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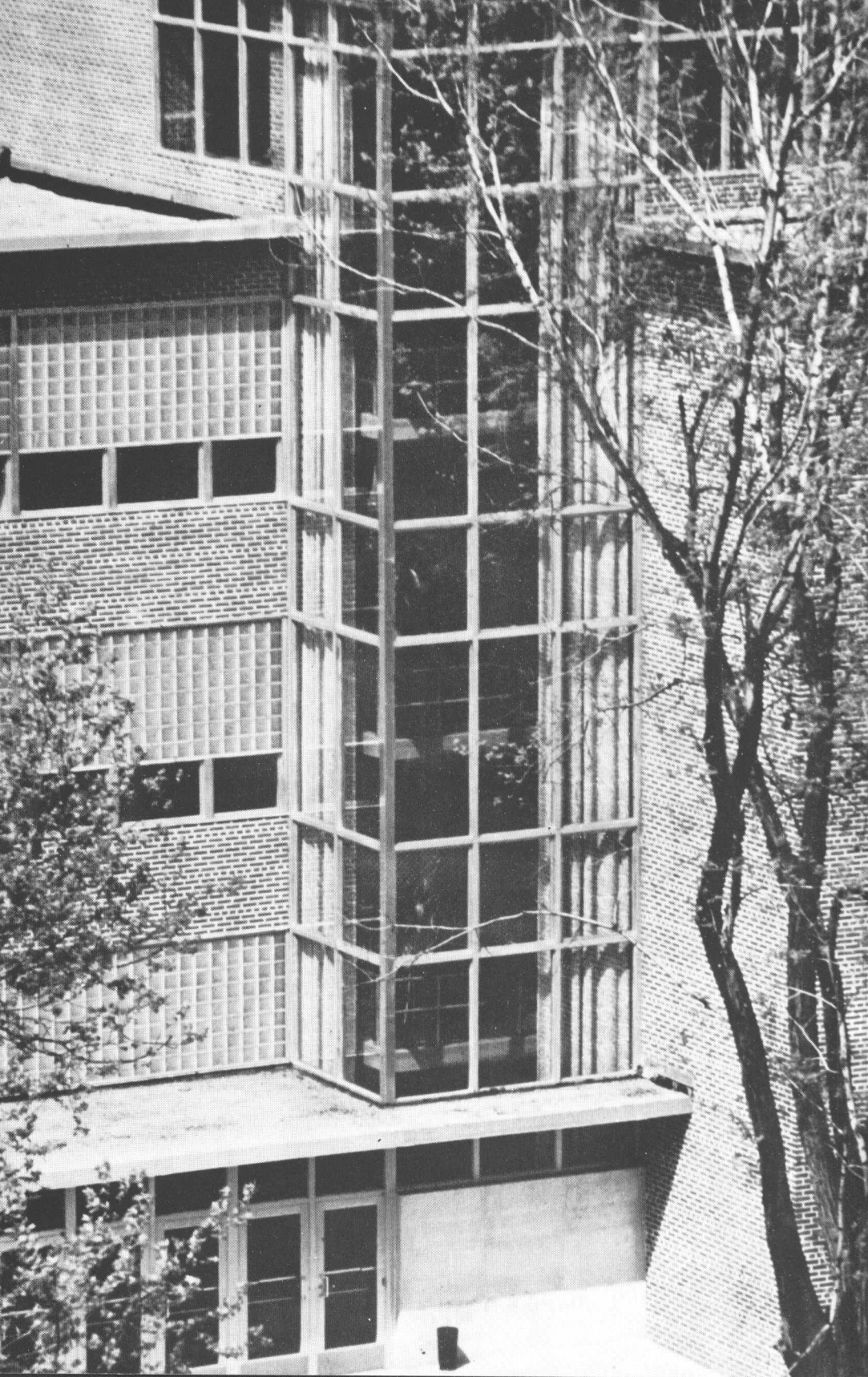


Bulletin

**SCHOOL OF
GRADUATE
STUDIES**

1962 SUMMER SCHOOL

1962-1963 COLLEGE YEAR



Bulletin

**WESTERN MICHIGAN UNIVERSITY
KALAMAZOO, MICHIGAN**

SCHOOL OF GRADUATE STUDIES

**SUMMER SESSION 1962
COLLEGE YEAR 1962-63**

Vol. 57, No. 3

March 1962

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CALENDAR OF GRADUATE EVENTS

June 1962 — June 1963

Summer Session, 1962

June 18, MondayRegistration
June 19, TuesdayClasses begin
June 22, FridayFinal day for change of registration
June 25, MondayDiploma applications due
July 4, WednesdayIndependence day recess
July 6, FridayFinal day for dropping courses
July 16, MondayTheses due from summer graduates
July 27, Friday (6:00 p.m.)Commencement
and close of six-weeks session
July 30, MondayBeginning of post-session workshops
August 10, FridayClose of post-session workshops
and eight-weeks session

Fall Semester, 1962-63

September 15, SaturdayFinal day for regular registration
September 18, TuesdayAll classes begin
September 22, SaturdayFinal day for late registration
September 29, SaturdayFinal day for change of registration
October 12, FridayDiploma applications due
November 3, SaturdayFinal day for dropping courses
November 21, Wednesday (12:00 noon) ...Thanksgiving recess begins
November 23, 24, Friday, SaturdayUniversity offices close
November 26, MondayClasses resume
December 19, Wednesday (10:00 p.m.)Christmas recess begins
December 24, MondayUniversity offices close
December 31, MondayUniversity offices close
January 3, Thursday (8:00 a.m.)Classes resume
January 7, MondayTheses due from fall graduates
January 16 - 25, Wednesday - FridayFinal examinations
January 26, Saturday (2:00 p.m.)Commencement

Spring Semester, 1963

February 2, SaturdayFinal day for regular registration
February 4, MondayAll classes begin
February 9, SaturdayFinal day for late registration
February 16, SaturdayFinal day for change of registration
February 22, FridayDiploma applications due
March 16, SaturdayFinal day for dropping courses
April 12, Friday (12:00 noon)Easter recess begins
April 13, SaturdayUniversity offices close
April 23, TuesdayClasses resume
May 27, MondayTheses due from spring graduates
May 28 - June 7, Tuesday - FridayFinal examinations
May 30, ThursdayMemorial day recess
June 8, Saturday (2:00 p.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 of the School

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
Margaret T. Mabie, M.A., Assistant to the Dean

Graduate Council, 1961-62

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
James H. Griggs, Ed.D., Dean, School of Education
Harry S. Hefner, M.A., Department of Art
Paul B. Horton, Ph.D., Department of Sociology
George E. Kohrman, Ed.D., Dean, School of Applied Arts and Sciences
Gerald Osborn, Ph.D., Dean, School of Liberal Arts and Sciences
Harvey W. Overton, Ph.D., Department of Education
Jack C. Plano, Ph.D., Department of Political Science
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, History, Librarianship, Mathematics, Occupational Therapy, Physics, Political Science, Psychology and Sociology.

The Master of Business Administration degree is offered in cooperation with the School of Business.

