

THE
UNIVERSITY of MARYLAND

BULLETIN

Summer School



1962

ADMISSION AND REGISTRATION PROCEDURES*

ADMISSION: All students must be formally admitted to the University through the Admission's Office, College Park campus.

Undergraduate: Must file application with Director of Admissions by June 8, 1962.

Graduate: Application for admission and all supporting records must be in the office of the Dean of the Graduate School by June 1, 1962.

REGISTRATION:

College of Education only:

1. Begin at South-West door of Armory and only according to the alphabetical schedule posted on page vii of this catalog.
2. Undergraduate and Special Students must have schedule cards signed by adviser and Dean of College of Education.
3. Graduate students must have schedule cards signed by adviser, Dean of the College of Education, and the Dean of the Graduate School (all located in the Armory).

ALL OTHER COLLEGES

1. Begin at the respective college office.
2. Schedule cards must be signed by the student's adviser and dean.
3. Graduate students must have signatures of Dean of the Graduate School (either in Graduate office or in Armory).
4. Complete registration at the Armory.

*Registration is Neither Complete Nor Official Until All Forms
Are Submitted and Fees Are Paid*

* For details see page 6 and 7.

Summer School

1962



UNIVERSITY OF MARYLAND

Volume 17

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UNIVERSITY CALENDAR

FALL SEMESTER 1961

SEPTEMBER

- 18-22 Monday to Friday—Fall Semester Registration
- 25 Monday—Instruction Begins

NOVEMBER

- 22 Wednesday—Thanksgiving Recess Begins After Last Class
- 27 Monday—Thanksgiving Recess Ends 8 a.m.

DECEMBER

- 20 Wednesday—Christmas Recess Begins After Last Class

JANUARY 1962

- 3 Wednesday—Christmas Recess Ends 8 a.m.
- 24 Wednesday—Pre-Examination Study Day
- 25-31 Thursday to Wednesday, inclusive—Fall Semester Examinations

SPRING SEMESTER 1962

FEBRUARY

- 5-9 Monday to Friday—Spring Semester Registration
- 12 Monday—Instruction Begins
- 22 Thursday—Washington's Birthday, Holiday

MARCH

- 25 Sunday—Maryland Day

APRIL

- 19 Thursday—Easter Recess Begins After Last Class
- 24 Tuesday—Easter Recess Ends 8 a.m.

MAY

- 16 Wednesday—AFROTC Day
- 30 Wednesday—Memorial Day, Holiday

JUNE

- 1 Friday—Pre-Examination Study Day
- 2-8 Saturday to Friday, inclusive—Spring Semester Examinations
- 3 Sunday—Baccalaureate Exercises
- 9 Saturday—Commencement Exercises

SUMMER SESSION 1962

JUNE 1962

- 25 Monday—Summer Session Registration
- 26 Tuesday—Summer Session Begins

JULY

- 4 Wednesday—Independence Day, Holiday

AUGUST

- 3 Friday—Summer Session Ends (6-week Session)
- 17 Friday—Summer Session Ends (8-week Session)

SHORT COURSES 1962

JUNE 1962

- 18-23 Monday to Saturday—Rural Women's Short Course

AUGUST

- 6-11 Monday to Saturday—4-H Club Week.

SEPTEMBER

- 4-7 Tuesday to Friday—Firemen's Short Course

UNIVERSITY CALENDAR

FALL SEMESTER 1962

- SEPTEMBER
17-21 Monday to Friday—Registration
24 Monday—Instruction begins
- NOVEMBER
21 Wednesday, after last class—Thanksgiving recess begins
26 Monday, 8:00 a.m.—Thanksgiving recess ends
- DECEMBER
21 Friday, after last class—Christmas recess begins
- JANUARY 1963
3 Thursday, 8:00 a.m.—Christmas recess ends
23 Wednesday—Pre-Examination Study Day
24-30 Thursday-Wednesday—Fall Semester Examinations

SPRING SEMESTER 1963

- FEBRUARY
4-8 Monday to Friday—Registration
11 Monday—Instruction begins
22 Friday—Washington's Birthday, Holiday
- MARCH
25 Monday—Maryland Day (not a holiday)
- APRIL
11 Thursday, after last class—Easter recess begins
16 Tuesday, 8:00 a.m.—Easter recess ends
- MAY
15 Wednesday—AFROTC Day
30 Thursday—Memorial Day, Holiday
31 Friday—Pre-Examination Study Day
- JUNE
1-7 Saturday to Friday—Spring Semester Examinations
2 Sunday—Baccalaureate Exercises
8 Saturday—Commencement Exercises

SUMMER SESSION 1963

- JUNE
24 Monday—Registration, Summer Session
25 Tuesday—Instruction begins
- JULY
4 Thursday—Independence Day, Holiday
- AUGUST
16 Friday—Summer Session ends

SHORT COURSES 1963

- JUNE
17-22 Monday to Saturday—Rural Women's Short Course
- AUGUST
5-10 Monday to Saturday—4-H Club Week
- SEPTEMBER
3-6 Tuesday to Friday—Firemen's Short Course

SUMMER SCHOOL REGISTRATION SCHEDULE

MONDAY, JUNE 25, 1962*

8:00 A.M. — 3:00 P.M.

To expedite registration, students have been grouped on the basis of the first letter of the last name. *No student will be permitted into the Armory until the appropriate time as listed below:*

TIME	STUDENTS	TIME	STUDENTS
8:00	N—Q	12:00	BL—CE
8:30	R—SE	12:30	CF—D
9:00	SF—SZ	1:00	E—GL
9:30	T—WH	1:30	GM—H
10:00	WI—Z	2:00	I—K
10:30	A—BK	2:30	L—ME
		3:00	MF—MZ

SUMMER SCHOOL CALENDAR

June 26	Tuesday	Classes begin
July 4	Wednesday	Holiday (no classes)
Aug. 17	Friday	Close of Summer Session

*Dormitories will be open for occupancy on and after 2:00 P.M., Sunday, June 24, 1962.

BOARD OF REGENTS
and
MARYLAND STATE BOARD OF AGRICULTURE

	<i>Term Expires</i>
CHARLES P. McCORMICK <i>Chairman</i> ----- McCormick and Company, 414 Light Street, Baltimore 2	1966
EDWARD F. HOLTER <i>Vice-Chairman</i> ----- Farmers Home Administration, 103 South Gay Street, Baltimore 2	1968
B. HERBERT BROWN <i>Secretary</i> ----- The Baltimore Institute, 10 West Chase Street, Baltimore 1	1967
HARRY H. NUTTLE <i>Treasurer</i> ----- Denton	1966
LOUIS L. KAPLAN <i>Assistant Secretary</i> ----- 5800 Park Heights Avenue, Baltimore 15	1964
C. E. TUTTLE <i>Assistant Treasurer</i> ----- 907 Latrobe Building, Charles and Read Streets, Baltimore 2	1962
RICHARD W. CASE ----- Commercial Credit Building, Baltimore	1970
THOMAS W. PANGBORN ----- The Pangborn Corporation, Pangborn Blvd., Hagerstown	1965
THOMAS B. SYMONS ----- Suburban Trust Company, 6950 Carroll Avenue, Takoma Park	1963
WILLIAM C. WALSH ----- Liberty Trust Building, Cumberland	1968
MRS. JOHN L. WHITEHURST ----- 4101 Greenway, Baltimore 18	1967

Members of the Board are appointed by the Governor of the State for terms of seven years each, beginning the first Monday in June. Members may serve only two consecutive terms.

The President of the University of Maryland is, by law, Executive Officer of the Board.

The State law provides that the Board of Regents of the University of Maryland shall constitute the Maryland State Board of Agriculture.

OFFICERS OF ADMINISTRATION

Principal Administrative Officers

WILSON H. ELKINS, *President*

B.A., University of Texas, 1932; M.A., 1932; B.LITT., Oxford University, 1936; D. PHIL., 1936.

ALBIN O. KUHN, *Executive Vice President*

B.S., University of Maryland, 1938; M.S., 1939; PH.D., 1948.

R. LEE HORNBAKE, *Vice President for Academic Affairs*

B.S., California State College, Pa., 1934; M.A., Ohio State University, 1936; PH.D., 1942.

FRANK L. BENTZ, *Assistant to the President*

B.S., University of Maryland, 1942; PH.D., 1952.

ALVIN E. CORMENY, *Assistant to the President, in Charge of Endowment and Development*

B.A., Illinois College, 1933; LL.B., Cornell University, 1936.

Emeriti

HARRY C. BYRD, *President Emeritus*

B.S., University of Maryland, 1908; LL.D., Washington College, 1936; LL.D., Dickinson College, 1938; D.SC., Western Maryland College, 1938.

ADELE H. STAMP, *Dean of Women Emerita*

B.A., Tulane University, 1921; M.A., University of Maryland, 1924.

Administrative Officers of the Schools and Colleges

MYRON S. AISENBERG, *Dean of the School of Dentistry*

D.D.S., University of Maryland, 1922.

VERNON E. ANDERSON, *Dean of the College of Education*

B.S., University of Minnesota, 1930; M.A., 1936; PH.D., University of Colorado, 1942.

RONALD BAMFORD, *Dean of the Graduate School*

B.S., University of Connecticut, 1924; M.S., University of Vermont, 1926; PH.D., Columbia University, 1931.

GORDON M. CAIRNS, *Dean of Agriculture*

B.S., Cornell University, 1936; M.S., 1938; PH.D., 1940.

RAY W. EHRENSBERGER, *Dean of University College*

B.A., Wabash College, 1929; M.A., Butler University, 1930; PH.D., Syracuse University, 1937.

NOEL E. FOSS, *Dean of the School of Pharmacy*

PH.C., South Dakota State College, 1929; B.S., 1929; M.S., University of Maryland, 1932; PH.D., 1933.

LESTER M. FRALEY, *Dean of the College of Physical Education, Recreation and Health*

B.A., Randolph-Macon College, 1928; M.A., 1937; PH.D., Peabody College, 1939.

- FLORENCE M. GIPE, *Dean of the School of Nursing*
 B.S., Catholic University of America, 1937; M.S., University of Pennsylvania, 1940;
 ED.D., University of Maryland, 1952.
- LADISLAUS F. GRAPSKI, *Director of the University Hospital*
 R.N., Mills School of Nursing, Bellevue Hospital, New York, 1938; B.S., University of
 Denver, 1942; M.B.A., in Hospital Administration, University of Chicago, 1943.
- IRVIN C. HAUT, *Director, Agriculture Experiment Station and Head, Department of
 Horticulture*
 B.S., University of Idaho, 1928; M.S., State College of Washington, 1930; PH.D., Uni-
 versity of Maryland, 1933.
- ROGER HOWELL, *Dean of the School of Law*
 B.A., Johns Hopkins University, 1914; PH.D., 1917; LL.B., University of Maryland, 1917.
- VERL S. LEWIS, *Dean of the School of Social Work*
 A.B., Huron College, 1933; M.A., University of Chicago, 1939; D.S.W., Western Reserve
 University, 1954.
- SELMA F. LIPPEATT, *Dean of the College of Home Economics*
 B.S., Arkansas State Teachers College, 1938; M.S., University of Tennessee, 1945; PH.D.,
 Pennsylvania State University, 1953.
- FREDERIC T. MAVIS, *Dean of the College of Engineering*
 B.S., University of Illinois, 1922; M.S., 1926; C.E., 1932; PH.D., 1935.
- PAUL E. NYSTROM, *Director, Agricultural Extension Service*
 B.S., University of California, 1928; M.S., University of Maryland, 1931; M.P.A., Harvard
 University, 1948; D.P.A., 1951.
- DONALD W. O'CONNELL, *Dean of the College of Business and Public Administration*¹
 B.A., Columbia University, 1937; M.A., 1938; PH.D., 1953.
- JAMES H. REID, *Acting Dean of the College of Business and Public Administration*
 B.S., University of Iowa, 1932; M.A., American University, 1933.
- LEON P. SMITH, *Dean of the College of Arts and Sciences*
 B.A., Emory University, 1919; M.A., University of Chicago, 1928; PH.D., 1930; Diplome
 de l'Institute de Touraine, 1932.
- WILLIAM S. STONE, *Dean of the School of Medicine and Director of Medical Education
 and Research*
 B.S., University of Idaho, 1924; M.S., 1925; M.D., University of Louisville, 1929;
 (HON.), University of Louisville, 1946.

General Administrative Officers

- C. WATSON ALGIRE, *Director of Admissions and Registrations*
 B.A., University of Maryland, 1930; M.S., 1931.
- THEODORE R. AYLESWORTH, *Professor of Air Science and Head, Department of Air Science*
 B.S., Mansfield State Teachers College, 1936; M.S., University of Pennsylvania, 1949.

¹ Appointment effective February 1, 1962.

² Acting Dean, July 1, 1961 — February 1, 1962.

- B. JAMES BORRESON, *Executive Dean for Student Life*
B.A., University of Minnesota, 1944.
- DAVID L. BRIGHAM, *Director of Alumni Relations*
B.A., University of Maryland, 1938.
- C. WILBUR, CISSEL, *Director of Finance and Business*
B.A., University of Maryland, 1932; M.A., 1934; C.P.A., 1939.
- HELEN E. CLARK, *Dean of Women*
B.S., University of Michigan, 1943; M.A., University of Illinois, 1951; ED.D., Teachers College, Columbia, 1960.
- WILLIAM W. COBEY, *Director of Athletics*
A.B., University of Maryland, 1930.
- L. EUGENE CRONIN, *Director of Natural Resources Institute*
A.B., Western Maryland College, 1938; M.S., University of Maryland, 1943; PH.D., 1946.
- LESTER M. DYKE, *Director of Student Health Service*
B.S., University of Iowa, 1936; M.D., 1926.
- GEARY F. EPPLEY, *Dean of Men*
B.S., Maryland State College, 1920; M.S., University of Maryland, 1926.
- HARRY D. FISHER, *Comptroller and Budget Officer*
B.S., University of Maryland, 1943.
- GEORGE W. FOGG, *Director of Personnel*
B.A., University of Maryland, 1926; M.A., 1928.
- ROBERT J. MCCARTNEY, *Director of University Relations*
B.A., University of Massachusetts, 1941.
- GEORGE W. MORRISON, *Associate Director and Supervising Engineer Physical Plant (Baltimore)*
B.S., University of Maryland, 1927; E.E., 1931.
- HOWARD ROVELSTAD, *Director of Libraries*
B.A., University of Illinois, 1936; M.A., 1937; B.S.L.S., Columbia University, 1940.
- ORVAL L. ULRY, *Director of the Summer Session*
B.S., Ohio State University, 1938; M.A., 1944; PH.D., 1953.
- GEORGE O. WEBER, *Director and Supervising Engineer, Department of Physical Plant*
B.S., University of Maryland, 1933.

Division Chairmen

- JOHN E. FARBER, JR., *Chairman of the Division of Biological Sciences*
B.S., University of Maryland, 1926; M.S., 1927; PH.D., 1937.
- HAROLD C. HOFFSOMMER, *Chairman of the Division of Social Sciences*
B.S., Northwestern University, 1921; M.A., 1923; PH.D., Cornell University, 1929.
- CHARLES E. WHITE, *Chairman of the Lower Division*
B.S., University of Maryland, 1923; M.S., 1924; PH.D., 1926.

CHAIRMEN, STANDING COMMITTEES, FACULTY SENATE

GENERAL COMMITTEE ON EDUCATIONAL POLICY

Peter P. Lejins (Arts and Sciences), *Chairman*

GENERAL COMMITTEE ON STUDENT LIFE AND WELFARE

L. Morris McClure (Education), *Chairman*

COMMITTEE ON ADMISSIONS AND SCHOLASTIC STANDING

Kenneth O. Hovet (Education), *Chairman*

COMMITTEE ON INSTRUCTIONAL PROCEDURES

Charles E. Manning (Arts and Sciences), *Chairman*

COMMITTEE ON SCHEDULING AND REGISTRATION

Benjamin Massey (Physical Education), *Chairman*

COMMITTEE ON PROGRAMS, CURRICULA, AND COURSES

James H. Reid (Business and Public Administration), *Chairman*

COMMITTEE ON FACULTY RESEARCH

Edward J. Herbst (Medicine), *Chairman*

COMMITTEE ON PUBLIC FUNCTIONS AND COMMENCEMENTS

Albin O. Kuhn (Executive Vice President), *Chairman*

COMMITTEES ON LIBRARIES

Aubrey C. Land (Arts and Sciences), *Chairman*

COMMITTEE ON UNIVERSITY PUBLICATIONS

Carl Bode (Arts and Sciences), *Chairman*

COMMITTEE ON INTERCOLLEGIATE COMPETITION

John E. Foster (Agriculture), *Chairman*

COMMITTEE ON PROFESSIONAL ETHICS, ACADEMIC FREEDOM, AND TENURE

Peter P. Lejins (Arts and Sciences), *Chairman*

COMMITTEE ON APPOINTMENTS, PROMOTIONS, AND SALARIES

Robert L. Green (Agriculture), *Chairman*

COMMITTEE ON FACULTY LIFE AND WELFARE

Guy B. Hathorn (Business and Public Administration), *Chairman*

COMMITTEE ON MEMBERSHIP AND REPRESENTATION

G. Kenneth Reiblich (Law), *Chairman*

COMMITTEE ON COUNSELING OF STUDENTS

Harold F. Sylvester (Business and Public Administration), *Chairman*

COMMITTEE ON THE FUTURE OF THE UNIVERSITY

Augustus J. Prah (Graduate School), *Chairman*

CHAIRMEN, STANDING COMMITTEES, FACULTY SENATE

ADJUNCT COMMITTEE OF THE GENERAL COMMITTEE ON STUDENT LIFE AND WELFARE

STUDENT ACTIVITIES

Richard F. Davis (Agriculture), *Chairman*

FINANCIAL AIDS AND SELF-HELP

Paul E. Nystrom (Agriculture), *Chairman*

STUDENT PUBLICATIONS AND COMMUNICATIONS

Warren L. Strausbaugh (Arts and Sciences), *Chairman*

RELIGIOUS LIFE

Redfield Allen (Engineering), *Chairman*

STUDENT HEALTH AND SAFETY

Theodore R. Aylesworth (AFROTC), *Chairman*

STUDENT DISCIPLINE

J. Allan Cook (Business and Public Administration), *Chairman*

BALTIMORE CAMPUS, STUDENT AFFAIRS

Vernon E. Krahl, (Medicine), *Chairman*

Summer School

1962

TO BETTER SERVE THOSE WHO DESIRE SUMMER STUDY, THE University of Maryland is offering this Summer an eight-week Summer Session, from June 25 through August 17, 1962. Within this eight-week period, a variety of offerings extending over various instructional periods ranging from two and three-week workshops to six and eight-week subject matter courses will be available. It is believed that the longer instructional period will ease considerably the very heavy subject matter concentration and rapid pace necessitated by a six-week session and provide then, additional time so badly needed for reading, library assignments and research efforts. The longer summer session also will provide extended educational opportunities for students at a time when the University is operating at less than peak student load.

Among the varied offerings, each student will find a combination of courses and schedules best suited to his individual needs and desires.

Academic Information

Recreational, Social and Cultural Activities

A Recreation and Social Activities Committee, working with a full-time Director of Recreation, has planned a varied program of activities to suit Summer Session students of all ages. University swimming pools will be open scheduled hours each afternoon and evening. Softball, tennis and golf tournaments will interest some; others may care to participate in the summer theatre workshop or summer chorus.

Planned activities will include round and square dancing, outdoor movies, Chapel vesper services, band concerts, watermelon feasts, guided tours of Washington, and other social functions. The Summer Session Recreation Director will be available to counsel with groups planning picnics or other events.

Academic Information

TERMS OF ADMISSION

All summer school students must be officially admitted to the University. *This applies to all non-degree as well as degree candidates.*

UNDERGRADUATE AND SPECIAL STUDENTS

A student seeking a bachelor's degree in any undergraduate college, who has not been previously admitted to the University, must file application with the Director of Admissions *not later than the end of the first week in June, 1962*. Graduates of accredited two and three year normal schools, with satisfactory normal school records, may be admitted to advanced standing in the College of Education.

A student who already has a bachelor's degree and who either does not wish graduate credit or does not meet requirements for admission to the Graduate School may be admitted to the undergraduate college consistent with his major interests, as a Special Student. He should be admitted to the University through the Director of Admissions *no later than the end of the first week in June 1962*. Credit so obtained through the College of Education is ordinarily accepted for renewal of teaching certificate. A Special Student may take upper division (100, but not 200 or 300 level) courses.

GRADUATE STUDENTS

Application for admission to the Graduate School, and all supporting academic records, must be in the office of the Dean of the Graduate School by June 1, 1962.

Transfer Credit: To another institution. The student who wishes to transfer credit to another institution should submit an application on which he writes "For Transfer Only." Along with the application he should sub-

mit a letter from the graduate dean of the institution in which he is enrolled as a degree student, to the Dean of the Graduate School, University of Maryland, requesting permission to take a limited amount of work.

Transfer Credit: To the University of Maryland. Credit not to exceed six semester hours for course work at other recognized institutions may be applied towards the master's degree only when such course work has been taken after the student has been admitted to the University of Maryland Graduate School. Before taking course work for transfer the student must have the approval of his adviser, the head of his major department and the Dean of the Graduate School. Normally, approval may be given only for courses which are not offered by the University of Maryland during the period of the student's attendance. The request for transfer of credit shall be submitted to the Graduate Council for approval when the student applies for admission to candidacy. The candidate is subject to final examination by this institution in all work offered for the degree.

Special Non-Degree Credit. The student who already has a master's degree and does not wish to pursue a doctoral program may submit an application marked "Non-Degree" and along with it, an official transcript of the master's degree only. If the student later desires to embark on a doctoral program, the credit earned in Special Non-Degree status may, at the discretion of the major adviser, be used in a doctoral program.

Degree Credit. The student who wishes to pursue either a master's or doctoral program must submit, along with his application, official transcripts of all work taken in institutions of higher education. The applicant is subject to admission requirements of the Graduate School and of the department in which he hopes to pursue his graduate work.

ACADEMIC CREDIT

The semester hour is the unit of credit. During the Summer Session a course meeting five times a week for six weeks or four times a week for eight weeks each requiring the normal amount of outside work is given a weight of three semester hours. Each class period is 80 minutes in length.

Students who are matriculated as candidates for degrees will be given credit toward the appropriate degree for satisfactory completion of courses. All courses offered in the Summer School are creditable toward the appropriate degree provided they are included in the student's program as planned with his adviser.

All students will receive an official grade report specifying the amount and quality of work completed.

MARKING SYSTEM

The following symbols are used for marks: A, B, C, and D—passing; F—Failure; I—Incomplete. Mark "A" denotes superior scholarship; mark

Academic Information

“B,” good scholarship; mark “C,” fair scholarship; and “D,” passing scholarship. The mark of “I” (incomplete) is exceptional. Complete regulations governing marks are printed in *University General and Academic Regulations*.

MAXIMUM LOAD

Undergraduates may carry up to 9 semester hours of work subject to approval of the respective department. A maximum of 8 graduate credits may be earned in the 8-week period.

SUMMER GRADUATE WORK

Masters' degrees are offered through the Graduate School as follows:

- Master of Arts
- Master of Science
- Master of Arts in American Civilization
- Master of Education
- Master of Business Administration

Doctors' degrees offered through the Graduate School are as follows:

- Doctor of Philosophy
- Doctor of Education

Graduate work in the Summer School may be counted as residence toward a master's degree or Doctor of Education degree. A full year of residence or the equivalent is the minimum requirement for each degree.

The requirements for each of the seven degrees above may be procured from the Graduate School upon request.

Special regulations governing graduate work in education and supplementing the statements contained in the Graduate School Announcements are available in duplicated form and may be obtained from the College of Education. Each graduate student in education should have a copy. Students seeking the master's degree as a qualification for a certificate issued by the Maryland State Department of Education or any other certifying authority should consult the appropriate bulletin for specific requirements. Advisers will assist students in planning to meet such requirements.

All students desiring graduate credit, whether for meeting degree requirements, for transfer to another institution, or for any other purpose, must be regularly matriculated and registered in the Graduate School.

CANDIDATES FOR DEGREES

All students who expect to complete requirements for degrees during the Summer Session should make applications for diplomas at the office of the Registrar during the first two weeks of the Summer Session.

THE PROGRAM IN AMERICAN CIVILIZATION

The University considers that it is important for every student to achieve an appreciative understanding of this country, its history and its culture. It has therefore established a comprehensive program in American civilization. This program is also designed to provide the student with a general educational background.

Work in American civilization is offered at three distinct academic levels. The first level is required of all freshmen and sophomores at the University and is described below. The second level is for undergraduate students wishing to carry a major in this field (see catalog for the College of Arts and Sciences). The third level is for students desiring to do graduate work in this field (see catalog for the Graduate School).

