin America. This topic will be approached by the case-study method in which subject matter will be treated either regionally or topically. Prerequisite: 105, 213 or consent of instructor.

514 Union of Soviet Socialist Republics  3 hrs.  Spring
Analysis of the geography of the whole of the Soviet realm. Prerequisite: 105.

515 The Far East  2 hrs.  Fall
Intensive study of the environmental and cultural assets and liabilities of Japan, China, Formosa, and Korea. Particular attention is given to the population and food problems of the Far East. Prerequisite: 105.

516 Southeast Asia  2 hrs.
Intensive study of the environmental and cultural assets and liabilities of India, Pakistan and Southeast Asia. Particular stress is given to the population-resource problems of the monsoon countries. Prerequisite: 105. Not offered 1963-64.

517 The Middle East  2 hrs.  Spring
Diversity and homogeneity in the Middle East, with emphasis on regional interrelations, developmental potentialities and the economic-geography problems of Israel, Egypt and the Moslem world. Prerequisite: 105.
518 Geography of Western Europe 2 hrs. Spring
Intensive study of the European nations west of the Iron Curtain. The physical elements (climate, landforms, soils, resources, etc.) are examined and the related cultural elements are explored. Special consideration will be given to NATO and the Common Market. Prerequisite: 105, 214 or consent of instructor.

519 The Geography of Eastern Europe 2 hrs.
The intensive study of the nations situated between the U.S.S.R. and Western Europe. The physical elements (landforms, climate, soils, resources, etc.) are examined and upon this stage the cultural elements are developed. Prerequisite: 105. Not offered 1963-64.

532 Germorphology 3 hrs. Fall
A study of the development of landforms and the effects produced upon the more common geologic materials and structures by the agents of erosion. Prerequisite: 230 or 130.

533 Invertebrate Paleontology 3 hrs. Fall
The study of fossils including the identification, classification, and historical significance of the major fossil groups. Prerequisite: 231 or consent of instructor.

539 Field Geology 4 hrs. Summer
A study of geologic materials and features in the Upper Great Lakes Region. Prerequisite: 130 or 230.

540 Political Geography 2 hrs. Spring
A study of the resources, peoples and geographic-political problems of the various nations and empires of the world from the point of view of the reciprocal relations involved. Prerequisite: 105.

541 Geographic Foundations of National Power 3 hrs. Fall
World power relationships in terms of such geopolitical factors as the size, shape and location of nations; mineral wealth as related to industrial and military strength; and weather, climate and landforms as related to problems of transportation and economic development. The concept of "autarchy" and the field of "geopolitics" are considered in detail. Prerequisite: 105.

556 Land-Use Planning 2 hrs.
The study of the environment in relation to the various uses of the land such as agriculture, grazing, forestry and recreation. The application of geographic concepts to land-use planning and regional planning. Prerequisite: Conservation of Natural Resources 350. Not offered 1963-64.
560 Studies in Geographic Education  2 hrs.
   Gives prospective geography teachers guidance in the selection, organization and presentation of the best materials available in this field. Not open to students who have had Geographic Techniques. Not offered 1963-64.

566 Advanced Field Techniques  3-6 hrs.
   A field course in Geography and Geology offered at the Upper Peninsula Field Camp of WMU. Involves training in the theory and application of geographical field techniques in the analysis of areas. Instruction in the use of plane table, alidade, topographic maps, aerial photographs and interview techniques in the field mapping of land-use, vegetation, soils, terrain and cultural features. Prerequisite: 366 or consent of instructor. Not offered 1963-64.

570 Urban Geography  2 hrs. Fall
   The study of the spatial distribution of urban centers, their internal structure and external relationships with contiguous and non-contiguous areas. Special emphasis will be given to Kalamazoo's position in southwestern Michigan.

574 Methods in Urban Research  3 hrs. Spring
   A course designed to acquaint the student with source materials and field techniques utilized in the investigation of urban problems. Ample opportunity will be provided for research in the Kalamazoo area. Prerequisite: Urban Geography 570.

580 Advanced Cartography  3 hrs. Spring
   The 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 of research. One hour lecture. Two 2-hour labs. Prerequisite: 380 or its equivalent.

Open to Graduate Students Only

600 Advanced Studies in Earth Science  2 hrs.
   Designed to cover modern developments in physical geography, weather and climate. The bulletins of the IGY and other contemporary materials will be utilized. Not offered 1963-64.

610 Problems in Geography  2 hrs. Summer, Fall, Spring
   Intensive research on a topic in regional or systematic geography under the direction of a member of the graduate faculty. Prerequisite: Undergraduate major in Geography. May be offered on an individual basis.
620 Advanced Physical Geography 2 hrs. Spring
An intensive study of the basic earth sciences. The study of the processes and forms which develop in the atmosphere, hydrosphere and on the earth's land surfaces. Prerequisite: 105.

631 Geology for Teachers 4 hrs.
A study of the more common rocks, minerals and fossils and a consideration of rock structures and the development of landforms with special emphasis upon Michigan and the Great Lakes Basin. This course will be scheduled for three hours of lecture and two hours of laboratory. Not offered 1963-64.

642 Historical Geography of North America 2 hrs. Spring
Migrations and routes of travel of the various European colonizers. Pattern and progress of settlement together with the geographical conditions encountered in developing each part of the continent for human use. Prerequisite: 105.

652 World Resources 2 hrs. Fall
Intensive study of resources in relation to the increasing demands of the world's growing population for food, fibers and industrial raw materials. Special emphasis will be given to political, economic and conservation implications of world resource use. Prerequisite: 105.

661 Techniques of Geographic Research 2 hrs. Spring
Course designed to acquaint students with the techniques of geographic research and to familiarize the student with professional literature and documentary materials. Prerequisite: Undergraduate major in Geography. May be offered on an individual basis.

664 The Development of Geographic Thought 2 hrs. Fall
The history and development of geographic thought from the Greeks to the present time with special emphasis on the development of American geographic thought and the contributions of American geographers. Prerequisite: An undergraduate major or minor in geography and consent of instructor. May be offered on an individual or seminar basis.

695 Background of Contemporary Problems in Michigan 3 hrs. Summer, Spring
An intensive interdepartmental course designed to explore in depth the historical and geographical backgrounds of several outstanding present-day problems in Michigan in the areas of resource-use, conservation, agriculture, industry, and urban-rural conflicts. Resource people from other disciplines, governmental agencies and business will provide for a well-rounded treatment of the major problems of Michigan. Prerequisite: Geography 510 or History 310.
HISTORY

Dunbar, Head; Professors Macmillan, Mange, Mowen and Starring; Associate Professors Breisach, Brown, Callan, Elsasser and Hamner; Assistant Professors Beech, Brunhumer, Castel, Hahn, Hawks, Nahm and Sommerfeldt.

Open to Graduates and Upperclassmen

506 Intellectual History of Western Man to 1550 2 hrs. Fall
A study of the leading ideas and intellectual movements in Western culture from the earliest times to 1500.

507 Intellectual History of Western Man, 1550 to the Present 2 hrs. Spring
Modes of thought and expression characteristic of the Renaissance and Reformation; the scientific revolution of the 17th century; classicism and the baroque in literature and the arts; the 18th century enlightenment and the reign of natural law; the romantic revolution; the forces of liberalism and nationalism in the 19th century; materialism and socialism; the leading features of the contemporary world view.

508 Modern Nationalism 2 hrs. Spring
Factors promoting the rapid growth of nationalism in early modern times; its part in eighteenth and nineteenth-century revolutions; changes in twentieth-century nationalism; and recent effects of nationalism on international relations.

516 Constitutional History of the United States to 1877 3 hrs.
The development of constitutional theory and practice in the United States, with emphasis on the origin and establishment of the governmental system and Federal-State relations. Prerequisite: course 210 or consent of the instructor. Not offered 1963-64.

517 Constitutional History of the United States since 1877 3 hrs.
Continuation of course 516 down to the present, with emphasis on the problem of Federal regulation of the economy and civil rights. Prerequisite: course 211 or consent of instructor. Not offered 1963-64.

518 History of United States Foreign Policy 3 hrs. Fall, Spring
A study of the formation and evolution of foreign policy by the United States from the time of independence to the present.

520 The Colonial Period in American History 2 hrs. Spring
The English colonies in America both continental and island, 1607-1763, with emphasis upon the development of institutions and upon imperial policy and administration.
521 The Era of the American Revolution, 1763-1787 2 hrs. Fall
The causes, character and consequences of the American Revolution. An intensive study of selected topics. The principal aims are to acquaint students with all kinds of historical materials and to introduce them to methods of advanced historical study.

