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1959

Vol. 12

January 9, 1959

No. 13

Summer School  
at College Park

A Publication of the University of Maryland

*The provisions of this publication are not to be regarded as an irrevocable contract between the student and the University of Maryland. The University reserves the right to change any provision or requirement at any time within the student's term of residence. The University further reserves the right at any time, to ask a student to withdraw when it considers such action to be in the best interests of the University.*

# SUMMER SCHOOL

1959



UNIVERSITY OF MARYLAND

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VOLUME 12

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A University of Maryland publication is published twelve times in January; three times in February; once in March and April; three times in May; twice in June, August and October; once in July and September; three times in November; and once in December.

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# UNIVERSITY CALENDAR

## FALL SEMESTER 1958

### JANUARY 1959

- 5 Monday—Christmas Recess Ends 8 a.m.
- 21 Wednesday—Pre-Examination Study Day
- 22-28 Thursday to Wednesday—First Semester Examinations

## SPRING SEMESTER 1959

### FEBRUARY

- 2-6 Monday to Friday—Spring Semester Registration
- 9 Monday—Instruction Begins
- 23 Monday—Washington's Birthday Holiday

### MARCH

- 25 Wednesday—Maryland Day
- 26 Thursday—Easter Recess Begins After Last Class
- 31 Tuesday—Easter Recess Ends 8 a.m.

### MAY

- 13 Wednesday—Military Day
- 28 Thursday—Pre-Examination Study Day

- May 29- } Friday to Friday—Second Semester Examinations
- June 5 }
- 30 Saturday—Memorial Day, Holiday

### JUNE

- 6 Saturday—Commencement Exercises

## SUMMER SESSION 1959

### JUNE 1959

- 22 Monday—Summer Session Registration
- 23 Tuesday—Summer Session Begins

### JULY

- 31 Friday—Summer Session Ends

## SHORT COURSES 1959

### JUNE 1959

- 15-20 Monday to Saturday—Rural Women's Short Course

### AUGUST

- 3-8 Monday to Saturday—4-H Club Week

### SEPTEMBER

- 1-4 Tuesday to Friday—Firemen's Short Course

## FALL SEMESTER 1959

### SEPTEMBER

- 14-18 Monday to Friday—Fall Semester Registration
- 21 Monday—Instruction Begins

### NOVEMBER

- 25 Wednesday—Thanksgiving Recess Begins After Last Class
- 30 Monday—Thanksgiving Recess Ends 8 a.m.

### DECEMBER

- 19 Saturday—Christmas Recess Begins After Last Class

# UNIVERSITY CALENDAR

## JANUARY 1960

- 4 Monday—Christmas Recess Ends 8 a.m.
- 20 Wednesday—Pre-Examination Study Day
- 21-27 Thursday to Wednesday, inclusive—Fall Semester Examinations

## SPRING SEMESTER 1960

### FEBRUARY

- 1-5 Monday to Friday—Spring Semester Registration
- 8 Monday—Instruction Begins
- 22 Monday—Washington's Birthday Holiday

### MARCH

- 25 Friday—Maryland Day

### APRIL

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

### MAY

- 18 Wednesday—Military Day
- 26 Thursday—Pre-Examination Study Day
- May 27- } Friday to Friday, inclusive—Spring Semester Examinations
- June 3 }
- 29 Sunday—Baccalaureate Exercises
- 30 Monday—Memorial Day, Holiday

### JUNE

- 4 Saturday—Commencement Exercises

## SUMMER SESSION 1960

### JUNE 1960

- 20 Monday—Summer Session Registration
- 21 Tuesday—Summer Session Begins

### JULY

- 29 Friday—Summer Session Ends

## SHORT COURSES 1960

### JUNE 1960

- 13-18 Monday to Saturday—Rural Women's Short Course

### AUGUST

- 1-6 Monday to Saturday—4-H Club Week

### SEPTEMBER

- 6-9 Tuesday to Friday—Firemen's Short Course



# SUMMER SCHOOL REGISTRATION SCHEDULE AND CALENDAR

## *Advanced Registration Schedule for Students in Education*

For counseling with advisor, *by appointment only*

May 2 through May 23—9:00 a.m.- 2:30 p.m., Mondays through Fridays

9:00 a.m.-11:30 a.m., Saturdays

For completing registration

Saturday, May 23, 8:30 a.m.-11:30 a.m.

## *Registration Schedule for New Graduate Students*

Friday, June 19*	9:00 a.m.	A-E	11:00 a.m.	L-R
	10:00 a.m.	F-K	1:00 p.m.	S-Z

## *Registration Schedule for Undergraduate Students and Returning Graduate Students*

Date	Time	Students	Time	Students
Monday, June 22	8:30 a.m.	A-C	12:30 p.m.	L-O
	9:30 a.m.	D-F	1:30 p.m.	P-S
	10:30 a.m.	G-K	2:30 p.m.	T-Z

*To expedite registration, students have been put into groups on the basis of the first letter of the last name. All students should register according to the above schedule.*

- June 23, Tuesday.....Classes begin.
- June 27, Saturday.....Classes as usual, Monday schedule.
- July 4, Saturday.....Holiday.
- July 31, Friday.....Close of Summer Session.

\* Dormitories will not be open for occupancy until 2:00 p. m. on Sunday, June 21.

# BOARD OF REGENTS

and

## MARYLAND STATE BOARD OF AGRICULTURE

	<i>Term Expires</i>
CHARLES P. McCORMICK <i>Chairman</i> .....	1966
McCormick and Company, 414 Light Street, Baltimore 2	
EDWARD F. HOLTER <i>Vice-Chairman</i> .....	1959
The National Grange, 744 Jackson Place, N.W., Washington 6	
B. HERBERT BROWN <i>Secretary</i> .....	1960
The Baltimore Institute, 12 West Madison Street, Baltimore 1	
HARRY H. NUTTLE <i>Treasurer</i> .....	1966
Denton	
LOUIS L. KAPLAN <i>Assistant Secretary</i> .....	1961
5800 Park Heights Avenue, Baltimore 15	
EDMUND S. BURKE <i>Assistant Treasurer</i> .....	1959
Kelly-Springfield Tire Company, Cumberland	
ALVIN L. AUBINOE .....	1967
1515 Nineteenth Street, N.W., Washington 6, D. C.	
THOMAS W. PANGBORN .....	1965
The Pangborn Corporation, Pangborn Blvd., Hagerstown	
ENOS S. STOCKBRIDGE .....	1960
10 Light Street, Baltimore 2	
THOMAS B. SYMONS .....	1963
Suburban Trust Company, 6950 Carroll Avenue, Takoma Park	
C. EWING TUTTLE .....	1962
907 Latrobe Building, Charles and Read Streets, Baltimore 2	

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Members of the Board are appointed by the Governor of the State for terms of nine years each, beginning the first Monday in June.

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.

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

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

R. LEE HORNBACE, *Dean of the Faculty*

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

FRANK L. BENTZ, JR., *Assistant, President's Office*

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

### *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.

HAROLD F. COTTERMAN, *Dean of the Faculty, Emeritus*

B.S., Ohio State University, 1916; M.A., Columbia University, 1917; PH.D., American University, 1930.

### *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 the College of Special and Continuation Studies*

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, Agricultural Experiment Station and Head, Department of Horticulture*

B.S., University of Idaho, 1928; M.S., State College of Washington, 1930; PH.D., University 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.

WILBERT J. HUFF, *Director, Engineering Experiment Station*

B.A., Ohio Northern University, 1911; B.A., Yale University, 1914; PH.D., Yale University, 1917; D.SC. (HON.), Ohio Northern University, 1927.

SELMA LIPPEATT, *Dean of the College of Home Economics*

B.S.E., 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; 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.

J. FREEMAN PYLE, *Dean of the College of Business and Public Administration*

PH.B., University of Chicago, 1917; M.A., 1918; PH.D., 1925.

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 le l'Institut 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; PH.D., (HON.), University of Louisville, 1946.

### *General Administrative Officers*

G. WATSON ALGIRE, *Director of Admissions and Registrations*

B.A., University of Maryland, 1930; M.S., 1931.

NORMA J. AZLEIN, *Registrar*

B.A., University of Chicago, 1940.

- 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.
- WILLIAM W. COBEY, *Director of Athletics*  
A.B., University of Maryland, 1930.
- LESTER M. DYKE, *Director of Student Health Service*  
B.S., University of Iowa, 1936; M.D., University of Iowa, 1926.
- GEARY F. EPPLEY, *Dean of Men*  
B.S., Maryland State College, 1920; M.S., University of Maryland, 1926.
- GEORGE W. FOGG, *Director of Personnel*  
B.A., University of Maryland, 1926; M.A., 1928.
- ROBERT E. KENDIG, *Professor of Air Science and Head, Department of Air Science*  
A.B., William and Mary College, 1939.
- 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.
- ADELE H. STAMP, *Dean of Women*  
B.A., Tulane University, 1921; M.A., University of Maryland, 1924.
- GEORGE O. WEBER, *Director and Supervising Engineer, Department of Physical Plant*  
B.S., University of Maryland, 1933.

### *Division Chairmen*

- JOHN E. FABER, 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.
- WILBERT J. HUFF, *Chairman of the Division of Physical Sciences*  
B.A., Ohio Northern University, 1911; B.A., Yale College, 1914; PH.D., Yale University, 1917; D.SC., (HON.), Ohio Northern University, 1927.
- CHARLES E. WHITE, *Chairman of the Lower Division*  
B.S., University of Maryland, 1923; M.S., 1924; PH.D., 1926.
- ADOLF E. ZUCKER, *Chairman of the Division of Humanities*  
B.A., University of Illinois, 1912; M.A., 1913; PH.D., University of Pennsylvania, 1917.

## CHAIRMEN, STANDING COMMITTEES, FACULTY SENATE

### GENERAL COMMITTEE ON EDUCATIONAL POLICY

Dr. Charles White (Arts and Sciences), *Chairman*

### COMMITTEE ON ADMISSIONS

Dr. Charles White (Arts and Sciences), *Chairman*

### COMMITTEE ON INSTRUCTIONAL PROCEDURES

Dr. Ronald Bamford (Graduate School), *Chairman*

### COMMITTEE ON SCHEDULING AND REGISTRATION

Dr. Robert Rappleye (Agriculture), *Chairman*

### COMMITTEE ON PROGRAMS, CURRICULA AND COURSES

Dr. Irvin C. Haut (Agriculture), *Chairman*

### COMMITTEE ON SCHOLARSHIPS AND GRANTS-IN-AID

Dr. Nathan L. Drake (Arts and Sciences), *Chairman*

### COMMITTEE ON FACULTY RESEARCH

Dr. Horace S. Merrill (Arts and Sciences), *Chairman*

### COMMITTEE ON PUBLIC FUNCTIONS AND COMMENCEMENTS

Mr. B. J. Borreson (Executive Dean for Student Life), *Chairman*

### COMMITTEE ON LIBRARIES

Dr. Russell G. Brown (Agriculture), *Chairman*

### COMMITTEE ON UNIVERSITY PUBLICATIONS

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### COMMITTEE ON STUDENT PUBLICATIONS AND COMMUNICATIONS

Prof. George F. Batka (Arts and Sciences), *Chairman*

### COMMITTEE ON STUDENT DISCIPLINE

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

### COMMITTEE ON RELIGIOUS LIFE

Dr. Stanley Jackson (Arts and Sciences), *Chairman*

### COMMITTEE ON STUDENT HEALTH AND WELFARE

Dr. William E. Bickley (Agriculture), *Chairman*

### COMMITTEE ON STUDENT EMPLOYMENT AND SELF-HELP

Dr. John E. Foster (Agriculture), *Chairman*

### COMMITTEE ON INTERCOLLEGIATE COMPETITION

Dr. Clyne S. Shaffner (Agriculture), *Chairman*

### COMMITTEE ON PROFESSIONAL ETHICS, ACADEMIC FREEDOM AND TENURE

Prof. Laurence M. Jones (Law), *Chairman*

### COMMITTEE ON APPOINTMENTS, PROMOTIONS AND SALARIES

Dr. Monroe H. Martin (Arts and Sciences), *Chairman*

### COMMITTEE ON FACULTY LIFE AND WELFARE

Dr. Gladys A. Wiggan (Education), *Chairman*

### COMMITTEE ON MEMBERSHIP AND REPRESENTATION

Dr. William Hahn (Dentistry), *Chairman*

## THE SCHOOL

TO SERVE BETTER THOSE WHO DESIRE SUMMER STUDY, THE UNIVERSITY OF Maryland Summer Session affords opportunities to two major groups: to the professional men and women for additional work in their chosen fields; and, to college students for meeting requirements toward graduation. This summer of 1959, special emphasis has been placed upon broadening both the variety and the extent of offerings especially at the graduate level throughout the various colleges and departments on the campus. Summer offerings include institutes, workshops, conferences, short courses, and a lecture series in addition to a large number and variety of regularly scheduled offerings. These offerings are conducted on the same high plane that prevails during the regular academic year.