All students receiving a baccalaureate degree from the University of Maryland must (except as specific exceptions are noted in printed curricula) obtain 24 semester hours of credit in the lower division courses of the American Civilization Program. Although the courses in the Program are prescribed generally, some choice is permitted, especially for students who demonstrate in classification tests good previous preparation in one or more of the required subjects.

The 24 semester hours in American civilization are as follows:

1. English (12 hours, Eng. 1, 2 and 3, 4 or 5, 6), American history (6 hours, H. 5, 6), and American government (3 hours, G. & P. 1) are required subjects; however, students who qualify in one, two or all three of these areas by means of University administered tests will substitute certain elective courses. Through such testing a student may be released from 3 hours of English (9 hours would remain an absolute requirement), 3 hours of American history (3 hours remaining as an absolute requirement), and 3 hours of American government. Students released from 3 hours of English will take Eng. 21 instead of Eng. 1 and 2. Those released from 3 hours in history will take H. 56 instead of H. 5 and 6. Students who have been exempted from courses in English, American history, or American government may not take such courses for credit.

2. For the 3 additional hours of the 24 hours required the student elects one course from the following group (Elective Group I):

Econ. 37, Fundamentals of Economics (Not open to freshmen; students who may wish to take additional courses in economics should substitute Econ. 31 for Econ. 37)

Phil. 1, Philosophy for Modern Man
Psych. 1, Introduction to Psychology
Soc. 1, Sociology of American Life

3. Students who, on the basis of tests, have been released from 3, 6 or 9 hours in otherwise required courses in English, American history or

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American government (see 1 above), shall select the replacements for these courses from any or all of the following groups: (a) more advanced courses in the same department as the required courses in which the student is excused, or (b) Elective Group I (see 2 above) provided that the same course may not be used as both a Group I and a Group II choice, or (c) Elective Group II. Group II consists of the following 3-hour courses:

H. 42, Western Civilization; either H. 51 or 52, The Humanities; either Music 20, Survey of Music Literature or Art 22, History of American Art; and Soc. 5, Anthropology.

General Information

REGISTRATION

All new students must obtain admission to the University from the Director of Admissions or the Dean of the Graduate School *before* registration. Every student planning to register for a course or courses must have been admitted to the University regardless of his status as a degree or non-degree student.

Registration for undergraduate and graduate students will take place on Monday, June 25, from 8:00 a.m. to 3:00 p.m., in accordance with the Registration Schedule printed on page VII of this catalog. *No student will be permitted into the Armory before the time listed in the Registration Schedule.*

Students may register in "late registration" at the Registrar's Office on June 26. After June 26, exceptional cases may be admitted only after approval of the appropriate dean. The late registration fee, charged on and after June 26, is \$5.00.

REGISTRATION FOR ALL COLLEGES EXCEPT COLLEGE OF EDUCATION

Students in all colleges except the College of Education, will begin registration on June 25 by securing registration cards from the respective College offices. Registration cards must be approved (signed) by both the student's adviser and Dean. Graduate students secure the approval of the graduate Dean. After approval, registrations are completed at the Armory, where students secure section assignments for all courses for which more than one section is being offered, receive bills, pay fees, and submit all forms to the Registrar's representatives. **UNTIL THIS IS DONE, REGISTRATION IS NEITHER COMPLETE NOR OFFICIAL.**

REGISTRATION: COLLEGE OF EDUCATION ONLY

All Education advisers will be located in the south basement wing of the Armory. Students will be admitted only through the south-west door of the Armory and only according to the alphabetical schedule posted on page vii of this catalog. Students then proceed to the room in which their respective advisers are located (nearby rooms in the Armory basement).

Registration cards must be approved (signed) by both the student's adviser and the Dean of the College of Education. Graduate students must in addition receive the approval of the Dean of the Graduate School. Graduate students carrying the official graduate school matriculation card may obtain the graduate dean's approval (signature) in the Armory. Graduate students not carrying the official graduate school matriculation card must report to the Graduate School office, Rooms Q 112-115 Business and Public Administration Building, before proceeding to the upper floor of the Armory to complete registration. After approval, registrations are completed on the first floor of the Armory, where students secure section assignments for all courses for which more than one section is being offered, receive bills, pay fees, and submit all forms to the Registrar's representatives. UNTIL THIS IS DONE, REGISTRATION IS NEITHER COMPLETE NOR OFFICIAL.

LENGTH OF CLASS PERIOD

Classes during the 1962 summer session will meet on the following time schedule:

8:00 — 9:20
9:30 — 10:50
11:00 — 12:20
12:30 — 1:50

Weekly Class Schedule

6-week classes

2-credit courses meet 4 days as indicated in the catalog.

3-credit courses meet daily

4-credit courses meet daily and include multiple periods for laboratory.

8-week classes

2-credit courses meet M.W.F.

3-credit courses meet M.T.Th.F.

4-credit courses meet daily, plus laboratory time.

5-credit courses meet daily, plus 2 additional periods to be arranged each week.

General Information

DEFINITION OF RESIDENCE AND NON-RESIDENCE

Students who are minors are considered to be resident students if at the time of their registration their parents have been domiciled in the State of Maryland for at least six months.

The status of the residence of a student is determined at the time of his first registration in the University and may not thereafter be changed by him unless, in the case of a minor, his parents move to and become legal residents of Maryland by maintaining such residence for at least six months. However, the right of the minor student to change from a non-resident status to resident status must be established by him prior to the registration period set for any semester.

Adult students are considered to be residents if at the time of their registration they have been domiciled in Maryland for at least six months provided such residence has not been acquired while attending any school or college in Maryland or elsewhere. Time spent on active duty in the armed services while stationed in Maryland will not be considered as satisfying the six-months period referred to above except in those cases in which the adult was domiciled in Maryland for at least six months prior to his entrance into the armed service and was not enrolled in any school during that period.

The word "domicile" as used in this regulation shall mean the permanent place of abode. For the purpose of this rule only one domicile may be maintained.

TUITION AND FEES

UNDERGRADUATE STUDENTS

General tuition fee, per credit hour.....	\$15.00
Nonresidence fee	15.00
Must be paid by all students who are not residents of Maryland.	
*Application fee (see explanation below)	10.00
Matriculation fee	10.00
Payable only once, upon admission to the University. Every student must be matriculated.	
Infirmary fee	1.00
Recreation fee	1.00
Required of all students registered in the Summer School.	

*The application fee for the undergraduate summer session applicant partially defrays the cost of processing applications for admission to this division of the University. If a new applicant enrolls for the term for which he applied, the fee is accepted in lieu of the matriculation fee. Applicants who have been previously enrolled with the University of Maryland at College Park or Baltimore, or at one of its off-campus centers are not required to pay the application fee since they have already paid the matriculation fee.

General Information

GRADUATE STUDENTS

General tuition fee, per credit hour-----	\$15.00
Matriculation fee -----	10.00
Payable only once, upon admission to the Graduate School.	
Recreation fee -----	1.00
Required of all students registered in the Summer School.	
Infirmary fee (voluntary) -----	1.00
The Infirmary services are available to graduate students who elect to pay at the time of registration the fee of \$1.00 for the Summer Session.	
Testing fee (new graduate students in the College of Education only) -----	5.00
There is no non-residence fee for graduate students.	

MISCELLANEOUS INFORMATION

Auditors pay the same fees as regular students.

The graduation fee is \$10.00 for bachelors' and masters' degrees, and \$50.00 for doctors' degrees.

A fee of \$3.00 is charged for each change in program after June 30. If such change involves entrance to a course, it must be approved by the instructor in charge of the course entered. Courses cannot be dropped after July 16. All changes must be approved by the appropriate dean and filed in the Office of the Registrar.

A special laboratory fee may be charged for certain courses where such fee is noted in the course description.

Laboratory courses in chemistry carry laboratory fees of \$12.00 and \$20.00; in addition the student is charged for any apparatus which cannot be returned to the stock room in perfect condition. Other laboratory fees are stated in connection with individual courses.

Physical education fee charged each student registered for any physical activity course, \$6.00.

Late registration fee, \$5.00.

FEE FOR KINDERGARTEN SCHOOL

Children 5 years of age----- \$15.00

WITHDRAWAL AND REFUND OF FEES

Any student compelled to leave the University at any time during the Summer Session must file in the Office of the Registrar an application for withdrawal, bearing the proper signatures. If this is not done, the student will not be entitled, as a matter of course, to a certificate of honorable dismissal, and will forfeit his right to any refund to which he would otherwise

General Information

be entitled. The date used in computing refunds is the date the application for withdrawal is filed in the Office of the Registrar.

In the case of a minor, official withdrawal will be permitted only with the written consent of the student's parent or guardian.

With the exception of board charges, students withdrawing from the University will receive a refund of all charges, less the matriculation fee in accordance with the following schedule:

<i>Period from Date Instruction Begins</i>	<i>Percentage Refundable</i>
One week or less.....	60%
Between one and two weeks.....	20%
Over two weeks.....	0

No refunds of fixed charges, lodging, tuition, laboratory fees, etc., are allowed when courses are dropped, unless the student withdraws from the University.

LIVING ACCOMMODATIONS AND MEALS

Housing accommodations are available at the following cost, on the basis indicated:

Regular Residence Halls	<i>Double Occupancy</i>		<i>Single Occupancy</i>	
	<i>Men</i>	<i>Women</i>	<i>Men</i>	<i>Women</i>
Six weeks session	\$ 48.00	\$ 54.00	\$ 72.00	\$ 78.00
Eight weeks session	64.00	72.00	96.00	104.00

Since most of the rooms in the residence halls are double rooms there is no definite guarantee that a request for a single room can be granted. The availability of single rooms will be determined by the number of persons requesting rooms for the Summer Session.

The typical student room is furnished with a bed, a chest of drawers, a desk and chair. Students should supply themselves with other items essential for their needs, such as a study lamp and wastebasket. All students must provide themselves with linens and a pillow, either from home or from the commercial linen service which operates on the University campus. This company rents, for \$1.00 per week, two sheets, a pillow case and towels, and will also have available blankets and pillows for a nominal fee.

THE UNIVERSITY RESIDENCE HALLS WILL OPEN FOR OCCUPANCY AT 2:00 P.M. SUNDAY, JUNE 24, AND WILL CLOSE AT NOON ON SATURDAY, AUGUST 18.

Early application for a reservation is advisable, as only those who have made reservations can be assured that rooms are available for occupancy

General Information

upon the arrival. Rooms will not be held later than noon on Tuesday, June 26. For reservations write to: Housing Office, North Administration Building.

Campus housing is not available for faculty members during the summer session.

Listings of off-campus rooms, apartments and houses are available in the Housing Office, North Administration Building.

Students occupying off-campus housing will maintain the same standards as required of those in the University residence halls and fraternity houses.

All housing occupied by students, other than those living at home, is subject to inspection by representatives of the University in order to determine its desirability as living accommodations. Students desiring meals may obtain them at the University Dining Hall or in the several local restaurants located within walking distance of the campus.

Board is available to all students under the following options:

- (a) Cafeteria style with cash payment for each individual meal.
- (b) On a contract basis at the following rates payable at time of registration:
 - \$ 72.00 for the six weeks session.
 - \$ 96.00 for the eight weeks session.

No refunds will be made on board to those students who elect the contract basis except in the case of withdrawal from the University in which event refund will be made on a pro-rata weekly basis.

STUDENT HEALTH

The University Infirmary, located on the campus near the Dining Hall (main) provides medical service for the undergraduate students in the Summer Session, and also for those graduate students who elect to pay the \$1.00 Health Service fee. Students who are ill should report promptly to the University Infirmary, in person. Serious emergencies may be reported by phone to Ext. 326. Doctor's Office hours are: Week days, 9:00 a.m. to 11:00 a.m.; week ends, 10:00 a.m. to 11:00 a.m. A nurse is on duty 24 hours per day.

PARKING OF AUTOMOBILES

For use of students, staff members, and employees, several parking lots are provided. Students may park in lots 1, 2, 3, 4, 6, and 7. All other lots are reserved for faculty and staff members. The University rules forbid the parking of cars on any of the campus roads. These rules are enforced by campus police.

General Information

LIBRARY FACILITIES

The new \$2.5 million library building located in a prominent position at the west end of the main quadrangle was opened for service in January, 1958. The almost 200,000 square feet of floor space allow for greatly improved library service and accommodations for study. Two large reading rooms are air-conditioned for student convenience.

The building will ultimately house 1,000,000 volumes and seat 2,000 readers. The 200 carrels and individual studies provide excellent facilities for graduate students and faculty.

Library facilities outside the main building include the Engineering and Physical Sciences Library located in the Mathematics Building, the Chemistry Library, and collections in the various departments of the College of Agriculture.

The University System of Libraries has in its collection 475,000 volumes in addition to thousands of government publications and uncatalogued materials. Over 5,000 periodicals and 176 newspapers are received. The libraries are able to supplement their services to graduate students and faculty by borrowing material from other libraries through interlibrary loan. Also within a short distance from College Park are located the unexcelled library facilities of the Library of Congress, Department of Agriculture, Office of Education and other agencies of the Federal Government.

UNIVERSITY BOOKSTORE

For the convenience of students, the University maintains a Students' Supply Store, located in the Student Union Building, where students may obtain at reasonable prices textbooks, stationery, classroom materials and equipment.

The bookstore operates on a cash basis.

KINDERGARTEN

A Kindergarten for children 5 years of age operates from 8:00 a.m. to 10:50 a.m. in Building AA, June 25-Aug.3, as a laboratory for courses in early childhood education. This school is open to children of the community and to children whose parents are students or teachers in the Summer Session. The enrollment must be limited to a number that can be accommodated in the room available. Applications may be obtained from the Early Childhood Education Department, University of Maryland, College Park, Maryland after May 1, 1962.

The tuition fee for each child is \$15.00 for the session.

FOR ADDITIONAL INFORMATION

Detailed information concerning the American Civilization Program, fees and expenses, scholarships and awards, student life, and other material of a general nature, may be found in the University publication titled *An Adventure in Learning*. This publication may be obtained on request from the Office of University Relations, North Administration Building, University of Maryland at College Park. A detailed explanation of the regulation of student and academic life, may be found in the University publication titled, *University General and Academic Regulation*. This is mailed in September and February of each year to all new undergraduate students.

Requests for course catalogs for the individual schools and colleges should be directed to the deans of these respective units, addressed to:

COLLEGES LOCATED AT COLLEGE PARK:

Dean
(College in which you are interested)
The University of Maryland
College Park, Maryland

PROFESSIONAL SCHOOLS LOCATED AT BALTIMORE:

Dean
(School in which you are interested)
The University of Maryland
Lombard and Greene Streets
Baltimore 1, Maryland

CONFERENCES, INSTITUTES, WORKSHOPS, SPECIAL COURSES AND LECTURES

University-Wide Lecture Series

The 1962 Summer School will sponsor a series of lectures during the 3-week period from June 25-August 17. These lectures are planned by a University-wide committee with the hope of selecting current informative topics and obtaining outstanding lecturers that will be of interest to all summer school students regardless of college or department.

All summer school students and faculty members as well as other interested persons are cordially invited to attend. No admission charge will be made. For further information please contact the Summer School office on the College Park campus.

Conferences, Institutes, Workshops

Television Workshop

Each summer the Department of Speech offers a television workshop (Speech 149—3 hours, see listing under Speech and Dramatic Art) which is primarily designed for the classroom teacher.

The workshop provides an opportunity to (1) learn the fundamental principles of instructional television (2) to develop presentational techniques (3) to further professional skills and competence.

The air-conditioned studios are located in Woods Hall, and the latest in professional broadcast-type equipment is utilized.

Enrollment is limited. Inquiries may be sent to Professor George F. Batka, Director, Radio and Television, Department of Speech, University of Maryland, College Park, Maryland.

Typewriting Demonstration For Business Education Teachers

The College of Education offers the business teacher registered during the Summer Session an opportunity to observe pupils at work in a typewriting class. These observations will aid the classroom teacher in: (1) designing purposeful classroom activities involving development of the basic typewriting skills, (2) planning with the pupil the organization of an effective set of "work" habits, (3) analyzing through case studies the methods of dealing with the various aspects of individual pupil progress, (4) applying the principles of the psychology of skills to the teaching of typewriting, and (5) developing improved methods for course construction, selection of instructional materials, and measuring pupil achievement.

Notehand Demonstration and Study Group

Those business teachers registered during the summer session will be able to observe pupils at work in a Gregg Notehand study group.

Observing the pupils at work in this study group will assist the business teacher to obtain a better understanding of the Notehand system which may be described as a brief, easy-to-learn writing method consisting essentially of the Gregg alphabet and a few abbreviating devices. There will also be opportunities to note the experimental methods that will be used in integrating a Notehand system with more effective techniques in listening, in reading, and in note-taking. Time will be scheduled for questions concerning the various aspects of initiating and conducting courses in Gregg Notehand at the high school level.

The immediate general education objective in this study group will be to give the pupil a personal-use system that will be useful to him in making notes in his college work. Gregg Notehand will not be taught as an "office skill" nor for verbatim dictation. A pupil must have completed the eleventh grade to be eligible to enroll in this non-credit study group.

Workshops in Music

Through the cooperation of the Department of Music, the College of Education, and University College, two workshops in music will be offered during the 1962 Summer Session, directed by nationally known leaders in their respective fields. Participants registered in one of the courses listed below will meet in the afternoon for a minimum of 30 class hours during a two-week period, and may receive two semester hours of credit. The workshops are so designed that registration for four additional hours in other courses during the regular six-week session is possible.

The regular procedures for admission to the University, listed elsewhere in this catalog, apply also for admission to the Workshops. The courses may be counted for graduate credit only if prior admission to the Graduate School has been obtained; note the deadline of June 1 for admission to that school. Rooms may be reserved in the campus dormitories for the period of the workshops, and meals will be available in the University at nominal cost.

Workshop in Choral Music

The Choral Workshop, directed by Margaret Hillis, is offered during the period July 16 to July 27. Participants will register for Mus. Ed. 175, Methods and Materials in Vocal Music for the High School. In the first week, July 16-20, a series of lectures, conferences, and discussions of choral problems and readings of new choral music will be held. In the second week, July 23-27, a mixed chorus of selected high-school students will rehearse and present a public concert. Adult participants will assist in the rehearsals and take part in other professional activities.

Workshop in Band Music

The Band Workshop, directed by Clarence Sawhill, is offered during the period July 16 to July 27. Participants will register for Mus. Ed. 180, Instrumental Music for the High School. The workshop will consist of lectures and demonstrations of all phases of instrumental conducting, including baton techniques, score preparation, rehearsal techniques, style, and interpretation. Daily laboratory sessions will be held in connection with rehearsals of a concert band, composed of selected high school students. The band, which will be in residence for a one-week period, will present a public concert on July 27.

Copies of a brochure containing detailed information about the workshops in music may be obtained by addressing the Department of Music. The fees applicable to these workshops, including registration, dormitory room, and supplementary fee of \$5.00, can be calculated by referring to pages 7-8 of this catalog.

Conferences, Institutes, Workshops

Workshop on Teaching Conservation of Natural Resources

The College of Agriculture and the Conservation Education Division of the Natural Resources Institute cooperate in offering this workshop which is devoted to the study of the State's basic wealth, its natural resources. Basic source information will be available, specimens will be collected, pictures will be taken in different resource regions, teaching aids will be evaluated, and effective methods of teaching conservation and natural resources will be studied. The workshop will carry six semester hours of graduate credit.

State and federal workers in conservation of natural resources will be used extensively as consultants in their specialties. Field trips will be taken to all the natural regions of the State. Students will be able to observe first hand the resources problems and current practices. Adequate opportunity will be provided for students to analyze problems as a group and develop logical solutions.

The workshop will be held on the College Park campus of the University of Maryland June 25 to August 3, 1962. Registration will be limited to 30 persons.

Workshop on Human Relations in Educational Administration

This workshop is concerned with the development of leadership teams capable of providing in-service programs in human relations in local school systems. In addition to basic theory, the workshop will center on the practice and acquisition of specific human relations skills.

Preference in enrollment will be given to teams representing Maryland school systems which have participated in the Workshop in the past, and to teams of four to six persons designated by other Maryland school systems and including in their membership: (1) a school superintendent, an assistant superintendent or someone else with equivalent rank; (2) a full-time supervising secondary school principal; (3) a full-time supervising elementary school principal, and (4) full-time supervisor, counselor, psychologist, or other professional person who spends full-time in a service position in the school system. Prerequisite for all participants: a master's degree.

Enrollment in the workshop will be limited. Applications for team participation from local school systems will be processed in the order received. If more than one application is received at the same time, the Director of the Workshop will make the final decision.

The workshop will meet daily from 9:00 a.m. to 3:00 p.m., June 25 through August 3. A student may earn six semester hours of graduate credit.

Inquiries should be addressed to Dr. Clarence A. Newell, Professor of Educational Administration.

Education in Family Finance Workshop

During the Summer Session of 1962 the College of Education, the College of Business and Public Administration, and the College of Home Economics are cooperating with the National Committee for Education in Family

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Finance to offer a laboratory course designed to help educators improve their classroom instruction in personal and family money management.

Objectives: The workshop will center about such areas as: budgeting and financial planning, savings, investment, banks and banking, insurance, home ownership, taxation, wills and estates, social security and pension plans, and credit. To explore ways in which educators can help prepare young people to deal with financial problems in these areas, the participants will have an opportunity to develop (1) broad understandings of important concepts and facts relating to family financial security, (2) leadership skills needed to improve and expand programs of education in family finance, and (3) materials which may be used in solving their own curricular and instructional problems.

Participation: School systems are encouraged to send teams of participants numbering up to three. Persons in the following positions are especially invited to apply for acceptance: junior high, senior high, and college teachers in social studies, core, mathematics, homemaking, business education, basic business, and family life education; supervisors; guidance counselors; principals; curriculum directors; superintendents of schools; representatives of state departments of education; and staff members of teacher education institutions.

Staff: In addition to full-time staff members, a wealth of resource people from the University, from business, and from governmental agencies will be utilized as they apply to the projects undertaken.

Schedule: The six-week workshop will extend from June 25 to August 3, 1962. Sessions will be scheduled for a minimum of six hours per day, Monday through Friday.

Credit: Six hours of credit will be earned in the workshop. Participants will register through course Ed. 189-1 Workshops, Clinics, and Institutes: Education in Family Finance. The credit may be applicable to advanced degree requirements. If graduate credit is desired, application for admission to the Graduate School must be made before June 1.

Scholarships: Scholarships covering either board and room in campus facilities or tuition and lunch will be granted. Interested persons should make application on a special form which will be available upon request. Each applicant must be recommended by his superintendent or principal. Early application is encouraged so as to be assured a place in the workshop.

All correspondence concerning application or information concerning the workshop should be addressed to: Dr. Robert G. Risinger, College of Education, University of Maryland, College Park, Maryland.

Workshop on Use of Community Resources

The Workshop on Use of Community Resources will be offered for persons who teach in kindergarten or in grades one to twelve, inclusive, for three weeks, June 25 to July 13. It is designed to help teachers learn to utilize community resources to strengthen a sound program of teaching and learning.

Conferences, Institutes, Workshops

The workshop is being offered at the request of the Washington Area School Study Council, a voluntary association of school systems and administrators in the Washington area. The Smithsonian Institution, which has cooperated with the Council over a period of years in a project designed to make its resources more meaningful to teachers and children, will receive special attention as an excellent example of a valuable community resource. The workshop will require full-time work of all participants. Meetings will be held from 9:30 a.m. to 3:30 p.m. throughout the workshop period. In addition to teachers designated by the Council schools, a limited number of other persons will be allowed to register. A student may earn three semester hours of undergraduate or graduate credit.

Further information may be secured by writing to: Director of the Summer Session, University of Maryland, College Park, Maryland.

Workshops in Human Development

SIX-WEEK WORKSHOP

The Institute for Child Study, College of Education, offers a six-week human development workshop each summer providing opportunities for (1) study and synthesis of scientific knowledge about human behavior; (2) experience in the analysis of case records; (3) preparation of study group leaders for in-service child study programs; (4) planning in-service child study programs for teachers or other human relations workers; (5) planning preservice teacher education courses and laboratory experiences for prospective teachers; (6) examination of implications of scientific knowledge about human development and behavior for school organization, curriculum development, guidance services, club leadership, and other programs and procedures designed to foster the mental health and optimal development of children, youth, and adults.

The workshop is designed for teachers and administrators who have been actively engaged in the Child Study Program sponsored by the Institute, for persons who are interested in participating in such a program, and for persons in other fields where human relations are a vital factor.

This workshop will run from June 25 to August 3. Workshop lectures, laboratory groups and seminars will be scheduled between 8:00 a.m. and 12:00 p.m. Special lectures, interest groups and conferences are scheduled from 1:30 to 3:00 p.m.