A Specialist in Education degree may be earned on the completion of a sixth-year program designed for the preparation of the School Administrator or School Psychological Examiner.

Permission to Enroll

Permission to enroll in graduate courses is granted at an admissions conference. This conference may be scheduled by the student after he has submitted an Application for Permission to Enroll and an undergraduate transcript that indicates the satisfactory completion of the bachelor's degree or its equivalent.

A communications examination will be administered to all applicants at the time of their admissions conference. The purpose of this examination is to establish the applicant's level of competence in the basic communication skills.

The following types of admission are granted:

1. **Unqualified Admission.** Unqualified admission is awarded to a student whose previous academic record does not warrant admission with reservations. 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 to elect six hours or less during the final semester 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, 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.

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 is expected to 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 as required by the School of Education, or the successful completion of qualifying examinations in other fields.
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:

A=3	C=1
B=2	E=0

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 or summer session.

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 requirements for the degree program must be completed within six years from the date of the first enrollment.

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**. No registration is permitted after 12:00 on the second Saturday of each semester, nor after the second day of the summer session. 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:

SEMESTER AND SUMMER SESSION FEES

Sem. Hrs.	Resident Students			Non-Resident Students		
	Tuition	Local	Total	Tuition	Local	Total
1 - 2	\$12.00	\$23.00	\$35.00	\$35.00	\$23.00	\$58.00
3 - 4	24.00	29.00	53.00	70.00	29.00	99.00
5 - 6	36.00	35.00	71.00	105.00	35.00	140.00

**GRADUATE STUDENTS ARE LIMITED TO SIX SEMESTER HOURS
IN SUMMER SESSION**

7 - 8	48.00	41.00	89.00	140.00	41.00	181.00
9 or more	66.50	47.50	114.00	188.00	47.50	235.50

POST-SUMMER WORKSHOPS

1	\$ 6.00	\$14.00	\$20.00	\$17.00	\$14.00	\$31.00
2	12.00	14.00	26.00	34.00	14.00	48.00

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 \$60 per semester or \$20 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 \$1,500 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. They must pay tuition, but will be exempted from paying local fees. 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 the 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 watch this bulletin for announcements pertaining to 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 to twenty-four hours of graduate work in Biology and six to ten 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 may 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, conservation, public health, general biology, and science education.

BUSINESS ADMINISTRATION Edwin Grossnickle, Chairman of Advisers

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 degree 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 M.B.A. 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 examinations covering the fields of General, Analytical, Organic, and Physical Chemistry. These examinations may be taken at the beginning of each new session. The scheduled dates for this year are 9:00 A.M. and 1:00 P.M. on June 18, 1962; September 13 and 14, 1962; and January 31 and February 1, 1963. 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:

1. Three of the following: 610 Advanced Inorganic Chemistry, 630 Advanced Physical Chemistry, 650 Advanced Biochemistry, and 660 Advanced Organic Chemistry.
2. 620 Advanced Analytical Chemistry.
3. 505 Chemical Literature.
4. 601 Graduate Seminar, to be elected for two semesters.

ECONOMICS

Robert S. Bowers, Adviser

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 from the economic offerings 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-three 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 objective. 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 Education, 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 education 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 according to the student's curriculum.
 - a. The students who enroll in curricula designed for secondary teachers in specific teaching fields might elect all of these courses from their major departments.
 - b. Those students who enroll in the curricula designed to serve elementary and junior high school teachers and those in special education might include courses from departments in which their background was inadequate.
 - c. The students who enroll in the curricula designed for the preparation of superintendents, principals, counselors, and curriculum coordinators might 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:

Curricula	Advisers	Prerequisites and Special Requirements
Curriculum Development and Coordination	Dorothy McCuskey	A minimum of one year of teaching experience before candidacy
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 Donald A. Davis	A minimum of one year of teaching experience (or equivalent) before graduation.
Orientation and Mobility Specialist	Donald Blasch	One semester of internship at Hines Veterans' Hospital
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	George K. Cooper	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
Teaching of Industrial Education	Charles G. Risher	Major or minor in industrial education
Teaching of Literature and Language	Clayton A. Holaday	Major or minor in English
Teaching of Music	Elwyn F. Carter	Major in music
Teaching of Physical Education	George G. Dales	Major or minor in physical education
Teaching of Science and Mathematics	Charles H. Butler	Major or minor in one department of the division of science and mathematics

Teaching of Social Sciences	Leonard C. Kercher William V. Weber	Twenty hours in combined fields of economics, history, philosophy, political science and sociology
Teaching of Speech Correction	Charles Van Riper	Nine hours of undergraduate speech correction before or in conjunction with graduate work, and consent of adviser
Teaching of General Speech	Zack York	Major or minor in speech with suitable cognates
Visiting Teacher	Nellie N. Reid Roland S. Strolle	Selected courses in social work to be taken at the University of Michigan
School Psychologist	Stanley Kuffel	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.

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-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 examiner. The pattern of courses to be followed will be arranged through a conference with the adviser.

Teaching at the Junior College Level

William C. Van De-
venter

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 majors. 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, 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.

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 692 The Literature 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 contemporaneous Latin America; (b) United States since 1865 and contemporaneous 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

Alice L. LeFevre, 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, 600, 622 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

James H. Powell, 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.

OCCUPATIONAL THERAPY

Rosalie Kiss, 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 a 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), 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 556, 552; Psychology 644, 645; Occupational Therapy 510, 550, 532.

PHYSICS

Paul Rood, Adviser

The degree of Master of Arts in the field of Physics provides training in both theoretical and practical physics useful to the science teachers and the scientist working in the fields of spectroscopy, nuclear physics and ultrasonics.

In order to receive the master's degree, the student must complete the following departmental requirements:

1. An undergraduate major in physics or its equivalent.
2. A mathematical program through calculus and differential equations.
3. If the requirements in physics are not met, at the discretion of the adviser, the candidate may be admitted to the physics curriculum for one semester. At the end of the semester, if his scholastic performance meets the B average required by the Graduate School, he may be admitted.
4. A thesis or, at the discretion of the adviser, participate in a project at an approved industrial or governmental laboratory.
5. The student's program must include the following required courses: 622 Quantum Mechanics, 624 Statistical Mechanics, 630 Analytical Mechanics and 662 Electricity and Magnetism. From six to ten hours will be required from other closely related departments to include at least two courses from the graduate offerings in Mathematics. Elective hours to complete the student's program will be selected with the assistance of his graduate adviser.

POLITICAL SCIENCE

William V. Weber, Adviser

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

1. Have completed at least thirty hours of work in the social sciences at the undergraduate level.

2. Complete a minimum of twenty to 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

3. Upon the recommendation of the departmental adviser and with the approval of the departmental chairman, the student will be permitted to write a thesis.

4. Complete six to ten hours from the offerings of related departments.

5. Before being recommended for the master's degree in Political Science, the student will be required to pass satisfactorily an oral examination. The examination will cover bibliographical information and the basic subject matter of the field, as well as the contents of the thesis if one is written.

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, 514, 615.

(2) Clinical Courses (13 to 15 hrs.) from Psychology 624, 682, 661, 651, 650, 681, 684, 685, 616.