### Academic Information

#### TERMS OF ADMISSION

All summer school students must be 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 June 6, 1959. 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 June 6, 1959. Credit so obtained through the College of Education is ordinarily accepted for renewal of teaching certificate. A Special student may take upper division (100's) but not the (200's, 300's) courses.

#### GRADUATE STUDENTS

*Application for admission to the Graduate School, plus supporting academic records, must be in the office of the Dean of the Graduate School by June 6, 1959.*

*Transfer Credit.* 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 submit a letter from the graduate dean of the institution in which he is enrolled as a degree student, to the Dean of

## Academic Information

the Graduate School, University of Maryland, requesting permission to take a limited amount of work.

*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 advisor, 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 requiring the standard amount of outside work is given a weight of three semester hours.

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

Teachers and other students will receive official grade reports specifying the amount and quality of work completed. These reports will be accepted by the Maryland State Department of Education and by the appropriate education authorities in other states for the extension and renewal of certificates in accordance with their laws and regulations.

### 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 "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*.

### NORMAL AND MAXIMUM LOADS

Six semester hours is the normal load for the Summer Session. Undergraduate students in the College of Education and teachers in service may take a maximum of eight semester hours if they have above-average grades. The maximum load for graduate students is six semester hours. For details, see "Tuition and Fees."



#### **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. Advisors 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

## Academic Information

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 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. 2, History of Modern Europe; 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

Registration for undergraduate and graduate students will take place on Monday, June 22, from 8:30 a.m. to 2:30 p.m. *New graduate students* should register on Friday, June 19, from 9:00 a.m. to 1:00 p.m., and should report to the office of the department or college concerned with their graduate programs, at the time listed in the Registration Schedule.

*All new students* must obtain admission to the University from the Director of Admissions or the Dean of the Graduate School before registration.

Registration begins in the office of the appropriate dean at the time listed in the Registration Schedule. After registration forms have been filled out and approved by the dean, students complete registration at the Armory. Students must secure section assignments from the departmental representatives at the Armory for all courses listed on their course cards for which more than one section is being offered. After receiving section assignments, students receive bills, pay fees, and submit all forms to the Registrar. Until this is done, registration is not complete or official.

Instruction will begin on Tuesday, June 23, 1958.

Students may register in "late registration" at the Registrar's Office on June 23. After June 23, exceptional cases may be admitted only upon approval of the appropriate dean. The late registration fee, charged on and after June 23, is \$5.00.

### CHANGE IN LENGTH OF CLASS PERIOD

As a result of an opinion survey among both faculty members and students during the 1958 summer session, the length of each class period has been changed from 60 minutes to 90 minutes. Classes during the 1959 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

On this new schedule 3-credit courses will meet 5 days each week and 2-credit courses will meet 4 days as indicated for each 2-credit course.

### ADVANCED REGISTRATION

Undergraduate and graduate students in Education may counsel with advisors *by appointment*, between May 2 and May 23. The hours will be 9:00 a.m.

## General Information

to 3:30 p.m., Mondays through Fridays, and 9:00 a.m. to 11:30 a.m. on Saturdays.

Both the Registrar's Office and the Cashier's Office will be open only on *Saturday, May 23*, between 8:30 a.m. and 12:00 noon. Registration may be completed on this date only after registration cards have been signed by the appropriate advisor and by the Dean of the College of Education.

New students who wish to register in advance must be formally admitted to the University prior to registration. New undergraduate students should file applications for admission with the Office of Admissions and new graduate students should apply to the Dean of the Graduate School.

### 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 this State for at least one year.

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 this State by maintaining such residence for at least one full year. However, the right of the minor student to change from a non-resident 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 one year 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 one year period referred to above except in those cases in which the adult was domiciled in Maryland for at least one year 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.....	\$12.00
Non-residence Fee .....	15.00
Must be paid by all students who are not residents of Maryland.	
Matriculation Fee .....	10.00
Payable only once, upon admission to the University. Every student must be matriculated.	

General Information

Infirmary Fee .....	1.00
Recreation Fee .....	1.00
Required of all students registered in the Summer School.	

GRADUATE STUDENTS

General Tuition Fee, Per Credit Hour.....	\$12.00
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.	

There is no non-residence fee for graduate students.

MISCELLANEOUS INFORMATION

Auditors pay the same fees as regular students.

The diploma 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 26. 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 10. 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 \$10.00 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

Children 5 years of age .....	\$15.00
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WITHDRAWAL AND REFUND OF FEES

Any student compelled to leave the University at any time during the Sum-

## General Information

mer 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 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.

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

Dormitory accommodations are available at the following cost per term, on the basis indicated:

Regular Dormitories	Single Room	Double Room
Women	\$55	\$45
Men	\$45	\$35

Since most of the rooms in the dormitories 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 Dining Room will operate entirely on the cafeteria plan and meals will be served at a minimum cost with a choice of foods.

THE UNIVERSITY DORMITORIES WILL NOT BE OPEN FOR OCCUPANCY UNTIL 2:00 P.M. SUNDAY, JUNE 21, AND THEY WILL CLOSE AT 5:00 P.M. ON THE LAST DAY OF REGULAR SCHEDULED CLASSES, FRIDAY, JULY 31.

Early application for a reservation is advisable, as only those who have made reservations will be assured that rooms are ready for occupancy upon the arrival of the student. Rooms will not be held later than noon on Tuesday, June 23. For reservations write to Miss M. Margaret Jameson, Associate Dean of Women or Mr. C. O. Ensor, Assistant Director, Men's Dormitories.

Students attending the Summer School and occupying rooms in the dormitory will provide themselves with towels, pillows, pillow cases, sheets, blankets,

bureau scarf, desk blotter, and waste basket. Trunks for the men's dormitories should be marked with student's name and addressed to Men's Dormitories. Trunks for women's dormitories should include the name of the dormitory to which the student has been assigned. Trunks sent by express *must* be prepaid. Cleanliness and neatness of rooms is the responsibility of the individual.

#### OFF-CAMPUS HOUSING

Off-campus rooms are available. Inquiries concerning them should be addressed to Mr. Doyle Royal, Office of Director of Student Welfare. He will furnish the names of those householders to whom students may write to make their own arrangements.

The University assumes no responsibility for room and board offered to Summer Session students outside of the University dormitory and Dining Hall. Eating establishments in the vicinity are inspected by the County Health Service.

#### STUDENT HEALTH

The University Infirmary, located on the campus, in charge of the regular University physician and nurse, provides medical service of a routine nature for the undergraduate students in the Summer Session and for those graduate students who elect to pay the \$1.00 fee. Students who are ill should report promptly to the University Infirmary, either in person or by phone (Extension 326).

#### PARKING OF AUTOMOBILES

For the use of students, staff members, and employees, several parking lots are provided. Students may park in lots A, B, and D. 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 State police.

#### 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.

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.

## General Information

The University System of Libraries has in its collections 360,000 volumes in addition to thousands of government publications and uncatalogued materials. Over 4,500 periodicals and 162 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 9:00 a.m. to 11:30 a.m. in Building AA for the duration of the Summer Session as a laboratory for courses in 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. Children will be accepted in the order of the filing of applications, which may be obtained from the Childhood Education Department, University of Maryland, College Park, Maryland. Applications should be filed before May 15, 1959.

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

### FOR ADDITIONAL INFORMATION

Detailed information concerning 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 regulations of student and academic life, may be found in the University publication titled, *University General and Academic Regulations*. This is mailed in September of each year to all undergraduate students, and again in February to all new undergraduate students not previously enrolled in the preceding fall semester.

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

### Graduate Education For High School Teachers of Science and Mathematics

The College of Agriculture, the College of Arts and Sciences, and the College of Education of the University of Maryland will continue, again this summer, a program of courses specially designed for high school teachers of science and mathematics. Through these courses high school teachers will have opportunities first, to refresh subject matter, methods, and procedures and second, to delve into the ever enlarging areas of advancements in scientific and technological developments.

Typical of these courses are those listed below. These courses may be counted toward fulfillment of requirements for the degree of Master of Education.

Botany 136—Plants and Mankind (2).

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

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

Education 247—Seminar in Science Education (Sec. 2) Secondary (2).

Entomology 11S—Entomology for Science Teachers (3).

Mathematics 128S—Higher Geometry (2).

Mathematics 181—Foundations of Number Theory (3).

Mathematics 182—Foundations of Algebra (3).

Mathematics 199—National Science Foundation Summer Institute for Teachers of Science and Mathematics (1-3).

Physics 122A—Properties of Materials (3).

Physics 130, 131—Basic Concepts of Physics (4).

Physics 150—Special Problems in Physics: The Teaching of Physics (1).

Physics 160A—Physics Problems (1-3).

Physics 199—National Science Foundation Summer Institute for Teachers of Science Seminar (1).

Zoology 118—Invertebrate Zoology (4).

Zoology 199—National Science Foundation Summer Institute for Teachers of Science and Mathematics (1).

### Lecture Series On Problems And Trends In Contemporary American Education

All Summer Session students and faculty members are cordially invited to attend a series of lectures to be given by educators of national prominence. The lecture series has been planned to present a broad overview of some of the key issues and trends that relate to the improvement of education at all levels. A list-

ing of specific topics and speakers is included in a separate brochure which will be available on request at the time of registration.

These lectures are scheduled for Mondays and Wednesdays from 2:00 to 3:30 p.m. in the Central Auditorium of Skinner Building, beginning on Monday, June 29 and ending on Wednesday, July 27.

Those students wishing to register for this series on a regular class basis and earn two hours of undergraduate or graduate credit may do so by supplementing attendance at these lectures by participation in a discussion group led by a regular University staff member. Additional details are available in the description of Ed. 190 which appears with the College of Education course offerings in this bulletin.

## Typewriting Demonstration For Business Education Teachers

The College of Education offers the business teacher registered for B.Ed. 101 (see page 29) 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.

### TYPEWRITING DEMONSTRATION CLASS

This is a non-credit typewriting class for those who wish to learn the touch system and increase their basic typewriting skills. Any person who has completed grade seven may enroll for the class. The charge will be \$35.00 for the six-weeks period and no credit will be allowed for the work. No refunds will be made. Class meets in Room Q-143 9:00 to 11:00 Monday through Friday, June 22 to July 31.