Additional details are available in the descriptions of H.D. Ed. 112-117 and H.D. Ed. 212-217 listed under "Course Offerings." Inquiries should be addressed to Director of Summer Workshops, Institute for Child Study, University of Maryland, College Park, Maryland.

FOUR-WEEK WORKSHOP

The Institute for Child Study will also offer a four-week workshop in Human Development and Child Study for teachers and administrators which

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will emphasize the same purposes and follow a similar program as the six-week workshop described above. This workshop will be held on the university campus from June 25 to July 20. Participants should register for one of the following courses, H.D. Ed. 112, 114, 116, 212, 214, 216, or 270 (3 hours credits). In addition they should register for Ed. 188 or H.D. Ed. 250 (1 hour credit).

CHILD STUDY LEADERS WORKSHOP

For leaders and prospective leaders of child study groups who cannot attend the full six weeks workshop, a two-week workshop will be held on the University campus from June 25 to July 6. This workshop will be repeated July 23 to August 3. Each day's activities will include a *lecture-discussion period* centering around major scientific concepts explaining growth, development, and behavior; *laboratory periods* for analyzing case record material at the first, second, or third year level of the program (participants will choose the year level of the group they expect to lead); *reading* and *special interest* periods. Two hours credit can be earned for *full time* participation in one of these workshops. A special section of this workshop is being planned for leaders of parent child study groups.

ADMINISTRATORS' CONFERENCE ON IMPLICATIONS

For superintendents, supervisors and principals who are interested in exploring the implications of human development principles for school operation, a workshop (2 credit hours) will be held at the University from July 9 to July 20. This work conference will examine recent scientific research findings and theory regarding human growth, learning and behavior and will consider the implications of this knowledge for educational practice, including such problems as grouping for effective learning, marking, curriculum control, teaching processes, home-school interaction, the development and use of cumulative records, and mental health problems. A special section of this workshop is being planned for coordinators of parent child study programs.

WORKSHOP ON APPLICATIONS OF HUMAN DEVELOPMENT PRINCIPLES IN CLASSROOMS

For people who have had three or more years of child study experience either in workshops or in groups during the school year, a workshop (2 credit hours) will be held at the University from August 6 to August 17. Classroom practices will be examined in the light of human development principles, and procedures will be studied for possible beyond-third-year action research projects during the school year.

WORKSHOP: ACTION RESEARCH IN HUMAN DEVELOPMENT EDUCATION

A workshop for teachers and other school personnel who are interested in learning more about action research or in initiating action research projects in their own schools. This workshop will be held at the University,

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August 6 to 17 (2 credit hours). The role of action research in the solution of educational problems will be emphasized. Participants will have the opportunity to learn about and to develop designs and instruments for carrying out action research in their own schools and classrooms. Preference in enrollment will be given to persons coming as teams for the purpose of developing an action research design for implementation in their own school or school system.

WORKSHOPS ON HUMAN DEVELOPMENT AND RELIGIOUS EDUCATION

Two workshops in human development (each for 2 credit hours) for persons in the field of religious education will be held on the University campus. A workshop for persons without prior workshop experience will be held from July 23 to August 3. This workshop will examine scientific knowledge about human development, learning, behavior and adjustment and will consider the implications of this knowledge for religious educational practice in vacation, weekday, and Sunday schools operated by church groups.

An advanced workshop for persons who have had a previous workshop in Human Development and Religious Education will be held from August 6 to August 17.

These workshops will be entirely non-denominational and any person responsibly concerned with religious education can appropriately enroll regardless of the nature of his faith.

The daily schedules will be similar to those of the six weeks workshop. *Only full time participants can be accepted.* These two-week workshops may be taken for either graduate or undergraduate credit.

Students desiring graduate credit and not previously enrolled in the Graduate School must have their applications for admission and transcripts in the office of the Graduate School not later than June 1, 1962.

Those interested should contact, as soon as possible, Director of Summer Workshops, Institute for Child Study, University of Maryland, College Park, Maryland.

Workshops in Special Education

THE EDUCATION OF CHILDREN WITH LEARNING IMPAIRMENTS

This workshop will consider the theoretical background and the methods, curricula and materials employed in the approach to the various learning problems of children.

Opportunities for observation, participation and consultation in program planning, curriculum organization, and the use of methods and materials will be provided according to the primary learning problem involved: Mentally Handicapped (Educable), Mentally Deficient (Trainable), Perceptual Learning Problems, Disturbances in Emotional/Social Development, Disturbances in Language Development, and Physically Handicapped.

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This workshop will meet off campus daily from 9:00-3:00, June 25 to July 20. Four units of undergraduate or graduate credit may be earned.

Students planning to attend the workshop should request the Special Education summer session brochure for program details.

Administration and Supervision of Special Education Programs

This workshop will consider the areas of primary concern to administrators and supervisors in determining Special Education needs, and in establishing and carrying out educational program modifications. The workshop will utilize a number of resource consultants with experience at various levels and the various facets of the overall problem.

This workshop will meet daily from 9:00-3:00, July 23 to August 10. Three units of undergraduate or graduate credit may be earned.

Students planning to attend the workshop should request the Special Education summer session brochure for program details.

Institute in Mathematics For Elementary School Teachers, Principals and Supervisors

A National Science Foundation grant has made it possible for the Mathematics Department of the College of Arts and Sciences to offer a six weeks summer institute in mathematics for elementary school personnel. The offering of the Institute should provide a participant with the background necessary to understand and evaluate the current experimental programs in elementary mathematics being used in many communities over the country.

Two courses in mathematics will be required of each participant: Mathematics 181—Foundations of Number Theory and Mathematics 183—Fundamentals of Geometry. Each lecture will be followed by a period of supervised study. A demonstration class will be offered, using experimental materials written for the fourth grade. Visiting lecturers will discuss with the participants techniques and procedures for meeting the needs of mathematics teaching in the elementary grades.

Financial assistance in the form of a National Science Foundation grant will be available to about 35 participants at the standard N.S.F. rate of \$75.00 per week plus \$15 per week for each dependent (to a maximum of four). A travel allowance of 4 cents per mile for a single round trip from the participant's home to the Institute will also be paid. All tuition and fee charges will be paid by the N.S.F. grant. Participants who are graduate students in the College of Education may obtain graduate credit for the six hours of course work completed with the Institute.

Inquiries should be addressed to: Professor John R. Mayor, Director, Summer Institute in Mathematics for Elementary School Personnel, College of Education, Skinner Building, University of Maryland, College Park, Md.

Counselor Education I

The College of Education in cooperation with Maryland School Superintendents and the State Department of Education will sponsor a special

Conferences, Institutes, Workshops

program for the preparation of secondary school counselors, June 25 to August 17.

Lectures, seminars and discussions will be scheduled between 8:30 a.m. and 3:00 p.m. daily. The content of the program will include the course content of Principles of Guidance, Analysis of the Individual, and School Counseling: Theoretical Foundations and Practice. Students enrolled in this program will receive eight hours credit. Each applicant must be recommended by his superintendent or principal. See page 37 for courses for which to register.

Workshop for Teachers of Secondary School English

The College of Education in cooperation with the English Department, the Maryland State Department of Education, and the National Council of Teachers of English will sponsor a workshop for teachers of secondary school English.

The emphasis will be upon the concept of integration in the teaching of literature, composition, and grammar, through deeper insight into the humanities, through better acquaintance with the newer media of instruction, and through the development of new techniques and materials of instruction.

Lectures by national and State authorities will be presented; discussion groups of all the participants will be held; and working sessions under University and State leaders will be provided.

The workshop will be held from July 9 to July 27, from 9:30 a.m. to 3:30 p.m., Monday through Friday. Three (3) hours of credit will be earned. All workshop participants must be admitted to the University as special students or to the Graduate School as graduate students before June 1, 1962. Enrollment will be limited and preference will be given to teachers with two years or more of secondary school experience. Registration will be July 9.

All correspondence concerning application or information should be addressed to Miss Marie D. Bryan, College of Education.

Institute for Teachers of Mathematics in Junior High School

The Department of Mathematics of the College of Arts and Sciences with the financial support of the National Science Foundation is offering a six-week Summer Institute for junior high school teachers of mathematics. Its purpose is to assist the teachers in improving the quality of teaching of mathematics at the junior high school level. The Institute should also give the teachers a better understanding of current curricular developments and make it possible for them to interpret these developments for junior high school programs.

Participants of the Institute who are graduate students in the College of Education may obtain graduate credit for the six hours of course work completed in connection with the Institute.

Conferences, Institutes, Workshops

Mathematics 182 — Foundations of Algebra, and Mathematics 199 — Summer Institute for Teachers of Science and Mathematics Seminar, are required of each participant. For more information on the courses see the listings under the Department of Mathematics. In addition there will be a demonstration class in which experimental material for grades seven and/or eight will be taught. A seminar will provide for discussion of the materials in the demonstration class and associated teaching problems.

Financial assistance in the form of a National Science Foundation grant will be available to about 30 participants at the standard N.S.F. rate of \$75 per week plus \$15 per week for each dependent (to a maximum of four). This stipend will be tax free to students enrolled for credit toward a degree. A travel allowance of 4 cents per mile for a single round trip from the participants home to the Institute (to a maximum of \$80) will also be paid. All tuition and fee charges will be paid by the N.S.F. grant.

Participants are expected to have had at least two years experience teaching mathematics at the junior high school level and to have been appointed to a junior high school position for 1962-63.

Inquiries should be addressed to: Professor James A. Hummel, Director, Summer Institute for Mathematics Teachers, Department of Mathematics, University of Maryland, College Park, Maryland.

National Science Foundation Summer Institute For High School Teachers of Science

The College of Agriculture, the College of Arts and Sciences and the College of Education are cooperating to offer a program of courses designed for junior and senior high school teachers of science. These courses combine in various ways to provide curricula for the participants of a seven-week institute for teachers of science. This Summer Institute has the support of the National Science Foundation. It is designed primarily to enable junior and senior high school teachers to improve their knowledge of the subjects they teach. Credit earned in this Summer Institute and in similar related science courses may accumulate up to one-half of the total credit-hour requirement for the Master of Education degree.

A National Science Foundation grant makes it possible for the 1962 Summer Institute to provide financial assistance for about 75 participants at the standard N.S.F. rate of \$75 per week plus \$15 per week for each dependent (to a maximum of four). This stipend will be tax free to students enrolled for credit toward a degree. A travel allowance of 4 cents per mile for a single round trip from the participant's home to the Institute will also be paid. All tuition and fee charges will be paid by the N.S.F. grant.

The Summer Institute covers the general fields of the Biological Sciences and the Physical Sciences. Basic to the program will be two seminars covering recent developments in the Biological Sciences and the Physical

Conferences, Institutes, Workshops

Sciences. These seminars are listed in the Summer Session catalog as Zoology 199 and Physics 199, respectively. Each will meet once a week during the regular six-week summer session, and daily during the seventh week, and will count as one credit hour. Participants in the Institute will be expected to register for both seminars.

The following courses are included in the program. Courses especially prepared for teachers are indicated by an asterisk (*).

Biological Sciences

*Bot. 113
*Bot. 151S
*Ent. S-121
Zool. 1
Zool. 104
*Zool. 121
*Zool. 199
*Zool. 208

Physical Sciences

*Chem. 1
*Phys. 118A
Phys. 126
Phys. 130, 131
*Phys. 150
*Phys. 160A
*Phys. 199

These courses are described in detail in this catalog under the headings of the respective departments. In addition to the courses specifically listed, participants may register in the regular Summer Session offerings in Mathematics or other appropriate fields. A maximum of 7 credit hours may be taken. Stipends will be available only to those participants scheduling at least 6 hours in the above courses, or in other courses specifically approved by the Director of the Institute.

Inquiries should be sent to: Dr. J. R. C. Brown, Director of the N.S.F. Summer Institute, Department of Zoology, University of Maryland, College Park, Maryland.

NDEA Summer Language Institute

A special foreign language institute under the National Defense Education Act of 1958 and under the auspices of the U.S. Office of Education, for Secondary School teachers of Spanish or French, limited to 30 participants in Spanish and 30 participants in French. Credits, if desired by participants, will be graduate or undergraduate depending upon previous scholastic record. Students must remain in residence in campus dormitories. Duration of Institute: 7 weeks, from June 25 to August 10, 1962. Participants are paid stipends of \$75 per week plus \$15 per week for each dependent. Formal courses include Professional Training and Demonstration (10 hours); Elementary Russian (2½ hours); Linguistics (3 hours); Writing (2 hours); Culture and Civilization (5 hours); Language Practice (12 hours); Laboratory Procedures (1 hour); and Library (4 hours); per week.

Students register for Ed. 189-50, NDEA Summer Language Institute, (4) credits and Foreign Language 140, (3) credits.

Application should be requested of, and returned to Dr. Philip Rovner, Director, NDEA Summer Language Institute, Department of Foreign Languages, College Park, Maryland, before March 1, 1962.

Course Offerings

An "S" before a course number denotes that the course is offered in Summer School only. An "S" after a course number indicates a regular course modified for summer school offering.

Courses may be cancelled if the number of students enrolled is below certain minima. In general, freshman and sophomore courses will not be maintained for classes smaller than 20. Minimum enrollments for upper level undergraduate courses and graduate courses will be 15 and 10 respectively.

Agricultural Economics

AGRICULTURAL ECONOMICS

A.E. 198. Research Problems. (2 cr. max.)

To be arranged. With the permission of the instructor, students will work on any research problems in Agricultural Economics. There will be occasional conferences for the purpose of making reports on progress of work. (Staff.)

A.E. 301. Special Problems in Farm Economics. (2) (4 cr. max.)

To be arranged. An advanced course dealing extensively with some of the economic problems affecting the farmer, such as land values, taxation, credits, prices, production adjustments, transportation, marketing and cooperation. (Staff)

A.E. 399. Research.

Credit according to work accomplished. This course will consist of special reports by students on current economic subjects, and a discussion and criticism of the members of the class and instructional staff. (Staff)

AGRICULTURAL ENGINEERING

For Advanced Undergraduates and Graduates

Agr. Engr. 198. Special Problems in Farm Mechanics. (1-3)

Prerequisite, approval of Department. Not acceptable for majors in agricultural engineering. Problems assigned in proportion to credit registered for. (Gienger)

For Graduates

Agr. Engr. 301. Special Problems in Agricultural Engineering. (1-6)

Work assigned in proportion to amount of credit. (Green)

Agr. Engr. 399. Research. (1-6)

Credit according to work accomplished. (Green)

AGRICULTURAL AND EXTENSION EDUCATION

R. Ed. 170 A-B Workshop Teaching Conservation of Natural Resources. (3, 3)

Six weeks, June 25 - August 3. Arranged.

Fee, \$35.00. This workshop is devoted to a study of the state's basic wealth, its natural resources, natural resource problems and practices pertinent to local, state, national and world welfare. (Erickson)

R. Ed. 198. Special Problems in Agricultural Education. (1-3)

Arranged. Prerequisite, approval of staff. Credit in accordance with amount of work planned. A course designed for advanced undergraduates for problems in teaching vocational agriculture. (Staff)

Agronomy, Animal Husbandry

R. Ed. 207. Problems in Vocational Agriculture. (2)

Four weeks, July 9 - August 3. Arranged.

In this course special emphasis is placed upon the current problems facing teachers of vocational agriculture. It is designed especially for persons who have had several years of teaching experience in this field. (Smith)

R. Ed. S207 A-B. Problems in Teaching Vocational Agriculture. (1, 1)

Principles of adult education as applied to rural groups, especially young and adult farmers, organizing classes, planning courses and instructional methods are stressed. (Staff)

R. Ed. S250 A-B. Critique in Rural Education. (1, 1)

Four weeks, July 9 - August 3. Arranged.

Current problems of teaching agriculture are analyzed and discussed. Students are required to make investigations, prepare papers and make reports. (Cardozier.)

R. Ed. 301. Field Problems in Rural Education. (1-3)

Arranged. Prerequisite, six semester hours of graduate study. Problems accepted depend upon the character of the work of the student and the facilities available for study. Periodic conferences required. Final report must follow accepted pattern for field investigations. (Staff)

R. Ed. 399. Research. (1-6)

Arranged. Credit hours according to work done.

(Staff)

AGRONOMY

Agron. S110. Soil Management. (1)

Summer session only. An advanced course primarily designed for teachers of vocational agriculture and county agents dealing with factors involved in management of soils in general and of Maryland soils in particular. Emphasis is placed on methods of maintaining and improving chemical, physical, and biological characteristics of soils. (Strickling.)

Agron. 198. Special Problems in Agronomy. (1)

For advanced undergraduates only. Prerequisite, Agron. 10, 107, 108 or permission of instructor. A detailed study, including a written report of an important problem in agronomy. (Staff.)

Agron. 208. Research Methods. (2)

Prerequisite, permission of staff. Development of research viewpoint by detailed study and report on crop research of the Maryland Experiment Station or review of literature on specific phases of a problem. (Staff.)

Agron. 399. Research in Agronomy.

Credit according to work done.

(Staff.)

ANIMAL HUSBANDRY

A. H. 198. Special Problems in Animal Husbandry. (1-2) (4 cr. max.)

Work assigned in proportion to amount of credit. Prerequisite, permission of instructor. A course designed for advanced undergraduates in which specific problems relating to animal husbandry will be assigned. (Staff.)

Animal Husbandry, Art, Botany

A. H. 301. Special Problems in Animal Husbandry. (1-2) (4 cr. max.)

Work assigned in proportion to amount of credit. Prerequisite, permission of instructor. Problems will be assigned which relate specifically to the character of the work the student is pursuing. (Staff.)

A. H. 399. Research.

Credit to be determined by amount and character of work done. With the approval of the Head of the Department, students will be required to pursue original research in some phase of animal husbandry, carrying the same to completion, and report the results in the form of a thesis. (Staff.)

ART

Art 20 Art Appreciation. (2)

M.W.F. June 25 - August 17, 8:00. A-302.

An introduction to the technical and aesthetic problems of the artist. The student becomes acquainted with the elements that go into a work of the visual arts. He is made aware of the underlying structure that results in the "wholeness" of an art work. He will see examples (original and reproductions) of masterpieces of art. (Lembach.)

BOTANY

Bot. 1. General Botany. (4)

June 25 - Aug. 17. Lectures M. T. Th. F., 8:00-8:50, A-1. Four laboratory periods, E-212; Sec. 1—M. T. Th. F., 9:00-10:50; Sec. 2—M. T. Th. F., 12:30-2:30. Laboratory fee \$6.00. General introduction to botany, touching briefly on all phases of the subject. Emphasis is on the fundamental biological principles of the higher plants. (Brown, Assistants.)

Bot. 113. Plant Geography. (2)

June 25 - Aug. 3, daily, 1:00-2:50, E-235. Prerequisite, Bot. 1 or equivalent. Laboratory A study of plant distribution throughout the world and the factors generally associated with such distribution. (Brown.)

Bot. 151S. Teaching Methods in Botany. (2)

June 25 - Aug. 3, daily, 1:00-2:50, E-235. Prerequisite, Bot. 1 or equivalent. Laboratory fee, \$5.00. A study of the biological principles of common plants, and demonstrations, projects, and visual aids suitable for teaching in primary and secondary schools. (Lockard.)

Bot. 399. Research.

Credit according to work done. A minimum of 6 credit hours is required for the M.S. degree and an additional minimum of 12 hours is required for the Ph.D. degree. Students must be qualified to pursue with profit the research to be undertaken. (Staff.)

Business Organization and Administration

BUSINESS ORGANIZATION AND ADMINISTRATION

B.A. 20. Principles of Accounting. (3)

June 25 - Aug. 17. M. T. Th. Fr., 9:30-10:50; Q-122. Prerequisite, sophomore standing. The fundamental principles and problems involved in accounting for proprietorships, corporations and partnerships. (Daiker.)

B.A. 21. Principles of Accounting. (3)

June 25 - Aug. 17. M. T. Th. F., 8:00-9:20; Q-104. Prerequisite, sophomore standing. The fundamental principles and problems involved in accounting for proprietorships, corporations and partnerships. (Sweeney.)

B.A. 111. Intermediate Accounting. (3)

June 25 - Aug. 17. M. T. Th. F., 8:00-9:20; Q-122. Prerequisite, B.A. 21. A comprehensive study of the theory and problems of valuation of assets, application of funds, corporation accounts and statements, and the interpretation of accounting statements. (Lee.)

B.A. 130. Elements of Business Statistics I. (3)

June 25 - Aug. 17. M. T. Th. F. Prerequisite, Junior standing. Laboratory fee, \$3.50
Section I—8:00, Q-103.
Section II—9:30, Q-103.

This course is devoted to a study of the fundamentals of statistics. Emphasis is placed upon the collection of data; hand and machine tabulation; graphic charting; statistical distribution; averages; index numbers; sampling; elementary tests of reliability; and simple correlations.

(Nelson, Anderson.)

B.A. 140. Business Finance. (3)

June 25 - Aug. 17. M. T. Th. F., 8:00-9:20; Q-123. Prerequisite, Economics 140. This course deals with principles and practices involved in the organization, financing, and reconstruction of corporations; the various types of securities, and their use in raising funds, apportioning income; risk and control; intercorporate relations; and new developments. Emphasis on solution of problems of financial policy faced by management. (Calhoun.)

B.A. 159. Marketing Principles and Organization. (3)

June 25 - Aug. 17. M. T. Th. F., 9:30-10:50; Q-123. Prerequisite, Economics 32 or 37. This is an introductory course in the field of marketing. Its purpose is to give a general understanding and appreciation of the forces operating, institutions employed, and methods followed in marketing agricultural products, natural products, services, and manufactured goods.

B.A. 160. Personnel Management. (3)

June 25 - Aug. 17. M. T. Th. F., 9:30-10:50; Q-104. Prerequisite, Economics 160. This course deals essentially with functional and administrative relationships between management and the labor force. It comprises a survey of the scientific selection of employees, "in-service" training, job analysis, classification and rating, motivation of employees, employee adjustment, wage incentives, employee discipline and techniques of supervision, and elimination of employment hazards. (Sylvester.)

B.A. 163. Industrial Relations. (3)

June 25 - Aug. 17. M. T. Th. F., 11:00-12:30; Q-132. Prerequisite, B.A. 160 and Senior Standing. A study of the development and methods of organized groups in industry

Business Organization and Administration, Chemistry

with reference to the settlement of labor disputes. An economic and legal analysis of labor union and employer association activities, arbitration, mediation and conciliation; collective bargaining, trade agreements, strikes, boycotts, lockouts, company unions, employee representation and injunctions.

B.A. 181. Business Law. (3)

June 25 - Aug. 17. M.T.Th.F., 8:00-9:20; Q-28. Prerequisite, Senior Standing. Required in all Business Administration curriculums. Legal aspects of business relationships, contracts, negotiable instruments, agency, partnerships, corporations, real and personal property and sales. (Dawson.)

B.A. 399. Thesis. (Arranged)

CHEMISTRY

All laboratory courses in chemistry (except Chem. 214—\$20.00) carry a laboratory fee of \$12.00; in addition the student is charged for any apparatus which cannot be returned to the stock room in perfect condition.

Chem. 1. General Chemistry. (4)

June 25 - Aug. 3. Five lectures and five three-hour laboratory periods per week. Lecture 11:00 C-130. Laboratory, 1:00, 2:00, 3:00. Prerequisite, 1 year high school algebra or equivalent. (Boyd.)

Chem. 3. General Chemistry. (4)

June 25 - Aug. 17, M. T. Th. F. Four lectures and four three-hour laboratory periods per week. Lecture, 11:00, C-132. Laboratory, 1:00, 2:00, 3:00. Prerequisite, Chem. 1. (Jaquith.)

Chem. 19. Elements of Quantitative Analysis. (4)

June 25 - Aug. 17. Four lectures and four laboratory periods per week. Lecture 8:00, C-215, M. T. Th. F. and laboratory M. T. Th. F. 9:00, 10:00; W., 8, 9, 10. Prerequisite, Chem. 3. (Stuntz.)

Chem. 37. Elementary Organic Chemistry. (2)

June 25 - Aug. 17. Four lectures per week. 8:00, C-134. Prerequisite, Chem. 35. (Henery-Logan.)

Chem. 38. Elementary Organic Laboratory. (2)

June 25 - Aug. 17. Four three-hour laboratory periods per week. 9:00, 10:00, 11:00, C-221. Prerequisite, Chem. 36. (Henery-Logan.)

Chem. 192, 194. Glassblowing Laboratory. (1, 1)

June 25 - Aug. 3. Two four-hour laboratory periods a week. M., W., 1:00, 2:00, 3:00, 4:00, C-B3. (Carruthers.)

Chem. 399. Research.