(3) 700 The 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

Leonard C. Kercher, Adviser

The master's degree program in Sociology is designed to (1) give students a better 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, prepare 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 program leading to the degree of Specialist in Education is offered in Educational Administration and School Psychological Examiner. The degree is awarded on the completion of a minimum of sixty semester hours of graduate work beyond the bachelor's degree with a point-hour ratio of at least 2.5 with B designated as 2 and A as 3.

The student must satisfy a residence requirement of at least one semester and one summer session.

EDUCATIONAL ADMINISTRATION

Roland S. Strolle, Adviser

The program in Educational 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 requirements 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 semesters 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.

Total semester hours — 60.

SECTION III

DESCRIPTION OF GRADUATE COURSES

Two types of courses are offered in the School of Graduate Studies: (1) Those numbered 600 and above and open only to graduate students, and (2) those numbered 500 through 599 and 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.

GRADUATE STUDIES

For Graduates and Upperclassmen

500 Studies in American Culture 3 hrs. Summer

An interdisciplinary study of perennial issues in American life. The materials for this course are drawn from literature, the arts, the social sciences and philosophy.

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. This selection may 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 Professional Individual Studies 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 time of election of this course.

711 Professional Individual Studies 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 time of election of this 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 time of election of this course.

ACCOUNTING

Wetnight, Head; Assistant Professor Everett; Instructors Morris and Stevenson.

For Graduates and Upperclassmen

510 Advanced Accounting 3 hrs. Fall, Spring

This course is designed specifically for the balance sheet accounts. Also included will be corporations and determination of net income. Prerequisite: Accounting 211.

511 Advanced Accounting 3 hrs. Spring

This is a study of accounts for special sales, consolidations and miscellaneous accounting methods.

512 Cost Accounting 3 hrs. 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. Summer, 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. 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.

For Graduates Only**610 Advanced Accounting Theory—Income Determination****3 hrs.**

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. Not offered 1962-63.

611 Advanced Accounting Theory—Equities**3 hrs. Fall**

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.

AGRICULTURE

Baker, Head.

For Graduates and Upperclassmen**530 Agriculture in Michigan****2 hrs. Spring**

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. Fall

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.

ART

Hefner, Head.

For Graduates and Upperclassmen

515 Advanced Commercial Art

3 hrs. Fall

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. Summer, 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**

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. Spring

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.

BIOLOGY

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

For Graduates and Upperclassmen

500 Selected Experiences in Biology 2 hrs. Spring

Designed primarily for elementary teachers and secondary school non-science teachers who need to improve 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. Fall

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.

514 Methods and Materials for School Health Education 2 hrs.

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. Not offered 1962-63.

515 Alcohol Problems 2 hrs.

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 and/or sociology or consent of the instructor. Not offered 1962-63.

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, or consent of instructor. Not offered 1962-63.

517 Cellular Physiology**2 hrs.**

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. Not offered 1962-63.

518 Endocrinology**2 hrs. Summer**

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.**

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. Not offered 1962-63.

523 Paleobotany**3 hrs.**

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. Not offered 1962-63.

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 1962-63.

525 Biological Constituents**2 hrs. Spring**

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.

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 1962-63.

542 Entomology**2 hrs. Summer, 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.**

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. Not offered 1962-63.

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 1962-63.

551 Parasites and Parasitism**2 hrs. Summer**

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. Spring**

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. Fall**

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.

557 Natural History of Invertebrates 3 hrs. Spring

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.

For Graduates Only

600 Recent Developments in Biological Science 2 hrs. Fall

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.

602 Human Ecology 2 hrs.

A study of the man-dominated biotic community of civilization and its interrelationships. Lectures and field work. Prerequisite: at least a minor in biology. Not offered 1962-63.

605 Advanced Studies in Genetics 2 hrs. Summer, Spring

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.

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 1962-63.

621 Plant Taxonomy 2 hrs.

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. Prerequisite: at least a minor in biology. Not offered 1962-63.

627 Advanced Studies in Plant Physiology 2 hrs.

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. Not offered 1962-63.

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 1962-63.

648 Herpetology**2 hrs.**

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. Not offered 1962-63.

649 Mammalogy**2 hrs.**

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. Not offered 1962-63.

652 Plant Ecology**2 hrs. Summer**

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.**

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. Not offered 1962-63.

655 Terrestrial Micro-Environments**2 hrs. Spring**

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.

BUSINESS EDUCATION

Cooper, Head.

For Graduates Only**680 Principles of Business Education****2 hrs. Summer**

Principles of business education and their implications for the teachers of business subjects. A study of objectives, guidance, occupational research, extra-curricular activities and the growth of business education in the United States.

682 Curriculum in Business Education**2 hrs. Fall**

Principles, practices and problems involved in the evaluation and construction of business curricula.

684 Improvement of Instruction in Shorthand and Secretarial Subjects 2 hrs. Summer

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. Spring

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

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

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. Not offered 1962-63.

689 Organization and Teaching of Office Practice 2 hrs.

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. Not offered 1962-63.

BUSINESS GENERAL

Schneider, Head; Professors Burdick, Grossnickle and Hartenstein; Associate Professors Hardin, Healey, Niemi and Trader; Assistant Professors Booker, Kogiku and 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.

526 Advanced Life and Health Insurance 3 hrs.

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. Not offered 1962-63.

528 Problems in Multiple-Line Insurance 3 hrs. Fall

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 Casualty 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.

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 Human Relations in Management 3 hrs. 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.

554 Introduction to Management Science 3 hrs. 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. Prerequisite: consent of instructor.

556 Office Management 3 hrs. Fall, Spring

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

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.

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.

For Graduates Only

600 Seminar in Business 3 hrs. Summer, Fall

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.

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. Not offered 1962-63.

640 Legal Controls of the Business Enterprise 3 hrs.

An analysis of the current legal problems as they apply to the control and regulation of various types of business enterprises. Not offered 1962-63.

642 Statistical Interpretation**3 hrs. Fall**

Advanced statistical methods commonly employed in business and operational research and related areas. Prerequisite: A course in statistics.

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. Fall**

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.**

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. Not offered 1962-63.

656 Electronic Data-Processing**3 hrs. 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.

672 Marketing Management**3 hrs. Fall, 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, Spring**

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.

CHEMISTRY

Meyer, Head; Professors Iffland, Knowlton and Osborn; Associate Professors Anderson, Holkeboer, Nagler and Tuller; Assistant Professor Harmon.

For Graduates and Upperclassmen

505 Chemical Literature 2 hrs. Summer, 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 1962-63.

537 Theoretical Chemistry 3 hrs.

Thermochemistry, homogeneous and heterogeneous equilibrium, electro-chemistry, kinetics, etc. Prerequisite: 536. Not offered 1962-63.

540 Food Chemistry 2 hrs. Fall

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.

551 Biochemistry **2 hrs. Summer, Spring**

Elementary study of the chemistry of the body, digestion, metabolism, excretion. Prerequisites: 361, 363, or 265.

552 Biochemistry Laboratory **1 hr. Spring**

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 **1 hr. Spring**

Further topics in biochemistry laboratory. This course will accompany Biochemistry 551 and 552.