522 United States, 1787-1815 2 hrs. Spring
The making of the Constitution and establishment of the early republic. The course is conducted in the same manner as 521.

523 United States, 1815-1848 2 hrs. Fall
An intensive study of selected topics. Principal objects are to acquaint students with the various classes of historical materials and to introduce them to methods of advanced historical study.

524 Civil War and Reconstruction 2 hrs. Spring
This course deals principally with the great sectional struggle over slavery. It is conducted in the same manner as 523.

522 The United States, 1877-1929 3 hrs. Fall
An intensive study of industrialism and urbanization, overseas expansion, populism, progressivism, World War I, the League of Nations, the character of the 1920's, and the causes of the Great Depression. Prerequisite: course 211 or consent of instructor.

533 The United States, 1929 to the Present 3 hrs. Spring, Summer
A continuation of course 532; the New Deal, the coming of World War II, the war and its impact, America's role in the post-war world. Prerequisite: course 211 or consent of instructor.

541 The U.S.S.R. in World Affairs 3 hrs. Spring
A study of ideological, psychological, political, and economic factors governing the policy of the U.S.S.R. and the evolution of Soviet foreign policy with respect to individual countries, international problems, and activities in outer space.

542 Social and Cultural History of the U.S.S.R. 3 hrs. Fall
A history of the principal ethnic groups comprising the U.S.S.R., including their social and cultural contributions, Soviet policy toward these groups, and the extent of their assimilation into Soviet society.

544 Medieval England 3 hrs. Fall
A study of English history during the Middle Ages with concentration on the period after the Norman conquest. Emphasis will be placed on the development of the economic, social, religious, and governmental institutions characteristic of medieval England.

545 Victorian England 2 hrs. Spring
A study of political, social, economic, intellectual, and imperial problems and developments during the Victorian period.
546 French History and Culture Since Napoleon
The continuing search for stability; social conflicts and their political consequences; the decline of France as a great power; persisting cultural and intellectual activity; French education.

552 The Medieval Church
A study of the impact upon Christianity of classical culture and the barbarian invasions, the Church and feudalism, Church-state controversies, the rise and fall of the papal theocracy, scholasticism and mysticism.

554 The Renaissance
The life, thought and art of the Renaissance, 1350-1550; Humanism; social and economic conditions in Renaissance Europe.

555 The Reformation
A history of the religious reformation in Europe at the beginning of modern times.

557 Europe in the 17th Century
The Thirty Years War and the shifting power relationships in Europe. Colonial enterprise, mercantilism, and absolutism. The rise of science and the baroque spirit.

558 The Old Regime
A study of the development of absolute monarchy; of the institutions, life and thought of the eighteenth century, with special emphasis upon France; the causes of the French Revolution and belated efforts at reform. Prerequisite: An introductory course in European history.

559 The French Revolution and the Napoleonic Era, 1789-1815
The overthrow of the French monarchy and the establishment of the First French Republic; the rise and fall of the Napoleonic Empire; and the spread of revolutionary principles throughout Europe. Prerequisite: An introductory course in European history.

560 Continental Europe, 1815-1870
The principal topics are the reaction following the Napoleonic Wars, the revolutions in behalf of liberty and democracy, the emergence of new states and the unification of Germany and Italy.

561 Continental Europe, 1870-1914
The principal topics are the liberal and socialist movements of the time and the growth of nationalism and its consequences.

562 Europe, 1914 to 1945
A study of the origins and character of World Wars I and II. Special attention is given to the Great Depression, Fascism and Communism.
563 Europe, 1945 to the Present 3 hrs. Spring, Summer

This course is concerned principally with the economic recovery of Europe after World War II, efforts of the Western powers to prevent the spread of Communism and the aggrandizement of the U.S.S.R., the movement for Western European political unity, and efforts to insure world peace and security.

567 Twentieth-Century Britain 2 hrs. Summer

A study of British political, social and economic developments since 1900 and of the changing character of the Empire and Commonwealth.

571 History of Mexico 3 hrs. Spring, Fall

A study of the political, social and economic evolution of Mexico from the Wars of Independence to the present day with attention given to the concurrent development of Mexico-United States relations.

580 China Since 1912 3 hrs. Fall

Intensive studies in the impact of the West on China before and after the Kuomintang Revolution in 1912, the period of transition from Nationalist to Communist China, and the origins and growth of Communist China, its impact upon world peace, and its aims and aspirations.

581 Modern Japan 3 hrs. Spring

Political, intellectual, economic and social history since the opening of Japan to the West. Special attention will be given the rise of Japanese militarism and its Continental policy. The Allied occupation period and post-war domestic and foreign affairs will be examined. Modern Korea during the period of Japanese rule (1910-1945) will also be included.

588 African History in the Twentieth Century 3 hrs. Spring

A study of political, social, and economic developments in Africa south of the Sahara, 1885-1960; from the period of dominance by European powers to the emergence of independent states.

592 The Literature of History 2 hrs. Spring, Summer

The two-fold purpose in reading selected writings of great historians is to develop (1) standards for evaluating approaches, the use of sources and the handling of controversial matters and (2) appreciation of good history.

593 Philosophy of History 3 hrs. Fall

An inquiry into the conscious and unconscious attitudes toward history which, when systematized, are philosophies of history. Consideration is given to their effect on the writing and the interpretation of history. The range of thought includes the positions of St. Augustine, Ibn Khaldun, Marx, Dilthey, Spengler, Bultmann, Toynbee, and Jaspers.
Open to Graduates Only

602 Studies in the Middle East 2 hrs.

Studies pertaining to the major aspects of the history of the Middle East. They involve lectures, supplementary reading and the critical use of historical materials in the preparation of papers. Not offered 1963-64.

610 Studies in Michigan History, 1815-1856 2 hrs.

Studies in the history of Michigan Territory and State. Attention is given to the critical use of historical materials and the preparation of bibliographies. Not offered 1963-64.

626 Seminar in American History to 1865 2 hrs.

Intensive exploration of selected topics in this field, culminating in the preparation of a bibliography and a paper. Not offered 1963-64.

628 Studies in the History and Culture of the Old Northwest 2 hrs. Spring

Reading, discussion and research on various aspects of the development of government, education, social institutions and economic life in the Old Northwest, 1776-1840.

629 The West in American History 2 hrs. Fall

Deals with the movement of the American people westward, beginning in the colonial period and continuing to the last frontier in the late 19th century. Among the topics considered are the influence of the frontier on American character, the process of obtaining the land from the Indians, federal land grants for railroads and education, frontier culture, the evolution of the western states, the influence of geography on settlement, the urban frontier, and the effects of the ending of the era of free land. Primarily for students not majoring in History.

636 Seminar in American History Since 1865 2 hrs. Fall

Intensive exploration of selected topics in this field, culminating in the preparation of a bibliography and a paper.

646 Seminar in Ancient and Medieval History 2 hrs. Spring

Intensive exploration of selected topics in one of these fields, culminating in the preparation of a bibliography and a paper.

652 Studies in Medieval History 2 hrs.

An intensive series of studies in medieval institutions and ideas. Not offered 1963-64.

656 Seminar in Early European History 2 hrs.

Intensive exploration of selected topics in this field, culminating in the preparation of a bibliography and a paper. Not offered 1963-64.
Eighteenth-Century Enlightenment 2 hrs. Fall

Lectures and reading on the character of the eighteenth-century enlightenment, with special attention to France; and the critical use of historical materials in the preparation of papers on significant philosophies.

Studies in Russian History 2 hrs. Spring

Lectures and reading on those phases of Russian history necessary for an understanding of the present. The critical use of historical materials in the preparation of papers on topics of current significance along two general lines: (a) problems connected with Russia's borderlands (b) the evolution of Soviet institutions.

Seminar in Later European History 2 hrs. Summer

Intensive exploration of selected topics in this field, culminating in the preparation of a bibliography and a paper.

Seminar in Russian and Far Eastern History 2 hrs.

Intensive exploration of selected topics in one of these fields, culminating in the preparation of a bibliography and a paper. Not offered 1963-64.

The Far East Since 1945 2 hrs.

An intensive study and analysis of the nature and problems involved in the transition of former colonies to independent nation states in the Far East, together with an analysis of marked changes in the character of Chinese and Japanese political, economic, and social systems. The impact of the cold war on the Far East also will be considered. Not offered 1963-64.