(Staff.)

Classical Languages and Literatures, Dairy, Economics

CLASSICAL LANGUAGES AND LITERATURES

Latin 102. Tacitus. (3)

June 25 - Aug. 17. M. T. Th. F., 9:30-10:50, LL-3. Lectures and readings on Greek and Roman historiography before Tacitus and on the author as a writer of history. The reading of selections from the Annals and Histories. Reports. (Avery.)

DAIRY

Dairy S101. Advanced Dairy Production. (1) (to be arranged)

An advanced course primarily designed for teachers of vocational agriculture and county agents. It includes a study of the newer discoveries in dairy cattle nutrition, breeding and management. (Davis.)

Dairy 301. Special Problems in Dairying. (1-5) (4 cr. max., M.S.; 8 cr. Max, Ph.D.)

Prerequisite, permission of professor in charge of work. Credit in accordance with the amount and character of work done. Methods of conducting dairy research and the presentation of results are stressed. A research problem which relates specifically to the work the student is pursuing will be assigned. (Staff.)

Dairy 399. Research. (1-6)

Credit to be determined by the amount and quality of work done. Original investigation by the student of some subject assigned by the major professor, and completion of the assignment and the preparation of a thesis in accordance with requirements for an advanced degree. (Staff.)

ECONOMICS

Econ. 5. Economic Developments. (2)

June 25 - Aug. 17. Three periods a week, M. W. F., 12:30; Q-111. No prerequisite. An introduction to modern economic institutions—their origins, development and present status. Emphasis on development in England, Western Europe and the United States. (Dalton.)

Econ. 31. Principles of Economics. (3)

June 25 - Aug. 17. M. T. Th. F., 8:00; Q-111. Prerequisite, sophomore standing. A general analysis of the functioning of the economic system, with special emphasis on national income analysis. A considerable portion of the course is devoted to a study of basic concepts and explanatory principles. The remainder deals with the major problems of the economic system. (Dalton.)

Econ. 32. Principles of Economics. (3)

June 25 - Aug. 17. M. T. Th. F., 9:30; Q-111. Prerequisite, Econ. 31. A general analysis of the functioning of the economic system, with special emphasis on resource allocation. A considerable portion of the course is devoted to a study of basic concepts and explanatory principles. The remainder deals with the major problems of the economic system. (Barrett.)

Economics, Education

Econ. 37. Fundamentals of Economics. (3)

June 25 - Aug. 17. M. T. Th. F., 8:00; Q-129. Prerequisite, sophomore standing. Not open to students who have credit in Econ. 31 and 32. Not open to freshmen or to B.P.A. students. A survey of the general principles underlying economic activity. This is the basic course in economics for the American Civilization Program for students who are unable to take the more complete course provided in Econ. 31 and 32. (Staff.)

Econ. 140. Money and Banking. (3)

June 25 - Aug. 17. M. T. Th. F., 8:00; Q-228. Prerequisite, Econ. 32 or 37. A study of the organization, functions, and operation of our monetary, credit, and banking system; the relation of commercial banking to the Federal Reserve System; the relation of money and credit to prices; domestic and foreign exchange and the impact of public policy upon banking and credit. (Barrett.)

Econ. 160. Labor Economics. (3)

June 25 - Aug. 17. M, T, Th, F, 11:00; Q-111. Prerequisite, Econ. 32 or 37. The historical development and chief characteristics of the American Labor movement are first surveyed. Present day problems are then examined in detail; wage theories, unemployment, social security, labor organization, collective bargaining. (Staff.)

Econ. 399. Thesis.

EDUCATION

BUSINESS EDUCATION

B.Ed. 102. Methods and Materials in Teaching Bookkeeping and Related Subjects. (2)

M. T. Th. F., 8:00; Q-27. June 25 - Aug. 3. Important problems and procedures in the mastery of bookkeeping and related office knowledges and the skills including a consideration of materials and teaching procedures. (Lomax.)

B.Ed. 205. Seminar in Business Education. (2)

June 25 - Aug. 3, M. T. W. F., 9:30; Q-27. An evaluation of the literature and research in business education. (Lomax.)

B.Ed. 256. Curriculum Development in Business Education. (2)

June 25 - Aug. 3, M. W. Th. F., 11:00; Q-27. Emphasis will be placed on the philosophy and objectives of the business education program, and on curriculum research and organization of appropriate course content. (Lomax.)

Education in Family Finance Workshop. (6)

June 25 - August 3. See Ed. 189-1 in this catalog.

EARLY CHILDHOOD EDUCATION ¹

Ed. 105. Science in the Elementary School, Section 3. (3)

June 25 - Aug. 3, Daily; AA-9. See page 33 for detailed description. (Stant.)

C. Ed. 110 Child Development III. (3)

June 25 - Aug. 17, M. T. Th. F., 8:00; AA-8. Development growth of the child from the prenatal period through the early childhood years with implications for home and school practice. Open to students in other colleges of the University. (Hymes.)

¹The early childhood education curriculum has as its primary goal the preparation of nursery school, kindergarten, and primary teachers.

C. Ed. 115. Children's Activities and Activities Materials. (3)

June 25 - Aug. 3, Daily, 9:30; AA-9. Prerequisites, C.Ed. 50, 51 or 110. Laboratory fee, \$5.00. Storytelling, selection of books; the use, preparation and presentation of such raw materials as clay, paints (easel and finger), blocks, wood, and scrap materials. (Stant.)

C. Ed. 145. Guidance of Young Children. (3)

June 25 - Aug. 17, M. T. Th. F., 9:30; AA-8. Development of an appreciation and understanding of young children from different home and community backgrounds; study of individual and group problems. (Hymes.)

C. Ed. 159. Teaching Kindergarten. (4) (To Be Arranged)

June 25 - Aug. 3. Admission to student teaching depends upon approval of the teaching staff of the department. An academic average of 2.3 is required. Teaching experience in the University Kindergarten. Fee, \$30.00. (Broome.)

ELEMENTARY-SECONDARY EDUCATION

Ed. 52. Children's Literature (3)

A study of literary values in prose and verse for children.

Section 1—9:30, Daily, June 25 - August 3; A-17. (Chesney.)

Section 2—11:00, Daily, June 25 - August 3; A-17. (Chesney.)

Ed. 102. History of Education in the United States. (3)

June 25 - Aug. 3, Daily, 11:00; T-129. A study of the origins and development of the chief features of the present system of education in the United States. (Wiggin.)

Ed. 105. Science in the Elementary School. (3)

Section 1—8:00, Daily, June 25 - August 3; T-119. (Blough.)

Section 2—Daily, 11:00, June 25 - August 3; T-119. (F. Brown.)

Section 3—Daily, 8:00, June 25 - August 3; AA-9. (Stant.)

Ed. 121. The Language Arts in the Elementary School. (3)

Section 1—8:00, Daily, June 25 to Aug. 3; LL-104. (Kinn.)

Section 2—9:30, M. T. Th. F., June 25 to Aug. 17; A-18. (Evans.)

Section 3—11:00, M. T. Th. F., June 25 to Aug. 17; A-18. (Evans.)

Concerned with the teaching of spelling, handwriting, oral and written expression, and creative expression. Special emphasis given to skills having real significance to pupils.

Ed. 122. The Social Studies in the Elementary School. (3)

Section 1— 8:00 Daily, June 25 to Aug. 3; T-20. (Bennett.)

Section 2—9:30 M. T. Th. F., June 25 to Aug. 17; T-10. (L. O'Neill.)

Section 3—11:00 Daily, June 25 to Aug. 3; A-140. (Bennett.)

Consideration given to curriculum, organization, methods of teaching, evaluation of newer materials, and utilization of environmental resources.

Ed. 124. Arithmetic in the Elementary School. (3)

Section 1— 8:00 Daily, June 25 to Aug. 3; A-16. (Walters.)

Section 2— 9:30 Daily, June 25 to Aug. 3; T-20. (Flournoy.)

Section 3—11:00 Daily, June 25 to Aug. 3; T-20. (Flournoy.)

Education

Emphasis on materials and procedures which help pupils sense arithmetical meanings and relationships. Helps teachers gain a better understanding of the number system and arithmetical processes.

Ed. 125. Art in Elementary Schools. (2)

Section 1— 8:00 M. W. F., June 25 to Aug. 17; H-102. (Longley.)

Section 2— 9:30 M. W. F., June 25 to Aug. 17; A-302. (Lembach.)

Section 3—11:00 M. W. F., June 25 to Aug. 17; A-302. (Lembach.)

Concerned with art methods and materials for elementary schools. Includes laboratory experiences with materials appropriate for elementary schools. Enrollment limited to 25 per section.

Note: Teachers who need an art fundamentals course to meet certification requirements, may fulfill that requirement with Pr. Arts 1 or Art 20. Pr. Arts 1 is listed under Home Economics. See page 55 for the course description.

Ed. 130. The Junior High School. (3)

June 25 - Aug. 3, Daily, 9:30; A-14. A general overview of the junior high school. Purposes, functions, and characteristics of this school unit; a study of its population, organization, program of studies, methods, staff, and other similar topics, together with their implications for prospective teachers. (McClure.)

Ed. 133. Methods of Teaching Social Studies in Secondary School. (3)

June 25 - Aug. 17, M. T. Th. F., 9:30; A-16. Designed to give practical training in the everyday teaching situations. Use of various lesson techniques, audio and visual aids, reference materials, and testing programs and the adaption of teaching methods in individual and group differences. Present tendencies and aims of instruction in the social studies. (Grambs.)

Ed. 134. Materials and Procedures for the Secondary School Core Curriculum. (3)

June 25 - Aug. 3, Daily, 11:00; Q-129. Fee, \$1.00. This course is designed to bring practical suggestion to teachers who are in charge of core classes in junior and senior high schools. Materials and teaching procedures for specific units of work are stressed. (Bossing.)

Ed. 137. Methods of Teaching Mathematics and Science in Secondary Schools. (3)

Section 1—Science; M. T. Th. F., 9:30, June 25 - Aug. 17; E-308. (Lockard.)

Section 2—Math; M. T. Th. F., 9:30, June 25 - Aug. 17; A-210. (Cole.)

Laboratory fee, \$2.00. Considers such topics as objectives, selection, organization, and presentation of subject matter, appropriate classroom methods and procedures, instructional materials and evaluation of learning experiences in the areas of mathematics, the physical sciences, and the biological sciences.

Ed. 141. Methods of Teaching English in Secondary Schools (3)

June 25 - Aug. 17, M. T. Th. F., 9:30; A-130. Content and method in teaching the English language arts. (Kibler.)

Ed. 142. Oral-aural Method in Teaching Foreign Languages. (3)

June 25 - Aug. 17, M. T. Th. F., 9:30; LL-220. Prerequisite, 20 academic hours in a particular language and approval of adviser. Graduate credit allowed by special arrangement and adviser's approval. Designed for high school teachers. Methods in making and using tape recordings, using electronic laboratories, developing oral-aural skills and direct approach to language teaching are emphasized. (Staff.)

Ed. 145. Principles and Methods of Secondary Education. (3)

June 25 - Aug. 17, M. T. Th. F., 8:00; A-130. This course is concerned with the principles and methods of teaching in junior and senior high schools. (Kibler.)

Ed. 147. Audio-Visual Education. (3)

Section 1— 8:00, M. T. Th. F., June 25 - Aug. 17; P-306. (Maley.)

Section 2—11:00, M. T. Th. F., June 25 - Aug. 17; P-306. (Schramm.)

Laboratory fee, \$1.00. Sensory impression in their relation to learning, projection apparatus, its cost and operation; slides, film-strips, and films; physical principles underlying projection; auditory aids to instruction; field trips; pictures, models, and graphic materials, integration of sensory aids with organized instruction. Recommended for all education students.

Ed. 150. Educational Measurement. (3)

June 25 - Aug. 3, Daily, 11:00; A-16. Constructing and interpreting measures of achievements. (Giblette.)

Ed. 151. Statistical Methods in Education. (3)

Section 1— 8:00 M. T. Th. F., June 25 - Aug. 17; T-10. (Dayton.)

Section 2—11:00, M. T. Th. F., June 25 - Aug. 17; A-12. (Joos.)

Designed as a first course in statistics for students in education. Emphasis is upon educational applications of descriptive statistics, including measures of central tendency, variability and association.

Ed. 153. The Teaching of Reading. (3)

Section 1—8:00, Daily, June 25 to Aug. 3; LL-104. (Fitzmaurice.)

Section 2—9:30, Daily, June 25 to Aug. 3; LL-104. (Kinn.)

Section 3—11:00, M. T. Th. F., June 25 to Aug. 17; LL-201. (R. O'Neill.)

Concerned with fundamentals of development reading instruction, including reading readiness, uses of experience records, procedures in using basal readers, the improvement of comprehension, teaching reading in all areas of the curriculum, uses of children's literature, the program in word analysis, and procedures for determining individual needs.

Ed. 154. Remedial Reading Instruction. (3)

June 25 to Aug. 17, M. T. Th. F., 8:00; Ed. Annex. For supervisors and teachers who wish to help retarded readers. Concerned with causes of reading difficulties, the identification and diagnosis of retarded pupils, instructional materials, and teaching procedures. Prerequisite, Ed. 153 or the equivalent. (Massey.)

Ed. 155. Laboratory Practice in Reading for Elementary and Secondary Schools. (3)

June 25 to Aug. 17, M. T. Th. F., 9:30 and arr.; Ed. Annex. Prerequisite, Ed. 154. A laboratory course in which each student has one or more pupils for analysis and instruction. At least one class meeting per week to diagnose individual cases and to plan instruction. (Massey.)

Application for enrollment should be mailed to Dr. Will J. Massey, College of Education, before June 1, 1962.

Ed. 160. Educational Sociology. (3)

June 25 to Aug. 3, Daily, 8:00; A-147. This course deals with data of the social sciences which are germane to the work of teachers. Consideration is given to im-

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plications of democratic ideology for educational endeavor, educational tasks imposed by changes in population and technological trends, the welfare status of pupils, the socio-economic attitudes of individuals who control the schools, and other elements of community background which have significance in relation to schools. (Rugg.)

Ed. 161. Principles of Guidance. (3)

Overview of principles and practices of guidance-oriented education.

June 25 to Aug. 17, 8:00, M. T. Th. F.; LL-2.

(Staff.)

Ed. 162. Mental Hygiene in the Classroom. (3)

Section 1—Daily, 8:00, June 25 to Aug. 3; T-102.

(Denecke.)

Section 2—Daily, 9:30, June 25 to Aug. 3; T-102.

(Denecke.)

The practical application of the principles of mental hygiene to classroom problems. Limit enrollment to 30 per section.

Ed. 188. Special Problems in Education. (1-3)

Prerequisite, consent of instructor. Available only to mature students who have definite plans for individual study of approved problems. *Course cards must have the title of the problem and the name of the faculty member who has approved it.* (Staff.)

Ed. 189. Workshops, Clinics, and Institutes.

Ed. 189-1. Education in Family Finance. (6)

Daily, 8.00-3:00; Q-107, 108. June 25 to August 3, 1962. The course is especially designed for junior, senior high school, and college teachers and other educators interested in developing and improving classroom instruction in personal and family money management. Activities of the total workshop will include lectures by staff and consultants, small group work, study of individual problems, field trips and evaluation of available materials. For a detailed description of the workshop see page 17. Early application is recommended. (Risinger.)

Ed. 189-11. Use of Community Resources. (3)

June 25 to July 13, 1962, Daily, 9:30-3:30; AR-29. This workshop is offered for persons who teach in kindergarten or in grades one to twelve, inclusive. It is designed to help teachers learn to utilize community resources to strengthen a sound program of teaching and learning. The Smithsonian Institution will receive special attention as an excellent example of a valuable community resource. (Brinton.)

Ed. 189-26. Human Relations in Educational Administration. (6)

June 25 to August 3, Daily, 9:00-3:00. Prerequisite, a master's degree. Enrollment limited. This workshop is concerned with the development of leadership teams capable of providing in-service programs in human relations in local school systems. Preference in enrollment will be given to teams designated by Maryland school systems. (Newell.)

Ed. 189-28. The Administration and Supervision of Special Education Programs. (3)

July 23 to August 10, Daily, 9:00 to 3:00; AR-29. This workshop will consider the areas of primary concern to administrators and supervisors in determining Special Education needs, and in establishing and carrying out educational program modification. (Gates.)

Ed. 189-29. The Education of Children with Learning Impairments. (4)

June 25 to July 20, Daily, 9:00-3:00. To be arranged off-campus. This workshop will consider the basis for and demonstrate techniques and materials in teaching children with learning disabilities. (Hebeler and consultants.)

Ed. 189-33. Child Study Leaders. (2)

June 25 to July 6., Daily, 8:00-3:00; J-8A. This workshop is designed primarily for leaders or prospective leaders to acquaint them with principles and procedures of the child study program. All three year levels of the program will be covered. See also page 16. (Morgan, Thompson.)

July 23 to August 3, Daily, 8:00-3:00; J-8A. (Morgan, Thompson.)

Ed. 189-34. Administrators' Conference on Implication of Human Development Principles. (2)

July 9 to July 20, Daily, 8:00-3:00; J-8A. This Administrators' Conference is open to superintendents of schools, supervisors and principals. It will examine recent scientific research findings and theory regarding human growth, learning and behavior and will consider the implications of this knowledge for educational practice, including such problems as grouping for effective learning, marking, curriculum control, teaching purposes, home-school interaction, the development and use of cumulative records, and mental health problems. See also page 16. (Morgan.)

Ed. 189-35, I and II. Application of Human Development Principles in Classrooms. (2) (2)

August 6 to 17, Daily, 8:00-3:00; J-11. This workshop is open to persons who have been in the child study program for three years or more. Its purpose is to consider classroom practices in the light of human development principles. See also page 16.

(Matteson, Orr.)

Ed. 189-36, I and II. Human Development and Religious Education. (2) (2)

I. (Beginning Section) July 23 to August 3. Daily 8:00 to 3:00. J-12. This Workshop is open to persons who are responsible for planning and organizing programs of religious education. The workshop will be entirely non-denominational and will focus on examining scientific knowledge about human development, learning behavior, and adjustment and considering the implications of this knowledge for religious educational practice and church school programs. (Morgan, Goering.)

II. (Advanced Section) August 6 to 17. Daily 8:00 to 3:00. J-12. Open to those who have had a previous workshop in Human Development and Religious Education or a Child Study Workshop. (Morgan, Goering.)

Ed. 189-37. Action Research in Human Development Education. (2)

August 6 to 17, Daily, 8:00-3:00; J-114. Survey of action research methods and exploration of design requirements and materials suitable for use in studying classroom problems. When teams enroll, preliminary plans may be developed. (Staff.)

Ed. 189-42. Counselor Education I. (2)

June 25 - Aug. 17, Daily, 8:30-3:00; A-231. Enrollment limited to representatives of sponsoring counties. First of a two-summer sequence designed to prepare school counselors. Students register concurrently for Ed. 250, Analysis of the Individual, Section 2 (3) and Ed. 260: School Counseling: Theoretical Foundations and Practice, Section 2 (3). (Hall.)

Ed. 189-47. Workshop for Teachers of Secondary School English. (3)

July 9 to July 27, Daily, 9:30 to 3:30; G-109A, 109B. The purpose of this workshop is to encourage experienced teachers of secondary school English to study the new

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trends in the teaching of English, to increase their knowledge and understanding of the subject matter of English, and to prepare materials for use in their own classes. (Bryan, Cooley.)

Ed. 189-50. NDEA Summer Language Institute. (4)

June 25 to August 10, Daily, 8:00-5:00; LL-12. Purpose is to upgrade foreign language secondary school teachers' speaking ability in French or Spanish, improve their classroom and laboratory procedures, and augment their knowledge of the Spanish and French speaking peoples. Students register concurrently for Foreign Language 140, 3 credits. (Rovner.)

Ed. 210. The Organization and Administration of Public Education. (3)

June 25 to August 3, Daily, 8:00; A-146. The basic course in school administration. The course deals with the organization and administration of school systems—at the local, state, and federal levels, and with the administrative relationships involved. (Roesch.)

Ed. 211. The Organization, Administration, and Supervision of Secondary Schools. (3)

June 25 to August 17, M. T. Th. F., 8:00; A-140. The work of the secondary school principal. The course includes topics such as personnel problems, supervision, school-community relationships, student activities, schedule making, and internal financial accounting. (J. P. Anderson.)

Ed. 216. Public School Supervision. (3)

June 25 to August 17, M. T. Th. F., 11:00; Q-110. Deals with recent trends in elementary and high school supervision; the nature and function of supervision; planning supervisory programs; evaluation and rating; participation of teachers and other groups in policy development; school workshops; and other means for the improvement of instruction. (J. P. Anderson.)

Ed. 217. Administration and Supervision in Elementary Schools. (3)

June 25 to August 17, M. T. Th. F., 11:00; LL-202. Problems in organizing and administering elementary schools and improving instruction. (Davis.)

Ed. 219. Seminar in Educational Administration and Supervision. (2)

Prerequisite, at least four hours in educational administration and supervision or consent of instructor. A student may register for two hours and take the seminar a second time for an additional two hours.

Section 1—June 25 to August 3, M. T. Th. F., 9:30; A-149. (Roesch.)

Section 2—August 6 to August 17, Daily, 9:30 to 12:30; A-149. (Newell.)

Ed. 226. Child Accounting. (2)

June 25 to August 3, M. T. Th. F., 9:30; Q-132. An inquiry into the record keeping activities of the school system, including an examination of the marking system. (VanZwoll.)

Ed. 227. Public School Personnel Administration. (3)

June 25 to August 3, Daily, 8:00; A-45. A comparison of practices with principles governing the satisfaction of school personnel needs, including a study of tenure, salary schedules, supervision, rewards, and other benefits. (VanZwoll.)

Ed. 229. Seminar in Elementary Education. (2)

June 25 to August 17, M. W. F., 11:00; T-10. Primarily for individuals who wish to write seminar papers. Enrollment should be preceded by at least 12 hours of graduate work in education. (L. O'Neill.)

Ed. 234. The School Curriculum. (2)

June 25 to August 3, M. T. Th. F., 9:30; A-147. A foundations course embracing the curriculum as a whole from early childhood through adolescence, including a review of historical developments, an analysis of conditions affecting curriculum change, an examination of issues in curriculum making, and a consideration of current trends in curriculum design. (Hovet.)

Ed. 235. Principles of Curriculum Development. (3)

June 25 to August 3, Daily, 9:30; Q-129. Curriculum planning, improvement, and evaluation in the schools; principles for the selection and organization of the content and learning experiences; ways of working in classroom and school on curriculum improvement. (Bossing.)

Ed. 239. Seminar in Secondary Education. (2)

August 6 to August 17, Daily, 9:30 to 12:30; Q-107. (Ulry.)

Ed. 241 Problems in the Teaching of Reading. (3)

June 25 to August 3. Elementary School—9:30, Daily; T-219. Implications of current theory and results of research for the teaching of reading. Attention is given to all areas of developmental reading instruction, with special emphasis on persistent problems. Prerequisite, Ed. 153 or equivalent. (Walters.)

Ed. 243. Problems of Teaching Arithmetic in Elementary Schools. (2)

June 25 to August 3, M. T. Th. F., 8:00; A-149. Implications of current theory and results of research for the teaching of arithmetic in elementary schools. (F. Brown.)

Ed. 244. Problems of Teaching Language Arts in Elementary Schools. (2)

June 25 to August 7, M. W. F., 9:30; LL-202. Implications of current theory and results of research for the language arts in the elementary schools. (Davis.)

Ed. 245. Introduction to Research. (2)

Section 1—M. T. W. F., 11:00; June 25 to August 3. Q-104. (Hovet.)

Section 2—M. T. Th. F., 12:30; June 25 to August 3. Q-104 (Rugg.)

Intensive reading, analysis, and interpretation of research; applications to teaching fields; the writing of abstracts, research reports, and seminar papers.

Ed. 247. Seminar in Science Education. (2) (Elementary School)

June 25 to August 3, M. T. Th. F., 9:30; T-119. An opportunity to pursue problems in curriculum making, course of study development, or other science teaching problems. Class members may work on problems related directly to their own school situations. (Blough.)

Ed. 250. Analysis of the Individual. (3)

Section 1—Daily, 9:30; June 25 to August 3; O-101. (Staff.)

Section 2—Daily, 11:00; June 25 to August 17; Q-28. (See Ed. 189-42) (Hall.)

Collecting and interpreting non-standardized pupil appraisal data; synthesis of all types of data through case study procedures. Prerequisites, Ed. 161, Ed. 151, Ed. 263, or permission of instructor.

Ed. 251. Intermediate Statistics in Education. (3)

June 25 to August 17, M. T. Th. F., 9:30; T-5. Prerequisite, Education 151 or equivalent. A study of the basic statistical techniques used for graduate research in education, including tests of significance and sampling techniques. Necessary arithmetic skills are developed as part of the course. (Johnson.)