## Workshops in Music

Through the cooperation of the Department of Music, the College of Education, and the College of Special and Continuation Studies, two Workshops in Music will be offered during the 1959 Summer Session, directed by nationally known leaders in their respective fields. Participants registered in one of the courses listed below, will meet in the afternoons 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.

## *Conferences, Institutes*

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 6 for admission to that School. Rooms may be reserved in the campus dormitories for the periods of the Workshops, and meals will be available in the University Cafeteria at nominal cost.

### WORKSHOP IN CHORAL MUSIC

The Choral Workshop is offered during the period July 6 to July 17. Participants will register for course Mus. Ed. 175, Methods and Materials in Vocal Music for the High School. In the first week (July 6-10), a series of lectures, conferences, and discussions of choral problems and readings of new choral music will be held. In the second week (July 13-17) a mixed chorus of selected high-school students will rehearse and will 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 is offered during the period July 6 to July 17. Participants will register for the course Mus. Ed. 180, Instrumental Seminar. The Workshop will include a series of lectures, conferences, and discussions of problems and literature for the concert and marching bands. In addition, in the second week (July 13-17) a concert band composed 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.

Copies of a brochure containing detailed information about the Workshop in Band Music and the Workshop in Choral Music may be obtained by addressing the Department of Music. The fee applicable to these Workshops, including registration, dormitory room and supplementary fee of \$5.00, can be calculated by referring to pages 6-8 of this catalog.

## Workshops in Special Education

### THE EDUCATION OF CHILDREN WITH LEARNING IMPAIRMENTS

This Workshop will demonstrate techniques and materials for teaching children with learning disabilities resulting from disturbances in the receptivity of stimuli, within the process of learning and the expression of what has been learned.

Arrangements have been made to introduce and demonstrate the use of techniques and materials for children with learning impairments. Four major subdivisions have been planned to emphasize methods of teaching: (1) Children with reading disabilities, (2) children with central nervous system disturbances, (3) impairments in expressive or receptive language development, and (4) disturbances in emotional development.

Four demonstration classes including the above disabilities have been arranged. Actual student participation with children in the demonstration classes is anticipated. This workshop will meet daily from 9:30-3:00, June 22-July 10. Three units of undergraduate or graduate credit may be earned.

THE EDUCATION OF CHILDREN WITH  
SUPERIOR INTELLECTUAL ABILITY

This workshop will be concerned with the characteristics, identification, survey of special programs and teaching techniques, curriculum and material for children who are gifted on the elementary and secondary level.

In this workshop the major emphasis will be placed on the modifications that are necessary in educational planning for children with intellectual giftedness. A survey of the kinds of administrative and curricular changes that are being made for these children, and an effort to draw the most suitable ideas from the existing planning to be used by teachers in their individual situations; one on the elementary level and the other on the secondary level. Demonstration classes for each of the two levels have been arranged. Actual teaching participation is anticipated.

This workshop will meet daily from 9:30-3:00, July 13 to July 31. Three units of undergraduate or graduate credit may be earned.

## 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 children and youth; (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 agencies devoted to fostering the mental health and optimal development of children, youth, and adults.

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

This program of study (June 22-July 31) requires approximately a seven hour day for all participants. The day begins at 8:00 a.m. and usually terminates at 3:00 p.m.

## Conferences, Institutes

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.

### CHILD STUDY LEADERS WORKSHOP

For leaders and prospective leaders of child study groups who cannot attend the full six-weeks workshop, two two-week workshops will be held on the University campus. One will run from June 22 through July 3; the other from July 20 through July 31. Ordinarily participants would attend only one of these two workshops because they will be organized similarly.

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.

### 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 6 through July 17. 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.

### 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 July 6 through July 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.

Enrollment in the short workshops and conferences will be limited. *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 been admitted to the Graduate School two weeks before the opening date of the two-week workshop they plan to attend.*

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

### Education in Family Finance Workshop

During the Summer Session of 1959 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 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 22 to July 31, 1959. 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. 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 6.

*Scholarships:* Forty scholarships covering board and room in campus facilities 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. Arthur S. Patrick, College of Business and Public Administration, University of Maryland, College Park, Maryland.

## Workshop on Teaching Conservation of Natural Resources

The College of Agriculture will cooperate with the Conservation Education Division of the Maryland Department of Research and Education in developing this Workshop 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 22 to July 31, 1959.

## Institute of Acarology

The Institute of Acarology provides a unique opportunity for entomologists, parasitologists, zoologists and advanced students in the field of biology to study the mites and ticks. The recent important discoveries of the role of the Acarina in the fields of public health and agriculture have emphasized the need for an understanding of all phases of knowledge concerned with mites and ticks. Their part in the epidemiology of scrub typhus, "Q" fever, haemorrhagic fever, and other diseases, as well as their increased destruction of plants that has followed the introduction of the newer insecticides have brought them to the attention of an increasing number of biologists. Three courses (see page 63) involving lecture, laboratory and field work will be offered in the Department of Zoology, University of Maryland.

The National Institutes of Health, through a program of training grants, have made it possible for The Institute of Acarology to offer financial assistance to individuals who would otherwise be unable to attend the Institute, especially those from other continents. Two stipends of \$800 each for six weeks are available for those individuals from other continents as well as a number of \$150 stipends for three weeks for those from North America. The domestic stipends



will cover costs such as tuition, books, dormitory room and board while in attendance. Application forms for these training grants may be requested from: Mrs. Allie M. Brown, The Institute of Acarology, Department of Zoology, 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 1959 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 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. 1  
\*Bot. 136  
\*Bot. 151S  
Ent. 11S  
Microb. 1  
Zool. 1  
Zool. 104  
\*Zool. 118S  
\*Zool. 199

#### *Physical Sciences*

Chem. 3  
Chem. 19  
Chem. 37  
Chem. 38  
\*Chem. 115  
\*Phys. 122A  
Phys. 130, 131  
\*Phys. 150  
\*Phys. 160A  
\*Phys. 199

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\*Intended for teachers.

## *Conferences, Institutes*

These courses are described in detail in this catalog under the headings of the respective department. 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 credit 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.

### 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.

Two of the three courses, Mathematics 181—Foundations of Number Theory, 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 eight will be taught. A seminar meeting three afternoons a week 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 40 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.

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 1959-60.

Inquiries should be addressed to: Professor John W. Brace, Director, Summer Institute for Mathematics Teachers, Department of Mathematics, University of Maryland, College Park, Maryland.

### Workshop in the Supervision of Student Teachers

This workshop is offered for experienced and qualified teachers who are interested in the supervision of student teachers, or who anticipate having a student teacher in the future. The workshop will meet from June 22 to July 10, daily 9:30 a.m. to 3:30 p.m.

The Workshop is designed to give participants a background understanding of the place of student teaching in the total program of teacher education. Particular attention will be given to such topics as: the selection of supervising teachers, the approval of applicants for student teaching, the role of the supervising teacher in the professional growth of a student teacher, responsibilities of other staff members in a school for enriching the student teaching experience, major trends in student teaching programs throughout the country, evaluation of student teaching, and university-public school joint responsibility for improving student teaching programs. Workshop meetings will consist of both formal sessions and informal discussions. Participants should plan to devote full time to the Workshop. Enrollment will be limited to twenty-five. Further information concerning the Workshop may be had by writing to the Director of the Summer Session. See page 33 for further details under Ed. 189.

### Remedial Reading Instruction

This Workshop is primarily designed for teachers who are actively engaged in remedial reading instruction and for supervisors and principals who are responsible for setting up remedial classes and programs. However, diagnostic techniques and teaching procedures considered in the Workshop are also practical for classroom teachers who wish to help pupils who are making unsatisfactory progress in reading. Insofar as possible pupils who are receiving remedial reading instruction during the forenoon will be used to objectify problems and techniques. Attention will be given to reasons for poor progress in reading, materials and procedures for diagnosing difficulties, criteria for selecting pupils for special reading instruction, instructional materials, and teaching procedures. Particular attention will be given to problems of teachers who are doing remedial reading instruction during forenoons while the Workshop is in progress.

The Workshop will meet daily from 1:00-4:00 p.m. between June 29 and July 24. Four hours of either undergraduate or graduate credit may be earned. For further details see Ed. 189.

### Workshop on Teaching Elementary School Science

The College of Education will sponsor a four-week Workshop June 22-

July 17, in science for elementary supervisors, principals and teachers who have special responsibility for science in their school systems. A survey of subject matter, of methods of teaching, and consideration of the problems of curriculum construction and selection of teaching materials will be considered. There will be field trips, visiting consultants and first-hand experience with science materials.

Applications should be directed before June 1 to Glenn O. Blough, College of Education, College Park. The Workshop will be in daily session from 9:30 a.m. to 3:30 p.m. Four hours of undergraduate or graduate credit may be earned. Applications for graduate credit must be submitted to the Graduate School prior to June 6. Not open to students who have previously taken Sci. Ed. 105. This Workshop is listed under Course Offerings as Ed. 189.

### Industrial Arts Curriculum Workshop

The Workshop is intended for Industrial Arts teachers desiring to develop curriculum materials consistent with recent technological developments. In addition, the Workshop is designed to develop materials and procedures for a greater contribution of the Industrial Arts to the total school program.

### 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 22 through July 10. It is designed to help teachers learn to utilize community resources to strengthen a sound program of teaching and learning. 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, College of Education, University of Maryland, College Park, Maryland.

## 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

*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, credit, prices, production adjustments, transportation, marketing and cooperation. (Staff.)

*A. E. 399. Research.*

Credit according to work accomplished. Students will be assigned research in agricultural economics under the supervision of the instructor. The work will consist of original investigation in problems of agricultural economics. (Staff.)

*A. E. S216B. Advanced Farm Management. (1)*

July 13 to July 17. Arranged. Summer Session only. An advanced course in farm organization and management, especially designed for teachers of vocational agriculture. (Staff.)

### AGRICULTURAL EDUCATION AND RURAL LIFE

Summer courses in Agricultural Education and Rural Life are offered primarily for teachers of vocational agriculture, extension field agents and others interested in the professional and cultural development of rural communities. These courses are arranged to articulate with certain courses in Agricultural Economics and Marketing, Agronomy, Animal Husbandry, Botany, Dairy Husbandry, Horticulture, and Poultry. Courses in both groups are offered in a cycle.

In 1959, one one-credit course will be offered per week for the last four weeks of Summer School. Students can take as many of these courses as they can arrange to attend. The schedule for each course will depend upon the nature of the material presented, but the total number of meetings per credit will be in accordance with graduate course standards. For example, in courses that are presented largely through the laboratory method the class will meet

the greater part of each day. In courses where the lecture method is used, there will be a minimum of three hours of class each day, and the students will be expected to spend considerable time outside of classes in various kinds of assignments. Some courses will be a combination of lectures and laboratories in varying degrees.

By pursuing a program of three properly selected one-week courses successfully for eight consecutive summers and submitting a satisfactory thesis a student can earn a Master of Science degree with a major in Agricultural Education. The time required for this degree can be shortened by attending some full six-week Summer School Sessions, by attending one or more full semesters, by taking University Extension courses offered over the State, and by taking courses given in the evening and on Saturday on the campus. Minor credit can be taken in either Agricultural or Secondary Education courses.

Teachers should register for these courses on the regular registration days or during the week of June 22 while the FFA State Convention and Contests are being held. Teachers registering for the field problems or research courses may register at the same time, but will work under the direction of an assigned member of the staff, rather than on the basis of one-week per credit.