Historical Method 2 hrs. Fall

Designed to introduce students to and familiarize them with the tools, techniques and principles of historical research and writing. The principle reliance is upon exercises in the application of historical method to specific problems of interest.

Background of Contemporary Problems in Michigan 3 hrs. Summer

An intensive interdepartmental course designed to explore in depth the historical and geographical backgrounds of several outstanding present-day problems in Michigan in the areas of resource-use, conservation, agriculture, industry, and urban-rural conflicts. Resource people from other disciplines, governmental agencies and business will provide for a well-rounded treatment of the major problems of Michigan. Prerequisite: Geography 510 or History 310.
500 Studies in Contemporary France 2 hrs. Fall
Investigates more extensively phases of French life covered briefly in 304 and 305. No foreign language prerequisite.

502 Masters of Contemporary French Thought 2 hrs. Spring
Deals with writers whose ideas challenge the thinking of contemporary society, such as Mauriac, Malraux, Sartre and Camus. It may be elected by those who have no foundation in the French language.

503 Contemporary French Literature 2 hrs.
A continuation of French 502. The aims of this course are to study the history and traditional purposes of the Comedie-Francaise and to make the student aware of the renovation of stagecraft in France under the impulse of great producers. Not offered 1963-64.

504 Summer Proseminar in France 4 hrs. Summer
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 three 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. Offered in summers of 1963 and 1966.

510 The Central European Area 2 hrs.
Deals with the historical, geographical, social and religious problems necessary for an understanding of the Central European situation. Countries included will be Germany, Austria, Switzerland, and Czechoslovakia. Not offered 1963-64.

512 Development of German Thought 2 hrs.
A study of the development of Germany and the German national character. It includes a study of selected authors on history, philosophy and pedagogy as well as German literature in translation. No foreign language prerequisite. Not offered 1963-64.

514 Germany Through the Centuries 2 hrs. Fall
A study of German cultural history designed to give the student an understanding of the German problem as it developed through the
centuries. Geographical, literary, philosophical, educational and art aspects will be investigated. No foreign language prerequisite.

520 Medieval Latin

A study of the period 500-1500 A.D. when Classical Latin was blended into the new vernaculars to form eventual romance languages. Prose and poetic subject matter include a variety of themes reflecting the intellectual, cultural, and religious thinking of the times.

530 Contemporary Spanish Theater

The Spanish theater and the dramatists of the 20th century are studied. Lectures and reading assignments in Spanish include representative works of the important writers for the theater.

533 Cervantes

The life and works of Miguel Cervantes with special emphasis on Don Quixote are studied. Lectures and readings in Spanish. Not offered 1963-64.

558 Mythology

Investigates the origins, elements and interpretation of the principal myths and legends of Greece and Rome; their preservation not only in literature but also in painting, music, and sculpture.

580 Modern Language Instruction

For prospective teachers of French, German, or Spanish in the high school and elementary school. Problems common to the three languages are considered. The bases for the course are the principles underlying language learning and current methodology and practice.

LIBERAL ARTS

504 Asia Studies Seminar: India

A foreign study seminar for advanced college students, graduate students, and beginning teachers. The seminar introduces participants to the social and political systems, philosophical and religious beliefs, art and literature, peoples, customs, and traditions of India. Undergraduate or graduate credit of 3 hours in the Division of Languages and Literature or Division of Fine Arts.

505 Asia Studies Seminar: India

A foreign study seminar for advanced college students, graduate students, and beginning teachers. The seminar introduces participants to the social and political systems, philosophical and religious beliefs, art and literature, peoples, customs, and traditions of India. Undergraduate or graduate credit of 3 hours in the Division of Social Sciences.
MATHEMATICS

Powell, Head; Professors Butler, Hannon, McCully and Seber; Associate Professors Alavi, Leja and Meagher; Assistant Professor Petro.

Open to Graduates and Upperclassmen

500 Advanced Differential Equations 3 hrs. Fall
Additional topics on ordinary differential equations and an introduction to partial differential equations; series solution; Bessel, Legendre and hypergeometric functions; Laplace's equation; Wave equation and related topics. Prerequisite: 306 and 570.

502 Complex Variables 3 hrs.
A study of complex numbers, elementary functions, contour integrations, conformal maps and potential fields together with applications. Prerequisite: 570. Not offered 1963-64.

506 Programming for Computers 3 hrs. Summer, Fall, Spring
Designed to give preparation in the organization and general use of high speed computing machines used in scientific and engineering computations. Flow charts and programs will be prepared for problems such as: social security, square root, quadratic equations, exponential, multiplication of matrices, solution of polynomials, and correlation. In addition to the three class meetings per week, one laboratory session each week will be devoted to coding and solution of the problems to be run on the electronic computer. Prerequisite: 221 or equivalent.

507 Numerical Analysis 3 hrs. Spring
Numerical methods as applied to matrix inversion, sets of linear equations, linear programming problems, eigen-values and eigen vectors, finite differentiation and integration, polynomial interpolation with the use of a digital computer. Prerequisite: Mathematics 530 or equivalent.

530 Vectors and Matrices 3 hrs. Summer, Spring
Properties of n-dimensional vector spaces, linear transformations and matrix algebra are studied. Prerequisite: 380 or equivalent (330 recommended).

540 Introduction to Higher Geometries 3 hrs. Fall
Topics from projective geometry, affine geometry, non-euclidean geometry and elementary topology. Mappings of a geometric nature, their algebraic and other properties, will be discussed in the development of each topic. Prerequisite: 380 or equivalent (340 recommended).

550 Teaching of Secondary Mathematics 3 hrs. Fall, Spring
Curriculum problems and trends in secondary school mathematics, but the main emphasis will be upon specific problems of teaching mathematics effectively to secondary school students. Prerequisite: 221 or equivalent.
552 History of Mathematics 2 hrs.
A strongly historical treatment of some fundamental mathematical concepts. Topics considered will include sets, relations, functions and algebraic structures. Prerequisite: 221 or equivalent. Not offered 1963-64.

560 Mathematical Statistics 3 hrs.
Probability spaces; events; random variables; conditional probability; independence; distribution functions; expectation and variance; combined random variables; sampling; binomial, normal and Poisson distributions; law of large numbers; Central Limit Theorem; estimation of parameters. Prerequisite: 380 or equivalent. Not offered 1963-64.

561 Mathematical Statistics 3 hrs.
This course is a continuation of Mathematics 560. Topics included are: confidence intervals; tests of hypotheses; bivariate normal distribution; chi-square, t- and F distributions; correlation and regression; non-parametric methods; analysis of variance. Prerequisite: 560. Not offered 1963-64.

570 Advanced Calculus 3 hrs. Summer, Fall
A further study of limits and continuity, ordinary and partial derivatives, functions of several variables, the definite integral and improper integrals, beyond that covered in the first year's work in calculus. Prerequisite: 380 or equivalent.

571 Advanced Calculus 3 hrs. Spring
A continuation of Mathematics 570. It will include such topics as surface and line integrals; Green's theorem; infinite series; Fourier series; an introduction to complex variable. Prerequisite: 570.

580 Number Theory 3 hrs. Fall
Diophantine equations, congruences, quadratic residues, and properties of number theoretic functions. Prerequisite: Mathematics 380 or equivalent.

598 Readings in Mathematics 1-3 hrs. Fall, Spring
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 student. Approval of head of department required. May be elected more than once.

For Graduates Only

610 Concepts of Mathematics I 2 hrs. Summer
Introductory material on sets, relations, mappings and operations will be given prior to considering groups, rings, integral domains and fields. This material is to be motivated by and related to a discussion of the real number system. Prerequisite: Consent of instructor.
611 Concepts of Mathematics II 2 hrs. Summer
A continuation of 610. Prerequisite: 610.

612 Studies in Probability 2 hrs. Summer
Topics included are: sample point and sample space, event, random variable, conditional probability, independence, expectation, binomial distribution, and statistical inference. Prerequisite: Consent of instructor.

613 Studies in Number Theory 2 hrs. Summer
Topics included are: division algorithm, primes, fundamental theorem of arithmetic, congruences, diophantine equations, and historical background. Prerequisite: Consent of instructor.

614 Studies in Symbolic Logic 2 hrs. Summer, Fall
Topics included are: sentential connectives, theory of inference, symbolizing everyday language, quantifiers, and formal and informal proofs. Prerequisite: Consent of instructor.

615 Studies in Calculus 2 hrs. Summer
Topics included are: limits and continuity, differentiation, integration, and applications. It will stress concepts rather than techniques. Prerequisite: Consent of instructor.