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Ed. 253. Occupational Choice: Theory and Information. (2)

June 25 to August 3, M. T. Th. F., 9:30; LL-2. Research and theory related to occupational and educational decisions; school programs of related information and other activities in occupational decisions. (Staff.)

Ed. 255. Advanced Laboratory Experiences in Reading Instruction. (3)

June 25 to August 17, M. T. Th. F., 9:30 and arranged; Ed. Annex. Prerequisites, 21 crs. applicable to master's program in Corrective and Remedial Reading, including Ed. 154, Ed. 150, and Ed. 141 or Ed. 244. Each participant will assist in *diagnosing* pupils with reading disabilities and in recommending instructional procedures for them. Applications for enrollment must be mailed to Dr. Massey, College of Education, before June 1. (Massey.)

Ed. 256. Advanced Laboratory Experiences in Reading Instruction. (3)

June 25 to August 17, M. T. Th. F., 9:30 and arranged; Ed. Annex. Prerequisite: at least 21 credits which are applicable to the master's program in Corrective and Remedial Reading Instruction, including Ed. 154, Ed. 150, and Ed. 141 or Ed. 244. Each participant will assist in *instructing* pupils with reading disabilities. Applications for enrollment must be mailed to Dr. Massey before June 1. (Massey.)

Ed. 259. Elementary School Counseling. (3)

June 25 to August 3, Daily, 11:00; A-133. For elementary school counselors or advanced students preparing for elementary school counseling. The functions of a counselor in elementary schools studied covering both general guidance and interview functions. Admission with instructor's consent only. (Metcalf.)

Ed. 260. School Counseling: Theoretical Foundations and Practice. (3)

Section 1—11:00, M. T. Th. F., June 25 - Aug. 17; O-101 (Tarwater.)
Section 2—12:30, Daily, June 25 - Aug. 17. (See Ed. 189-42); O-101 (Hall.)
Exploration of counseling theories and the practices which stem from them. Ed. 161, Ed. 250, Ed. 253 are prerequisite.

Ed. 261. Practicum in Counseling. (2)

June 25 to August 3, M. T. Th. F., 8:00; O-101. Sequence of supervised counseling experiences of increasing complexity. Limited to 8 applicants in advance. Two hour class plus laboratory. Prerequisites, Ed. 260 and permission of instructor. (Marx.)

Ed. 262. Measurement in Pupil Appraisal. (3)

June 25 - Aug. 17. M. T. Th. F., 9:30; LL-319. Study of group tests typically employed in school testing programs; discussion of evidence relating to the measurement of abilities. Prerequisite, Ed. 150. (Joos.)

Ed. 268. Seminar in Educational Sociology. (2)

Aug. 6 to Aug. 17, 9:30-12:30; Q-108. (Risinger.)

Ed. 269. Seminar in Guidance. (2)

June 25 - Aug. 17, M. W. F., 9:30; O-120. Registration only by approval of instructor. Final guidance course. Students study and conduct research. (Tarwater.)

Ed. 281. Source Materials in Education. (2)

June 25 - Aug. 3, M. T. Th. F., 8:00; T-219. Bibliography development through a study of source materials in education, special fields of education, and for seminar papers and theses. (Wiggin.)

Ed. 288. Special Problems in Education. (1-6)

Arranged. Master of education or doctoral candidates who desire to pursue special research problems under the direction of their advisers may register for credit under this number. Course card must have the title of the problem and the name of the faculty member under whom the work will be done. (Staff.)

Ed. 290. Doctoral Seminar. (1)

Arranged. Prerequisite, passing the preliminary examination for a doctor's degree in Education, or recommendation of a doctoral adviser. Analysis of doctoral projects and thesis, and of other on-going research projects. A doctoral candidate may participate in the Seminar during as many University sessions as he desires, but may earn no more than three semester hours of credit in the Seminar. An Ed.D. candidate may earn in total no more than nine semester hours, and a Ph.D. candidate, no more than eighteen semester hours, in the Seminar and in Ed. 399. (Johnson.)

Ed. 302. Curriculum in Higher Education. (3)

June 25 - Aug. 17, M. T. Th. F., 8:00; A-240. An analysis of research in curriculum and of conditions affecting curriculum change, with examination of issues in curriculum making based upon the history of higher education curriculum development. (Kelsey.)

Ed. 305. College Teaching. (3)

June 25 - Aug. 17, M. T. Th. F., 9:30; A-240. Various methods of college instruction analyzed in relation to the curriculum and psychological basis. These would include the case study method, the recitation method, teaching readiness, teaching by television, and other teaching aids. (Kelsey.)

Ed. 399. Research-Thesis. (1-6)

First and second semesters; summer session. Students who desire credit for a master's thesis, a doctoral dissertation, or a doctoral project should use this number. (Staff.)

HOME ECONOMICS EDUCATION

H. E. Ed. 102 Problems in Teaching Home Economics. (3)

June 25 - July 20, daily, 8:00-11:00; A-53. Prerequisite, consent of instructor. A study of the managerial aspects of teaching and administering a home making program; the physical environment, organization, and sequence of instructional units, resource materials, evaluation, home projects. Special emphasis will be given to the construction of units in the area of teaching Family Life and Family Relationships. (Spencer.)

H. E. Ed. 202. Trends in the Teaching and Supervision of Home Economics. (3)

July 23 - Aug. 17, daily, 8:00-11:00; A-53. Study of home economics programs and practices in light of current educational trends. Interpretation and analysis of democratic teaching procedures, outcomes of instruction, and supervisory practices. (Spencer.)

HUMAN DEVELOPMENT EDUCATION

(In addition to the courses listed below, see Ed. 189-33, -34, -35, -36, -37)

H. D. Ed. 100. Principles of Human Development I. (3)

June 25 - Aug. 17, M. T. Th. F., 8:00; J-124. This course gives a general overview of the scientific principles that describe human development, learning and behavior and relate these principles to the task of the school. Intensive laboratory work with case records is an integral part of this course. Ordinarily, H. D. Ed. 100 and H. D. Ed. 101 are not taken concurrently. (Goering.)

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H. D. Ed. 101. Principles of Human Development II. (3)

June 25 - Aug. 17, M. T. Th. F., 9:30; J-125. Continuation of H. D. Ed. 100, which is a prerequisite. *These two courses, H D. 100 and H. D. 101, are designed to meet the usual certificate requirements in educational psychology.* (Perkins.)

H. D. Ed. 112, 114, 116. Scientific Concepts in Human Development I, II, III. (3, 3, 3) (Staff.)

Summer workshop courses for undergraduates. In any one summer, concept and laboratory courses must be taken concurrently. For further description, see Six-Week Human Development Workshop, page 15.

H. D. Ed. 200. Introduction to Human Development and Child Study. (3)

Section 1—8:00, M. T. Th. F.; J-207. (Perkins.)

Section 2—9:30-12:20, M. T. Th. F., June 26 - July 20; J-127. (Staff.)

This course offers a general overview of the scientific principles which describe human development and behavior and makes use of these principles in the study of individual children. When this course is offered during the academic year, each student will observe and record the behavior of an individual child through the semester and must have one half-day a week free for this purpose. The course is basic to further work in child study and serves as a prerequisite for advanced courses where the student has not had field work or at least six weeks of workshop experience in child study. When this course is offered during the summer intensive laboratory work with case records will be substituted for the study of an individual child.

H. D. Ed. 201. Biological Bases of Behavior. (3)

June 25 - Aug. 17, M. T. Th. F., 9:30; J-124. H. D. Ed. 200 or its equivalent must be taken before H. D. Ed. 201 or concurrently. Emphasizes that understanding human life, growth and behavior depends on understanding the ways in which the body is able to capture, control and expand energy. Application throughout is made to human body processes and implications for understanding and working with people. (Goering.)

H. D. Ed. 202. Social Bases of Behavior. (3)

June 25 - Aug. 17, M. T. Th. F., 8:00; J-125. H. D. Ed. 200 or its equivalent must be taken before H. D. Ed. 202 or concurrently. Analyzes the socially inherited and transmitted patterns of pressures, expectations and limitations learned by an individual as he grows up. These are considered in relation to the patterns of feeling and behaving which emerge as the result of growing up in one's social group. (Brandt.)

H. D. Ed. 203. Integrative Bases of Behavior. (3)

June 25 - Aug. 17, M. T. Th. F., 9:30; J-104. H. D. Ed. 200 or its equivalent, H. D. Ed. 201, and H. D. 202, are prerequisite. Analyzes the organized and integrated patterns of feeling, thinking, learning and behavior which emerge from the interaction of basic biological drives and potentials with one's unique experience growing up in a social group. (Peck.)

H. D. Ed. 206. Socialization Processes in Human Development I. (3)

June 26 - July 20, M. T. Th. F., 8:00-10:50; J-114. (Kurtz.)

H. D. Ed. 207. Socialization Processes in Human Development II. (3)

July 23 - Aug. 17, M. T. Th. F., 8:00-10:50; J-127. (Kurtz.)

H. D. Ed. 250 may be taken concurrently with this course. Analyzes the processes by which human beings internalize the culture of the society in which they live. The major sub-cultures in the United States, their training procedures, and their characteristic human expressions in folk-knowledge, habits, attitudes, values, life-goals, and adjustments patterns are analyzed. Other cultures are examined to highlight the American way of life and to reveal its strengths and weaknesses.

H. D. Ed. 210. Afectional Relationships and Processes in Human Development. (3)
M. T. Th. F., 8:00; J-104. H. D. Ed. 200 or its equivalent must be taken before or concurrently. Describes the normal development, expression and influence of love in infancy, childhood, adolescence and adulthood. It deals with the influence of parent-child relationships involving normal acceptance, neglect, rejection, inconsistency, and over-protection upon health, learning, emotional behavior and personality adjustment and development. (Peck.)

H. D. Ed. 212, 214, 216. Advanced Scientific Concepts in Human Development, I, II, III, (3, 3, 3) (Matteson and Staff.)

H. D. Ed. 213, 215, 217. Advanced Laboratory in Behavior Analysis, I, II, III. (3, 3, 3) (Matteson and Staff.)

Summer workshop courses for graduates providing credit for as many as three workshops. In any one summer, concept and laboratory courses must be taken concurrently. For further description, see Six-Week Human Development Workshop, page 18.

H. D. Ed. 221. Learning Theory and the Educative Process. (3)

June 25 - Aug. 17, M. T. Th. F., 9:30; J-126. Prerequisites, H. D. Ed. 100 and 101 or equivalent. Provides a systematic review of the major theories of learning and their impact on education. Considers factors that influence learning. (Brandt.)

H. D. Ed. 250. Direct Study of Children. (1)

Arranged. May not be taken concurrently with H. D. Ed. 102, 103, 104, 200. Provides the opportunity to observe and record the behavior of an individual child in a nearby school. These records will be used in conjunction with advanced courses in human development and this course will be taken concurrently with such courses. When offered in the summer intensive analysis of case materials will be substituted for the direct study experiences.

H. D. Ed. 270. Seminars in Special Topics in Human Development. (2-6)

Arranged. Prerequisites, consent of instructor. An opportunity for advanced students to focus in depth on topics of special interest growing out of their basic courses in human development. (Staff.)

INDUSTRIAL EDUCATION

The technical courses which are offered are intended for industrial arts teachers, arts and crafts teachers, education for industry majors, and adult education leaders.

The professional courses are open to industrial arts teachers and supervisors, to vocational-industrial teachers and supervisors, to school administrators and to other graduate students whose planned programs include work in this area.

Ind. Ed. 1. Mechanical Drawing. (2)

June 25 - Aug. 17, Daily, 8:00; P-208. Laboratory fee, \$5.00. This course constitutes an introduction to orthographic multiview and isometric projection. Emphasis is placed upon the visualization of an object when it is represented by a multi-view drawing and upon the making of multi-view drawings. The course carries through auxiliary views, sectional views, demonstrating conventional representation and single stroke letters. (Luetkemeyer.)

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Ind. Ed. 2. Elementary Woodworking. (2)

June 25 - Aug. 17, Daily, 12:30; P-218. Laboratory fee, \$5.00. This is a woodworking course which involves primarily the use of hand tools. (Schramm.)

Ind. Ed. 21. Mechanical Drawing. (2)

June 25 - Aug. 17. Daily, 8:00; P-208. Prerequisite, Ind. Ed. 1. Laboratory fee, \$5.00. A course dealing with working drawings, machine design, pattern layouts, tracing and reproduction. Detail drawings followed by assemblies are presented. (Leutkemeyer.)

Ind. Ed. 22. Machine Woodworking I. (2)

June 25 - Aug. 17. Daily, 12:30; P-218. Prerequisite, Ind. Ed. 2. Laboratory fee, \$5.00. Machine Woodworking I offers initial instruction in the proper operation of the jointer, band saw, variety saw, jig saw, mortiser, shaper, and lathe. The types of jobs which may be performed on each machine and their safe operation are of primary concern. (Schramm.)

Ind. Ed. 24. Sheet Metal Work. (2)

June 25 - Aug. 17. Daily, 9:30; P-116. Laboratory fee, \$5.00. Articles are made from metal in its sheet form and involve the operations of cutting, shaping, soldering, riveting, wiring, folding, seaming, beading, burring, etc. The student is required to develop his own patterns inclusive of parallel line development, radial line development, and triangulation. (Crosby.)

Ind. Ed. 26. General Metal Work. (3)

June 25 - Aug. 17. Daily, 9:30; P-116. Laboratory fee, \$7.50. This course provides experiences in constructing items from aluminum, brass, copper, pewter, and steel. The processes included are designing, lay out, heat treating, forming, surface decorating, fastening, and assembling. The course also includes a study of the aluminum, copper, and steel industries in terms of their basic manufacturing processes. (Crosby.)

Ind. Ed. 84, 124. Organized and Supervised Work Experience.

(3 credits for each internship period, total: 6 credits.) This is a work experience sequence planned for students enrolled in the curriculum, "Education for Industry." The purpose is to provide the students with opportunities for first-hand experiences with business and industry. The student is responsible for obtaining his own employment with the coordinator advising him in regard to the job opportunities which have optimum learning value. The nature of the work experience desired is outlined at the outset of employment and the evaluations made by the student and the coordinator are based upon the planned experiences. The minimum time basis for each internship period is 240 work hours. Any one period of internship must be served through continuous employment in a single establishment. Two internships are required. The two internships may be served with the same business or industry. The completion for credit of any period of internship requires the employer's recommendation in terms of satisfactory work and work attitudes. More complete details are found in the handbook prepared for the student of this curriculum.

Ind. Ed. 150. Training Aids Development. (3)

June 25 - Aug. 17, M. T. Th. F., 8:00; P-306. Study of the aids in common use as to their source and application. Special emphasis is placed on principles to be observed in making aids useful to shop teachers. Actual construction and application of such devices will be required. (Maley.)

Ind. Ed. 164. Shop Organization and Management. (2)

June 25 - Aug. 17, M. W. F., 12:30; P-221. This course covers the basic elements of organizing and managing an Industrial Education program including the selection of equipment and the arrangement of the shop. (Tierney.)

Ind. Ed. 168. Trade or Occupational Analysis. (2)

June 25 - Aug. 17, M. W. F., 9:30; P-221. This course should precede Ind. Ed. 169. Provides a working knowledge of occupational and job analysis, which is basic in organizing vocational-industrial courses of study. (Luetkemeyer.)

Ind. Ed. 171. History of Vocational Education. (2)

June 25 - Aug. 17, M. W. F., 11:00; P-205. An overview of the development of vocational education from primitive times to the present. (Tierney.)

Ind. Ed. 175. Recent Technological Developments in Products and Processes. (3)

June 25 - Aug. 17. Daily, 8:00; P-306. This course is designed to give the student an understanding of recent technological developments as they pertain to the products and processes of industry. The nature of the newer products and processes is studied as well as their effect upon modern industry and/or society. (Crosby.)

Ind. Ed. 207. Philosophy of Industrial Arts Education. (3)

June 25 - Aug. 17, M. T. Th. F., 9:30; P-205. This course is intended to assist the student in his development of a point of view in regard to Industrial Arts and its relationship with the total educational program. He should, thereby, have a "yardstick" for appraising current procedures and proposals and an articulateness for his own professional area. (Harrison.)

Ind. Ed. 216. Supervision of Industrial Arts. (2)

June 25 - Aug. 17, M. W. F., 8:00; P-221. (Tierney.)

Ind. Ed. 240. Research in Industrial Arts and Vocational Education. (2)

Arranged. This is a course offered by arrangement for persons who are conducting research in the areas of industrial arts and vocational education. (Staff.)

Ind. Ed. 248. Seminar in Industrial Arts and Vocational Education. (2)

Arranged. (Staff.)

Ind. Ed. 250. Teacher Education in Industrial Arts. (3)

June 25 - Aug. 17, M. T. Th. F., 11:00; P-221. This course is intended for the Industrial Arts teacher educator at the College level. It deals with the function and historical development of Industrial Arts Teacher education. Other areas of content include administration, program and program development, physical facilities and requirements, staff organization and relationships, college-secondary school relationships, philosophy and evaluation. (Harrison.)

Ed. 147. Audio-Visual Education. (3)

June 25 - Aug. 17. See details under Ed. listing.

Section 1—M. T. Th. F., 8:00; P-306.

(Maley.)

Section 2—M. T. Th. F., 11:00; P-306.

(Schramm.)

LIBRARY SCIENCE EDUCATION

L. S. Ed. 120. Introduction to Librarianship. (3)

June 25 - Aug. 17, M. T. Th. F., 8 to 9:20; Library 100. An overview of the library profession. Development of public, academic, special and school library services. History of books and libraries. The library as a social institution. The impact of communication media on society. Philosophy of librarianship. Professional standards, organizations, and publications. (D. Brown.)

Education

L. S. Ed. 124. Book Selection and Evaluation for Children and Youth. (3)

June 25 - Aug. 17, M. T. Th. F., 9:30 to 10:50; Library 100. Principles of book selection for school libraries and children's collections. Book selection aids and reviewing media. Influence of the community and curriculum on selection. Evaluation of publishers, editions, translations, series. (D. Brown.)

L. S. Ed. 128. School Library Administration and Service. (3)

June 25 - Aug. 17, M. T. Th. F., 11:00-12:20; Library 100. Acquisition, circulation, utilization and maintenance of library materials. Organization of effective school library programs. School library quarters and equipment. Publicity and exhibits. Evaluation of library services. (Staff.)

L. S. Ed. 132. Library Materials for Youth. (3)

June 25 - Aug. 17, 1:00-2:30, M. T. Th. F.; Library 100. Reading interests of young people. Literature for adolescents. Informational materials in subject fields including: books, periodicals, films, filmstrips, records, pictures, pamphlet materials. (Staff.)

MUSIC EDUCATION

Mus. Ed. 132. Music in the Secondary School. (3)

Daily, 8:00-9:20; B-7. A study of the vocal and instrumental programs in the secondary school. A survey of the needs in general music, and the relationship of music to the core curriculum. (deVermond.)

Mus. Ed. 175-1. Methods and Materials in Vocal Music for the High School. (2)

Daily, 2:00-5:00, July 16-27 only; Lib. 405. Offered as part of a Workshop in Choral Music for a two-week period. Supplementary fee, \$5.00. Lectures, conferences, and discussions of problems of repertoire, diction, tone production, interpretation, and reading of new music. A chorus composed of selected high-school students will be available for demonstrations in the second week of the workshop. The course may be repeated for credit, since different repertoires are covered each time the course is offered. (Hillis.)

Mus. Ed. 180-1. Instrumental Music for the High School. (2)

July 16-27 only, Daily, 2:00-5:00; Armory 21. Offered as part of a Workshop in Band Music for a two-week period. Supplementary fee, \$5.00. A survey of the repertoires for high school orchestra, band, and small ensemble. Problems of interpretation, intonation, tone quality, and rehearsal techniques. The course may be repeated for credit, since different repertoires are covered each time the course is offered. (Sawhill.)

Mus. Ed. 201. Administration and Supervision of Music in the Public Schools. (3)

Daily, 9:30-10:50; B-9. The study of basic principles and practices of supervision and administration with emphasis on curriculum construction, scheduling, budgets, directing of in-service teaching, personnel problems, and school-community relationships. (Staff.)

Mus. Ed. 209. Seminar in Instrumental Music. (2)

Daily, 11:00-12:20; B-9. A consideration of acoustical properties and basic techniques of the instruments. Problems of ensemble and balance, intonation, precision, and interpretation are studied. Materials and musical literature for orchestras, bands, and small ensembles are evaluated. (Staff.)

SPECIAL EDUCATION

Sp. Ed. 170. Introduction to Special Education. (3)

June 25 - Aug. 3. Daily, 8:00; R-202. Designed to give an understanding of the needs of all types of exceptional children, stressing preventive and remedial measures.
(Pappanikau.)

Sp. Ed. 171-A. Characteristics of Exceptional Children. A. Mentally Retarded.

June 25 to Aug. 3. Daily, 9:30; R-202. A study of psychological characteristics of retarded children, including discovery, analysis of causes, testing techniques, case studies, and remedial educational measures.
(Pappanikau.)

Ed. 189-28. Workshop: The Administration and Supervision of Special Education Programs. (3)

July 23 to Aug. 10. See workshops in Special Education, pages 21 and 36-37.
(Hebeler, Gates.)

Ed. 189-29. Workshop: The Education of Children with Learning Impairments. (4)

June 25 to July 20. See workshops in Special Education, pages 21 and 36-37
(Hebeler and Consultants.)

Sp. Ed. 172-B. Education of Exceptional Children. B. Gifted (3)

June 25 to Aug. 17. Daily, 9:30; R-205. Offers practical and specific methods of teaching gifted children based upon a study of characteristics and the learning process.
(Staff.)

Sp. Ed. 173-A. Curriculum for Exceptional Children. A. Mentally Retarded. (3)

July 23 to Aug. 17, 9:00-12:00; AR-33. Prerequisite, Sp. Ed. 171 or equivalent. Examines the principles and objectives guiding curriculum for exceptional children; gives experience in developing curriculum for these children; studies various curricula currently in use.
(Hebeler.)

ENGINEERING

C. E. 110. Surveying I. (3)

June 11 to June 23, 1962, inclusive. Daily, all day; J-103, J-104. Prerequisite: Junior standing or consent of Department. Principles and methods of making plane and topographic surveys. Use, care, and adjustment of instruments. Consistent accuracy and systematic procedures in field work, computations, and mapping are emphasized for obtaining desired objectives. Open only to students who were enrolled in the College of Engineering during the academic year, 1961-62.
(Garber.)

E. E. 1. Basic Electrical Engineering. (4)

June 25 - Aug. 17, M. T. Th. F., 8:00-9:20, J-10; Sat. 8:00-10:50, S-107A. Prerequisites, Math. 21, Phys. 21 or concurrent registration. Required of sophomores in electrical engineering. Laboratory fee, \$4.00. Basic concepts of electrical potential, current, power, and energy; d-c circuit analysis by mesh-current and nodal methods; network theorems, magnetic field concepts; ferro-magnetic circuits.
(Rumbaugh.)

E. S. 10. Introductory Mechanics (3)

June 25 - Aug. 17, M. W. F., 9:30-10:50, J-323; T. Th., 1:00-3:00, J-323.
Prerequisites: Math. 19 (or concurrent registration in Math. 19) and E. S. 1 Free-body Diagrams. Numerical, graphical and vectorial computation applied to elementary problems in statics. Areas, volumes, statical moment, moments of inertia, centroids, radii of gyration.
(Yang.)

Engineering, English

E. S. 21. Dynamics. (3)

June 25 - Aug. 17, M. T. Th. F., 11:00-12:20; J-323. Prerequisites: Math. 21, Phys. 21 (or concurrent registration in Math. 21 and Phys. 21) and E. S. 10. Dynamics of particles and rigid bodies. Principle of work and energy; impulse and momentum. Applications to elementary engineering problems. (Yang.)

ENGLISH

Eng. 1, 2. Composition and American Literature. (3, 3)

Eng. 1 is the prerequisite of Eng. 2. June 25 - Aug. 17.

(Barnes, Staff.)

Eng. 1—

Section 1—M. T. Th. F., 8:00-9:20; A-40.

Section 2—M. T. Th. F., 9:30-10:50; A-40.

Section 3—M. T. Th. F., 11:00-12:20; A-40.

Eng. 2—

Section 1—M. T. Th. F., 8:00-9:20; A-55.

Section 2—M. T. Th. F., 9:30-10:50; A-55.

Section 3—M. T. Th. F., 9:30-10:50; A-142.

Section 4—M. T. Th. F., 11:00-12:20; A-55.