560 Qualitative Organic Analysis **3 hrs. Fall**

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 **2 hrs. Fall**

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 **2 hrs. Summer**

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 **2 hrs. Fall, Summer**

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 **2 hrs. Spring**

A continuation of special problem work started under 590. Given on request.

For Graduates Only

601 Graduate Seminar **1 hr. Fall, Spring**

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.**

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. Not offered 1962-63.

610 Advanced Inorganic Chemistry**3 hrs. Spring**

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.**

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. Not offered 1962-63.

620 Advanced Analytical Chemistry**3 hrs. Spring**

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. Fall**

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.**

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. Not offered 1962-63.

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 1962-63.

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.

DISTRIBUTIVE EDUCATION

Trimpe, Head.

Open to Graduates and Upperclassmen

570 Organization and Operation of Distributive Education**2 hrs. Summer, 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.

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**

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.

Open to Graduates Only

671 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.

ECONOMICS

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

For Graduates and Upperclassmen

500 Managerial Economics 3 hrs. Fall, Spring

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. Summer, 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 2 hrs. 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. Fall**

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.

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.

524 Public Finance**3 hrs. Fall**

A study of government expenditure, revenues, debts and problems of fiscal administration. Prerequisite: Principles of Economics. Work in government may be substituted in special cases by permission of the instructor.

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.

580 International Economics**2 hrs. Spring**

A general course in international relations with special emphasis on the fundamentals of international trade theory and the impact of national economic policies on international relations. Prerequisite: Principles of Economics.

584 Comparative Economic Systems**2 hrs. Spring**

The economic institutions and conditions of capitalism, socialism, communism, fascism and the cooperative movement are critically examined as to ideology and actual operation. Prerequisite: Principles of Economics.

585 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. Prerequisite: Economics 200, 201.

588 Economic Development**3 hrs. Summer, 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.

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. 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.

613 Social Security**2 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.

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.

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, Overton, Robinson, Snow and Weaver; Assistant Professors Blasch, Kanzler, Lamper, and Turansky; Instructor 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 1962-63.

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 1962-63.

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 1962-63.

508 Parent Education

2 hrs. Spring

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

510 The Elementary Curriculum

2 hrs. Fall

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 represented by those taking the course. Not offered 1962-63.

520 The Junior High School

2 hrs. Summer, Spring

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 retarded, 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 1962-63.

532 Mental Deficiency

2 hrs. Summer, Fall, Spring

The psychology and pathology of mental deficiency including causation, 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. Fall

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.

537 Language for the Deaf 2 hrs. Spring

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.

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

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. Spring

Deals with the physics of sound, with the 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

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, Spring

A study of therapies, services and orthopedic appliances necessary for the care, education and rehabilitation of crippled children. Identifica-

tion 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. Summer, Fall

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
(July 30 - Aug. 10) 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, Spring

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
(July 30 - Aug. 10) 2 hrs. Fall

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 1962-63.

551 Philosophy of Education 2 hrs.

For graduate students and teachers of experience. Analyzes and interprets and changes in education taking place in this and other countries. Not offered 1962-63.

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 1962-63.

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 confer-

ences, 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. 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. Fall

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.

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. Summer, Spring

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. Fall

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, Spring

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. Fall

Covers modern practices and recent emphases and trends in subject areas of the secondary school curriculum. Prerequisite: 502 The School Curriculum or equivalent.

622 Common Learnings Program 2 hrs. Summer

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 2hrs.
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, Fall

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.

This course is intended to illustrate methods of diagnosing and treating the problems of exceptional children. Not offered 1962-63.

632 Problems in Education of the Mentally Handicapped 2 hrs.

Problems in education of mentally handicapped children including educability; philosophy of education of the mentally handicapped; organization of programs; and functions of institutions. Not offered 1962-63.

646 Advanced Driver and Safety Education Post-Session Workshop
(July 30 - Aug. 10) 2 hrs.

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 techniques of driving instruction. Laboratory experiences including driving range. Prerequisite: Education 546 or the equivalent.

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 1962-63.

652 Comparative Education 2 hrs. Summer

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.

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 1962-63.

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. Summer

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. Fall

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.

663 Workshop in Educational Administration 2 hrs.

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. Not offered 1962-63.

664 School Plant Planning 2 hrs.

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. Not offered 1962-63.

665 Financial Aspects of School Administration 2 hrs. Spring

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. Summer, Spring

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.

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. Not offered 1962-63.

668 School Law Post-Session Workshop (July 30 - Aug. 10) 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.

669 Supervision of Student Teaching 2 hrs. Summer, Spring

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. Fall, Spring

Open to graduate students who have completed the major portion of professional courses required for certification.

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
(July 30 - Aug. 10) 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. 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.

687 Improvement of Reading in Secondary Schools 2 hrs. Fall

Designed to aid teachers in developing the reading abilities and skills of their students at the secondary level. Emphasis aims, materials and procedures.

688 Evaluation in Education 2 hrs. Spring

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.

689 Supervised Practicum 2 hrs. Summer, Spring

Practical application and integration of principles and methods in realistic settings. The supervised experience will include the following levels: field visits, participation in counseling activities at the local school level, and such other duties as are appropriate to guidance personnel.

690 The Community College 2 hrs.
Post-Session Workshop (July 30 - Aug. 10)

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.

692 The Dynamics of Blindness and Rehabilitation 2 hrs.
Summer, 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 stimulating 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.

ENGINEERING AND TECHNOLOGY

Giachino, Head; Professor Nantz; Associate Professor Wilcox.

For Graduates and Upperclassmen

500 Practical Labor-Management Relations

3 hrs.

Deals with existing relationships between government agencies, labor organizations and management. Particular emphasis will be placed on collective bargaining procedures. Not offered 1962-63.

510 Automotive Transportation Workshop

2 hrs.

Practical experience is provided to secure an understanding of the basic elements of automotive and aircraft transportation. Instructional material will be developed for use in teaching units of transportation in junior or senior high schools. Not offered 1962-63.

514 Automotive Performance Problems

2 hrs.

A brief study of the operating curves, advance testing procedures, automotive ratings and requirements as they apply to automotive performance and service life. Not offered 1962-63.

Open to Graduates Only

641 Workshop: Electronics for Technical Teachers

2 hrs.

A study of industrial and communication electronics and its presentation on the technical school level. The content will include semi-conductors, sensing, digitork stepping motor drives, parametric amplifiers, magnetic amplifiers, digital counters and computers, measurement of non-electrical quantities, instrumentation and miniaturization. Emphasis will be placed on developing units of study which will contain technical information, laboratory work, demonstrations and instructional aids. The use of the technical report also will be stressed. This course is designed for persons who are teaching some phase of electricity or electronics at the 12th, 13th and 14th grade levels. Not offered 1962-63.

ENGLISH

Rogers, Head; Professors Limpus and Miller; Associate Professors Callan, Denenfeld, Freund, Holaday, Lo, Malmstrom, Nelson, Sadler and Woods; Assistant Professors Galligan, Goldfarb, Hankey, Macrorie, McNally, Phillips and Shafer.