616 Studies in Matrix Theory 2 hrs.
Topics included are: matrix algebra, linear dependence and independence, rank, linear equations, determinants, inverse matrices, equivalence, linear inequalities. Prerequisite: Consent of instructor. Not offered 1963-64.

617 Studies in Geometry I 2 hrs. Summer, Fall
Topics included are: critical historical survey, logic, axiomatics, separation, angles, and congruence. Prerequisite: Consent of instructor.

618 Studies in Geometry II 2 hrs. Summer, Spring
A continuation of Mathematics 617. Topics include: similarity, translations, reflections, isometries, and measure of plane sets.

630 Abstract Algebra I 3 hrs.
Algebraic systems including semi-groups, rings, polynomial rings, division rings, and fields. Prerequisite: Mathematics 330. Not offered 1963-64.

631 Abstract Algebra II 3 hrs.
A continuation of 630. Topics include: groups with operators, modules, vector spaces and linear transformations. Prerequisite: Mathematics 630. Not offered 1963-64.

640 Point Set Topology 3 hrs. Summer, Fall
Elementary properties of topological spaces, metric spaces, compact spaces, and continuous functions. Prerequisite: Mathematics 570.
650 Mathematics for Elementary School Teachers  
2 hrs.  Summer, Spring

Emphasizes the concepts and foundations of the mathematics commonly taught in the elementary school, and of associated problems of learning and teaching. Each student will be expected to study and report on some special problem or aspect of the teaching of arithmetic.

652 Mathematics for Junior High School Teachers  
2 hrs.  Fall

A careful re-study of the concepts, principles and subject matter of the mathematics commonly taught in grades 7, 8 and 9 with major attention to associated problems of learning and teaching.

654 Curriculum Studies in Algebra  
2 hrs.  Summer, Fall

Trains students in the use of the algebra materials for inclusion in the high school curriculum such as those prepared by the School Mathematics Study Group. It will be a critical study of this material and emphasis will be on exercises with the development of high level competence as the goal. Prerequisite: Mathematics 610 and 611.

655 Curriculum Studies in Geometry  
2 hrs.  Summer, Spring

Trains students in the use of the geometry materials for inclusion in the high school curriculum such as those prepared by the School Mathematics Study Group. It will be a critical study of this material and emphasis will be on exercises with the development of high level competence as the goal. Prerequisite: Mathematics 617 and 618.

656 Field Work in Mathematics  
2 hrs.

A laboratory in the study and use of relatively simple instruments in mathematics and of mathematical principles involved in their design and use. Field work for collection of data, problems based on such data, and the adaptation of projects for practical use in enriching the work in mathematics classes will be stressed. The course will be of interest and value to mathematics teachers in junior and senior high schools and to those who are concerned with camping or scouting activities. Prerequisite: Trigonometry. Not offered 1963-64.

670 Real Analysis I  
3 hrs.  Fall

Basic topological and metric properties of the real line real-valued functions, convergence, continuity and bounded variation. Prerequisite: Mathematics 570.

671 Real Analysis II  
3 hrs.  Spring


676 Complex Analysis  
3 hrs.  Summer, Spring

Cauchy Theory, series expansions, types of singularities, analytic continuation, and theory of residues. Prerequisite: Mathematics 570.
MUSIC

Carter, Head; Professors Matthews, Meretta and Stulberg; Associate Professors Beloof and Adams.

Open to Graduates and Upperclassmen

530 Advanced Choral Conducting 1 hr.
Supervised experience in conducting vocal groups. The student may be called upon to prepare an ensemble for public performance. Prerequisite: Choral Conducting. Not offered 1963-64.

531 Advanced Instrumental Conducting 1 hr.
Supervised experience in conducting instrumental groups. The student may be called upon to prepare an ensemble for public performance. Prerequisite: Instrumental Conducting. Not offered 1963-64.

540 Elementary School Music 2 hrs. Summer
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.

560 Counterpoint 2 hrs. Fall
Modal and harmonic counterpoint as exemplified by the composers of the fifteenth, sixteenth, seventeenth, and early eighteenth centuries. Modern counterpoint. Practical application through the writing of strict counterpoint in the five species, double counterpoint, obligatos, descants, canons and fugues. Prerequisite: 260 and 261.

561 Counterpoint 2 hrs. Spring
A continuation of 560.

562 Advanced Composition 2 hrs. Fall
Original work in composition dealing with the larger forms in both the vocal and instrumental fields. Prerequisite: Composition.

563 Advanced Composition 2 hrs. Spring
A continuation of 562.

567 Orchestration 2 hrs. Fall
A study of the characteristics of the various instruments, application in arranging for various instrumental combinations including accompaniments for solos, vocal and instrumental. Covers arranging for both band and orchestra. Prerequisite: 260 and 261.

568 Orchestration 2 hrs. Spring
A continuation of 567.

570 Music of Wagner and Beethoven 2 hrs. Fall
Designed to acquaint one with the music of these composers, its style, its place in the field of music literature and its relationship to the period in which they lived.

116
590 Operetta and Musical Production 2 hrs. Summer

Designed to give the school music teacher the techniques for presenting musical productions. Such areas as selection of the production, casting, lighting, scenery, staging, publicity, costumes, make-up, etc., will be discussed. The course will culminate in a public performance. Graduate students will be required to assist with other parts of the production in addition to participating in the performance.

For Graduates Only

640 Band Techniques and Organization 2 hrs. Summer


642 Philosophy and History of Music Education 2 hrs. Spring, Summer

Designed to acquaint the student with the development of music education in the United States and how this development is the reflection of a growing philosophy of music education.

643 Psychology of Music Education 2 hrs. Fall

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.

650 Seminar in Music Education 2 hrs. Summer

Each participant will be expected to develop a project which is of interest to him, but each project will be subject to group discussion, review and analysis. The lectures and reading will deal with the whole field of Music Education.

665 Band Arranging 2 hrs.

Instruction in scoring for small wind instrument ensembles, and the band. Opportunity will be provided to hear the results of each student's work. Offered even-numbered summers. Not offered 1963-64.

670 Opera and Oratorio 2 hrs. Spring

Designed to give the graduate student the historical and appreciative background into two of the great vocal forms of music from the 17th century to the present. Style and analysis are considered.

Applied Music Summer, Fall, Spring

Qualified students may take graduate study in Applied Music for a total of four semester hours in the major performance area (two semester hours per semester) and for a total of two semester hours in
a minor performance area (one semester hour per semester). Requires sixty minutes per week of instruction and the necessary practice.

H36-H37 Harp
H56-H57 Piano
H76-H77 Organ
H96-H97 Voice
Z36-Z37 Stringed Instruments
Z56-Z57 Brass Instruments
Z76-Z77 Woodwind Instruments
Z96-Z97 Percussion Instruments

PHILOSOPHY

Loew, Head; Assistant Professor Emblom; Instructor Ellin.

570 Epistemology 3 hrs. Fall
Reading and discussion of works which present theories of consciousness, knowledge, and truth. Prerequisite: Philosophy 251 or any 300-level course in philosophy.

571 Metaphysics 3 hrs. Spring
An examination of theories or reality, existence, being, substance, and causality.

PHYSICS

Rood, Head; Professors Bradley, Kruglak, Marburger and Nichols; Associate Professor Derby; Assistant Professor Miller.

For Graduates and Upperclassmen

530 Theoretical Physics 3 hrs. Fall
Presents the fundamental structure of physics in precise mathematical terms. The topics will include mechanics from a vector point of view, flow of fluids, the elements of Lagrangian, and Hamiltonian formulations of mechanics. Prerequisites: Electricity and Light 113, Calculus 221.

552 Applied Spectroscopy 3 hrs. Spring
A combined class and laboratory course on methods of spectrographic analysis. The topics studied will include the history of spectroscopy, the origin of line spectra, spectrographic instruments and modern techniques of qualitative and quantitative analysis. Prerequisite: Light 350, or consent of instructor.
562 Electrical Measurements 3 hrs. Fall, Spring
Deals with the theory and use of instruments to measure electrical and magnetic quantities. Both AC and DC bridge methods are included. Prerequisites: Electricity and Light 113, Calculus 221.

564 Advanced Electronics 3 hrs. Fall
Applications of electronics in different types of radio frequency communicating systems, in control devices and in general instrumentation, are considered in this course. Some laboratory measurements at both audio and radio frequencies are included. Prerequisites: Introduction to Electronics, Calculus.