Eng. 3, 4. Composition and World Literature. (3, 3)

Prerequisite Eng. 2 or 21. June 25 - Aug. 17.

(Cooley, Staff.)

Eng. 3—

Section 1—M. T. Th. F., 9:30-10:50; A-45.

Section 2—M. T. Th. F., 9:30-10:50; A-140.

Section 3—M. T. Th. F., 11:00-12:20; A-45.

Eng. 4—

Section 1—M. T. Th. F., 8:00-9:20; A-144.

Section 2—M. T. Th. F., 9:30-10:50; A-144.

Section 3—M. T. Th. F., 9:30-10:50; A-146.

Section 4—M. T. Th. F., 11:00-12:20; A-144.

Eng. 107. American English. (3)

June 25 - Aug. 3. Daily, 8:00; A-142. Prerequisite, Eng. 4 or 6. The English language as developed in the United States. Dialects, vocabulary, past and present problems of usage. (Ball.)

Eng. 115. Shakespeare. (3)

June 25 - Aug. 17, M. T. Th. F., 9:30; A-154. Prerequisite, Eng. 4 or 6. Outstanding plays to Shakespeare's mid-career. (Zeeveld.)

Eng. 134. Literature of the Victorian Period. (3)

June 25 - Aug. 3. Daily, 11:00; A-146. Prerequisite, Eng. 4 or 6. A study of major Victorian prose writers. (Jerman.)

Eng. 139. The English Novel. (3)

June 25 - Aug. 17, M. T. Th. F., 9:30; A-151. Prerequisite, English 4 or 6. A study of the eighteenth-century novel with emphasis on six major writers. (Ward.)

English, Entomology, Foreign Languages

Eng. 150. American Literature. (3)

June 25 - Aug. 17, M. T. Th. F., 11:00; A-142. Prerequisite, English 4 or 6. American poetry and prose to 1850. (Gravely.)

Eng. 214. Seminar in Nineteenth-Century Literature. (3)

June 25 - Aug. 3. Arranged. (Jerman.)

Eng. 241. Studies in Twentieth-Century Literature. (3)

June 25 - Aug. 17. Arranged. (Lutwack.)

Eng. 399. Thesis Research. (1-6)

Arranged. (Murphy, Staff.)

ENTOMOLOGY

**Ent. S121. Entomology for Science Teachers.* (4)

June 25 - Aug. 3. Five lectures and five two-hour laboratory periods a week. Lecture, 8:00; O-120. Laboratory, 9:00, 10:00; O-200. This course will include the elements of morphology, taxonomy and biology of insects using examples commonly available to high school teachers. It will include practice in collecting, preserving, rearing and experimenting with insects insofar as time will permit. (Haviland.)

Ent. 198. Special Problems. (1-3)

Credit and prerequisites to be determined by the Department. Investigation of assigned entomological problems. (Staff.)

Ent. 301. Advanced Entomology.

Credit and prerequisite to be determined by the Department. To be arranged. Studies of minor problems in morphology, taxonomy and applied entomology, with particular reference to the preparation of the student for individual research. (Staff.)

Ent. 399. Research.

Credit depends upon the amount of work done. To be arranged. Required of graduate students majoring in entomology. This course involves research on an approved project. A dissertation suitable for publication must be submitted at the conclusion of the studies as a part of the requirements for an advanced degree. (Staff.)

FOREIGN LANGUAGES

French 0. Elementary French for Graduates. (0)

June 25 - Aug. 17, M. T. Th. F., 11:00; LL-220. Intensive elementary course in the French language designed particularly for graduate students who wish to acquire a reading knowledge. (Hall.)

French 1-2. Elementary French. (3, 3)

June 25 - Aug. 17. Daily, 8:00 and 11:00 to 11:50; LL-106. Elements of grammar and exercises in pronunciation and conversation. An intensive course. May be taken only by students who have not previously studied French, except that a student who has received credit for French 1 may enter the course at the end of the first four weeks. Students enrolled in this course may not take other courses in the summer session. (Demaitre.)

*Intended for teachers.

Foreign Languages

French 4, 5. Intermediate Literary French. (3, 3)

June 25 - Aug. 17. Reading of texts designed to give some knowledge of French life, thought, and culture. Prerequisite, French 2 or equivalent. Students who have taken French 6 and 7 cannot receive credit for French 4 and 5. *Note.* French 4 and 5 cannot be taken concurrently.

French 4—M. T. Th. F., 9:30; LL-106. (Staff.)

French 5—M. T. Th. F., 9:30; LL-105. (Staff.)

German 0. Elementary German for Graduates. (0)

June 25 - Aug. 17. Intensive elementary course in the German language designed particularly for graduate students who wish to acquire a reading knowledge.

Section 1—M. T. Th. F., 8:00; LL-4. (Hering, Staff.)

Section 2—M. T. Th. F., 8:00; LL-3.

German 1-2. Elementary German. (3, 3)

June 25 - Aug. 17. Daily, 8:00 and 11:00 to 11:50; LL-204. Elements of grammar and exercises in pronunciation and conversation. An intensive course. May be taken only by students who have not previously studied German, except that a student who has received credit for German 1 may enter the course at the end of the first four weeks. Students enrolled in this course may not take other courses in the summer session.

(Anderson.)

German 4, 5. Intermediate Literary German. (3, 3)

June 25 - Aug. 17. Reading of texts designed to give some knowledge of German life, thought, and culture. Prerequisite, German 2 or equivalent. Students who have taken German 6 and 7 cannot receive credit for German 4 and 5. *Note.* German 4 and 5 cannot be taken concurrently.

German 4—M. T. Th. F., 9:30; LL-204. (Roswell.)

German 5—M. T. Th. F., 11:00; LL-4. (Hering.)

Spanish 1-2. Elementary Spanish. (3, 3)

June 25 - Aug. 17. Daily, 8:00 and 11:00 to 11:50; LL 203. Elements of grammar and exercises in pronunciation and conversation. An intensive course. May be taken only by students who have not previously studied Spanish, except that a student who has received credit for Spanish 1 may enter the course at the end of the first four weeks. Students enrolled in this course may not take other courses in the summer session.

(Panico.)

Spanish 4, 5. Intermediate Spanish. (3, 3)

June 25 - Aug. 17. Reading of texts designed to give some knowledge of Spanish life, thought, and culture. Prerequisite, Spanish 2 or equivalent. *Note.* Spanish 4 and 5 cannot be taken concurrently.

Spanish 4—M. T. Th. F., 9:30; LL-203. (Herdoiza.)

Spanish 5—M. T. Th. F., 9:30; LL-4. (Parsons.)

Chinese 1. Elementary Chinese. (3)

June 25 - Aug. 17, M. T. Th. F., 9:30; LL-201. Conversation, pronunciation, drill in simple characters.

(Chen.)

Chinese 161. Chinese Civilization. (3)

June 25 - Aug. 17, M. T. Th. F., 11:00; LL-3. This course deals with Chinese literature, art, folklore, history, government, and great men.

(Chen.)

Foreign Languages, Geography

LANGUAGE COURSES FOR TEACHERS (Six Weeks, June 25-Aug. 3)

The Summer School program for language teachers consists of refresher courses in language and in pedagogical methods. The language laboratory will be used in this connection.

Foreign Language 140. Oral Practice in Modern Foreign Languages. (3)

Daily, 11:00; LL-105. Development of fluency in modern foreign languages, stress on correct sentence structure and idiomatic expression. Especially designed for teachers, offering practice in speaking the language. *Note.* Because of inadequate enrollments, usually the only language offered is French. If enrollment is sufficient, there will be offerings in the other languages. (Hall.)

French 171. Practical French Phonetics. (3)

Daily, 8:00; LL-105. Pronunciation of modern French. The sounds and their production, the stress group, intonation. (Falls.)

GEOGRAPHY

Geog. 10. General Geography. (3)

June 25 - Aug. 17., M. T. Th. F., 9:30 a.m.; Q-228. Required of all majors in geography; recommended for all minors; Geog. 10 is suggested for students of Arts and Sciences, Education and others who may desire a background in geography and its application to problems of their respective fields. Introduction to geography as a field of study. A survey of the content, philosophy, techniques, and application of geography and its significance for the understanding of world problems. (Schmieder.)

Geog. 40. Principles of Meteorology. (3)

June 25 - Aug. 17, M. T. Th. F., 8:00 a.m.; Q-210. An introductory study of the weather. Properties and conditions of the atmosphere, and methods of measurement. The atmospheric circulation and conditions responsible for various types of weather and their geographic distribution patterns. Practical applications. (Chaves.)

Geog. 100. Regional Geography of Eastern Anglo-America. (3)

June 25 - Aug. 17, M. T. Th. F., 12:30; Q-210. Prerequisite, Geog. 1, 2 or Geog. 10, or permission of the instructor. A study of the cultural and economic geography and the geographic regions of Eastern United States and Canada, including an analysis of the significance of the physical basis for present-day diversification of development, and the historical geographic background. (Schmieder.)

Geog. 104. Geography of Major World Regions. (3)

June 25 - Aug. 17, M. T. Th. F., 11:00 a.m.; Q-210. A geographic analysis of the patterns, problems, and prospects of the world's principal human-geographic regions, including Europe, Anglo-America, the Soviet Union, the Far East, and Latin America. Emphasis upon the causal factors of differentiation and the role geographic differences play in the interpretation of the current world scene. This course is designed especially for teachers. (Chaves.)

Government and Politics

GOVERNMENT AND POLITICS

G. & P. 1. American Government. (3)

June 25 - Aug. 17. Four periods a week. This course is designed as the basic course in government for the American Civilization Program, and it or its equivalent is a prerequisite to all other courses in the Department. It is a comprehensive study of government in the United States—national, state, and local.

Section 1—M. T. Th. F., 8:00; Q-213.

(Alperin.)

Section 2—M. T. Th. F., 11:00; Q-213.

(Alperin.)

G. & P. 3. Principles of Government and Politics. (3)

June 25 - Aug. 17. Four periods a week. M. T. Th. F., 9:30; Q-110. A study of the basic principles and concepts of political science.

(Byrd.)

G. & P. 101. International Political Relations. (3)

June 25 - Aug. 17. Four periods a week. M. T. Th. F., 11:00; Q-211. Prerequisite, G. & P. 1. A study of the major factors underlying international relations, the influence of geography, climate, nationalism, and imperialism, and the development of foreign policies of the major powers.

(Lec.)

G. & P. 154. Problems of World Politics. (3)

June 25 - Aug. 17. Four periods a week. M. T. Th. F., 8:00; Q-211. Prerequisite, G. & P. 1. A study of governmental problems of international scope, such as causes of war, problems of neutrality, and propaganda. Students are required to report on reading from current literature.

(Steinmeyer.)

G. & P. 174. Political Parties. (3)

June 25 - Aug. 17. Four periods a week. M. T. Th. F., 9:30; Q-213. Prerequisite, G. & P. 1. A descriptive and analytical examination of American political parties, nominations, elections, and political leadership.

(Hathorn.)

G. & P. 191. The Government and Administration of the Soviet Union. (3)

June 25 - Aug. 17. Four periods a week. M. T. Th. F., 9:30; Q-211. Prerequisite, G. & P. 1. A study of the adoption of the communist philosophy by the Soviet Union, of its governmental structure, and the administration of government policy in the Soviet Union.

(Steinmeyer.)

For Graduates

G. & P. 261. Problems of Government and Politics. (3)

To be arranged. Q-369.

(Dillon.)

G. & P. 399. Thesis. (1-6)

To be arranged.

(Staff.)

HISTORY

H. 5. History of American Civilization. (3) June 25 - August 17.

Section 1—M. T. Th. F., 8:00; A-49. (Staff.)

Section 2—M. T. Th. F., 9:30; A-49. (Staff.)

Section 3—M. T. Th. F., 11:00; A-49. (Staff.)

H. 6. History of American Civilization. (3) June 25 - August 17.

Section 1—M. T. Th. F., 8:00; A-110. (Staff.)

Section 2—M. T. Th. F., 9:30; A-110. (Staff.)

Section 3—M. T. Th. F., 11:00; A-110. (Staff.)

H. 41. Western Civilization. (3)

June 25 - Aug. 17, M. T. Th. F., 8:00; A-207. This course is designed to give the student an appreciation of the civilization in which he lives in its broadest setting. The study begins with the collapse of classical civilization and comes to the present.

(Bergmann.)

H. 42. Western Civilization. (3)

June 25 - Aug. 17, M. T. Th. F., 9:30; A-228. This course is designed to give the student an appreciation of the civilization in which he lives in its broadest setting. The study begins with the collapse of classical civilization and comes to the present.

(Staff.)

H. 62. Far Eastern Civilization. (3)

June 25 - Aug. 17, M. T. Th. F., 9:30; A-207. This course seeks to give the student an understanding of a great civilization radically different from our own and an appreciation of the complex problems of the Far East and of American policy there. The approach is interdisciplinary within an historical framework.

(Farquhar.)

H. 114. The Middle Period of American History. (3)

June 25 - Aug. 17, M. T. Th. F., 8:00; A-209. Prerequisite, H. 5, 6 or the equivalent. An examination of the political history of the U. S. from Jefferson to Lincoln with particular emphasis on the factors producing Jacksonian Democracy, Manifest Destiny, the Whig Party, the anti-slavery movement, The Republican Party, and secession.

(Nash.)

H. 119. Recent American History. (3)

June 25 - Aug. 17, M. T. Th. F., 8:00; A-228. Prerequisite, H. 5, 6 or the equivalent. Party Politics, domestic issues, foreign relations of the United States since 1890. First semester, through World War I. Second semester, since World War I.

(Merrill.)

H. 153. History of Rome. (3)

June 25 - Aug. 17, M. T. Th. F., 11:00; A-207. A study of Roman civilization from the earliest beginning through the Republic and down to the last centuries of the Empire.

(Bergmann.)

H. 172. Europe in the World Setting of the Twentieth Century. (3)

June 25 - Aug. 17, M. T. Th. F., 9:30; A-209. Prerequisites, H. 41, 42, or H. 53, 54. A study of political, economic, and cultural developments in twentieth century Europe with special emphasis on the factors involved in the two World Wars and their global impact and significance.

(Staff.)

H. 202. Historical Literature: American. (1-6)

Arranged. Readings in the standard works and monographic studies to meet the requirements of qualified graduate students who need intensive concentration in American history.

(Staff.)

History, Home Economics

H. 205. *Seminar in American Economic History.* (3)

Arranged. A seminar on problems of American Economic History of selected periods. (Nash.)

H. 260. *Historical Literature: European.* (1-6)

Arranged. Readings in the standard works and monographic studies to meet the requirements of qualified graduate students who need intensive concentration in European history. (Staff.)

H. 281. *Problems in the History of World War I.* (3)

Arranged. Investigation of various aspects of the First World War, including military operations, diplomatic phases, and political and economic problems of the War and its aftermath. (Staff.)

H. 290. *Historical Literature: Asian.* (1-6)

Arranged. Readings in the standard works and monographic studies to meet the requirements of qualified graduate students who need intensive concentration in Asian history. (Farquhar.)

H. 399. *Thesis Research.* (1-6)

Arranged. (Staff.)

HOME ECONOMICS

Family Life and Management

F.L. 132. *The Child in the Family.* (3)

July 9 - 27. 9:00-12:00. Prerequisites, Psych. 1, H.M. 50, H.E. 5, or equivalent. Study of the child from prenatal stage through adolescence, with emphasis on responsibility for guidance in the home. Biological and psychological needs as they affect the child's relationship with his family and peers. Enrollment limited to 30. (Dales.)

H.M. 140. *Fundamentals of Housing.* (3) (arranged)

June 25 - July 13, arranged. Prerequisite, H.M. 50. Laboratory fee, \$3.00. Sociological, psychological and economic aspects of housing. Relationship of the house and the family living within. (Sutton.)

H.M. 161 *Resident Experience in Home Management.* (3)

June 25 - Aug. 3. Prerequisites, H.M. 50, 160; Food 150; or equivalent. Laboratory fee, \$10.00. Experience in planning, coordinating and participating in the activities of a household, composed of a faculty member, a group of students, and possibly an infant on a part-time basis. A charge of \$40.00 for food and supplies and \$5.00 a week for a room in the Home Management House is assessed each student. (Sutton.)

Food, Nutrition, and Institution Management

F&N 130. *Special Problems in Food and/or Nutrition.* (1-3)

June 25 - Aug. 17, arranged. Consent of instructor. Problem may be in any one of several areas of food and nutrition and will carry the name of the basic area; e.g., child nutrition, adolescent nutrition. (Brown.)

I.M. 152. *Institution Food.* (3)

June 25 - July 13, 1:00-3:30. Prerequisites, Food 52, 53; Nutr. 20 or 121; or consent of instructor. Laboratory fee, \$10.00. Application of basic principles and procedures of food preparation to quantity food preparation. Standardizing recipes; menu planning for various types of food services; determination of food costs. (Brown.)

Home Economics—General

H.E. 201. Methods of Research in Home Economics. (3)

July 23 - Aug. 17, 1:00-4:00. Prerequisite, Statistics or Tests and Measurements. Application of scientific methods to problems in the field of home economics with emphasis on needed research of an inter-disciplinary nature. (Wilson.)

H.E. 290. Special Topics. (1-6)

June 25 - August 17, arranged. Concentrated study in areas of home economics, such as consumer problems; housing, interior design and home furnishings; institution administration, and food service. (Lippeatt.)

H.E. 399. Research. (1-6)

Credit according to work accomplished. (Staff.)

Practical Art

Pr. Art 1. Design. (3)

June 25 - Aug. 17, M. T. Th. F., 9:30-10:50; H-101. Art expression through materials such as opaque water color, wet clay, colored chalk, and lithograph rayon which are conducive to freeing techniques. Elementary lettering, action figures, abstract design, three-dimensional design and general composition study. Consideration of art as applied to daily living. (Longley.)

Textiles and Clothing

Clo. 120. Draping. (3)

June 25 - Aug. 17, M. W. F., 1:00-3:30. Prerequisite, Clo. 10. Laboratory fee, \$3.00. Demonstrations and practice in creating costumes in fabrics and on individual dress forms; modeling of garments for class criticism. (Wilbur.)

Clo. 127. Apparel Design. (3)

June 25 - Aug. 17, M. W. F., 1:00-3:30. Prerequisite, Clo. 120. Laboratory fee, \$3.00. The art of costuming; trade and custom methods of clothing design and construction; advanced work in draping, pattern design and/or tailoring, with study of the interrelationship of these techniques. (Wilbur.)

Tex. 200. Special Studies in Textiles. (2-4) or

H.E. 190. Special Problems in Home Economics. (1-3). Maximum credit 3 hours.

July 9-27, arranged. Laboratory fee \$3.00 for Tex. 200; \$3.00 a semester hour for H.E. 190. Enrollment limited to 30. Prerequisite, background in textiles and consent of instructor. Advanced inquiry into uses, care, types and performance of textile materials, either contemporary or historic, depending on interest of students; compilation of data through testing, surveys, museum visits and/or field trips; writing of technical reports. (To be offered in cooperation with National Institute of Dry Cleaning.) (Mitchell.)

Tex. 200. Special Studies in Textiles. (2) or

H.E. 190. Special Problems in Home Economics. (2). Maximum credit 2 hours.

July 30 - Aug. 10, arranged. Laboratory fee \$3.00 for Tex. 200; \$3.00 a semester hour for H.E. 190. Enrollment limited to 30. Prerequisite, background in textiles and consent of instructor. Advanced inquiry into uses, care, types and/or performance of textile materials, either contemporary or historic, through museum visits and field trips. (Mitchell.)

Horticulture, Mathematics

HORTICULTURE

Hort. S125. Ornamental Horticulture. (1)

To be arranged. A course designed for teachers of agriculture, home demonstration agents and county agents. Special emphasis will be given to the development of lawns, flowers and shrubbery to beautify homes.

Hort. 198. Special Problems. (2)

Credit arranged according to work done. For major students in horticulture or botany. Four credits maximum per student.

Hort. 399. Advanced Horticultural Research. (2-12)

Credit granted according to work done.

MATHEMATICS

Math. 5. Business Algebra. (3)

Section 1—June 25 - Aug. 17; M. T. Th. F., 11:00-12:20; Y-2.

(Shepherd.)

Section 2—June 25 - Aug. 17; M. T. Th. F., 11:00-12:20; Y-5.

(Steely.)

Prerequisite, one unit of algebra. Open only to students in the College of Business and Public Administration, the College of Agriculture, the Department of Military Science and the College of Education. Fundamental operations, fractions, ratio and proportion, linear equations, exponents, logarithms, percentage, trade discount, simple interest, bank discount, true discount, and promissory notes.

Math. 6 Mathematics of Finance. (3)

Section 1—June 25 - Aug. 17; M. T. Th. F., 9:30-10:50; Y-2.

(Shepherd.)

Section 2—June 25 - Aug. 17; M. T. Th. F., 9:30-10:50; Y-5.

(Steely.)

Prerequisite, Math. 5 or equivalent. Required of students in the College of Business and Public Administration and open to students in the College of Arts and Sciences for elective credit only. Line diagrams, compound interest, simple interest, ordinary annuities, general annuities, deferred annuities, annuities due, perpetuities, evaluation of bonds, amortization, and sinking funds.

Math. 10. Algebra. (3)

Section 1—June 25 - Aug. 17; M. T. Th. F., 9:30-10:50; Y-26.

(Dyer.)

Section 2—June 25 - Aug. 17; M. T. Th. F., 9:30-10:50; Y-27.

(Lepson.)

Prerequisite, one unit each of algebra and plane geometry. Fundamental operations, factoring, fractions, linear equations, exponents and radicals, logarithms, quadratic equations, progressions, permutations and combinations, probability.

Math. 11. Trigonometry and Analytic Geometry. (3)

Section 1—June 25 - Aug. 17; M. T. Th. F., 8:00-9:20; Y-26.

(Dyer.)

Section 2—June 25 - Aug. 17; M. T. Th. F., 8:00-9:20; Y-27.

(Lepson.)

Prerequisite, Math. 10 or equivalent. This course is not recommended for students planning to enroll in Math. 20. Trigonometric functions, identities, addition formulas, solution of triangles, coordinates, locus problems, the straight line and circle, conic sections, graphs.

Math. 18. Elementary Mathematical Analysis. (5)

June 25 - Aug. 17. Daily, 8:00-9:20 and M.W., 12:30-1:50; Y-122. Prerequisite, high school algebra completed and plane geometry. Open to students in the physical sciences, engineering, and education. The elementary mathematical functions, especially algebraic, logarithmic, and exponential are studied by means of their properties, their graphical representations, the identities connecting them, and the solution of equations involving them. The beginning techniques of calculus, sequences, permutations and combinations and probability are introduced. (Staff.)

Math. 19. Elementary Mathematical Analysis. (5)

Section 1—June 25 - Aug. 17; Daily, 8:00-9:20 & M.W., 12:30-1:50; Y-17. (Bari.)

Section 2—June 25 - Aug. 17; Daily, 8:00-9:20 & M.W., 12:30-1:50; Y-18. (Lehner)

Section 3—June 25 - Aug. 17; Daily, 8:00-9:20 & M.W., 12:30-1:50; Y-19. (Richeson.)

Prerequisite, Math. 18 or equivalent. Open to students in the physical sciences, engineering, and education. A continuation of the content of Math. 18 including a study of the trigonometric and inverse trigonometric functions, determinants, the conic sections, solid analytic geometry, and an introduction to finding areas by integration.

Math. 20. Calculus. (4)

June 25 - Aug. 17. Daily, 8:00-9:20; Y-16. Prerequisite, Math. 19 or equivalent. Open to students in the engineering, education, and the physical sciences. Limits, derivatives, differentials, maxima and minima, curve sketching, curvatures, kinematics, integration. (Zemel.)

Math. 21. Calculus. (4)

Section 1—June 25 - Aug. 17; Daily, 9:30-10:50; Y-14. (Henney.)

Section 2—June 25 - Aug. 17; Daily, 9:30-10:50; Y-15. (Ehrlich.)

Prerequisite, Math. 20 or equivalent. Open to students in engineering, education and the physical sciences. Integration with geometric and physical applications, partial derivatives, space geometry, multiple integrals, infinite series.

Math. 30. Elements of Mathematics. (4)

June 25 - Aug. 17. Daily, 8:00-9:20; Y-15. Prerequisite, high school elementary algebra highly desirable. Preferred course in mathematics for elementary education majors. Topics from algebra and number theory are presented to provide a proper mathematical insight into arithmetic for the prospective elementary school teacher. Topics included are: inductive proof, the system of natural numbers based on the peano axioms; mathematical systems, groups, fields, the systems of integers, the system of rational numbers, congruences, divisibility, systems of enumeration. (Staff.)