Open to Graduates and Upperclassmen

519 Chinese Literature in Translation 2 hrs.

A study of significant forms in Chinese literature and their reflections of values and patterns of Asian society. Not offered 1962-63.

522 American Realism 2 hrs. Fall

The rise of realism in American literature in the late nineteenth and early twentieth centuries.

534 Neo-Classical Literature 3 hrs.

English literature 1660-1730, with major emphasis on Dryden, Pope, and Swift. Not offered 1962-63.

535 Eighteenth-Century Literature 3 hrs.

Readings in Johnson, Boswell, Gray, Fielding, Sterne, and Smollett. Not offered 1962-63.

536 Romantic Literature 3 hrs. Fall

Readings in poetry and criticism, with emphasis on Blake, Burns, Wordsworth, Coleridge, Scott, Byron, Shelley, Keats.

537 Victorian Literature 3 hrs. Spring

Readings emphasizing Carlyle, Mill, Dickens, Thackeray, Tennyson, Browning, and Arnold.

548 Studies in Satire 2 hrs.

Studies concentrating chiefly on the satire of Pope and Swift. Not offered 1962-63.

566 Creative Writing Roundtable 2 hrs. Fall

Writing of poetry and fiction; intended for advanced students in English and for other students interested in writing.

568 Literary Criticism 2 hrs. Summer, Spring

A study of ancient and modern writers on the nature of literature and how it may be examined and judged.

574 Structure of Modern English 2 hrs. Fall

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: Literature for Children. Not offered 1962-63.

Open to Graduates Only

622 American Literary Themes 2 hrs. Fall

A study of the "search for a subject" evident in the works of selected 19th century American authors.

640 Poetics 2 hrs. Fall

Systematic analysis of a number of poems with regard to tone, statement, imagery, prosody, and other formal elements.

641 Studies in Modern Poetry 2 hrs.

An intensive study of the writings of several modern poets. Not offered 1962-63.

642 Studies in European Drama 2 hrs. Spring

Selected areas of European drama in translation from classical times to the present.

643 Studies in British Drama 2 hrs.

Selected areas, other than the Shakespearean, of British and Irish drama from medieval times to the present. Not offered 1962-63.

644 The Novel: Form and Technique 2 hrs. Summer

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 2 hrs.

An intensive study of the works of some important novelists of the twentieth century. Not offered 1962-63.

652 Studies in Shakespeare: Tragedy 2 hrs. Summer, Spring

Selected tragedies of Shakespeare.

653 Studies in Shakespeare: Comedy 2 hrs.

Selected comedies of Shakespeare. Not offered 1962-63.

661 Seminar in English 3 hrs. Summer, 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 1962-63.

GEOGRAPHY AND GEOLOGY

Brueckheimer, Head; Professor Stout; Associate Professors Horst and Kirchherr; Assistant Professors Moore, Nasse and Schmaltz.

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 Economic Development in Latin America 2 hrs. Spring

Study of problems of economic 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.

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. Spring

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.

517 The Middle East 2 hrs.

Diversity and homogeneity in the Middle East, with emphasis on regional interrelations, developmental potentialities and the economic-geographic problems of Israel, Egypt and the Moslem world. Prerequisite: 105. Not offered 1962-63.

532 Germorphology 3 hrs. Spring

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.

539 Field Geology 4 hrs. Summer

A study of geologic materials and features in the Upper Great Lakes Region and the Black Hills.

540 Political Geography 2 hrs. Summer

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 land forms 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 1962-63.

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 1962-63.

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.

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. Not offered 1962-63.

Open to Graduate Students Only

600 Advanced Studies in Earth Science 2 hrs.

Designed to cover the areas of physical geology, weather and climate needed by junior high science teachers to teach general science. The bulletins of the IGY will be utilized in dealing with modern developments in the earth sciences. Individual deficiencies will be met by individually assigned readings and by teacher consultations. Not offered 1962-63.

610 Problems in Geography**2 hrs.**

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. Spring**

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.

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.

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.**

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.**

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. Not offered 1962-63. May be offered on an individual or seminar basis.

HISTORY

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

Open to Graduates and Upperclassmen

506 Intellectual History of Western Man to 1550 2 hrs. Summer, 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. Fall

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.

**517 Constitutional History of the United States since 1877 3 hrs.
Spring**

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.

518 History of United States Foreign Policy 3 hrs. Fall

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. Summer

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.

532 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

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.

552 The Medieval Church 3 hrs. Spring

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 2 hrs. Spring

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

555 The Reformation 2 hrs. Fall

A history of the religious reformation in Europe at the beginning of Modern Times.

557 Europe in the 17th Century 3 hrs. Fall

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 2 hrs. Spring

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 2 hrs.

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. Not offered 1962-63.

560 Continental Europe, 1815-1870 3 hrs. Fall

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 3 hrs. Spring

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 3 hrs. Fall

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

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.

A study of British political, social and economic developments since 1900 and of the changing character of the Empire and Commonwealth. Not offered 1962-63.

571 History of Mexico 3 hrs. Spring

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. Summer

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. Fall

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. Fall

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.

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 1962-63.

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

Studies in the history of Michigan Territory and State. Attention is given to the critical use of historical materials and the preparation of bibliographies.

620 Seminar in Michigan History, 1865-1933 2 hrs. Summer

Research papers in the economic development of the state, with social and political implications, are prepared in this course.

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. Spring

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.

652 Studies in Medieval History 2 hrs. Fall

An intensive series of studies in medieval institutions and ideas.

656 Seminar in European History, 1500-1815 2 hrs. Fall

Intensive exploration of selected topics in the history of the period.

658 Eighteenth-Century Enlightenment 2 hrs.

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 *philosophes*. Not offered 1962-63.

662 Studies in Russian History 2 hrs. Summer

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.

666 Seminar in the History of Victorian England 2 hrs.

Attention is devoted to economic, social, intellectual and political problems and developments of the period. Not offered 1962-63.

674 Seminar in Recent Latin American History 2 hrs.

An intensive exploration and analysis of various aspects of the modern Latin American scene will be undertaken with emphasis on the relationship between present-day realities and past experience. Not offered 1962-63.

686 The Far East Since 1945 2 hrs. Fall

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.

690 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.

692 The Literature of History 2 hrs. Spring

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.

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 1962-63.

510 Advanced Nutrition 3 hrs. Fall

Study of recent developments in nutrition through readings and experiences. Prerequisite: Nutrition and Meal Planning and Food Preservation.

512 Institutional Management 3 hrs.

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. Not offered 1962-63.

514 Food Technology **2 hrs. Spring**

Food preparation with special emphasis on individual problems related to school food teaching units. Study of commercial food preparation.

516 Consumer Buying **2 hrs. Summer**

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.**

Application of principles affecting food preparation. Development of experimental techniques. Prerequisites: Chemistry, Foods and Advanced Foods. Not offered 1962-63.

520 Demonstration Techniques **2 hrs.**

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. Not offered 1962-63.

550 Family Living in the Schools **2 hrs. Post-Session Workshop
(July 30 - August 10)**

Problems of organizing materials in Family Living for the purpose of teaching classes and working the groups in the school program.