570 Atomic Physics 3 hrs. Summer
A study is made of energy and momentum relations for particles in classical, relativistic, quantum, and quantum-relativistic physics. Photon-electron interactions such as the photoelectric effect, Compton effect, electron-positron production, Bremsstrahlung collisions, and pair annihilation are considered. Other topics include deBroglie particle waves, structure and spectrum of hydrogen and many-electron atoms, special relativity, X-ray spectra, and high-energy accelerating machines. Prerequisites: 112, 113, Calculus 221.

572 Nuclear Physics 3 hrs. Spring
Covers natural and artificial radioactive transformations, the experimental methods of nuclear physics, properties of neutrons, binding energy, nuclear reactions, nuclear structure, fission and cosmic rays. Prerequisite: Atomic Physics 570.

For Graduates Only

612 Current Developments in Physics 2 hrs.
Consists of demonstration-lectures and discussions of some of the outstanding developments in physics in recent years, such as nuclear energy and its applications, artificial radioactivity, elementary particles, high energy accelerators, semi-conductors and transistors and ultrasonics. Special attention will be given to make the course of practical value to high school teachers of science. Prerequisite: one year of General College Physics. Not offered 1963-64.

622 Quantum Mechanics 3 hrs. Spring
Designed to provide a foundation of fundamental techniques of calculation for more advanced work in physics and chemistry of atoms, molecules, nuclei and solids. An attempt will be made to provide an understanding of the principles of the subject through both the Schroedinger-Heisenberg Equations as well as through the formal operator theory of Dirac. Discussing the simple and representative systems of the simple harmonic oscillator and the one electron atom, the course will confine itself almost solely to the non-relativistic approximation. Prerequisites for the course should include a mathematical preparation.
through advanced calculus and preparation in physics equivalent to undergraduate major.

624 Statistical Mechanics 3 hrs. Spring

Deals with concepts of probability and statistics as applied to physics with particular emphasis on the kinetic theory of gases. Topics covered will include Laplace’s formula, Stirling’s formula, Normal Distribution Law, Maxwell distribution of velocities, canonical ensemble, and Gibbsian ensemble. Prerequisite: Thermodynamics 340 or equivalent.

630 Analytical Mechanics 3 hrs. Fall

This course deals with the Hamiltonian method of mechanics and develops the variational principles and the equations of Lagrange. Examples of point mass and rigid body problems are examined by these methods. The principles of relativity are introduced by establishing the Lorentz invariance requirement for the Hamiltonian. Canonical transformations, angle and action variables, theory of small vibrations, are introduced in a way that makes the historical bridge between classical and quantum mechanics. Prerequisites: Advanced Calculus, Intermediate Mechanics.

662 Electricity and Magnetism 3 hrs. Fall

This course deals with the Hamiltonian method of mechanics and dependent electromagnetic fields and their interaction with matter are described. Radiation, wave motion, scattering, relativity, are several of the topics in the latter part of the course. Vector analytical notation is used exclusively. Prerequisites: Advanced Calculus, Intermediate mechanics, undergraduate course in electricity and magnetism.

674 Nuclear Science for High School Teachers 2 hrs.

Provides the secondary school science teacher direct experience with simple nuclear phenomena. The greater portion of the time will be devoted to carrying out of several experiments of varying degrees of complexity, but most of which can form the bases for several high school projects of demonstrations. Although theory will not be emphasized, the basic nuclear phenomena will be discussed together with current applications of nuclear science. Students enrolling for the course should be prepared with the basic courses in the physical sciences, although advanced courses are not prerequisites. Not offered 1963-64.

POLITICAL SCIENCE

Weber, Head; Professors Clark and Stine; Associate Professors Greenberg, Olton, Phillips and Plano; Assistant Professors Ebel, Kaufman and Thompson; Instructor Kim.

Seminar topics will vary from year to year: Enrollment in successive years permitted. Schedule of classes will indicate credit to be given for courses designated as variable credit. 600 courses are open to graduates only.
MAJOR AREAS

AMERICAN GOVERNMENT

501 National Government: Structure and Current Problems  2 or 3 hrs. Fall, Summer

An intensive survey of our national government and its problems. Designed for students who have not had previous work in Political Science or those who may need additional study on the national level.

502 State and Local Government  3 hrs. Summer

This course is designed to provide an intensive introduction for seniors and graduate students who have had no previous work in state and local government. The course will survey the state and local governments of the United States and constitutes a prerequisite to any seminar in state and local government for such students. Students who have had previous courses in state or local government may not receive credit for this course. Credit in Political Science 302 precludes credit in 502.

503 Municipal Administration  2 hrs. Spring

Analyzes the function of top city management and describes techniques of administration. Considers legislative-executive relations, techniques of direction and programming of municipal services, research and planning, the staff services of personnel and finance, and the problems of public relations and reporting. Prerequisite: 304 or 330 or equivalent.

504 Governing Rural Areas  2 hrs.

Covering the government and politics of rural areas, this course deals specifically with townships, counties, municipalities and school districts in rural areas. Special attention is given to the distinction between rural and metropolitan areas and the place of the rural community and its government in a rapidly urbanizing nation. Prerequisite: 200 or 302 or equivalent. Not offered 1963-64.

600 Seminar: National Government  2 hrs.

Study and research concerned with national governmental activities and problems. Individual papers and reports will be presented to the seminar group. Not offered 1963-64.

602 Seminar: State or Local Government—Local Government  2 hrs. Spring

This course will involve supervised study-research on major questions of current significance in state or local government. Individual papers and reports will be presented to the seminar group. The content of the course will vary from semester to semester. The subject will be indicated in advance.
603 Seminar: Intergovernmental Relations 2 hrs. Summer

This course is designed to give the student an opportunity to study the relationships between local, state, and national governments. Functional as well as legal and constitutional relationships will be considered.

POLITICS AND PUBLIC OPINION

510 Community Political Systems 2 or 3 hrs.

The behavior of groups, parties, office-holders, and voters on particular kinds of issues; and the differences in political power patterns from community to community according to varying community size, socio-economic structure, and values. Prerequisite: Political Science 310 or equivalent. Not offered 1963-64.

512 The Political Process of Government 2 or 3 hrs.

An analysis of political behavior in the United States with particular reference to the growth and internal dynamics of interest groups; the characteristics of the party system; the role of both group and party in relation to public opinion and to the operation of the legislative, executive and judiciary. Not open to students who have taken Political Science 310 or 311. Not offered 1963-64.

610 Seminar: U. S. Politics—Public Policy Formation 2 or 3 hrs. Fall

Analysis of political instruments, leadership, and techniques as exemplified in the United States political system. Students will pursue research projects directed by the instructor and integrated into the course. The course will give emphasis to either public policy formation, or political parties and political behavior, or pressure groups and propaganda. The course may be repeated if the student desires to specialize in the areas.

PUBLIC LAW

524 Constitutional Law 3 hrs. Spring

A study of the interpretation of the United States Constitution as embodied in the opinions of the United States Supreme Court. Cases are studied in the areas of jurisdiction, legislative and executive branches, and national-state relations. Prerequisite: 324 suggested.

526 Constitution and Civil Liberties 2 or 3 hrs. Spring

A study of free speech, loyalty in a democratic state, citizenship, freedom of religion, rights of persons accused of crime, and government's responsibility to protect persons from racial and religious discrimination, with special attention to the role of law and judges. Prerequisite: Junior standing.
503 Municipal Administration 2 hrs. Spring
(See write up under American Government).

534 Bureaucracy in the Public Service 2 hrs. Spring
The organization and procedure of civil service and personnel systems in government. History of the merit system. Consideration of competitive examinations, position classification, pay administration, civil service discipline and appeals, prestige of the public service, motivation and morale of public servants. Stresses nature of bureaucracy in modern governmental organizations and the problem of democratic control, responsibility and ethics. Prerequisite: 330 or equivalent.

630 Advanced Public Administration 2 or 3 hrs.
Supervised study and research on controversial areas of administrative theory and practice. Individual papers and reports will be presented by members of the seminar. Students will choose their problems from functional areas and from administrative levels in which each is particularly interested. Prerequisite: 330 or 503 or 534 or equivalent. Not offered 1963-64.

COMPARATIVE GOVERNMENT

542 The Politics of Developing Areas 2 or 3 hrs. Spring
Consideration of the major political and governmental problems inherent in societies seeking to achieve economic and social modernization. Will investigate problems common to all underdeveloped areas such as authoritarianism, nationalism, political fragmentation, and government instability. Societies in Asia, Africa, Latin America and the Middle East will be treated comparatively. Prerequisite: A course in foreign government or equivalent courses in Social Science.