Math. 64. Differential Equations for Engineers. (3)

June 25 - Aug. 17. M.T.Th.F., 8:00-9:20; Y-121. Prerequisite, Math. 21 or equivalent. Required of students in most of the engineering curriculums. Differential equations of the first and second order with emphasis on their engineering applications. (Singh.)

Math. 106S. Introduction to the Theory of Numbers. (2)

June 25 - Aug. 17. M.W.F., 9:30-10:50; Y-121. Prerequisite, Math. 21 or equivalent. Integers, divisibility, Euclid's algorithm, Diophantine equations, prime numbers, Moebius function, congruences, residues. (Singh.)

Math. 114. Differential Equations. (3)

June 25 - Aug. 17: M.T.Th.F., 8:00-9:20; Y-4. Prerequisite, Math. 110 or equivalent. Ordinary differential equations, symbolic methods, successive approximations, solutions in series, orthogonal functions, Bessel functions, Sturmian theory. (Staff.)

Mathematics, Microbiology, Music

Math. 182. Foundations of Algebra. (3)

June 25 - Aug. 3. Daily, 9:30-10:50; Y-101. Prerequisite, participation in the N.S.F. Institute in Mathematics for Junior High School Teachers of Mathematics. Material background for experimental units for grades 7 and 8, from the Maryland Project and the School Mathematics Study Group, including such topics as: algebra, number theory, algebraic structures. (Correl.)

Math. 183S. Foundations of Geometry. (2)

June 25 - Aug. 17. M. W. F., 11:00-12:20; Y-4. Prerequisite, one year of college mathematics or consent of instructor. Designed primarily for those enrolled in programs with emphasis in the teaching of mathematics and science. Not open to students seeking a major directly in the physical sciences, since the course content is usually covered elsewhere in their curriculum. A study of the axioms for Euclidean and non-Euclidean geometry. (Staff.)

Math. 199. National Science Foundation Summer Institute for Teachers of Science and Mathematics Seminar. (3)

June 25 - Aug. 3. Daily, 8:00-9:20; Y-101. Prerequisite, participation in the N.S.F. Institute in Mathematics for Junior High School Teachers of Mathematics. Material background for work in experimental units for grades 7 and 8 from Maryland Project and from School Mathematics Study Group. (Hummel.)

MICROBIOLOGY

**Microb. 1. General Microbiology.* (4)

June 25 - Aug. 17. Four lectures and four two-hour laboratory periods a week. Lecture, 8:00; F-101. Laboratory, 9:00, 10:00, M. T. Th. F.; T-210. Laboratory fee, \$11.00. The physiology, culture, and differentiation of bacteria. Fundamental principles of microbiology in relation to man and his environment. (Hetrick.)

Microb. 181. Microbiological Problems. (3)

June 25 - Aug. 17. Six two-hour laboratory periods a week. To be arranged. Prerequisite, 16 credits in microbiology. Registration only upon consent of the instructor. Laboratory fee, \$11.00. This course is arranged to provide qualified majors in microbiology, and majors in allied fields, an opportunity to pursue specific microbiological problems under the supervision of a senior staff member of the Department. (Faber.)

Microb. 399. Research.

To be arranged. Credits according to work done. Laboratory fee, \$11.00. The investigation is outlined in consultation with and pursued under the supervision of a senior staff member of the Department. (Staff.)

MUSIC

Music 16. Music Fundamentals for the Classroom Teacher. (3)

June 25 - Aug. 17. M. T. Th. F., 9:30-10:50; B-7. Open to students in elementary education or childhood education; other students take Music 7. (In the Summer Session, also open to classroom teachers.) Music 7 and 16 may not both be counted for credit. The fundamentals of music theory and practice, related to the needs of the classroom and kindergarten teacher, and organized in accord with the six area concept of musical learning. (Traver.)

Music, Philosophy

Music 20. Survey of Music Literature. (3)

June 25 - Aug. 17. M. T. Th. F., 11:00-12:20; B-7. Open to all students except music and music education majors, and may be taken by students who qualify to select courses within Group II of the American Civilization Program. Music 1 and 20 may not both be taken for credit. A study of the principles upon which music is based, and an introduction to the musical repertoires performed in America today. (Traver.)

Music 147. Orchestration. (2)

June 25 - Aug. 3. M. T. Th. F., 8:00-9:20; B-9. Prerequisite, Music 70 and 71 or the equivalent. A study of the ranges, musical functions, and technical characteristics of the instruments, and their color possibilities in various combinations. Practical experience in orchestrating for small and large ensembles. (Henderson.)

Music 166. Survey of the Opera. (3)

June 25 - Aug. 3. Daily, 8:00-9:20; B-1. Prerequisite, Music 120 and 121 or the equivalent. A study of the music, librettos, and composers of representative operas. (Jordan.)

Music 201. Seminar in Music. (3)

June 25 - Aug. 3. Daily, 11:00-12:20; B-1. Prerequisites, Music 120 and 121 and consent of instructor. The work of one major composer will be studied, with emphasis on musicological method. In the 1962 Summer Session, the course will deal with Brahms. The course may be repeated for credit, since a different composer will be chosen each time it is offered. (Jordan.)

Applied Music

June 25-Aug. 17. A new student or one taking applied music for the first time at this University should register for Music X. He will receive the proper classification at the end of the Summer Session.

Every student taking an applied music course should, in addition to registering for the proper course number, indicate the instrument chosen by adding a section number as follows:

Sec. 1, Piano
Sec. 3, Violin
Sec. 4, Viola

Sec. 5, Cello
Sec. 6, Bass

Music X, 12, 13, 52, 53, 112, 113, 152, 153. Applied Music. (2)

Hours to be arranged with instructors; B-4. Prerequisite, the next lower course in the same instrument. Three half-hour lessons and a minimum of ten practice hours per week for eight weeks. Special fee of \$40 for each course. (Meyer, Berman.)

PHILOSOPHY

Phil. 1. Philosophy for Modern Man. (3)

June 25 - Aug. 17, M. T. Th. F., 11:00; LL-301. Modern man's quest for understanding of himself and his world, with particular reference to American ideas and ideals. This course is one of a group of four courses within Elective Group I of the American Civilization Program. It may also be taken by students who qualify by tests to select substitute courses in the Program (provided the student has not taken the course as his Group I elective). (Staff.)

Philosophy, Physical Education, Recreation and Health

Phil. 145. Ethics. (3)

June 25 - Aug. 17, M. T. Th. F., 9:30; LL-301. A critical study of the problems and theories of human conduct, aimed at developing such principles of ethical criticism as may be applied to contemporary personal and social problems and to the formulation of an ethical philosophy of life. (Staff.)

Phil. 292. Selected Problems in Philosophy. (1-3)

Hours arranged. Intensive study of selected problems in philosophy under individual supervision. (Staff.)

Phil. 399. Research. (1-3)

Hours arranged. (Staff.)

PHYSICAL EDUCATION, RECREATION AND HEALTH

P. E. S10. Physical Education Activities. (1-6)

Section 1—Swimming (1); June 25 - Aug. 17; M. T. Th. F., 3:10-4:00; Pool. (Husman.)
Section 2—Golf (1), June 25 - Aug. 17; M. T. Th. F., 2:00-2:50; Driving Range. (Cronin.)
Section 3—Tennis (1), June 25 - Aug. 17; M. T. Th. F., 2:00-2:50; Courts. (Husman.)
Fee, \$6.00. Instruction and practice in selected sports: tennis, badminton, golf, archery, swimming and square dance.

Note 1. Not available for credit by physical education majors.

Note 2. Non-majors in physical education may use this credit to fulfill graduation requirements in physical education.

P. E. 100. Kinesiology. (4)

June 25 - Aug. 17. Daily, 8:00-9:20; GG-160. The study of human movement and the physical and physiological principles upon which it depends. Body mechanics, posture, motor efficiency, sports, the performance of atypical individuals, and the influence of growth and development upon motor performance are studied. (Nelson.)

P. E. 120. Physical Education for the Elementary School. (3)

June 25 - Aug. 17. M. T. Th. F., 9:30-10:50; GG-Gym. This course is designed to orient the general elementary teacher to physical education. Principles and practices in elementary physical education will be presented and discussed and a variety of appropriate activities will be considered from the standpoint of their use at the various grade levels. (Humphrey.)

P. E. 155. Physical Fitness of the Individual. (3)

June 25 - Aug. 17. M. T. Th. F., 9:30-10:50; GG-205. A study of the major physical fitness problems confronting the adult in modern society. Consideration is given to the scientific appraisal, development and maintenance of fitness at all age levels. Such problems as obesity, weight reduction, chronic fatigue, posture, and special exercise programs are explored. This course is open to persons outside the field of Physical Education and Health. (Massey.)

P. E. 180. Measurement in Physical Education and Health. (3)

June 25 - Aug. 17. M. T. Th. F., 11:00-12:20; GG-160. The application of the principles and techniques of educational measurement to the teaching of health and physical education; study of the functions and techniques of measurement in the evaluation of student progress toward the objectives of health and physical education, and in the evaluation of the effectiveness of teaching. (Nelson.)

Physical Education, Recreation and Health

**P. E. 189. Field Laboratory Projects and Workshop. (1-6)*

A course designed to meet the needs of persons in the field with respect to workshops and research projects in special areas of knowledge not covered by regularly structured courses. (Staff.)

Note: The maximum total number of credits that may be earned toward any degree in Physical Education, Recreation, or Health Education under P. E., Rec., Hea., or Ed. 189 is six.

P. E. 200. Seminar in Physical Education, Recreation and Health. (1)

Tuesday, 12:30 p.m.; GG-205.

(Staff.)

P. E. 201. Foundations in Physical Education, Recreation and Health. (3)

June 25 - Aug. 17. M. T. Th. F., 8:00-9:20; GG-128. A study of history, philosophy and principles of physical education, recreation and health as applied to current problems in each area and as related to general education. (Eyler.)

P. E. 204. Physical Education and the Development of the Child. (3)

June 25 - Aug. 17. M. T. Th. F., 11:00-12:20, GG-128. An analysis of the place of physical education in meeting the growth and development needs of children of elementary school age. (Humphrey.)

P. E. 210. Methods and Techniques of Research. (3)

June 25 - Aug. 17. M. T. Th. F., 8:00-9:20; GG-205. A study of methods and techniques of research used in Physical Education, Recreation, and Health Education; an analysis of examples of their use; and practice in their application to problems of interest to the student. (Massey.)

P. E. 230. Source Material Survey. (3)

June 25 - Aug. 17. M. T. Th. F., 11:00-12:20; GG-205. A library course, covering the total areas of physical education, recreation and health, plus research in one specific limited problem of which a digest, including a bibliography, is to be submitted.

(Eyler.)

P. E. 288. Special Problems in Physical Education, Recreation and Health. (1-6)

Arranged. Master or Doctoral candidates who desire to pursue special research problems under the direction of their advisers may register for 1-6 hours of credit under this number. (Staff.)

P. E. 399. Research Thesis. (1-5)

Arranged. Students who desire credits for a Master's thesis, a Doctoral dissertation, or a Doctoral project should use this number. (Staff.)

Hea. 105. Basic Driver Education. (3)

June 25 - Aug. 17. M. T. Th. F., 8:00-9:20; GG-201. Prerequisites, Hea. 50, 70, 80. This course is a study of the place of the automobile in modern life and deals with the theory and practice of the following: traffic accidents and other traffic problems; objectives and scope of driver-education; motor vehicle laws and regulations, basic automobile construction and maintenance from the standpoint of safety; methods in classroom instruction; aids to learning and practice driving instruction. (Tompkins.)

*Intended for teachers.

Physics

Hea. 145. Advanced Driver Education. (3)

June 25 - Aug. 17. M. T. Th. F., 9:30-10:50; GG-201. Prerequisites, Hea. 50, 70, 80, 105. Progressive techniques, supervision, and practice of advanced driver-education; comprehensive programming for traffic safety; psychology of traffic safety; improving the attitudes of young drivers; teaching to meet driving emergencies; program planning in driver-education; consumer education; resources and agencies; the teacher and driver-education; mastering and evaluating results; driver-education for adults; new developments in driver-education; insurance and liability, and the future of driver-education. (Tompkins.)

Hea. 178. Fundamentals of Sex Education. (3)

June 25 - Aug. 17. M. T. Th. F., 12:30-1:50; GG-202. This course is concerned with basic information regarding the physical, psychological, historical, semantic and comparative cultural aspects of sex. The adjustments and problems of children and adults during the course of maturing and aging are studied; and special consideration is given to the sex education program in schools. (Johnson.)

Hea. 220. Scientific Foundations of Health Education. (3)

June 25 - Aug. 17. M. T. Th. F., 9:30-10:50; GG-202. A course dealing with an analysis of hereditary, physical, mental, and social factors which influence the total health status during the developmental process. The role of education in fostering physical and mental health is studied. (Johnson.)

PHYSICS

**Phys. 118A. Atoms, Nuclei, and Stars. (3)*

June 25 - Aug. 3. Five one and one-half hour lectures per week. Daily, 9:30-11:00; Z-115. Prerequisite, a previous course in physics. This course is intended primarily for high school science teachers and contains a thorough introduction to basic ideas of the constitution and properties of atomic and subatomic systems, and the over-all structure of the universe. The development of present ideas will be outlined, and their shortcomings indicated. Subjects treated include the electron, the Bohr theory of the atom, the uncertainty principle and quantum mechanics, nuclear reaction, fission, fusion, cosmic radiation, the solar system, the life cycle of a star, systems of galaxies, and scientific theories about the past and future of the universe. (Gutsche.)

Phys. 126. Kinetic Theory of Gases. (3)

June 25 - Aug. 3. Five 1½-hour lectures per week. Daily, 9:30-11:00; C-134. Prerequisites, Phys. 107 and Math. 21. Dynamics of gas particles, Maxwell-Boltzman distribution, diffusion, Brownian motion, etc. (Estabrook.)

**Phys. 130, 131. Basic Concepts of Physics. (2, 2)*

June 25 - Aug. 3. Five two-hour lectures per week. Daily 9:00-11:00; C-130. Prerequisite, junior standing. Lecture demonstration fee, \$4.00. A primarily descriptive course intended mainly for students in the liberal arts and high school science teachers. This course does not satisfy the requirement of professional schools or serve as a substitute for other physics courses. The main emphasis in the course will be on the concepts of physics, their evolution, and their relation to other branches of human endeavor. This course is specially recommended for high school science teachers. It should be taken concurrently with Phys. 150, Section 2. (Fasnacht, Staff.)

*Intended for teachers.

Phys. 150. Special Problems in Physics. Section 1. (Arranged)

June 25 - Aug. 17. Credit according to work done. Hours and location arranged. Research or special study. Laboratory fee, \$10.00 per credit hour when appropriate. Prerequisite, major in physics and consent of Department Head. (Staff.)

**Phys. 150. Special Problems in Physics. Section 2. Basic Experiments. (1)*

June 25 - Aug. 3. Two 2½-hour laboratories a week. M.W., 3:00-5:15; Z-315. The course should be taken concurrently with Physics 130, 131. It will consist of fundamental laboratory experiments in physics. (Fasnacht, Staff.)

**Phys. 160A. Physics Problems. (1, 2, or 3)*

June 25 - Aug. 3. Credit according to work done. T.Th. 1, 2; C-130, 134. This course intended primarily for high school science teachers, introduces the student to the proper methods of presenting and solving basic problems in physics. The course consists of lectures and discussion sessions. Those problems which illustrate best the fundamental principle of physics are treated fully. The necessary mathematical methods are developed as needed. (Gutsche, Staff.)

Phys. 190. Independent Studies Seminar. (Arranged)

June 25 - Aug. 17. Credit according to work done, each semester. Hours and location arranged. Enrollment is limited to students admitted to the Independent Studies Program in Physics. (Faculty.)

**Phys. 199. National Science Foundation Summer Institute for Teachers of Science Seminar. (1)*

June 25 to August 3. One two-hour seminar each week, T., 3:00-4:50. In addition, daily three-hour seminar August 6 to August 10. Daily, 1:30-4:30, C-130. Laboratory fee, \$5.00. Especially designed for high school teachers of science. Includes the fields of chemistry and physics. Experts in these fields will give lectures with emphasis upon contemporary research. Time will be available for discussion, and student participation will be encouraged. Research and laboratory techniques will be demonstrated. Open only to participants in the National Science Foundation Institute. (Detenbeck, Staff.)

Phys. 230. Seminars Arranged. (1)

June 25 - Aug. 17. One two-hour class per week. T., 4:30-6:30; Z-115. Arranged. (Faculty.)

Phys. 248. Special Topics in Modern Physics: Nuclear Cluster Model. (2)

June 25 - Aug. 17, M. W., 4:15-6:15; C-134. Two two-hour lectures per week. Prerequisites, Physics 120 and Physics 213, or consent of instructor. (Staff.)

Phys. 399. Research.

Credit according to work done. Hours and location arranged. Laboratory fee, \$10.00 per credit hour. Prerequisite, approved application for admission to candidacy or special permission of the Department Head. Theses research conducted under approved supervision. (Faculty.)

POULTRY

P. H. S111. Poultry Breeding and Feeding. (1)

To be arranged. This course is designed primarily for teachers of vocational agriculture and extension service workers. The first half will be devoted to problems concerning breeding and the development of breeding stock. The second half will be devoted to nutrition. (Staff.)

Psychology, Sociology

P. H. 205 Poultry Literature. (1-4)

Readings on individual topics are assigned. Written reports required. Methods of analysis and presentation of scientific material are discussed. (Staff.)

P. H. 399. Poultry Research.

Credit in accordance with work done. Practical and fundamental research with poultry may be conducted under the supervision of staff members toward the requirements for the degrees of M.S. and Ph.D. (Staff.)

PSYCHOLOGY

Psych. 1 Introduction to Psychology. (3)

June 25 - Aug. 17. Eight weeks, four periods per week. 11-12:20, M. T. Th. F.; M-104. A basic introductory course intended to bring the student into contact with the major problems confronting psychology and the more important attempts at their solution. (Waldrop.)

Psych. 110. Educational Psychology. (3)

June 25 - Aug. 17. Eight weeks, four periods per week. 9:30-10:50; M. T. Th. F.; M-105. Prerequisite, Psych. 1 or equivalent. Researches on fundamental psychological problems encountered in education. Measurement and significance of individual differences; learning, motivation, transfer of training and the educational implications of theories of intelligence. (Waldrop.)

Psych. 131. Abnormal Psychology. (3)

Eight weeks, four periods per week. 9:30-10:50; M. T. Th. F.; M-104. Prerequisite, Psych. 1. The nature, diagnosis, etiology and treatment of mental disorders. (Daston.)

Psych. 260. Individual Tests. (3)

June 25 - Aug. 17. Eight weeks, four periods per week. 11:00-12:20; M.T.Th.F.; M-105. Prerequisites, graduate student status and Psych. 150 or equivalent. Laboratory fee \$4.00. Analysis of the various theories of intelligence and current research in the area; practical experience in the administration, scoring, and interpretation of currently used intelligence tests. (Daston.)

Psych. 225. Practicum in Counseling and Clinical Procedure. (1-3)

Hours arranged. Prerequisite, consent of instructor. (Magoon.)

Psych. 288. Special Research Problems. (3)

Hours arranged. Prerequisite, consent of instructor. (Staff.)

Psych. 399. Research for Thesis. (1-6)

Hours arranged. Prerequisite, consent of individual faculty supervisor. (Staff.)

SOCIOLOGY

Sociology 1 or its sociology equivalent is prerequisite to all other courses in Sociology excepting Soc. 5.

Soc. 1. Sociology of American Life. (3)

June 25 - August 17—

M. T. Th. F., 8:00-9:20; R-205. (Levinson.)

Sociological analysis of the American social structure, metropolitan, small town, and rural communities; population distribution, composition and change; social organization.

Soc. 5. Anthropology. (3)

June 25 - Aug. 17. M. T. Th. F., 11:00-12:20; R-103. This course may be taken by students who qualify to select courses within Elective Group II of the American Civilization Program. Introduction to anthropology; origins of man; development and transmission of culture; backgrounds of human institutions. (Anderson.)

Soc. 51. Social Pathology. (3)

June 25 - Aug. 17. M. T. Th. F., 9:30-10:50; R-110. Prerequisite, sophomore standing. Personal-social disorganization and maladjustment; physical and mental handicaps; economic inadequacies; programs of treatment and control. (Shankweiler.)

Soc. 52. Criminology. (3)

June 25 - Aug. 17. M. T. Th. F., 8:00-9:20; R-112. Prerequisite, sophomore standing. Criminal behavior and the methods of its study; causation; typologies of criminal acts and offenders; punishment, correction and incapacitation; prevention of crime. (Lejins.)

Soc. 121. Population. (3)

June 25 - Aug. 17. M. T. Th. F., 11:00-12:20; R-110. Population distribution and growth in the United States and the world; population problems and policies. (Hirzel.)

Soc. 125. Cultural History of the Negro. (3)

June 25 - Aug. 17. M. T. Th. F., 8:00-9:20; R-110. The cultures of Africa south of the Sahara and the cultural adjustments of the Negro in North and South America. (Anderson)

Soc. 131. Introduction to Social Service. (3)

June 25 - Aug. 3. Daily, 9:30-10:50; R-112. General survey of the field of social-welfare activities; historical development; growth, functions and specialization of agencies and services, private and public. (McElhenie.)

Soc. 153. Juvenile Delinquency. (3)

June 25 - Aug. 17. M. T. Th. F., 11:00-12:20; R-205. Juvenile delinquency in relation to the general problem of crime; analysis of factors underlying juvenile delinquency; treatment and prevention. (Lejins.)

Soc. 164. The Family and Society. (3)

June 25 - Aug. 17. M. T. Th. F., 12:30-1:50; R-110. Prerequisite, Soc. 1 and Soc. 64 or equivalent. Study of the family as a social institution; its biological and cultural foundations, historic development, changing structure and function; the interactions of marriage and parenthood, disorganizing and reorganizing factors in present day trends. (Shankweiler.)

Soc. 166. Interviewing and Problem Solving in Social Work. (3)

June 25 - Aug. 3. Daily, 11:00-12:30; R-112. The principles of interviewing and other diagnostic techniques as applies to social problems with particular reference to family and child behavior. (McElhenie.)

SPEECH

Prerequisite for advanced speech courses. The preparation and delivery of short original speeches; outside readings; reports; etc. It is recommended that this course be taken during the freshman year. Laboratory fee \$1.00.

Speech 1. Public Speaking. (3)

Section 1—June 25 - Aug. 3, Daily, 8:00-9:20; R-102. (Starcher.)

Section 2—June 25 - Aug. 17, M. T. Th. F., 9:30-10:50; R-102 (Aylward.)

Section 3—June 25 - Aug. 3, Daily, 9:30-10:50; R-101. (Menser.)

Section 4—June 25 - Aug. 17, M. T. Th. F., 11:00-12:20; R-102. (Aylward.)

Speech

Speech 105. Speech-Handicapped School Children. (3)

June 25 - Aug. 3, Daily, 9:30-10:50; R-109. Prerequisite, Speech 3 for undergraduates. The occurrence, identification and treatment of speech handicaps in the classroom. An introduction to Speech pathology. (Staff.)

Speech 106. Clinical Practice. (1-3)

June 25 - Aug. 3, T. F., 12:30-1:50, and arranged; R-109. Prerequisite, Speech 105. A laboratory course dealing with the various methods of correction plus actual work in the clinic. Fee \$1.00 per credit hour. (Staff.)

Speech 111. Seminar. (3)

June 25 - Aug. 3. Prerequisites, senior standing and consent of instructor. Required of speech majors. Present day speech research. Hours arranged. (Strausbaugh.)

Speech 120. Speech Pathology. (3)

June 25 - Aug. 3. Daily 11:00-12:20; R-109. Prerequisite, Speech 105. A continuation of Speech 105, with emphasis on the causes and treatment of organic speech disorders. A laboratory fee of \$3.00. (Hendricks.)

Speech 139. Theatre Workshop. (3)

June 25 - Aug. 3. Daily, 9:30-10:50; Radio Studio. Consent of instructor. A laboratory course designed to provide the student with practical experience in all phases of theatre production. (Pugliese.)

Speech 149. Television Workshop. (3)

June 25 - Aug. 3. Daily, 11:00-12:20; R-9. Prerequisites, Speech 22, Speech 140, and Speech 148, or consent of instructor. Two hour lecture, four hour laboratory. Laboratory fee, \$10.00. (Batka.)

Speech 164. Persuasion in Speech. (3)

June 25 - Aug. 17. M. T. Th. F., 8:00-9:20; R-101. A study of the bases of persuasion with emphasis on recent experimental developments in persuasion. (Weaver.)

Speech 201K. Seminar, Minor Research Problems. (1-3)

Prerequisites, 6 hours in speech pathology and consent of instructor. Hours and room arranged. (Staff.)