552 The Homemaking Center and Equipment **2 hrs. Fall**

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.

554 Housing. **2 hrs. Summer Workshop (June 18 - 29)**

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.

Open to Graduates Only

600 Advanced Clothing Techniques **2 hrs.**

Planned to meet the needs of the advanced student in clothing construction techniques. Prerequisites: Clothing, Family Clothing and consent of instructor. Not offered 1962-63.

602 Advanced Tailoring Techniques **2 hrs. Fall**

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.

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. Not offered 1962-63.

640 Supervision of Home Economics 2 hrs. Summer Workshop (July 2-13)

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.

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 1962-63.

644 Curriculum Planning in Home Economics 2 hrs. Spring

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.

A study of the techniques of evaluation applicable in home economics. Review of published devices in this field. Construction of objective devices and their use in the classroom. Prerequisite: consent of instructor. Not offered 1962-63.

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 1962-63.

650 Advanced Study of Home Management 2 hrs. Spring

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.

652 Teaching of Homemaking Summer Workshop (July 16-27) 2 hrs.

Designed to develop ways of implementing newer methods and techniques used in an effective homemaking program. Planned for experienced homemaking teachers.

INDUSTRIAL EDUCATION

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

506 Furniture Construction 3 hrs. Summer, 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 3 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.

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.

538 Problems in Metalworking 2 hrs. Summer

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.

540 Industrial Arts for the Elementary School 2 hrs. Summer, Spring

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.**

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. Not offered 1962-63.

572 Arts and Crafts for Teachers**2 hrs. Summer, 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.

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 1962-63.

588 Advanced Power Laboratory**2 hrs. Summer**

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.

Open to Graduates Only**605 Problems in Woodworking****2 hrs.**

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. Not offered 1962-63.

620 Advanced Drafting Practices**2 hrs. Fall**

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.

621 Studies in Technical Representation**2 hrs. Spring**

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.

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.

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. Not offered 1962-63.

644 Project Planning and Designing 2 hrs.

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. Not offered 1962-63.

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 arts philosophy. Not offered 1962-63.

646 Teaching Problems in Industrial Education 2 hrs. Summer

Special attention will be given to teaching methods and the techniques that are useful to experienced industrial arts teachers. Emphasis will be placed on problem solving in industrial arts, pupil planning and the demonstration technique. Each student will be required to work out a program of teaching methods useful in his particular school.

650 Advanced Problems in Graphic Arts 2 hrs.

Opportunity is provided for the individual student to undertake advanced study of the technical problems in the field of graphic arts. Advanced instruction in imposition, presswork and linotype composition will be available. Not offered 1962-63.

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 information related to them. Prerequisite: Electricity, Adv. Electricity. Not offered 1962-63.

670 Problems in General Shop 2 hrs. Fall

Practical experiences in drawing and planning, woodworking, metalworking, electricity, and craftwork will be required. Course will include selection, development and preparation of materials and instructional media for instruction at the junior and senior high school levels.

671 Industrial Education Materials**2 hrs. Summer**

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.

672 Studies in General Shop Content and Practice**2 hrs. Spring**

Study of current general shop content with emphasis on new instructional areas, science application in industry, multiple-activity instructional practices, and the selection and purchasing of equipment, tools, and supplies. The adaptation of experiments and exercises to general shop instruction will be included.

LANGUAGE

Wonderley, Head; Professor Rothfuss; Associate Professor Noble.

Open to Graduates and Upperclassmen

500 Studies in Contemporary France**2 hrs.**

Investigates more extensively phases of French life covered briefly in 304 and 305. No foreign language prerequisite. Not offered 1962-63.

502 Masters of Contemporary French Thought**2 hrs. Fall**

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. Spring**

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.

510 The Central European Area**2 hrs. Summer**

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.

512 Development of German Thought**2 hrs. Fall**

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.

514 Germany Through the Centuries

2 hrs.

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. Not offered 1962-63.

530 Contemporary Spanish Theater

2 hrs.

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. Not offered 1962-63.

533 Cervantes

2 hrs. Spring

The life and works of Miguel Cervantes with special emphasis on *Don Quixote* are studied. Lectures and readings in Spanish.

558 Mythology

3 hrs.

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. Not offered 1962-63.

580 Modern Language Instruction

2 hrs. Spring

For teachers of French, German or Spanish in the high school and grades. Problems common to all three will be considered. The basis for the course will be psychological principles underlying language learning, an evaluation based on them of current methodology, and a critical survey of cultural materials in the three civilizations, suitable for present-day school use.

LIBRARIANSHIP

LeFevre, Head; Professor Lowrie.

510 Selection of Books and Related Materials

3 hrs.

Summer, Fall, Spring

Principles of selection and evaluation of books and non-book materials. Appraisal of printed aids, book reviewing media and other sources of information used in building the library collection. Opportunity given for developing competence in writing annotations and book reviews.

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**

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

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.

**531 Technical Processes: Instructional Materials Centers 4 hrs.
Summer, 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.

*Starred courses are open to students from other departments.

***546 Storytelling**

2 hrs. Fall

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

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. Summer, 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

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.

613 Subject Bibliography: The Sciences

3 hrs. Summer, 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. Summer, 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 audio-visual 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. Summer, 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 guid-

*Starred courses are open to students from other departments.

ance 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

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. Summer, 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. Prerequisite: 510, 512 or equivalents.

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 1962-63.

624 Children's Library Services 2 hrs. Spring

Organization and administration of public library service to children; emphasis on coordination with elementary school library service.

625 School Library Administration 2 hrs. Fall

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.

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. Not offered 1962-63.

627 Administration of the Instructional Materials Center 3 hrs. Spring

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. Spring**

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 Classification and Cataloging**3 hrs. Summer, 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.**

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. Not offered in 1962-63.

644 Adult Reading Interests**2 hrs. Summer, 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. 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.

MATHEMATICS

Powell, Head; Professors Butler and Hannon; Associate Professors Leja, McCully and Seber; Assistant Professors Alavi and 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. Spring

A study of complex numbers, elementary functions, contour integrations, conformal maps and potential fields together with applications. Prerequisite: 570.

506 Programing for Computers 3 hrs. 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.

Numerical methods as applied to matrix inversion, sets of linear equations, linear programing problems, eigen-values and eigen vectors, finite differentiation and integration, polynomial interpolation with the use of a digital computer. Prerequisite: Mathematics 506 and 530 or equivalent. Not offered 1962-63.

530 Vectors and Matrices 3 hrs. 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. Summer, 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 1962-63.

560 Mathematical Statistics**3 hrs. Summer, Fall**

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.

561 Mathematical Statistics**3 hrs. Spring**

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.

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.**

Diophantine equations, congruences, quadratic residues, and properties of number theoretic functions. Prerequisite: Mathematics 380 or equivalent. Not offered 1962-63.

For Graduates Only**610 Concepts of Mathematics I****2 hrs. Fall**

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. Spring**

A continuation of 610. Prerequisite: 610.

612 Studies in Probability**2 hrs.**

Topics included are: sample point and sample space, event, random variable, conditional probability, independence, expectation, binomial distribution, and statistical inference. Prerequisite: Consent of instructor. Not offered 1962-63.