544 Governments and Problems of Central and South America 2 or 3 hrs.
A survey of the governmental and political institutions of selected Latin American countries. Special attention is paid to the impact of social change and economic underdevelopment upon Latin American political behavior. Not offered 1963-64.

546 Governments of the Soviet Union and Eastern Europe 2 or 3 hrs. Fall
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 educational and economic bases of the current system are stressed.
Seminar: Comparative Government—Central and South American

A study of selected governmental problems in such areas as Western Europe, Eastern Europe, Africa, Asia, and Latin America. Seminar subjects will vary from semester to semester permitting students to repeat the course for credit as long as subject matter is different. Emphasis will be placed on extensive reading and preparation of research papers. Subject for any particular semester will be indicated in advance of offering.

INTERNATIONAL RELATIONS

Foreign Policy—Conduct and Content

Consideration will be given to the formation and execution of American foreign policy. An analysis of the diplomatic relations of the United States with emphasis on present foreign problems.

Problems of International Relations

Designed to provide an intensive introduction for seniors and graduate students who have had no previous work in the international field. The course will survey the sub-fields of international politics, law, and organization and constitutes a prerequisite to any other 500 or 600 level international courses for such students. May not be taken by students who have had Political Science 250.

International Law

Examination of the legal relations of nations in war and peace. Subjects to be considered include the role of law, its theoretical framework, recognition, sovereignty, jurisdiction, neutrality and international legal institutions. Prerequisite: 250 or 350 or 552 or equivalent.

Seminar: American Foreign Policy—Economic Programs

Study and research on contemporary American foreign policy problems. Individual papers and reports will be presented. The content of the course will vary from semester to semester and the subject to be studied will be indicated in advance. American policy in specific geographic areas, comparative foreign policy, or specific American foreign policy problems may be considered.

Seminar: International Relations—United Nations

Study and research on major topics of current international significance. Individual papers and reports will be presented. The content of the course will vary from semester to semester and the subject to be studied will be indicated in advance. Selected topics—Theory of International Relations, Emerging Nations, International Organization, and European, Asian, or African problems.
POLITICAL THEORY

562 Communist Political Thought 2 hrs.
A study of Marxist Communism, its origins, content, and assumptions; together with its expression in the Soviet Union and other states. Not offered 1963-64.

564 Political Philosophy 2 hrs. Summer
An analysis of the problems and subject matter considered by political philosophers, such as the nature of man, value system, community, types of community, the purposes of government, and the extent of political authority.

566 American Political Thought 2 hrs. Fall
Exploration and analysis of the fundamental political convictions of Americans, their origins, diversity, and philosophic implications.

660 Seminar: Political Thought—Asian 2 hrs. Spring
Consideration of various issues of questions arising in political thought, of various men who have contributed to political thought, or certain periods in history or regions of the world as related to political thought. Subject matter will vary from semester to semester and will be indicated in advance.

READINGS IN POLITICAL SCIENCE

598 Readings in Political Science 1-3 hrs. Fall, Spring
Designed to give an opportunity to advanced students and graduate students with good scholastic records to pursue independently the study of some subject having especial interest for them. Subjects are chosen and arrangements are made to suit the needs of each particular student. Approval of head of department and instructor required.

PSYCHOLOGY

Kuffel, Head; Professors Fatzinger and Schmidt; Associate Professors Asher, Robertson and Von Holt; Assistant Professor Koronakos.

For Graduates and Upperclassmen

510 Learning and Memory 2 hrs. Summer, Fall
An introduction to the experimental analysis and theoretical integration of some phenomena of learning and memory.

512 Physiological Psychology 2 hrs. Spring, Summer
The study of relationships between bodily processes and behavior. Psychology is treated as a biological science in this course.
514 Motivation-Emotion 3 hrs. Spring
An introduction to the experimental analysis of psychological and physiological aspects of motives, incentives, and emotions. Should follow Learning and Memory 510.

516 Advanced General Psychology 2 hrs. Fall
An intensive study of basic principles of psychology with emphasis on the principles and theories of learning, motivation, emotion, perception, development and other areas of psychology. Recommended for all graduate students in psychology. Prerequisite: General Psychology or consent of instructor.

517 Advanced General Psychology 2 hrs. Spring
A continuation of 516. This course covers the topics not included in 516. Students are permitted to enroll first in either 516 or 517. Recommended for all graduate students in psychology.

530 Statistics 3 hrs. Summer, Fall
Application of Elementary Statistical concepts, such as central tendency, variability, correlation, reliability and validity, to problems of educational and psychological measurement. For students in Education and for those who need statistics as a prerequisite for graduate courses.

534 Sensation and Perception 3 hrs. Fall
An examination of the current facts and theories of sensation and perception. Emphasis on experimental methods. Prerequisite: Elementary Experimental Psychology.

542 Occupational Analysis and Classification 2 hrs. Fall, Spring
Sources of occupational information; procedures and techniques of job analysis and job classification; applications in employment procedures, placement and vocational counseling.

560 Vocational Psychology 2 hrs. Fall, Spring
Interviewing and counseling techniques; applications of testing and counseling in industry and education. Practice in administration and interpretation of tests. Prerequisite: 380.

561 Counseling and Psychotherapy for the Mentally Handicapped 2 hrs. Fall
Methods and techniques used in counseling retardates. Group, play, psychodrama, speech and industrial therapy. Counseling with parents.

595 History of Psychology 2 hrs.
A study of the development of psychology from ancient Greek philosophies to the present-day. Emphasis will be placed on recent history particularly during the last two centuries. This course is concerned with the historical and philosophical development of psychology.
598 Special Problems in Psychology 2-4 hrs. Summer, Fall, Spring
This will be a readings course for the purpose of enabling graduate students to develop a background, knowledge and competency in specific areas.

For Graduates Only

615 Systematic Psychology 3 hrs. Fall
An examination of the various schools of psychology with emphasis on the development of contemporary theoretical explanations of human behavior.

616 Differential Psychology 2 hrs. Spring
A study of individual and group differences in behavior with particular emphasis on methodological and theoretical considerations.

624 Personality Theory 2 hrs. Summer, Fall
Consideration and evaluation of the major theories of personality with emphasis on those theories having implications for counseling and therapy. An examination of experimental evidence and illustrative case studies.

630 Advanced Statistics 3 hrs. Fall
Testing statistical hypotheses and estimating population parameters; analysis of variance; regression and correlation analysis, multiple regression, analysis of covariance; non-parametric tests.

644 Personnel Psychology 2 hrs. Summer, Spring
An introduction to the personnel selection and classification techniques as applied to industry, business, and vocational guidance.

645 Psychology of Work Effectiveness 2 hrs. Fall
An analysis of the various factors which lead to satisfactory and productive work. Worker motivation and adjustment, nature of supervision, physical qualities of the working environment, and social foundation of the industrial world are included.

646 Psychology of Industrial Training 2 hrs. Spring
A survey of learning principles as applied to training in industry with emphasis on practical techniques. The training of interns, apprentices, inspectors, new workers and supervisors is considered.

650 The Deviant Individual 2 hrs. Fall
Study of the gifted, mentally defective, neurotic, delinquent, criminal and psychotic with particular attention to the dynamic and pathological factors in development and to the distinctive manifestations of these deviations from the normal.

651 Clinical Diagnosis 2 hrs. Summer, Fall
Introductory study of the nature and application of clinical tools to the study of illustrative cases of problem behavior with considera-
tion of means and methods of clinical treatment. Prerequisite: Abnormal Psychology.

661 Psychological Counseling 2 hrs. Spring
A consideration of the counseling process, various theoretical approaches to counseling, tests and techniques used in counseling. Techniques used in counseling children are considered.

662 Counseling Practicum 2 hrs. Fall, Spring
Supervised practice of counseling in the clinical setting. Training in diagnosis, the use of counseling techniques, writing of case notes, etc. Prerequisite: Permission of instructor.

680 Measurements of Intelligence 2 hrs. Summer, Fall
A survey covering the present status of intelligence testing, with special emphasis on the theory, methods, construction, evaluation and psychological implications of group and individual intelligence tests.

681 Measurements of Interests, Aptitudes and Personality 2 hrs. Spring
A survey of measures used in other areas than intelligence, with emphasis on the theory, methods, construction, evaluation and psychological implications of their use.

682 Individual Testing 2 hrs. Fall, Spring
Supervised practice in administration, scoring and interpretation of individual tests of general intelligence: Wechsler-Bellevue, WISC. Prerequisite: Permission of instructor.