*R. Ed. S170. Workshop Teaching Conservation of Natural Resources. (6)*

Daily 9:30 a.m.-12:00 noon and 1:00 p.m.-3:00 p.m. 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. Laboratory fee \$25.00. (Staff.)

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

Arranged, 0-138. 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.)

*R. Ed. S199A-B. Seminar in Agricultural Education. (1)*

July 27 through July 31. Part A. Arranged. 0-138. Investigations, reports and papers on the organization and administration of agricultural education. (Staff.)

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

July 27 through July 31. Part B. Arranged. 0-138. A critical analysis of current problems in the teaching of vocational agriculture with special emphasis upon recent developments in all-day programs.

*R. Ed. S208 A-B. Problems in Teaching Farm Mechanics. (1-1)*

July 6 through July 10. Part B. Arranged. This course deals with the latest developments in the teaching of Farm Mechanics. Various methods in use will be compared and studied under laboratory conditions. (Gienger.)

*R. Ed. S213 A-B. Supervision and Administration of Vocational Agriculture. (1)*

July 20 through July 24. Arranged. 0-138. Administrative and supervisory problems in Vocational Agriculture including scheduling, local administrative programs, super-

visor-teacher relationships and the responsibilities of superintendents and principals in the program. (Hopkins.)

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

Prerequisite, six semester hours of graduate study. Arranged. 0-138. 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. 0-138. Principles of research are studied, problems for thesis are selected, methods of developing a thesis are discussed, and a thesis is written. (Hopkins.) Also see P. H. S111, July 6 through July 10.

## AGRONOMY

*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 Agricultural Experiment Station, review of literature, or original work by the student 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.)

*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. 300. Research. (1-6)*

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.

## BOTANY

*Bot. 1. General Botany. (4)*

Five lectures, daily 8:00-8:50, E-116; five laboratory periods, E-238; Section A, daily 9:00-10:50; Section B, daily, 12:30-2:20. Laboratory fee, \$5.00. General introduction to botany including all phases of the subject. Emphasis on the fundamental biological principles of higher plants. (Paterson.)

*Bot. 136. Plants and Mankind. (2)*

M. T. Th. F., 8:00-9:20, E-214. Prerequisite, Bot. 1 or equivalent. A survey of the plants which are utilized by man; the diversity of such utilization and their historic and economic significance. (Rappleye.)

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

Five 2-hour laboratory and demonstration periods, daily 12:30-2:20, E-236, 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 secondary schools. (Paterson.)

*Bot. 399. Research in Botany.*

Credit according to work done.

(Staff.)

## BUSINESS ORGANIZATION & ADMINISTRATION

*B. A. 20. Principles of Accounting. (4)*

Ten periods a week. Daily 8:00 and 9:00; Q-28. Prerequisite, sophomore standing. The fundamental principles and problems involved in accounting for proprietorships, corporations and partnerships. (Daiker.)

*B. A. 21. Principles of Accounting. (4)*

Ten periods a week. Daily 8:00 and 9:00; Q-29A. Prerequisite, sophomore standing. The fundamental principles and problems involved in accounting for proprietorships, corporations and partnerships. (Sweeney.)

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

Five periods a week. Daily 8:00-9:20; Q-29. 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. (3)*

Five periods a week. Daily 8:00-9:20; Q-243. Prerequisite, junior standing. Required for graduation. Laboratory fee, \$3.50. 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.)

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\*Intended for teachers.



**B. A. 140. *Financial Management.* (3)**

Five periods a week. Daily 8:00-9:20; Q-146. Prerequisite, Econ. 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.

**B. A. 150a. *Marketing Principles and Organization.* (3)**

Five periods a week. Daily 9:30-10:50, Q-146. Prerequisite, Econ. 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. (Gentry.)

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

Five periods a week. Daily 9:30-10:50; Q-148. Prerequisite, Econ. 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. 181. *Business Law.* (4)**

Ten periods a week. Daily 8:00 and 9:00; Q-30; 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. 262. *Seminar in Contemporary Trends in Labor Relations.* (3)**

Arranged. (Sylvester.)

**B. A. 299. *Thesis.***

Arranged.

## CHEMISTRY

All laboratory courses in Chemistry (except Chem. 214—\$20.00) carry a laboratory fee of \$10.00, in addition the student is charged for any apparatus which cannot be returned to the stock room in perfect condition.

**†Chem. 3. *General Chemistry.* (4)**

Five lectures and five three-hour laboratory periods per week. Prerequisite, Chem. 1. Lecture, 11:00, U-16. Laboratory, 1:00, 2:00, 3:00, C-120. (Jaquith.)

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

Five lectures and five three-hour laboratory periods per week. Prerequisite, Chem. 1 and 3. Lecture 9:00, C-215. Laboratory, 10:00, 11:00, 12:00, C-306. (Stuntz.)

†Recommended for teachers, undergraduate credit.

## Classical Languages and Literatures, Dairy

### †Chem. 37. *Elementary Organic Chemistry*. (2)

Five lectures per week. Prerequisite, Chem. 35. 8:00, C-215. (Woods.)

### †Chem. 38. *Elementary Organic Laboratory*. (2)

Five three-hour laboratory periods per week. Prerequisite, Chem. 36. 9:00, 10:00, 11:00, C-221. (Woods.)

### Chem. 115. *A Survey of Organic Chemistry*. (4)

Open only to participants in NSF Institute. A systematic survey of compounds of carbon at the elementary level. Five one-hour lectures and five three-hour labs per week. Lecture 8:00, U-16. Lab. 9:00, 10:00, 11:00; C-223.

### †Chem. 192, 194. *Glassblowing Laboratory*. (1, 1)

Three three-hour laboratory periods per week. M., W., 7:00, 8:00, 9:00; S, 9:00, 10:00, 11:00; C-B3. (Carruthers.)

### Chem. 205. *Radiochemistry (Lectures)*. (2)

Daily, 9:00; U-15. (Lakshmanan.)

### Chem. 210. *Radiochemistry (Laboratory)*. (2)

Registration limited. Concurrent registration in both, and consent of instructor required. (Lakshmanan.)

### Chem. 360. *Research*.

## CLASSICAL LANGUAGES AND LITERATURES

### Latin 70. *Greek and Roman Mythology*. (3)

Five periods a week. Daily, 9:30-10:50; A-8. Taught in English. No prerequisite. A systematic study of the divinities of ancient Greece and Rome and the classical myths concerning them. (Avery.)

*Note:* This course is particularly recommended for students majoring in Foreign Languages, English, History, the Fine Arts, and Journalism.

## DAIRY

### Dairy S101. *Advanced Dairy Production*. (1)

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.)

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†Recommended for teachers, undergraduate credit.

*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)*

Four periods a week. 12:30-1:50; M. T. Th. F.; Q-147. Prerequisite, none. An introduction to modern economic institutions—their origins, development and present status. Commercial revolution, industrial revolution, and age of mass production. Emphasis on development in England, Western Europe and the United States. (Staff.)

*Econ. 31. Principles of Economics. (3)*

Daily 8:00-9:20; Q-147. Prerequisite, sophomore standing. A general analysis of the functioning of the economic system. 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. (Shelby.)

*Econ. 32. Principles of Economics. (3)*

Daily 9:30-10:50; Q-147. Prerequisite, Econ. 31. A general analysis of the functioning of the economic system. 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. (Grayson.)

*Econ. 37. Fundamentals of Economics. (3)*

Daily 8:00-9:20; Q-31. 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)*

Daily 8:00-9:20; Q-148. 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. (Gruchy.)

*Econ. 160. Labor Economics. (3)*

Daily 11:00-12:20; Q-31. 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.)

## EDUCATION

## BUSINESS EDUCATION

*B. Ed. 101. Problems in Teaching Office Skills. (2)*

Daily, 8:00, Q-246. Problems in development of occupational competency, achieve-

## Education

ment tests, standards of achievement, instructional materials, transcription, and the integration of office skills. (O'Neill.)

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

M. T. Th. F., 9:30, Q-246. Important problems and procedures in the mastery of bookkeeping and related office knowledges and skills including a consideration of materials and teaching procedures. (Brown.)

*B. Ed. 200. Administration and Supervision of Business Education.* (2)

M. T. W. F., 11:00, Q-246. Major emphasis on departmental organization, curriculum, equipment, budget making, guidance, placement and follow-up, visual aids and the in-service training of teachers. For administrators, supervisors, and teachers of business subjects. (Brown.)

## CHILDHOOD EDUCATION

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

Daily 9:30; AA-7. Developmental growth of the child from birth to five years; observation in the University Kindergarten. Open to students in other colleges of the University. (Broome.)

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

Daily, 9:30; AA-9. Prerequisites, C. Ed. 100, 101, or 110. Laboratory fee, \$5.00. Storytelling, selection of books for pre-school children; the use, preparation and presentation of such raw materials as clay, paints (easel and finger), blocks, wood, and scrap materials for nursery school and kindergarten. (Stant.)

*C. Ed. 140. Curriculum, Instruction, and Observation—Early Childhood Education (Nursery School and Kindergarten).* (3)

Daily, 8:00; AA-8. Prerequisites, C. Ed. 100, 101, or 110. Philosophy of early childhood education; observation of the developmental needs at various age levels, with emphasis upon the activities, materials, and methods by which educational objectives are attained. (Stant.)

*C. Ed. 145. Guidance in Behavior Problems.* (3)

Daily, 8:00; AA-7. Development of an appreciation and understanding of young children from different home and community backgrounds; study of individual and group problems. (Broome.)

*C. Ed. 159. Teaching Kindergarten.* (4)

Daily, 8:00; 9:30, 11:00; AA-16. Laboratory fee, \$30.00. 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. (Laadt.)

## ELEMENTARY-SECONDARY EDUCATION

*Ind. Ed. 9. Industrial Arts in the Elementary School I.* (2)

Daily 11:00 a.m. P-214.

See page 41 for course description.

*Ed. 52. Children's Literature. (2)*

8:00, M. T. W. F., T-4. A study of literary values in prose and verse for children.  
(Bryan.)

*Ed. 121. The Language Arts in the Elementary School. (2)*

Section 1—12:30, M. T. W. Th., R-202. (Stratemeyer.)

Section 2— 9:30, M. T. Th. F., T-5. (Lewis.)

Section 3—11:00; M. T. Th. F., T-5. (Lewis.)

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. (2)*

Section 1— 8:00, M. W. Th. F., T-10. (O'Neill.)

Section 2—12:30, M. T. W. Th., T-219. (O'Neill.)

Section 3— 9:30, M. T. W. F., R-202. (Stratemeyer.)

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

*Ed. 124. Arithmetic in the Elementary School. (2)*

Section 1— 9:30, M. T. W. F., A-130. (Schindler.)

Section 2—12:30, M. T. W. Th., T-102. (Dunlap.)

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— 9:30, M. T. Th. F., A-302. (Lembach.)

Section 2—11:00, M. T. Th. F., A-302. (Lembach.)

Concerned with art methods and materials for elementary schools. Includes laboratory experiences with materials appropriate for elementary schools.

Applications for enrollment must be mailed to the Director of the Summer Session before June 15, 1959. Enrollment will be limited to 25 persons per section.

*Ed. 127. Teaching in Elementary Schools. (6)*

Daily, 9:00, 10:00, 11:00; AR-32. An overview of elementary school teaching designed for individuals without specific preparation for elementary school teaching or for individuals without recent teaching experience. (Bowman.)