613 Studies in Number Theory**2 hrs.**

Topics included are: division algorithm, primes, fundamental theorem of arithmetic, congruences, diophantine equations, and historical background. Prerequisite: Consent of instructor. Not offered 1962-63.

614 Studies in Symbolic Logic 2 hrs.

Topics included are: sentential connectives, theory of inference, symbolizing everyday language, quantifiers, and formal and informal proofs. Prerequisite: Consent of instructor. Not offered 1962-63.

615 Studies in Calculus 2 hrs. Fall

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. Spring

Topics included are: matrix algebra, linear dependence and independence, rank, linear equations, determinants, inverse matrices, equivalence, linear inequalities. Prerequisite: Consent of instructor.

617 Studies in Geometry I 2 hrs. Fall

Topics included are: critical historical survey, logic, axiomatics, separation, angles, and congruence. Prerequisite: Consent of instructor.

618 Studies in Geometry II 2 hrs. Spring

A continuation of Mathematics 617. Topics include: similarity, translations, reflections, isometries, and measure of plane sets.

630 Abstract Algebra I 3 hrs. Fall

Algebraic systems including semi-groups, rings, polynomial rings, division rings, and fields. Prerequisite: Mathematics 330.

631 Abstract Algebra II 3 hrs. Spring

A continuation of 630. Topics include: groups with operators, modules, vector spaces and linear transformations. Prerequisite: Mathematics 630.

640 Point Set Topology 3 hrs.

Elementary properties of topological spaces, metric spaces, compact spaces, and continuous functions. Prerequisite: Mathematics 570. Not offered 1962-63.

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.**

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. Not offered 1962-63.

655 Curriculum Studies in Geometry**2 hrs.**

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. Not offered 1962-63.

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 1962-63.

670 Real Analysis I**3 hrs. Spring**

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.**

A continuation of 670. An introduction to the theory of measure and integration. Prerequisite: Mathematics 670. Not offered 1962-63.

676 Complex Analysis**3 hrs.**

Cauchy Theory, series expansions, types of singularities, analytic continuation, and theory of residues. Prerequisite: Mathematics 570. Not offered 1962-63.

MUSIC

Carter, Head; Professors Matthews, Meretta and Stulberg; Associate Professor Belooof.

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 1962-63.

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 1962-63.

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.

542 Philosophy and History of Music Education 2 hrs. Spring

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.

543 Psychology of Music Education 2 hrs. Summer, 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.

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.

590 Operetta and Musical Production **2 hrs.**

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. Not offered 1962-63.

For Graduates Only

640 Band Techniques and Organization **2 hrs.**

Organization of the school instructional program. Rehearsal techniques. Survey of band literature. Analysis and discussion of the problems of the instrumental teacher. Offered odd-numbered summers. Not offered 1962-63.

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. Summer**

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.

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

OCCUPATIONAL THERAPY

Kiss, Head.

For Graduates and Upperclassmen

502 Advanced Weaving 2 hrs.

Studies in the more complex forms of fabric structure and design. Not offered 1962-63.

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 1962-63.

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 1962-63.

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 1962-63.

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 1962-63.

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 1962-63.

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, Spring

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 formulation, 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. Fall

Laboratory development work pertaining to pulp and paper technology preceded by a survey of available literature.

571 Problem Analysis 2 hrs. Spring

A continuation of course 570.

PHYSICAL EDUCATION FOR MEN

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

For Graduates and Upperclassmen

560 Curriculum Planning in Secondary Physical Education 2 hrs.

A study and evaluation of present-day trends in secondary physical education for boys. A discussion of principles and procedures for curriculum construction and criteria for selection of activities and judging of outcomes. Individual projects will be developed. Not offered 1962-63.

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, archery, badminton 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 1962-63.

650 Tests and Measurements in Physical Education

2 hrs. Summer, 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.

660 Current Studies in the Administration of Physical Education

2 hrs. Summer, 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.

670 Community Recreation

2 hrs. Summer

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.

671 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.

672 Methods and Materials in Recreation

2 hrs. Fall

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

544 Methods in Physical Education 2 hrs. Spring

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.

561 Administration and Organization of Physical Education 2 hrs. Summer, Fall

Topics considered are administration of activities, physical examinations, excuses, special cases, records, schedules and relations with other services in the school. Prerequisite: Methods in Physical Education.

For Graduates Only

640 Rhythms in Elementary Education 2 hrs. Summer, Spring

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. Spring

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. Summer

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. Fall

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.

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, Calculus.

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, Calculus.

564 Advanced Electronics 3 hrs. Spring

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. Fall

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 or 223.

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.

For Graduates Only

612 Current Developments in Physics 2 hrs. Summer

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.

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 Schrodinger-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

The course begins with the Maxwell equations. Static and time 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 or 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 1962-63.

POLITICAL SCIENCE

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

For Graduates and Upperclassmen**500 Municipal Government****2 hrs. Summer, Fall**

City governments: their relation to the state, the rights and liabilities of municipal corporations, city pressure groups, and detailed analysis of the forms of municipal governments.

504 Rural Local Government**2 hrs. Spring**

A survey of governmental organization, functions and political relationships of counties, townships, towns, villages and special districts. Attention will be directed to the urbanization of rural areas and the emergence of the metropolitan problem.

506 Current Problems of American Government**2 hrs. Spring**

An advanced study of the issues and policies in government, politics, and economics in their historic and sociological perspectives for elementary and secondary teachers. Specific units for teaching may be developed by individuals or groups.

520 The Constitution and Civil Liberties**2 hrs. Summer, 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.

540 British Government and Politics**2 hrs.**

The organization and operation of the government of Great Britain and a survey of contemporary British political issues and problems. Prerequisite: Political Science 202 or equivalent. Not offered 1962-63.

544 Governments and Problems of Central and South America

2 hrs. Spring

A study of the governmental organization and analysis of some of the more current economic and social problems of selected Latin American countries.

546 Government of the Soviet Union

2 hrs. Fall

The organization and government of the Soviet Union. Deals primarily with the present political structure with special emphasis on the Communist Party and its relationship to the organization of the state. Attention will be paid to youth organizations and education in general as well as to the socio-economic basis of the current system.

550 American Foreign Policy

2 or 3 hrs. Fall

An analysis of the diplomatic relations of the United States with emphasis on present foreign problems. Consideration will be given to the formation and execution of American foreign policy. Prerequisite: National Government and Administration, or a course in American History, or equivalent.

560 History of Political Philosophy—Plato to Machiavelli

3 hrs. Fall

An introduction to the important portions of the political thought of the Ancient and Medieval world. The works of the great political philosophers will be studied in their historical setting.

561 History of Political Philosophy—Machiavelli to the Present

3 hrs. Spring

Includes the great works of political philosophy from the late Middle Ages to the present.

562 Communist Political Thought

2 hrs. Fall

A study of Marxist Communism, its origins, content, and assumptions; together with its expression in the Soviet Union and other states.

For Graduates Only

600 National Government

2 hrs.