684 Survey in Projective Techniques 2 hrs. Fall
Theory and basic concepts underlying the use of projective techniques. The Rorschach, TAT, CAT and various other techniques will be considered.

685 Projective Testing 2 hrs. Spring
Supervised practice in the administration and interpretation of projective techniques appropriate to the student’s professional interest area. Prerequisite: Permission of instructor.

SCIENCE DIVISION

Professors Mallinson, Marburger, Osborn and Van Deventer; Associate Professor Nichols.

For Graduates Only

610 Science for Elementary Teachers 2 hrs. Summer, Fall
Indicates the part played by science experiences in the development of children, acquaints teachers with types of science content and teaching procedures suitable in elementary education.
620 The Teaching of Science 2 hrs. Spring

Analyzes and evaluates the objectives of science as a high-school subject and considers modern practices with respect to such topics as classroom method, motivation, laboratory work, directed study and like problems.

SOCIAL SCIENCE DIVISION

Professors Kercher, Macmillan, Mowen, Seibert and Stine; Associate Professor Beinhauer; Instructor Ebel.

For Graduates and Upperclassmen

500 Teaching of the Social Studies 3 hrs. Summer, Fall, Spring

Objectives of teaching of the social studies in the junior and senior high school. Selection, organization and development of content materials. Study of the procedures and problems of effective teaching in the social studies.

504 Social Studies Seminar: England 6 hrs. Summer

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 will be in formal session at Oxford University, England, for a period of about four weeks. After Oxford, the party will spend approximately a month touring several countries on the Continent. Graduate or undergraduate credit, up to a maximum of three semester hours in any one department may be distributed among economics, history, political science and sociology.

506 Studies in the Non-Western World 2 hrs.

Gives teachers an awareness of social forces operating outside of Western Civilization. The workshop approach will be used to introduce students to such problems as industrialism, self-government, social integration, population explosion, and the Western impact. The answers which two-thirds of the world are now giving to these problems cannot help but affect Western society. The ultimate objective is to provide teachers with selected resource materials and initial awareness of dynamic forces shaping over half the world. Not offered 1963-64.

507 Elementary School Social Studies 2 hrs.

(Post-session workshop, July 29-August 9)

This course is designed to help the teacher 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 children's learning. The planning of social studies experiences and ways of working with children in classroom settings will be emphasized.

For Graduates Only

600 Seminar in the Teaching of the Social Studies 2 hrs.

Assists teachers of social studies to evaluate their philosophy and teaching methods in the light of accepted principles and current practices in social studies instruction. Students will be encouraged to do individual studies which will enable them to remedy their own weaknesses. Prerequisite: Open only to graduate students who are teaching or have taught social studies in the public schools. Not offered 1963-64.

SOCIOLOGY AND ANTHROPOLOGY

Kercher, Head; Professors Horton, Hunt and Manis; Associate Professor Bouma; Assistant Professors Garland, Maher, Reid, Rodgers, Sauer and Schellenberg.

For Graduates and Upperclassmen

500 History of Social Thought 2 hrs.

A critical survey of the social thinking of outstanding students of society from Plato to those of modern social science. Prerequisite: Sociology 200 or 600, or equivalent. Not offered 1963-64.

502 Contemporary Social Movements 3 hrs.

A study of the growth and place in contemporary society of selected social movements, including communism, fascism, Ku Klux Klan, the Townsend movement and the like. Prerequisite: Sociology 200 or 600, or equivalent. Not offered 1963-64.

514 Juvenile Delinquency and the Community 2 hrs. Fall, Spring

A study of juvenile delinquency as a social problem. Extent, causative factors, methods of treatment and programs of prevention and control are covered. When possible, extensive use of community resource people is made. Prerequisite: Sociology 200 or 600, or equivalent.

532 Culture and Personality 2 hrs. Fall

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: Sociology 200, 230 or 600, or the equivalent.
533 Changing Social Systems—Sub-Saharan Africa  
2 hrs. Spring
A study of the erosion of traditional tribal systems and the rise of secondary associations and social systems in sub-Saharan Africa resulting from the impact of European Culture and other contemporary world influences. Prerequisite: 200 or 230 or consent of instructor.

536 The Dynamics of Culture Change  
2 hrs. Spring
An inquiry into the dynamics of culture through a study of the principal theories of culture change and their application to concrete situations such as the rise of complex civilizations and the reaction of non-western societies to contact with the West. Prerequisite: 200, 230 or 600, or equivalent.

542 Family Life Education and Counseling  
2 hrs. Summer
Provide the student with a 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.

554 Population Problems  
3 hrs. Fall
A study of population trends and their human significance. The social and cultural factors influencing the reproductive behavior of man are examined. Bi-social facts are presented and analyzed, but primary stress is on the social implications of present and probable future population trends. World pressure spots as well as the United States are considered. Prerequisite: 12 semester hours of Social Science.

556 Social Stratification  
3 hrs.
An analysis of the structuring of societies along social class and caste lines. Emphasis is placed on the class structure of the United States and its implications for educational, occupational and political policies. Prerequisite: Sociology 200 or 600 or consent of instructor. Not offered 1963-64.

558 Social Forces in Underdeveloped Areas  
2 hrs. Summer, Fall
An examination of the social factors which influence the growth of industrialization in underdeveloped areas. These factors include cultural tradition, social class stratification, and the problems involved in a shift from rural to urban residency. Case materials from private business enterprises, missionary and educational ventures. U. S. Foreign Aid projects included. Prerequisite: Sociology 200, 330 or 600.

559 Social Structure and Social Change in Japan  
2 hrs. Spring
Introduction to Japanese society, focusing upon the contemporary processes of industrialization and urbanization and their impact upon Japanese family life, village organization, urban community, class structure and personality.
572 Community Agency Resources 2 hrs. Summer, Fall, Spring

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.

574 Sociology of Religious Institutions 2 hrs.

A study of the social role of religious institutions and beliefs with particular reference to the United States; the relation between religious and other aspects of society. The course considers social factors affecting the development of different types of religious institutions and the influence of religion on American society. Prerequisite: Sociology 200 or 600. Not offered 1963-64.

575 Industrial Sociology 3 hrs. Fall, Spring

A study of human relations in business and industry; the functioning of informal groups and the varying roles of leadership; problems of depersonalization, of worker morale and output, and of labor-management articles.

576 Sociology of Education 2 hrs. Fall

The classroom as a social situation analyzed in terms of the interaction between teacher-student and student-student. The educative process as a function of the interpersonal relations among teachers and between teachers and administrators. The school as a social system as it affects and is affected by the community in which it is located and society at large. Prerequisite: Sociology 200 or 600, or equivalent.

577 Comparative Institutional Studies: Britain and the United States 2 hrs.

A comparative study of the structure and the functioning of selected aspects of culture in Britain and America. The courts, the educational system, the welfare state, class stratification, correctional institutions, political organization and the basic structure of government are considered. Prerequisite: Sociology 200 or 600, or equivalent. Not offered 1963-64.

578 Social Structure of the Soviet Union 3 hrs. Spring

A sociological analysis of contemporary Soviet society focusing on the patterns and functions of its basic institutions—the family, government, education, and industry. Consideration will also be given to the existing stratification system in terms of class formation and distribution of power. Prerequisite: 200, 330 or 600 or consent of instructor.

580 Introduction to Social Statistics 3 hrs. Spring

An introduction to statistical reasoning with particular reference to social science research. Views statistics as an aspect of scientific inquiry and considers problems of analysis and interpretation of typical social science data. No prerequisite required but some background in algebra is recommended.
For Graduates Only

600 Social Dynamics of Human Behavior 2 hrs. Summer, Fall, Spring

The concepts of sociology, cultural anthropology and social psychology essential to understanding human development and social behavior are systematically explored and integrated. The student is taught how to assess the concrete social situations in which he finds himself, and in which he observes other people from day to day. This course is designed for those who have not had a foundation course in sociology.

610 Social Pathology and Personal Deviation 2 hrs. Fall

A study of the social aspects of personal deviation. Subject-matter would include consideration of the alcoholic, the drug addict, the marginal man and the sexually maladjusted. Course considers deviate behavior in light of social background, causative factors and possible therapy. Prerequisite: Sociology 200 or 600, or equivalent.

615 Techniques of Intercultural Adjustment 2 hrs. Spring

A study of intercultural processes of adjustment involving different racial, national and religious groups. The factors giving rise to present-day conflict situations are examined and special emphasis is given to techniques of adjustment through individual and community action. Prerequisite: Sociology 200 or 600, or equivalent.