Applications for enrollment must be mailed to the Director of Summer Session before June 15, 1959. Enrollment will be limited to 25 persons.

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

Daily, 11:00; R-202. 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. (Neuwien.)

## Education

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

Daily, 9:30; A-18. 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 to individual and group differences. Present tendencies and aims of instruction in the social studies. (Hennen.)

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

Fee, \$1.00. Daily, 11:00; T-102. This course is designed to bring practical suggestions 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. (Schneider.)

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

Laboratory fee, \$2.00. Daily, 8:00; T-102. 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. (Ulry.)

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

Daily, 11:00; T-219. Content and method in teaching the English language arts. (Bryan.)

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

Daily, 8:00; A-212. This course is concerned with the principles and methods of teaching in junior and senior high schools. (Grambs.)

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

Daily, 8:00; P-306. Laboratory fee, \$1.00. Sensory impressions 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. (Maley.)

### *Ed. 150. Educational Measurement. (2)*

M. T. Th. F., 9:30; A-212. Constructing and interpreting measures of achievement. (Asher.)

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

Daily, 11:00; A-8. 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. (2)*

Section 1—Primary and intermediate grades—8:00, M. W. Th. F.; T-12.  
Section 2—Intermediate and secondary grades—9:30, M. T. Th. F.; T-12.  
Section 3—Primary and intermediate grades—12:30, M. T. W. Th.; T-12.

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. (Matson.)

*Ed. 154. Remedial Reading Instruction. (2)*

8:00, M. T. Th. F.; AR-33. 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. Applications for enrollment must be mailed to the Director of Summer Session before June 15, 1959. Enrollment will be limited to 30 persons. (Belden.)

*Ed. 160. Educational Sociology. (2)*

12:30, M. T. W. Th.; A-130. This course deals with data of the social sciences which are germane to the work of teachers. Consideration is given to implications 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. (Hennen.)

*Ed. 161. Principles of Guidance. (3)*

Daily, 11:00; M-102. Overview of principles and practices of guidance-oriented education. (Byrne.)

*Ed. 162. Mental Hygiene in the Classroom. (2)*

Section 1— 8:00, M. W. Th. F., A-14.

Section 2— 9:30, M. T. Th. F., A-14.

Section 3—12:30, M. T. W. Th., A-14.

The practical application of the principles of mental hygiene to classroom problems.

(Orr.)

*Ed. 189. Workshops, Clinics, and Institutes: Education in Family Finance. (6)*

Daily, 8:00-3:00; G-311. June 22-July 31, 1959. The program 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 this workshop, see page 17 of this catalog. *Early application is recommended.* (Patrick, Risinger.)

*Ed. 189. Workshops, Clinics, and Institutes: Teaching Elementary School Science. (4)*

Daily, 9:30 a. m. to 3:30 p. m., June 22-July 17; T-103. A four-week workshop in science especially designed for elementary supervisors, principals and teachers who have special responsibility for science in their school system. (Blough.)

*Ed. 189. Workshops, Clinics, and Institutes: Supervision of Student Teachers. (3)*

Daily, 9:30 to 3:30, June 22 to July 10; AR-29. For experienced and qualified teachers who are interested in the supervision of student teachers, or who anticipate having a student teacher in the future. (McClure.)

*Ed. 189. Workshops, Clinics, and Institutes: Remedial Reading Instruction. (4)*

Daily, 1:00 to 4:00, AR-33, June 29 to July 24. This workshop is primarily de-

signed for teachers who are actively engaged in remedial reading instruction and for supervisors and principals who are responsible for setting up remedial classes and programs. (Belden.)

*Ed. 189. Workshops, Clinics, and Institutes: The Education of Children with Learning Impairments. (3)*

Daily, 9:30 to 3:00, June 22 to July 10. To be arranged. This workshop will demonstrate techniques and materials for teaching children with learning disabilities resulting from disturbances in the receptivity of stimuli, within the process of learning and the expression of what has been learned. (Haring.)

*Ed. 189. Workshops, Clinics, and Institutes: The Education of Children with Superior Intellectual Ability. (3)*

Daily, 9:30 to 3:00, July 13 to July 31. To be arranged. This workshop will be concerned with the characteristics, identification, survey of special programs and teaching techniques, curriculum and material for children who are gifted on the elementary and secondary level. (Haring.)

*Ed. 189. Workshops, Clinics, Institutes: Industrial Arts Curriculum Workshop. (2)*

M. T. W. Th., 9:30, June 22-July 31; P-221. This workshop is intended to deal with trends and factors effecting curriculum construction with special emphasis on Industrial Arts. (Hammond.)

*Ed. 189. Workshops, Clinics, and Institutes: Child Study Leaders. (2)*

June 22-July 3. Daily, 8:00 a. m. to 3:00 p. m.; 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. (Staff.)

*Ed. 189. Workshops, Clinics, and Institutes: Child Study Leaders. (2)*

July 20-July 31. Daily, 8:00 a. m. to 3:00 p. m.; J-8A. Similar to the above mentioned workshop, except for dates. Persons can participate in either one but not in both of these workshops for child study leaders. See also page 16. (Staff.)

*Ed. 189. Workshops, Clinics, and Institutes: Administrators' Conference on Implications of Human Development Principles. (2)*

July 6-July 17. Daily, 8:00 a. m. to 3:00 p. m.; 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. (Staff.)

*Ed. 189. Workshops, Clinics, and Institutes: Application of Human Development Principles in Classrooms. (2)*

July 6-July 17. Daily, 8:00 a. m. to 3:00 p. m.; J-11. This workshop is open only 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. (Staff.)



*Ed. 189. Workshops, Clinics, and Institutes: Use of Community Resources.* (3)

June 22-July 10, 1959. Daily, 9:30-3:30; AR-30. 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. 190. Problems and Trends in Contemporary American Education.* (2)

Lectures, M., W., 2:00, 3:30; Central Auditorium. Discussions, M., T., W., Th., 9:30; R-112. Designed to present a broad overview of some key issues and trends that relate to the improvement of instruction at elementary, secondary, and teacher education levels. Lectures by visiting educators of national prominence will be reviewed and analyzed in discussion groups led by a regular University staff member. (Grambs.)

*Ed. 203. Problems in Higher Education.* (3)

Daily, 8:00; N-128. A study of present problems in higher education. (Blauch.)

*Ed. 205. Comparative Education.* (3)

Daily, 8:00; T-219. A study of historical changes in ways of looking at national school systems, and of problems in assessing their effectiveness. (Wiggin.)

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

Daily, 9:30; E-214. 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. (Neuwien.)

*Ed. 211. The Organization, Administration, and Supervision of Secondary Schools.* (2)

M. T. W. F., 11:00; T-12. 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. (Saylor.)

*Ed. 216. High School Supervision.* (2)

M. T. Th. F., 9:30; T-102. Deals with recent trends in 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. (Schneider.)

*Ed. 217. Administration and Supervision in Elementary Schools.* (2)

M. T. Th. F., 11:00; A-14. Problems in organizing and administering elementary schools and improving instruction. (Shuster.)

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

M. T. Th. F., 9:30; R-102. Enrollment will be limited to 20 students. (Newell.)

*Ed. 223. Practicum in Personnel Relationships.* (3)

Daily, 8:00; R-102. Prerequisite, consent of instructor. Enrollment limited. Designed to help teachers, school administrators, and other school staff members to function more effectively in developing educational policy in group situations. (Newell.)

Education

*Ed. 225. School Public Relations. (3)*

Daily, 11:00; R-102. A study of the interrelationships between the community and the school. Public opinion, propaganda, and the ways in which various specified agents and agencies within the school have a part in the school public relations program are explored. (van Zwoll.)

*Ed. 227. Public School Personnel Administration. (2)*

M. T. Th. F., 9:30; T-4. 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. (van Zwoll.)

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

Section 1—8:00, M. T. Th. F.; E-131.

(Dunlap.)

Section 2—9:30, M. T. Th. F.; E-131.

(Dunlap.)

Primarily for individuals who wish to write seminar papers. Enrollment should be preceded by at least 12 hours of graduate work in education.

*Ed. 230. Elementary School Supervision. (2)*

M. W. Th. F., 8:00; A-8. Concerned with the nature and function of supervision, various supervisory techniques and procedures, human relationship factors, and personal qualities for effective supervision. (Shuster.)

*Ed. 234. The School Curriculum. (2)*

M. W. Th. F., 8:00; T-5. 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)*

Daily, 9:30; T-211. 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. (Saylor.)

*Ed. 237. Curriculum Theory and Research. (2)*

M. T. Th. F., 11:00; T-211. The school curriculum considered within the totality of factors affecting pupil behavior patterns, an analysis of research contributing to the development of curriculum theory, a study of curriculum theory as basic to improved curriculum design, the function of theory in guiding research, and the construction of theory through the utilization of concepts from the behavior research disciplines. (Hovet.)

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

M. T. Th. F., 8:00; A-130. Implications of current theory and results of research for the teaching of arithmetic in elementary schools. (Schindler.)

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

M. T. Th. F., 8:00; R-202. Implications of current theory and the results of research for the language arts in the elementary schools. (Stratemeier.)

*"Experiences with books"—Kindergarten, Nursery School.*

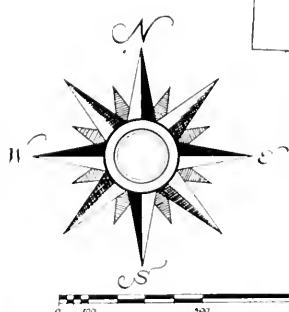
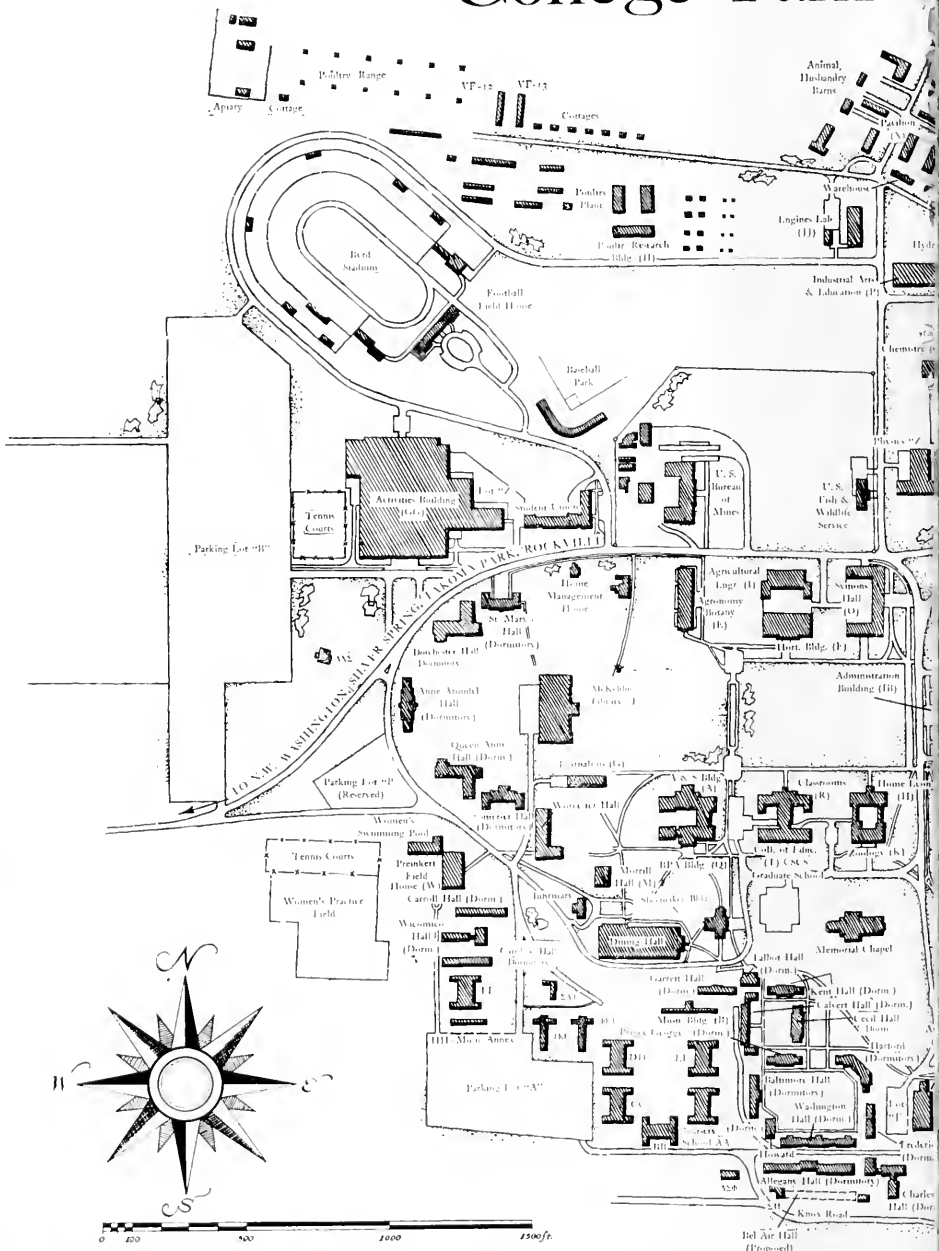