Considers the major aspects of the national government of the United States with emphasis upon constitutional questions and inter-governmental relations; executive, legislative and judicial branches; and problems of citizenship and civil liberties. Not offered 1962-63.

602 State Government

2 hrs. Summer, Spring

Emphasis is placed upon the role of the states in government, the state legislature, the executive, the courts, the role of the citizen, pressure groups and political parties.

604 The Political Process of Government

2 hrs. Fall

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 formal institutions of government.

606 Pressure Groups and Propaganda 2 hrs. Fall

A study of the politics of interest groups; an analysis of group organization and internal politics, legislative programs, and ideological coalitions of groups. Propaganda techniques are examined as tools of legislative influence. Group politics are examined as several major influential factors in public policy development.

608 Problems of Municipal Government 2 hrs.

Deals with problems resulting from the growth of cities; auxiliary departments such as personnel, finance, planning and law; and line departments including police, fire, public works and utilities, public health, parks and recreation. Prerequisite: Political Science 204 or equivalent. Not offered 1962-63.

650 Seminar in Contemporary American Foreign Policy 2 hrs. Spring

Case studies of the major foreign policy problems currently confronting the United States. Analysis of background, principal issues, alternative actions, formations of policy. Prerequisite: 550 American Foreign Policy, or consent of instructor.

652 Seminar in International Relations 2 hrs. Summer, Fall

Analysis through case-studies of major current international problems, their backgrounds, solutions offered and current status.

655 The United Nations 2 hrs.

The structure and organization of the United Nations and the specialized agencies. Consideration will be given to the procedures and machinery of international cooperation, dispute settlement, legislation and administration of other international systems and agencies. Not offered 1962-63.

658 Seminar in Asian Governments and Political Problems

2 hrs. Spring

Consideration of specific problems associated with the modern Far East or the Southern Asian regimes. Students will be encouraged to select individual topics for research and seminar presentation. Research methods and materials related to the Asian field will be stressed. Prerequisite: Desirable, a course in the Non-Western World.

660 American Political Thought 2 hrs. Spring

A survey of the leading American contributions to our political thought, grouped around each of several great eras and issues of our national development.

662 Political Philosophy 2 hrs.

Examines areas of concern to the political philosopher. Among the problems to be considered will include: the nature of man, the meaning

of liberty, the purposes of government and the extent of political authority. Not offered 1962-63.

666 The Elements of Democratic Government 2 hrs.

Deals with the nature and types of government and the effects of education, technology, tradition and geography. Considers constitutionalism, representation, federalism and means used to achieve political ends. Not offered 1962-63.

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

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.

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. Not offered 1962-63.

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. Summer, Fall, Spring

Methods and techniques used in counseling retardates. Group, play, psychodrama, speech and industrial therapy. Counseling with parents.

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. Fall

A study of individual and group differences in behavior with particular emphasis on methodological and theoretical considerations. Not offered 1962-63.

624 Personality Theory 2 hrs. Spring

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. 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 super-

vision, 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. Summer, Fall, Spring

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. Fall

Introductory study of the nature and application of clinical tools to the study of illustrative cases of problem behavior with consideration of means and methods of clinical treatment. Prerequisite: Abnormal Psychology.

661 Psychological Counseling 2 hrs. Fall

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. Summer, 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, Spring**

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. Fall**

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.**

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. Not offered 1962-63.

506 Studies in the Non-Western World**2 hrs. Summer**

Gives teachers an awareness of social forces operating outside of Western Civilization. The workshop approach will be used to introduce students to such problems in Asia and Africa as industrialism, nationalism, 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.

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 1962-63.

SOCIOLOGY

Kercher, Head; Professors Horton, Hunt and Manis; Associate Professor Bouma; Assistant Professors Maher, Reid, 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 1962-63.

502 Contemporary Social Movements**3 hrs. Spring**

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.

514 Juvenile Delinquency and the Community**2 hrs.****Summer, 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. Summer, Spring**

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.

534 Comparative Culture Studies: Britain and the United States**2 hrs. Spring**

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.

535 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.

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. Spring**

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. Spring**

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.

558 Social Forces in Underdeveloped Areas 2 hrs. 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.

572 Community Agency Resources 2 hrs. Summer, 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 1962-63.

575 Industrial Sociology 2 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, Spring

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.

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. Spring

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. Summer, Fall

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 1962-63.

624 Primary Group Dynamics 2 hrs. Spring

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 framework for diagnosing sources of maladjustment. Prerequisites: Sociology 200 or 600 or consent of instructor.

676 The School and the Community 2 hrs. Fall

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, Brown, Prais and Van Riper; Associate Professor Kuykendall; Assistant Professor Wilson.

For Graduates and Upperclassmen

500 Speech for the Classroom Teacher 2 hrs. Summer, Fall

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.

516 Oral Interpretation of the Drama 2 hrs.

Platform reading of the one-act and the three-act play. Through class analysis and criticism, a basis for judging the drama is established. Not offered 1962-63.

520 Children's Theatre 2 hrs. Spring

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.

522 Acting 2 hrs.

A continuation of the work done in Acting 221, with more intensive work in the techniques of creative acting. Prerequisite: Consent of instructor. Not offered 1962-63.

524 Problems of Play Direction 2 hrs.

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. Not offered 1962-63.

526 Technical Problems of Play Production 2 hrs.

A companion course to 525 with the emphasis placed on technical problems in planning and executing scenery, lighting, costuming and makeup. Laboratory provided in dramatic productions. Not offered 1962-63.

530 Public Speaking II 2 hrs. Fall

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.

532 Persuasion 2 hrs. Spring

Speech skills are developed by the presentation of studies in persuasion, by participation in discussion and by criticism of both. Con-

tent deals with psychological theories and experimentation in motives and theories in persuasion ethics.

540 Broadcasting Regulations 2 hrs. Fall

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.

542 Educational Broadcasting 2 hrs.

Study and analysis of educational broadcasting and its development. Evaluation of current program, studies and utilization methods. Not offered 1962-63.

545 Workshop in Educational Television 2 hrs.

Post-Session Workshop (July 30 - Aug. 10)

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. 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. Summer, 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.

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. Not offered 1962-63.

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.
Post-Session Workshop, (July 30 - Aug. 10)

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.

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 1962-63.

634 Public Address in American Society 2 hrs. Summer, Spring

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.

650 Teaching of Speech Correction 2 hrs. Summer

A study of the methods of individual and group therapy for common speech disorders.

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 1962-63.

654 Clinical Methods in Speech Correction 2 hrs.

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. Not offered 1962-63.

656 Speech Therapy 2 hrs. Fall

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 1962-63.

VOCATIONAL DIVISION

Kohrman, 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 2 hrs. Spring

The functions of administration and supervision; problems involved in the organization and operation of practical arts and vocational educa-

tion programs. For administrators, supervisors of vocational education and those wishing to prepare for such positions.

626 Trends in Technology and Employment 2 hrs.
Post-Session Workshop (July 30 - Aug. 10)

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.

628 Seminar in Vocational Education 2 hrs. Summer

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



CAMPUS OF WESTERN MICHIGAN UNIVERSITY KALAMAZOO, MICHIGAN