616 Seminar in Social Problems 2 hrs.

A detailed study of a social problems area through student reports and seminar discussion. Instructor will select specific topic. Course is intended to provide intensive joint exploration of significant sociological issues. Not offered 1963-64.

624 Primary Group Dynamics 2 hrs. Summer

A study of the forces that influence the outcomes of primary group activity. The effects of diverse personalities, of varying leadership roles, of person-to-person interaction and of the responses of the group as a whole are considered. Principles of effective group dynamics are practiced, as well as observed and studied, in the educational setting. Prerequisite: Sociology 200 or 600, or equivalent.

642 Family Development 2 hrs. Fall

The family is analyzed over its entire cycle from marriage to the death of the spouses with special attention devoted to the developmental tasks each family member and the family as a unit must accomplish for family adjustment. The course is designed to provide students who may work with families in one capacity or another with a theoretical frame-
work for diagnosing sources of maladjustment. Prerequisites: Sociology 200 or 600 or consent of instructor.

676 The School and the Community 2 hrs. Spring

The school as a social institution in the American community. Interaction between the school and the other basic social institutions and their values. The sociological significance of community structures, processes and problems for school-community relationships.

**SPEECH**

York, Head; Professors Becker, Bowen, Brown, and Van Riper; Associate Professor Kuykendall; Assistant Professors Denison, Helgesen and Kester.

**For Graduates and Upperclassmen**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester</th>
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<tbody>
<tr>
<td>500</td>
<td>Speech for the Classroom Teacher</td>
<td>2 hrs.</td>
<td>Summer, Fall</td>
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<td></td>
<td>Designed to help the teacher become more effective in speaking and reading. The course content will be adjusted to meet the specific needs of the individual members of the class.</td>
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<tr>
<td>516</td>
<td>Oral Interpretation of the Drama</td>
<td>2 hrs.</td>
<td>Fall</td>
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<td>Platform reading of the one-act and the three-act play. Through class analysis and criticism, a basis for judging the drama is established.</td>
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<td>520</td>
<td>Children's Theatre</td>
<td>2 hrs.</td>
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<td>Deals with the production of formal plays with and for children. Consideration is given to the dramatic literature of the field, the selection, staging and direction of children's plays, as well as the psychology of child audiences. Not offered 1963-64.</td>
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<tr>
<td>522</td>
<td>Acting</td>
<td>2 hrs.</td>
<td>Spring</td>
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<td></td>
<td>A continuation of the work done in Acting 221, with more intensive work in the techniques and styles of acting. Prerequisite: Consent of instructor.</td>
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<tr>
<td>524</td>
<td>Problems of Play Direction</td>
<td>2 hrs.</td>
<td>Summer</td>
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<td></td>
<td>Deals with special problems facing the teacher who has had little or no formal training in theatre. The area of study is limited to selecting and casting the play, to the approach and preparation of the role and to the direction of the play. Laboratory provided in dramatic productions.</td>
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<tr>
<td>526</td>
<td>Technical Problems of Play Production</td>
<td>2 hrs.</td>
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<td>A companion course to 525 with the emphasis placed on technical problems in planning and executing scenery, lighting, costuming and</td>
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makeup. Laboratory provided in dramatic productions. Not offered 1963-64.

530 Public Speaking II 2 hrs.
Advanced study of speech composition and audience psychology, analysis of model speeches and frequent practice in constructing speeches for special occasions. Students interested in coaching or participating in oratorical contests will find this course useful. Not offered 1963-64.

532 Persuasion 2 hrs.
Speech skills are developed by the presentation of studies in persuasion, by participation in discussion and by criticism of both. Content deals with psychological theories and experimentation in motives and theories in persuasion ethics. Not offered 1963-64.

540 Broadcasting Regulations 2 hrs.
Growth of self regulation and governmental regulation of the radio and television industry. Requirements and responsibilities of the broadcaster as an administrator of a public trust. Not offered 1963-64.

542 Educational Broadcasting 2 hrs.
Study and analysis of educational broadcasting and its development. Evaluation of current program, studies and utilization methods. Not offered 1963-64.

545 Workshop in Educational Television 2 hrs.
This course is designed as a workshop in the instructional uses of television. The purpose of the course is to aid schools and teachers in their use of lessons and courses presented in educational television programs.

550 Basic Voice and Speech Science 3 hrs. Summer, Fall
For students majoring in speech or speech-correction. Topics include anatomy and physiology of hearing; speech and hearing; anatomy and physiology of articulation and phonation; the neurological organization of the speech function; the physics and physiology of quality, pitch and intensity; and the psychology of speech.

552 Stuttering and Allied Disorders 3 hrs. Spring
Acquaints the student with the nature, causes, development and treatment of the more serious speech disorders. The literature of stuttering, cleft palate, deaf and aphasic individuals will be surveyed as well as the various methods for treating these disorders. Prerequisite: Principles of Speech Correction.

558 Organic Speech Disorders 3 hrs. Spring
The diagnosis and treatment of the speech disorders of organic origin; cleft palate, cerebral palsy, aphasia, aphonia and dysarthria.
560 Teaching Speech in the Elementary School 2 hrs. Spring

Gives the teacher in the elementary school an understanding of the role of general speech training in the elementary school curriculum, the relationships between speaking and reading and writing, methods of teaching individual and group speaking activities, types of speech improvement programs and methods of improving listening skills.

562 Teaching Speech in the Secondary School 3 hrs. Fall, Spring

Emphasizes problems of teaching speech in high schools. Considers aims, principles, materials and techniques related to speech teaching.

564 Creative Dramatics for Children 2 hrs. Fall, Spring

Designed primarily for teachers in the elementary grades. Deals with the principles, materials and techniques of creative dramatics. The course is planned to prepare the elementary school teacher in the use of these activities to enrich the classroom program and to develop creativity in the individual child.

566 Direction of Forensic Activities 2 hrs. Spring

For students who expect to direct forensic activities. Includes the principles of teaching debate and other forms of public speaking. Opportunities will be given for directing local speaking activities. Prerequisite: a major or minor in speech or consent of instructor.

For Graduates Only

600 Problems in Listening 2 hrs. Summer

The principles and problems of listening. Studies and experiments in the field will be the main emphasis. In addition, applications to classroom situations will be made. Each member of the class will take tests and experiment with various listening techniques in order to gain insight to the relationship of language, attitudes and learning as seen from the perspective of listening behavior.

630 Group Problem Solving 2 hrs.

Presents principles and practices in group problem solving in a democracy. Techniques employed in committee hearing, symposium, panel, forum and board meeting will be considered. Not offered 1963-64.

632 Speech and Social Control 2 hrs.

Inquiries into the factors and forms of speech and the areas of social experience which are involved in the use of speech for social control. The use of speech is observed in politics, social movements, business and industrial relations, advertising and selling, promotional drives and the like. The aim of the course is to develop in the individual the ability to evaluate critically the many verbal efforts to influence human belief and behavior which are thrust upon us daily. Not offered 1963-64.
634 Public Address in American Society 2 hrs.

Deals with the study of the history and criticism of public address in America. Will include a study of the important speakers in American history, an analysis of their speeches, their impact upon American society and their relationship to political and social movements in the United States. Not offered 1963-64.

650 Teaching of Speech Correction 2 hrs.

A study of the methods of individual and group therapy for common speech disorders. Not offered 1963-64.

652 Public School Speech Correction 2 hrs.

Deals with the organization and administration of speech therapy in the public schools. Problems of examination, certification, scheduling, inter-departmental relationships, parent and teacher education, techniques on group therapy, individual therapy and speech improvement methods for the elementary grades are covered. Not offered 1963-64.

654 Clinical Methods in Speech Correction 2 hrs. Summer, Spring

Designed for advanced students and practicing speech therapists, this course provides supervised therapy experiences with a variety of speech disorders. Emphasis will be placed upon the intensive study, application and evaluation of diagnostic and therapeutic procedures.

656 Speech Therapy 2 hrs. Summer

Includes a historical survey of the speech therapy field; the philosophy of speech correction; professional problems; the administration of private, hospital, public school speech clinics and the basic principles of psychotherapy as applied to speech disorders.

660 School Assemblies and Community Programs 2 hrs.

Aids teachers and administrators in planning and executing school assemblies, educational conferences and special programs for various community groups. It will deal with sources of materials, problems in planning, techniques and skills involved in readying such programs for their presentation. Not offered 1963-64.