*Beyond the classroom.*

*The new Theodore R. McKeldin Library at College Park.*

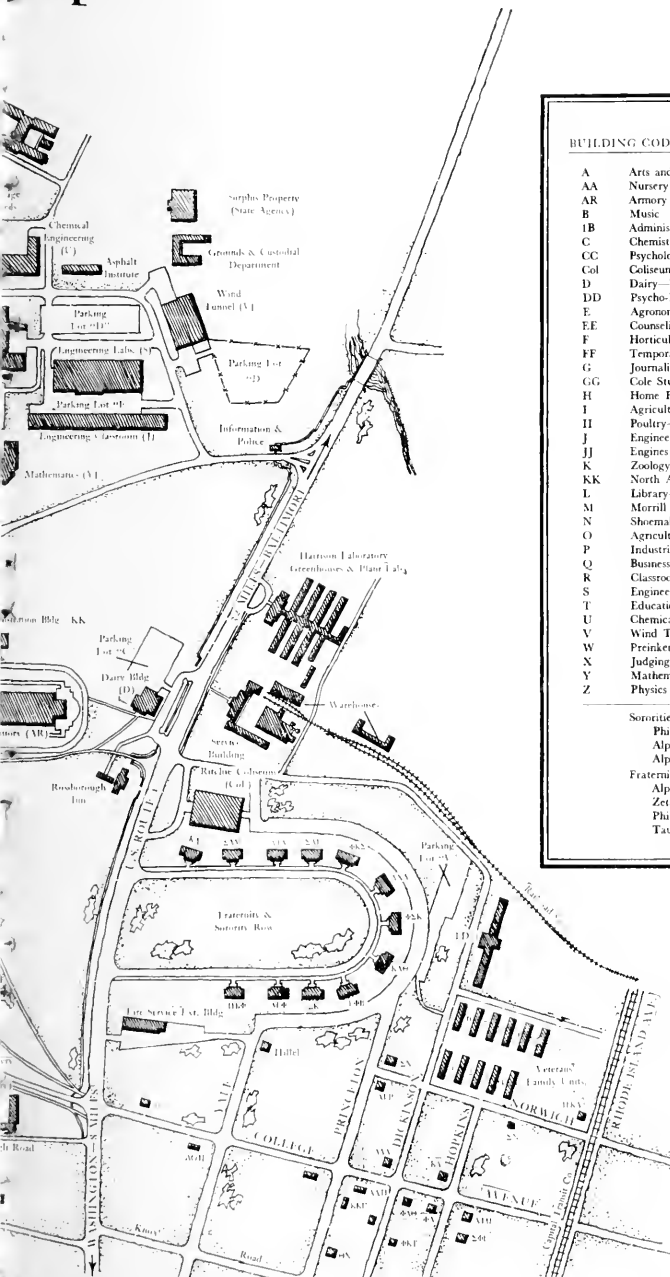


# UNIVERSITY OF College Park C



# MARYLAND

## mpus



**BUILDING CODE LETTERS FOR CLASS SCHEDULES**

A	Arts and Sciences—Francis Scott Key Hall
AA	Nursery School
AR	Armory
B	Music
1B	Administration
C	Chemistry
CC	Psychology
Col	Coliseum
D	Dairy—Turner Laboratory
DD	Psycho-Pharmacology Laboratory
E	Agronomy—Botany—H. J. Patterson Hall
EE	Counseling Center
F	Horticulture—Holzapfel Hall
FF	Temporary Classroom
G	Journalism
GG	Cale Student Activities Building
H	Home Economics
I	Agricultural Engineering—Shriver Laboratory
II	Poultry—Jull Hall
J	Engineering Classroom Building
JJ	Engines Research Laboratory (Molecular Physics)
K	Zoology—Silvester Hall
KK	North Administration Building
L	Library—McKeldin Hall
M	Merrill Hall
N	Shoemaker Building
O	Agriculture—Symons Hall
P	Industrial Arts and Education—J. M. Patterson Bldg.
Q	Business & Public Administration—Taliaferro Hall
R	Classroom Building—Woods Hall
S	Engineering Laboratories
T	Education—Skinner Building
U	Chemical Engineering
V	Wind Tunnel
W	Preinkert Field House
X	Judging Pavilion
Y	Mathematics
Z	Physics

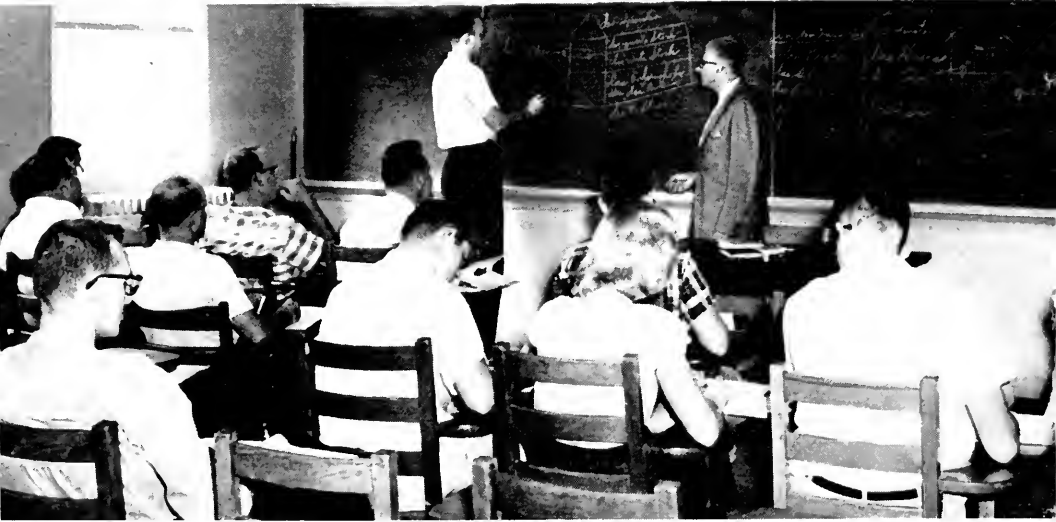
Sororities Not Shown  
Phi Sigma Sigma  
Alpha Chi Omega  
Alpha Xi Delta

Fraternities Not Shown  
Alpha Epsilon Pi  
Zeta Beta Tau  
Phi Kappa Gamma  
Tau Epsilon Phi

Civil Defense Training Bldg.



*"I've got balance, too"—Special Education Workshop.*



*A typical classroom scene in foreign language.*



*Our new family—the Family Finance group, College of Education.*

*Ed. 245. Introduction to Research. (2)*

Section 1—M. T. W. F., 8:00; N-203.

Section 2—M. T. W. Th., 12:30; T-5.

Implications of experimental practices, the proposals of eminent writers and the results of research for the improvement of teaching on the secondary level. (Asher.)

*Ed. 246. Problems of Teaching Social Studies in Elementary Schools. (2)*

M. T. Th. F., 9:30; T-10. Application to the social studies program of selected theory and research in the social sciences, emphasizing patterns of behavior, environmental influences, and critical thinking. Application for enrollment must be mailed to the Director of the Summer Session before June 15, 1959. Enrollment will be limited to 25 persons. (O'Neill.)

*Ed. 247. Seminar in Science Education. (2)*

Section 1—Elementary, M. T. Th. F., 9:30; N-128.

Section 2—Elementary, M. T. Th. F., 11:00; N-128.

This course is concerned with science education in the elementary and secondary school. Prerequisite, a science education course. Applications for enrollment must be mailed to the Director of the Summer Session before June 15, 1959. Enrollment will be limited to 20 persons in each section. (Haworth.)

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

Daily, 8:00; M-102. Knowing students through use of numerous techniques. Ed. 161 desirable as prior course. (Tarwater.)

*Ed. 253. Guidance Information. (2)*

M. T. Th. F., 8:00; M-104. How to find, file, and use information needed by students for making choices, plans, and adaptations in schools, occupations, and in interpersonal relations. Ed. 161 desirable as prior course. (Novak.)

*Ed. 254. Organization and Administration of Guidance Programs. (2)*

M. W. Th. F., 9:30; M-104. How to instill the guidance point of view, and to implement guidance practice. All guidance courses except Seminar are prerequisite. (Novak.)

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

Daily, 11:00; M-104. Exploration of counseling theories and the practices which stem from them. Ed. 161, Ed. 250, Ed. 253 are prerequisite. (Tarwater.)

*Ed. 269. Seminar in Guidance. (2)*

M. W. Th. F., 9:30; M-102. Registration only by approval of instructor. Final guidance course. Students study research and conduct one. (Byrne.)

*Ed. 280. Research Methods and Materials. (2)*

M. T. Th. F., 9:30; Q-29. Research methodology for case studies, surveys, and experiments; measurement and statistical techniques; design, form, and style for theses and research reports. Primarily for advanced students and doctoral candidates. (Johnson.)

## Education

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

M. T. Th. F., 9:30; 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. (Staff.)

Note: Course card must have the title of the problem and the name of the faculty member under whom the work will be done.

### Ed. 289. *Research—Thesis.* (1-6)

Arranged. Students who desire credit for a master's thesis, a doctoral dissertation, or a doctoral project should use this number. (Staff.)

### Ed. 290. *Doctoral Seminar.* (1)

T. Th., 12:30; T-211. Prerequisite, passing the preliminary examinations for a doctor's degree in Education, or recommendation of a doctoral adviser. Analysis of doctoral projects and theses, 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. 289. (Johnson.)

## HOME ECONOMICS EDUCATION

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

Daily, 11:00; T-4. Prerequisite, consent of instructor. A study of the managerial aspects of teaching and administering a homemaking program; the physical environment, organization, and sequence of instructional units, resource materials, evaluation, home projects. (Spencer.)

### H. E. Ed. 200. *Seminar in Home Economics Education.* (2)

M. T. Th. F., 8:00-9:20; T-211. (Spencer.)

## HUMAN DEVELOPMENT EDUCATION

(In addition to the courses listed below, see Ed. 189, page 34.)