Speech 211. Advanced Clinical Practice. (1-3)

T. F., 12:30-1:50; R-109 and arranged. Prerequisites, 12 hours in Speech Pathology and Audiology. Supervised training in the application of clinical methods in diagnosis and treatment of speech and hearing disorders. Laboratory fee, \$1.00 per hour. (Staff.)

Speech 214. Clinical Audiometry. (3)

Hours and room arranged. Prerequisites, 3 hours in audiology and consent of instructor. Testing of auditory acuity with pure tones and speech. Laboratory fee, \$3.00. (Causey.)

Speech 399. Thesis. (1-6 credits)

Arranged.

(Staff.)

ZOOLOGY

†Zool. 1. *General Zoology.* (4)

June 25 - Aug. 3. Five lectures and five two-hour laboratory periods a week. Lectures, 8:00; N-201; laboratory, 9:00, 10:00; CC Bldg. Laboratory fee, \$8.00. This course, which is cultural and practical in its aim, deals with the basic principles of animal life. Special emphasis is placed on human physiology. (Grollman.)

Zool. 55S. *Development of the Human Body.* (2)

June 25 - Aug. 3. Four lecture periods a week. M. T. Th. F., 11:00-12:20; F-112. A study of the main factors affecting pre-natal and post-natal growth and development of the child with special emphasis on normal development. (Staff.)

†Zool. 104. *Genetics.* (3)

June 25 - Aug. 3. Five lecture periods a week. Daily, 9:30-10:50; F-112. Prerequisite, one course in zoology or botany. A consideration of the basic principles of heredity. (Staff.)

*Zool. 121. *Principles of Animal Ecology.* (3)

June 25 - Aug. 3. Five lectures and three three-hour laboratory periods a week. Laboratory fee \$8.00. T. W. Th., 8:00-11:50; F., 8:00-9:00; K-9. Prerequisite, one year of zoology and one year of chemistry. Animals are studied in relation to their natural surroundings. Biological, physical and chemical factors of the environment which affect the growth, behavior, habits, and distribution of animals are stressed. (Stross.)

Zool. 150. *Special Problems in Zoology.* (1 or 2)

To be arranged. Prerequisite, major in zoology or biological sciences, a minimum of 3.0 Cumulative average in the biological sciences, and consent of instructor. Research or integrated reading in zoology. A student may register several times and receive up to 8 semester hours of credit. (Staff.)

*Zool. 199. *National Science Foundation Summer Institute for Teachers of Science and Mathematics. Seminar.* (1)

June 25 to August 3, and daily seminar, 8:30, 9:30, 10:30, August 6 to August 10; C-132. One two-hour seminar each week. Th., 3:00, 4:00; C-130. Laboratory fee, \$5.00. An integrated discussion of recent advances and basic principles of biology. The program will include lectures by recognized authorities in various fields of biology, laboratory demonstrations, and discussion groups. Student participation will be encouraged. Open only to participants in the National Science Foundation Institute. (Brown.)

*Zool. 208. *Special Problems in Zoology.*

Credit hours, and topics to be arranged. Laboratory fee, \$8.00. (Staff.)

Zool. 399. *Research.*

Credit to be arranged. Research on thesis project only. Laboratory fee, \$8.00. (Staff.)

†Recommended for teachers.

*Intended for teachers.

The Faculty

SUMMER SESSION, 1962

JUNE 25-AUGUST 17

DR. ORVAL L. ULRY, *Director*

ROBERT J. ALPERIN, *Instructor in Government and Politics*

B.A., University of Chicago, 1950; M.A., 1952; PH.D., Northwestern University, 1959.

FRANK C. ANDERSON, *Assistant Professor of Sociology*

B.A., Cornell University, 1941; PH.D., University of New Mexico, 1951.

HENRY ANDERSON, *Assistant Professor of Statistics*

B.A., University of London, 1939; M.B.A., Columbia University, 1948; PH.D., 1959.

J. PAUL ANDERSON, *Assistant Professor of Education*

B.S., University of Minnesota, 1942; M.A., 1947; P.H.D., 1960.

ROBERT R. ANDERSON, *Assistant Professor of Foreign Languages*

B.A., University of Missouri, 1947; M.A., University of Illinois, 1949; PH.D., Ohio State University, 1958.

VERNON E. ANDERSON, *Dean of the College of Education*

B.S., University of Minnesota, 1930; M.A., 1936; PH.D., University of Colorado, 1942.

THOMAS C. ANDREWS, *Professor of Psychology and Head of the Department*

B.A., Univ. of So. Calif., 1937; M.A., Univ. of Nebraska, 1939; PH.D., Univ. of Nebraska, 1941.

WILLIAM T. AVERY, *Professor and Head, Department of Classical Languages and Literatures*

B.A., Western Reserve University, 1934; M.A., 1935; PH.D. 1937. Fellow of the American Academy in Rome, 1937-39.

THOMAS J. AYLWARD, *Assistant Professor of Speech and Dramatic Art*

B.S., University of Wisconsin, 1947; M.S., 1949; PH.D., 1960.

CECIL R. BALL, *Associate Professor of English*

B.A., College of William and Mary, 1923; M.A., University of Maryland, 1934; PH.D., The Johns Hopkins University, 1955.

RONALD BAMFORD, *Dean of Graduate School, Professor and Head, Botany*

B.S., University of Connecticut, 1924; M.S., University of Vermont, 1926; PH.D., Columbia University, 1931.

RUTH BARI, *Instructor of Mathematics*

B.A., Brooklyn College, 1939; M.A., Johns Hopkins University, 1943.

JACK C. BARNES, *Associate Professor of English*

B.A., Duke University, 1939; M.A., 1947; PH.D., University of Maryland, 1954.

CHARLES BARRETT, *Assistant Professor of Economics*

A.B., Lyola College, 1942; M.A., Maryland University, 1950; PH.D., 1961.

Faculty

GEORGE F. BATKA, *Associate Professor of Speech and Dramatic Art*

B.A., University of Wichita, 1938; M.A., University of Michigan, 1941.

WILLIAM E. BENNETT, *Instructor in Education*

B.S., Georgia Teachers College, 1939; M.A., Teachers College, Columbia University, 1947.

JOYCE M. BERGMANN, *Instructor of History*

B.A., University of Melbourne, 1942; M.A., Oxford, 1958.

JOEL H. BERMAN, *Assistant Professor of Music*

B.S., Juilliard School of Music, 1951; M.A., Columbia University, 1953; D.M.A., University of Michigan, 1961.

WILLIAM E. BICKLEY, *Professor and Head of Entomology*

B.S., University of Tennessee, 1934; M.S., 1936; PH.D., University of Maryland, 1940.

JOSEPH C. BLAIR, *Instructor in Foreign Languages*

A.B., University of Maryland, 1951; M.A., 1960.

GLENN O. BLOUGH, *Professor of Education*

B.A., University of Michigan, 1929; M.A., 1932; LL.D., Central Michigan College of Education, 1950.

NELSON BOSSING, *Visiting Lecturer in Education*

A.B., Kansas Wesleyan, 1917; B.D., Garrett Biblical Institute, 1921; A.M., Northwestern, 1922; PH.D., Chicago, 1925.

E. LUCILLE BOWIE, *Associate Professor of Education, Institute for Child Study*

B.S., University of Maryland, 1942; M.A., Teachers College, Columbia University, 1946; ED.D., University of Maryland, 1957.

ALFRED C. BOYD, *Assistant Professor of Chemistry*

B.S., Canisius College, 1951; PH.D., Purdue University, 1957.

RICHARD M. BRANDT, *Associate Professor of Education, Institute for Child Study*

B.M.E., University of Virginia, 1943; M.A., University of Michigan, 1949; ED.D., University of Maryland, 1954.

GERALD S. BRINTON, *Chairman, Social Studies Department, Cedar Cliff High School, Camp Hill, Pennsylvania. Visiting Lecture in Education*

B.S., State Teachers College, Shippensburg, Pennsylvania, 1940; M.A., University of Maryland, 1951.

ELEANOR A. BROOME, *Instructor in Early Childhood Education*

B.A., University of Maryland, 1943; M.ED., 1957.

DALE W. BROWN, *Assistant Professor of Library Science Education*

A.B., David Lipscomb College, 1953; A.M., George Peabody College for Teachers, 1955.

FREDERICK A. BROWN, *Assistant Professor of Education*

B.S., Lock Haven State College; M.S., Teachers College, Columbia University; ED.D., Pennsylvania State University.

- HELEN I. BROWN, *Associate Professor of Food, Nutrition, and Institution Management*
 B.S., University of Vermont, 1938; M.A., Columbia University, 1948; PH.D., Michigan State University, 1960.
- JOSHUA R. C. BROWN, *Associate Professor of Zoology*
 B.A., Duke University, 1948; M.A., 1949; PH.D., 1953.
- RUSSELL C BROWN, *Associate Professor of Botany*
 B.S., West Virginia University, 1929; M.S., 1930; PH.D., University of Maryland, 1934.
- MARIE D. BRYAN, *Associate Professor of Education*
 B.A., Goucher College, 1923; M.A., University of Maryland, 1945.
- ELBERT M. BYRD, *Assistant Professor of Government and Politics*
 B.S., American University, 1953; M.A., 1954; PH.D., 1959.
- GORDON M. CAIRNS, *Dean of Agriculture and Professor of Dairy Husbandry*
 B.S., Cornell University, 1936; M.S., 1938; PH.D., 1940.
- CHARLES CALHOUN, *Professor of Finance*
 A.B., University of Washington, 1925; M.B.A., 1930.
- VIRGUS R. CARDOZIER, *Professor and Head of Agricultural and Extension Education*
 B.S., Louisiana State University, 1947; M.S., 1950; PH.D., Ohio State University, 1952.
- JOHN CARRUTHERS, *Assistant Professor of Chemistry*
- GEORGE D. CAUSEY, *Associate Research Professor of Speech and Dramatic Art*
 M.A., University of Maryland, 1950; M.A., 1951; PH.D., Purdue University, 1954.
- ANTONIO F. CHAVES, *Assistant Professor of Geography*
 M.A., Northwestern University, 1948; D.LITT. University of Habana, 1941; PH.D., University of Habana, 1946.
- CHUNJEN C. CHEN, *Instructor in Foreign Languages*
 B.S., Cornell, 1919; M.S., University of Maryland, 1920.
- DOROTHY CHESNEY, *Instructor in Education*
 B.S., Pennsylvania State University, 1954; M.ED., Pennsylvania State University, 1956.
- MILDRED COLE, *Lecturer in Education and Mathematics*
 B.S., University of Illinois, 1943; M.S., University of Wisconsin, 1951.
- PAUL K. CONKIN, *Associate Professor of History*
 B.A., Milligan College, 1951; M.A., Vanderbilt University, 1953; PH.D., 1957.
- FRANKLIN D. COOLEY, *Professor of English*
 B.A., The Johns Hopkins University, 1927; M.A., University of Maryland, 1933; PH.D., The Johns Hopkins University, 1940.
- SHEROD M. COOPER, *Instructor of English*
 B.S., Temple University, 1951; M.A., 1953.
- ELLEN CORREL, *Assistant Professor of Mathematics*
 B.S., Douglas College (Rutgers University), 1951; M.S., Purdue University, 1953; PH.D., 1957.

Faculty

- FRANK H. CRONIN, *Associate Professor of Physical Education, Head Golf Coach*
B.S., University of Maryland, 1946.
- EDMUND D. CROSBY, *Assistant Professor of Industrial Education*
B.A., Western Michigan University, 1934; M.A., Colorado A. & M. College, 1941.
- JOHN M. CURTIS, *Professor and Head, Agricultural Economics*
B.S., North Carolina State University, 1947; M.S., 1950; PH.D., University of Maryland, 1961.
- JOHN A. DAIKER, *Assistant Professor of Accounting*
B.S., University of Maryland, 1941; M.B.A., 1951; C.P.A., District of Columbia, 1949.
- RUTH J. DALES, *Visiting Lecturer*
B.S., Elmira College, 1933; M.S., Kansas State University, 1939; PH.D., Cornell University, 1953.
- JOHN H. DALTON, *Assistant Professor of Economics*
A.B., University of California, 1943; PH.D., 1955.
- PAUL G. DASTON, *Associate Professor of Psychology*
B.A., Northeastern Univ., 1948; M.A., Michigan State Univ., 1950; PH.D., Michigan State Univ., 1952.
- RICHARD E. DAVIS, *Professor and Head of Dairy*
B.S., University of New Hampshire, 1950; M.S., Cornell University, 1952; PH.D., 1953.
- TOWNES L. DAWSON, *Associate Professor of Business Law*
B.B.A., University of Texas, 1943; B.A., U. S. Merchant Marine Academy, 1946;
M.B.A., University of Texas, 1947; PH.D., 1950; LL.B., 1954.
- CHAUNCEY M. DAYTON, *Instructor in Education*
A.B., University of Chicago, 1955.
- ANN DEMAITRE, *Instructor in Foreign Languages*
B.S., Columbia University, 1950; M.A., University of California, 1951.
- MARIE DENECKE, *Instructor in Education*
B.A., Columbia University, 1938; M.A., University of Maryland, 1942.
- ROBERT L. DETENBECK, *Assistant Research Professor of Physics*
B.S., University of Rochester, 1954; PH.D., Princeton, 1960.
- MARY F. DE VERMOND, *Instructor of Music*
B.MUS., Howard University, 1942; M.A., Columbia University, 1948; ED.D., University of Maryland, 1959.
- CONLEY H. DILLON, *Professor of Government and Politics*
B.A., Marshall College, 1928; M.A., Duke University, 1933; PH.D., 1936.
- THOMAS H. DYER, *Instructor of Mathematics*
B.S., U. S. Naval Academy, 1924.
- GERTRUDE EHRLICH, *Assistant Professor of Mathematics*
B.S., Georgia State College for Women, 1943; M.A., University of North Carolina, 1945; PH.D., University of Tennessee, 1953.

HOWARD R. ERICKSON, *Visiting Lecturer*

B.S., Indiana State Teachers College, 1952; M.S., Pennsylvania State University, 1956; PH.D., Cornell University, 1959.

GAYLORD B. ESTABROOK, *Professor of Physics*

B.S.C., Purdue University, 1921; M.S.C., Ohio State University, 1922; PH.D., University of Pittsburgh, 1932.

MARVIN H. EYLER, *Associate Professor of Physical Education*

B.A., Houghton College, 1942; M.S., University of Illinois, 1948; PH.D., 1956.

LAURA KATHERINE EVANS, *Instructor in Education*

B.S., Eastern Kentucky State College, 1940; M.A., George Peabody College for Teachers, 1946.

WILLIAM F. FALLS, *Professor of Foreign Languages*

B.A., University of North Carolina, 1922; M.A., Vanderbilt University, 1928; PH.D., University of Pennsylvania, 1932.

DAVID M. FARQUHAR, *Assistant Professor of History*

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WILLIAM E. FASNACHT, *Visiting Lecturer in Physics*

Instructor, U.S. Naval Academy; B.S., Oregon State College, 1952.

WILLARD O. FITZMAURICE, *Instructor in Education*

B.S., Bridgewater State Teachers College, 1953; M.ED., Boston State Teachers College, 1959.

FRANCES FLOURNOY, *Visiting Lecturer in Education*

B.A., Northwestern State College of Louisiana, 1942; M.A., George Peabody, 1946; PH.D., State University of Iowa, 1953.

JOHN E. FOSTER, *Professor and Head of Animal Husbandry*

B.S., North Carolina State College, 1926; M.S., Kansas State College, 1927; PH.D., Cornell University, 1937.

LESTER M. FRALEY, *Dean of College of Physical Education, Recreation and Health*

A.B., Randolph-Macon College, 1928; M.A., Peabody College, 1937; PH.D., 1938.

DANIEL LEADY GARBER, JR., *Instructor in Civil Engineering*

B.S., University of Maryland, 1952; M.S., 1959.

ROBERT GATES, *Visiting Lecturer in Education*

B.S., Syracuse University, 1946; M.S., 1947; ED.D., 1956.

DWIGHT GENTRY, *Professor of Marketing*

A.B., Elon College, 1941; M.B.A., Northwestern University, 1947; PH.D., University of Illinois, 1952.

JOHN GIBLETTE, *Assistant Professor in Education*

B.A., George Washington University, 1947; M.A., University of Minnesota, 1952; PH.D., University of Pennsylvania, 1960.

CUY W. CIENGER, *Associate Professor of Agricultural Engineering*

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Faculty

JACOB D. GOERING, *Assistant Professor of Education*

B.A., Bethel College, 1941; B.D., Bethany Seminary, 1949; PH.D., University of Maryland, 1959.

WILLIAM H. GRAVELY, JR., *Associate Professor of English*

B.A., College of William and Mary, 1925; M.A., University of Virginia, 1934; PH.D., 1953.

ROBERT L. GREEN, *Professor and Head of Agricultural Engineering*

B.S.A.E., University of Georgia, 1934; M.S., Iowa State College, 1939; PH.D., Michigan State University, 1953. Registered Professional Engineer.

SIDNEY GROLLMAN, *Associate Professor of Zoology*

B.S., University of Maryland, 1947; M.S., 1949; PH.D., 1952.

JEAN D. GRAMBS, *Associate Professor of Education*

B.A., Reed College, 1940; M.A., Stanford University, 1941; ED.D., 1948.

GRAHAM D. GUTSCHE, *Visiting Lecturer in Physics*

Associate Professor of Physics, U.S. Naval Academy; B.S., Colorado University, 1950; M.S., Minnesota, 1952; PH.D., Catholic University, 1959.

ROBERT C. HALL, *Visiting Lecturer in Education*

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THOMAS W. HALL, *Assistant Professor of Foreign Languages*

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HORACE V. HARRISON, *Associate Professor of Government and Politics*

B.A., Trinity University, Texas, 1932; M.A., University of Texas, 1941; PH.D., 1951.

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GUY B. HATHORN, *Associate Professor of Government and Politics*

B.A., University of Mississippi, 1940; M.A., 1942; PH.D., Duke University, 1950.

IRVIN C. HAUT, *Director of Experiment Station and Professor and Head of Horticulture*

B.S., University of Idaho, 1928; M.S., State College of Washington, 1930; PH.D., University of Maryland, 1933.

ELIZABETH E. HAVILAND, *Assistant Professor of Entomology*

A.B., Wilmington (Ohio) College, 1923; M.A., Cornell University, 1926; M.S., University of Maryland, 1936; PH.D., 1945.

JEAN HEBELER, *Assistant Professor of Education and Coordinator of Special Education*

B.S., State University of New York, College for Teachers, 1953; M.S., University of Illinois, 1956; ED.D., Syracuse University, 1960.

- KENNETH R. HENERY-LOGAN, *Assistant Professor of Chemistry*
 B.S., McGill University, 1942; PH.D., 1946.
- HUBERT P. HENDERSON, *Assistant Professor of Music and Director of University Bands*
 B.A., University of North Carolina, 1941; M.A., 1950.
- RICHARD HENDRICKS, *Associate Professor of Speech and Dramatic Art*
 B.A., Franklin College, 1937; M.A., Ohio State University, 1939; PH.D., 1956.
- HERBERT H. HENKE, *Assistant Professor of Music*
 B.MUS.ED., Oberlin College, 1953; B.MUS., 1954; M.A., MUS.ED., 1954.
- DAGMAR R. HENNEY, *Instructor of Mathematics*
 B.S., University of Miami, 1954; M.S., 1956.
- EULALIA HERDOIZA, *Instructor in Foreign Languages*
 M.A., University of Maryland, 1960.
- CHRISTOPH A. HERING, *Associate Professor of Foreign Languages*
 PH.D., University of Bonn, 1950.
- HAROLD J. HERMAN, *Instructor of English*
 B.A., University of Maryland, 1952; PH.D., University of Pennsylvania, 1960.
- IRVING WEYMOUTH HERRICK, JR., *Instructor in Industrial Education*
 B.S., Gorham State Teachers College, Gorham, Maine, 1954; M.ED., University of Maryland, 1960.
- FRANK M. HETRICK, *Instructor of Microbiology*
 B.S., Michigan State, 1954; M.S., University of Maryland, 1960.
- MARGARET HILLIS, *Visiting Lecturer in Music*
 B.MUS., Indiana University, 1947.
- ROBERT K. HIRZEL, *Assistant Professor of Sociology*
 B.A., Pennsylvania State College, 1946; M.A., 1950; PH.D., Louisiana State University, 1954.
- KENNETH O. HOVET, *Professor of Education*
 B.A., St. Olaf College, 1926; PH.D., University of Minnesota, 1950.
- JAMES HUMMEL, *Associate Professor of Mathematics*
 B.S., The California Institute of Technology, 1949; M.A., The Rice Institute, 1953; PH.D., 1955.
- JAMES H. HUMPHREY, *Professor of Physical Education and Health*
 A.B., Denison University, 1933; A.M., Western Reserve University, 1946; E.D., Boston University, 1951.
- BURRIS F. HUSMAN, *Associate Professor of Physical Education*
 B.S., University of Illinois, 1941; M.S., 1948; ED.D., University of Maryland, 1954.
- JAMES L. HYMES, *Professor of Education*
 B.A., Harvard College, 1934; M.A., Teachers College, Columbia University, 1936; ED.D., 1947.

Faculty

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B.S., Towson State Teachers College, 1945; M.S., University of Maryland, 1950.

JOHN J. KURTZ, *Professor of Education*

B.A., University of Wisconsin, 1935; M.A., Northwestern University, 1940; PH.D., University of Chicago, 1947.

HAROLD LARSON, *Lecturer in Government and Politics*

B.A., Morningside College, 1927; M.A., Columbia University, 1928; PH.D., 1943.

THELMA Z. LAVINE, *Associate Professor and Acting Head of Philosophy*

A.B., Radcliffe, 1936; A.M., 1937; PH.D., 1939.

LEROY L. LEE, *Assistant Professor of Accounting*

AB., George Washington University, 1948; A.M., George Washington University, 1952; C.P.A., Maryland, 1949.

OLIVER LEE, *Instructor in Government and Politics*

B.A., Harvard University, 1951; M.A., University of Chicago, 1955.

GUYDO R. LEHNER, *Assistant Professor of Mathematics*

B.S., Loyola of Chicago, 1951; M.S., University of Wisconsin, 1951; PH.D., 1957.

PETER P. LEJINS, *Professor of Sociology*

MAGISTER PHILOSOPHIAE, University of Latvia, 1930; MAGISTER IURIS, 1933; PH.D., University of Chicago, 1938.

Faculty

JOHN LEMBACH, *Associate Professor of Art and Education*

B.A., University of Chicago, 1934; M.A., Northwestern University, 1937; ED.D., Columbia University, 1946.

INDA LEPSON, *Instructor of Mathematics*

B.A., New York University, 1941; M.A., Columbia University, 1945.

PERRY LEVINSON, *Instructor of Sociology*

B.A., Western Maryland College, 1951; M.A., University of Pennsylvania, 1953.

SELMA F. LIPPEATT, *Professor of Home Economics and Dean of the College*

B.S., Arkansas State Teachers College, 1938; M.S., University of Tennessee, 1945; PH.D., Pennsylvania State University, 1953.

J. DAVID LOCKARD, *Assistant Professor of Botany and Education*

B.S., Pennsylvania State College, 1951; M.ED., Pennsylvania State College, 1955.

PAUL S. LOMAX, *Visiting Lecturer in Business Education*

B.S., University of Missouri, 1917; M.A., Harvard University, 1923; PH.D., New York University, 1927; PROFESSOR EMERITUS, New York University.

EDWARD L. LONGLEY, *Assistant Professor of Education and Practical Art*

B.A., University of Maryland, 1950; M.A., Columbia University, 1953.

JOSEPH F. LUETKEMEYER, *Assistant Professor of Industrial Education*

B.S., Stout State College, 1953; M.S., 1954; ED.D., University of Illinois, 1961.

LEONARD I. LUTWACK, *Assistant Professor of English*

B.A., Wesleyan University, 1939; M.A., 1940; PH.D., The Ohio State University, 1951.

THOMAS M. MAGOON, *Associate Professor of Psychology and Director, University Counseling Center*

B.A., Dartmouth College, 1947; M.A., University of Minnesota, 1951; PH.D., University of Minnesota, 1954.

DONALD MALEY, *Professor and Head of Industrial Education*

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THE UNIVERSITY is the rear guard and the advance agent of society. It lives in the past, the present and the future. It is the storehouse of knowledge; it draws upon this depository to throw light upon the present; it prepares people to live and make a living in the world of today; and it should take the lead in expanding the intellectual horizons and the scientific frontiers, thus helping mankind to go forward—always toward the promise of a better tomorrow.

From “The State and the University”
the inaugural address of
President Wilson H. Elkins,
January 20, 1955,
College Park, Maryland.