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

Daily, 8:00-9:20; J-317. 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. (Staff.)



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

Daily, 11:00-12:20; J-317. Continuation of H. D. Ed. 100, which is a prerequisite. These two courses, H. D. Ed. 100 and H. D. Ed. 101, are designed to meet the usual certificate requirements in Educational Psychology. (Staff.)

*H. D. Ed. 112, 114, 116. Scientific Concepts in Human Development I, II, III. (3, 3, 3)**H. D. Ed. 113, 115, 117. Laboratory in Behavior Analysis I, II, III. (3, 3, 3)*

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)*

Daily, 8:00-9:20; J-318. 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 or 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. (Staff.)

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

Daily, 11:00-12:20; J-318. Emphasizes that understanding human life, growth and behavior depends on understanding the ways in which the body is able to capture, control and expend energy. Application throughout is made to human body processes and implications for understanding and working with people. H. D. Ed. 200 or its equivalent must be taken before H. D. Ed. 201 or concurrently. (Staff.)

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

Daily, 8:00-9:20; J-320. 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. H. D. Ed. 200 or its equivalent must be taken before H. D. Ed. 202 or concurrently. (Staff.)

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

Daily, 11:00-12:20; J-320. Analyzes the organized and integrated patterns of feeling, thinking, learning and behaving which emerge from the interaction of basic biological drives and potentials with one's unique experience growing up in a social group. H. D. Ed. 200 or its equivalent, H. D. Ed. 201 and H. D. Ed. 202, are prerequisite. (Staff.)

*H. D. Ed. 210. Affectional Relationships and Processes in Human Development. (3)*

Daily, 8:00-9:20; J-321. Describes the normal development, expression and influence of love in infancy, childhood, adolescence and adulthood. It deals with the influence

## Education

of parent-child relationships involving normal acceptance, neglect, rejection, inconsistency, and over-protection upon health, learning, emotional behavior and personality adjustment and development. H. D. Ed. 200 or its equivalent must be taken before or concurrently. (Staff.)

*H. D. Ed. 211. Peer-Culture and Group Processes in Human Development. (3)*  
Daily, 11:00-12:20; J-321. Analyzes the processes of group formation, role-taking and status-winning. It describes the emergence of the "peer-culture" during childhood and the evolution of the child society at different maturity levels to adulthood. It analyzes the developmental tasks and adjustment problems associated with winning, belonging and playing roles in the peer group. H. D. Ed. 200 or its equivalent must be taken before or concurrently. (Staff.)

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

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

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 15.

*H. D. Ed. 218. Workshop in Human Development. (6)*

Prerequisites, H. D. 212, 213, 214, 215, 216, 217. Summer workshop in human development for graduate students who have had three workshops and wish additional workshop experience. This course can be taken any number of times, but cannot be used as credit toward a degree.

*H. D. Ed. 270. Seminars in Special Topics in Human Development. (2-6)*  
Arranged. An opportunity for advanced students to focus in depth on topics of special interest growing out of their basic courses in human development. Prerequisites, consent of instructor.

## 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. Ind. Ed. 9, "Industrial Arts in the Elementary School", is intended for elementary school teachers.

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)*

Daily, 8:00; P-208. This course constitutes an introduction to orthographic multi-view 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. Laboratory fee, \$5.00.

(Jacobsen.)

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

Daily, 9:30; P-218. This is a woodworking course which involves primarily the use of hand tools. The course is developed so that the student uses practically every common woodworking hand tool in one or more situations. There is also included elementary wood finishing, the specifying and storing of lumber, and the care and conditioning of tools used. Laboratory fee, \$5.00. (Tierney.)

*Ind. Ed. 9. Industrial Arts in the Elementary School I. (2)*

Daily, 11:00; P-214. A course for pre-service and in-service elementary school teachers covering construction activities in a variety of media suitable for classroom use. The work is organized on the unit basis so that the construction aspect is supplemented by reading and other investigative procedures. Laboratory fee, \$5.00. (Jacobsen.)

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

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

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

Daily, 9:30; P-218. Prerequisite, Ind. Ed. 2. 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. Laboratory fee, \$5.00. (Tierney.)

*Ind. Ed. 124 a, b. Organized and Supervised Work Experience.*

Arranged. (Three 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 as regards 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 time basis for each internship period is 6 forty-hour weeks or 240 work hours. Any one period of internship must be served through continuous employment in a single establishment. Two internship periods 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.

(Merrill, Harrison, Jacobsen.)

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

Daily, 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.)

## Education

### *Ind. Ed. 165. Modern Industry. (3)*

Daily, 9:30; P-300. This course provides an overview of manufacturing industry in the American social, economic, and culture pattern. Representative basic industries are studied from the viewpoints of personnel and management organization, industrial relations, production procedures, distribution of products, and the like. (Harrison.)

### *Ind. Ed. 169. Course Construction. (2)*

M. T. W. Th., 11:00; P-221. Surveys and applied techniques of building and reorganizing courses of study for effective use in vocational and occupational schools. (Hammond.)

### *Ind. Ed. 170. Principles of Vocational Education. (2)*

M. T. W. Th., 12:30; P-205. The course develops the Vocational Education movement at an integral phase of the American program of public education. (Maley.)

### *Ind. Ed. 189. Workshops, Clinics, Institutes; Industrial Arts Curriculum Workshop. (2) For additional information see page 34*

### *Ind. Ed. 214. School Shop Planning and Equipment Selection. (3)*

Daily, 8:00; P-221. This course deals with principles involved in planning a school shop and provides opportunities for applying these principles. Facilities required in the operation of a satisfactory shop program are catalogued and appraised. (Tierney.)

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

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. 241. Content and Method of Industrial Arts. (3)*

Daily, 11:00; P-205. Various methods and procedures used in curriculum development are examined and those suited to the field of Industrial Arts education are applied. Methods of and devices for Industrial Arts instruction are studied and practiced. (Maley.)

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

M. T. W. Th., 12:30; P-221. (Hammond.)

## MUSIC EDUCATION

### *Mus. Ed. 128. Music for the Elementary Classroom Teacher. (2)*

Section 1—M. T. Th. F., 8:00-9:20; B-7. (Henke.)

Section 2—M. T. Th. F., 9:30-10:50; B-7. (Henke.)

Prerequisite, Mus. 16 or consent of instructor. A study of the group activities and materials through which the child experiences music. The course is designed to aid music specialists and classroom teachers. It includes an outline of objectives and a survey of instructional methods.

### *Mus. Ed. 132. Music in the Secondary School. (2)*

M. T. Th. F., 12:30-1:50; B-1. 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. (Henke.)

*Mus. Ed. 171. String Teaching in the Public Schools. (2)*

M. T. W. Th., 11:00-12:20; B-1. A study of the problems of organizing and developing the string program in the public schools. Emphasis is placed on exploratory work in string instruments, on the study of teaching techniques, and on the analysis of music literature for solo, small ensembles, and orchestra. (Berman.)

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

Daily, 2:00-5:00, July 6-17 only; Library 405. Offered as part of a Workshop in Choral Music for a two-week period. 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. Supplementary fee, \$5.00. (Hufstader.)

*Mus. Ed. 180. Instrumental Seminar. (2)*

Daily, 2:00-5:00, July 6-17 only; AR-21. Offered as part of a Workshop in Band Music for a two-week period. Lectures, conferences, and discussions of problems and literature for concert and marching bands. A survey of instructional materials and administrative problems will be included. A band composed of selected high school students will be available for demonstrations in the second week of the Workshop. Supplementary fee, \$5.00. (Neilson.)

*Mus. Ed. 200. Research Methods in Music and Music Education. (3)*

Daily, 9:30-10:50; B-9. The application of methods of research to problems in the field of music and music education. The preparation of bibliographies and the written exposition of research projects in the area of the student's major interest. (Grentzer.)

## SCIENCE EDUCATION

*\*Sci. Ed. 6. The Natural Sciences in the Elementary School. (2)*

Laboratory fee, \$2.00. M. T. Th. F., 11:00; T-119. Selecting, organizing, and teaching plant and animal materials. For teachers who need help in identifying and making effective use of living materials brought to the classroom, assisting pupils to find answers to their questions, and planning other worthwhile science experiences. (Campbell.)

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\*Students who have received four credits in Sci. Ed. 1, 2, 3, and 4 should not register for this course.

## Engineering

Sci. Ed. 105. *Workshop in Science for Elementary Schools.* (2)

Section 1—M. T. Th. F., 8:00; T-119

(Campbell.)

Section 2—M. T. Th. F., 9:30; T-119

(Campbell.)

Laboratory fee, \$2.00. General science content and teaching materials for practical use in classrooms. Includes experiments, demonstrations, constructions, observation, field trips, and use of audio-visual materials. Emphasis is on content and method related to science units in common use.

Enrollment in each of the above courses will be limited to 35 persons. Applications for enrollment must be mailed to the Director of the Summer Session before June 15, 1959.

Ed. 189. *Workshops, Clinics, and Institutes: Teaching Elementary School Science.* (4)

See page 21 for description.

Ed. 247. *Seminar in Science Education.* (2)

### SPECIAL EDUCATION

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

Daily, 8:00; R-112. Designed to give an understanding of the needs of all types of exceptional children, stressing preventive and remedial measures. (Benoit.)

Sp. Ed. 171. *Characteristics of Exceptional Children.* (3)

Daily, 11:00; R-112. A study of psychological characteristics of retarded children, including discovery, analysis of causes, testing techniques, case studies, and remedial educational measures. (Benoit.)

Ed. 189. *Workshops, Clinics, and Institutes: The Education of Children with Learning Impairments.* (3)

See page 14 for description.

(Haring.)

Ed. 189. *Workshops, Clinics, and Institutes: The Education of Children with Superior Intellectual Ability.* (3)

See page 15 for description.

(Haring.)

## ENGINEERING

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

June 8 to 22, 1959, inclusive. Daily, all day. J-104, J-102. Prerequisite, Math. 19. Principles and methods of making plans and topographic surveys. Use, care, and adjustment of instruments. Consistent accuracy and systematic procedures in field work, computation, and mapping are emphasized for obtaining desired objectives. (Garber.)

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\*Open only to students who were enrolled in the College of Engineering during the academic year 1958-59.

*\*C. E. 111. Surveying II. (3)*

June 8 to 22, 1959, inclusive. Daily, all day. J-104a, J-103. Prerequisite, C. E. 110. A continuation of C. E. 110 with emphasis on elementary problems of obtaining essential field data preliminary to design and locating points, lines, and grades for selected engineering construction. (Pumphrey.)

*Dr. 2. Engineering Drawing. (2)*

June 23-July 31, 1959—Section I—Daily, 8, 9; J-303.  
Section II—Daily, 10, 11; J-303.

Prerequisite, Math. 18. Lettering, use of instruments, orthographic projection, auxiliary views, revolution, sections, pictorial representation, dimensioning, fasteners, technical sketching and working drawings. (Staff.)

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

Daily 7:30-8:50 a.m.; Sat. 9:00-12:50; J-114. June 23-July 31, 1959. Eight hours lecture and four hours laboratory a week. Prerequisites, Math. 21, Phys. 21 or concurrent registration. Required of sophomores in electrical engineering. Laboratory fee, \$4.00. Basic concepts of electric potential, current, power, and energy; d-c circuit analysis by the mesh-current and nodal methods; network theorems; electric and magnetic fields. (Thompson.)

## ENGLISH

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

Eng. 1 is the prerequisite of Eng. 2.

(Staff.)

*Eng. 1—*

Section 1—Daily, 8:00-9:20. A-17.  
Section 2—Daily, 9:30-10:50. A-17.  
Section 3—Daily, 12:30-1:50. A-16.

*Eng. 2—*

Section 1—Daily, 8:00-9:20. G-205.  
Section 2—Daily, 9:30-10:50. G-205.  
Section 3—Daily, 11:00-12:20. A-16.

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

Prerequisite, Eng. 2 or 21.

(Cooley and Staff.)

*Eng. 3—*

Section 1—Daily, 9:30-10:50. A-209.  
Section 2—Daily, 11:00-12:20. A-130.

*Eng. 4—*

Section 1—Daily, 8:00-9:20. A-18.  
Section 2—Daily, 9:30-10:50. A-231.  
Section 3—Daily, 11:00-12:20. A-18.

\*Open only to students who were enrolled in the College of Engineering during the academic year 1958-59.

## Entomology

### Eng. 107S. *American English.* (2)

M. T. W. Th., 8:00-9:20. A-133. Prerequisites, Eng. 4 or 6 and junior standing. The English language as developed in the United States. Dialects, vocabulary, past and present problems of usage. (Ball.)

### Eng. 115S. *Shakespeare.* (2)

M. T. Th. F., 9:30-10:50. A-133. Prerequisites, Eng. 4 or 6 and junior standing. Outstanding plays to Shakespeare's mid-career. (Zeeveld.)

### Eng. 134S. *Literature of the Victorian Period.* (2)

M. W. Th. F., 11:00-12:20. A-133. Prerequisites, Eng. 4 and 6 and junior standing. Early Victorian Writers, especially Tennyson and Browning. (Cooley.)

### Eng. 151S. *American Literature.* (2)

M. T. W. F., 12:30-1:50. A-12. Prerequisites, Eng. 4 or 6 and junior standing. American poetry and prose after 1850. (Gravely.)

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

Arranged. (Murphy and Staff.)

## ENTOMOLOGY

### \*Ent. 11S. *Entomology for Science Teachers.* (3)

Lectures M. W. F., 8:00-9:20, Laboratories T. Th., 8:00-10:50, O-200. This course is designed to help teachers utilize insects in their teaching. The general availability of insects makes them especially desirable for use in nature study courses. Teachers should be acquainted, therefore, with the simplest and easiest way to collect, rear, preserve, and identify the common insects about which students are constantly asking questions. (Haviland.)

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

Credit and prerequisites to be determined by the department. Investigations 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.)

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\*Intended for teachers.



## FOREIGN LANGUAGES

*French 0. Intensive Elementary French. (0)*

Daily, 11:00, A-209. Intensive elementary course in the French language designed particularly for graduate students who wish to acquire a reading knowledge. (Kramer.)

*French 2. Elementary French. (3)*

Daily, 8:00, A-231. Second semester of first-year French. Elements of grammar; pronunciation and conversation; exercises in composition and translation. (Hall.)

*French 4 or 5. Intermediate Literary French (3) or French 6 or 7. Intermediate Scientific French. (3)*

Daily, 11:00, A-231. Prerequisite, French 1 and 2, or equivalent. Students interested in second year French should consult with Foreign Language Department at time of registration. Arrangements will be made to meet needs of students interested in either the first or second semester of literary or scientific French. (Hall.)

*German 0. Intensive Elementary German. (0)*

Daily, 8:00, A-209. Intensive elementary course in the German language designed particularly for graduate students who wish to acquire a reading knowledge. (Kramer.)

*German 2. Elementary German. (3)*

Daily, 9:30, A-228. Second semester of first-year German. Element of grammar; pronunciation and conversation; exercises in composition and translation. (Parsons.)

*German 4 or 5. Intermediate Literary German (3) or German 6 or 7. Intermediate Scientific German. (3)*

Daily, 12:30, A-228. Prerequisite, German 1 and 2, or equivalent. Students interested in second year German should consult with Foreign Language Department at time of registration. Arrangements will be made to meet needs of students interested in either the first or second semester of literary or scientific German. (Parsons.)

*Spanish 2. Elementary Spanish. (3)*

Daily, 8:00, A-228. Second semester of first-year Spanish. Elements of grammar; pronunciation and conversation; exercises in composition and translation. (James.)

*Spanish 4 or 5. Intermediate Spanish. (3)*

Daily, 11:00, A-212. Prerequisite, Spanish 1 and 2, or equivalent. Translation, conversation, exercises in pronunciation. Reading of texts designed to give some knowledge of Spanish and Latin-American life, thought, and culture. (James.)

## GEOGRAPHY

*Geog. 30. Principles of Morphology. (3)*

Daily, 9:30-10:50, N-203. A study of the physical features of the earth's surface and their geographic distribution, including subordinate land forms. Major morphological processes, the development of land forms, and the relationships between various types of land forms and land use problems. (McArthur.)

## Government and Politics

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

Daily, 11:00-12:20, N-203. 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. (McArthur.)

## GOVERNMENT AND POLITICS

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

Section 1—Daily, 8:00, Q-28A

(Hathorn.)

Section 2—Daily, 11:00, Q-28A.

(Harrison.)

Five 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.

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

Five periods a week. Daily, 9:30, Q-31. Prerequisite, G. & P. 1. A study of the basic principles and concepts of political science. Required of all G. & P. majors. Recommended for students interested in acquiring a broad knowledge of political science in general. (Alford.)

### G. & P. 11. *The Government and Administration of the Soviet Union.* (3)

Five periods a week. Daily, 9:30, A-16. Prerequisite, G. & P. 1. A study of the adoption of the Communist philosophy by the Soviet Union, of its governmental structure, and of the administration of government policy in the Soviet Union.

(Steinmeyer.)

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

Five periods a week. Daily, 8:00, A-16. 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 the foreign policies of the major powers. (Harrison.)

### G. & P. 124. *Legislatures and Legislation.* (3)

Five periods a week. Daily, 11:00, Q-30. Prerequisite, G. & P. 1. A comprehensive study of legislative organization, procedure, and problems. The course includes opportunities for student contact with Congress and with the Legislature of Maryland.

(Hathorn.)

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

To be arranged.

(Alford.)

### G. & P. 299. *Thesis Course.* (1-6)

To be arranged.

(Staff.)

## HISTORY

### H. 1. *History of Modern Europe.* (3)

Five periods a week. Daily, 8:00, M-101.

(Land.)

*H. 2. History of Modern Europe. (3)*

Five periods a week. Daily, 11:00, A-228.

(Parmer.)

*H. 5. History of American Civilization. (3)*

Five periods a week.

Section 1—Daily, 8:00, A-106.

(Ferguson.)

Section 2—Daily, 9:30, A-106.

(Pitt.)

Section 3—Daily, 11:30, A-106.

(Hirst.)

Section 4—Daily, 12:30, A-106.

(Bates.)

*H. 6. History of American Civilization. (3)*

Five periods a week.

Section 1—Daily, 8:00, A-207.

(Pitt.)

Section 2—Daily, 9:30, A-207.

(Bates.)

Section 3—Daily, 11:00, A-207.

(Hanks.)

Section 4—Daily, 12:30, A-207.

(Hirst.)

*H. 56. American Life and Thought. (3)*

Five periods a week. Daily, 9:30, A-110. Required of all students who qualify by examination for exemption from H. 5, 6. Normally to be taken in the sophomore year. A survey of significant historical trends and selected problems in the development of American Civilization from the colonial era to recent times.

(Beard.)

*H. S102. The American Revolution. (2)*

M. T. W. F., 11:00, A-12. Prerequisites, H. 5, 6 or equivalent. The background and course of the American Revolution through the formation of the Constitution.

(Ferguson.)

*H. S115. The Old South. (2)*

M. T. Th. F., 8:00, A-12. Prerequisites, H. 5, 6 or the equivalent. A study of the institutional and cultural life of the ante-bellum South with particular reference to the background of the Civil War.

(Riddleberger.)

*H. S116. The Civil War. (2)*

M. W. Th. F., 9:30, A-12. Prerequisites, H. 5, 6 or the equivalent. Military aspects; problems of the Confederacy; political, social, and economic effects of the war upon American society. A tour of one selected battlefield is a required part of the course.

(Riddleberger.)

*H. S134. The History of Ideas in America. (2)*

M. W. Th. F., 12:30, A-133. Prerequisites, H. 5, 6 or the equivalent. An intellectual history of the American people embracing such topics as liberty, democracy, and social ideas.

(Beard.)

*H. S194. History of European Ideas in Modern Times. (2)*

M. T. W. F., 8:00, A-110. Prerequisites, H. 1, 2, or H. 53, 54 or equivalent. A study of the important currents of thought, scientific and social, in the nineteenth and twentieth centuries.

(Stromberg.)

H. S195. *The Far East.* (2)

M. T. Th. F., 12:30, A-110. A survey of institutional, cultural and political aspects of the history of China and Japan and a consideration of present day problems of the Pacific area. (Parmer.)

H. S196. *Southeast Asia.* (2)

M. T. W. F., 8:00, M-105. Prerequisites, H. 1, 2 or H. 5, 6. The political, economic, and cultural history of the new nations of Southeast Asia emphasizing the colonial period with a view to understanding contemporary developments. (Parmer.)

H. 200. *Research.* (1-6)

Arranged. A-203c. Credit proportioned to amount of work. Arranged. Required of all candidates for degrees. (Riddleberger and Staff.)

H. S202. *Historical Literature.* (2)

Arranged. A-203b. Assignments in selected fields of historical literature and bibliography for qualified graduate students who need intensive concentration. (Stromberg.)

H. S211. *The Colonial Period in American History.* (2)

Arranged. A-210b. Readings and conferences to familiarize the student with some of the sources and the classical literature of American colonial history. (Ferguson.)

## HOME ECONOMICS

*Home Mgt. 152. Experience in Management of the Home.* (3)

Prerequisite, H. Mgt. 150, 151. Laboratory fee, \$10.00. Residence in the Home Management House. Experience in planning, coordinating, and participating in the activities of a household, composed of a faculty member and a group of students. A charge of \$40.00 for food and supplies is assessed each student. Students who board at the University may receive a pro-rata refund of the established charge if the Dining Hall Card is turned in during the period of residence in the Home Management House. Students not living in Dormitories are billed at the rate of \$5.00 per week for a room in the Home Management House. (Stephens.)

*Inst. Mgt. S168. Cost Accounting for School Food Service.* (2)

Daily, June 22-July 10, 8:00, 9:00. Consent of instructor required. Food cost accounting systems for school lunch programs; procedures and techniques of accumulating, recording, and interpreting data for control. (Radell.)

*Inst. Mgt. S169. Food Purchasing for School Food Service.* (2)

Daily, July 13-July 31, 8:00, 9:00. Consent of instructor required. Purchasing procedures; grading, processing, and packing of food; selection of food for school lunches; specifications; marketing regulations. (Collins.)

*Inst. Mgt. 200. Food Service Administration and Supervision.* (3)

Prerequisite, Inst. Mgt. 162, 165 or equivalent. Daily July 13-July 31, 10:00, 11:00, 12:00, 1:00. Supervision and administrative policies; personnel management with emphasis on human relations and philosophy underlying management practices. (Camp.)

## Horticulture, Journalism and Public Relations, Library Science

### *Pr. Art 1. Design. (3)*

Laboratory fee, \$3.00. Daily, 11:00-12:20, H-135. Art expression through the use of material such as opaque water color, wet clay, colored chalk, and lithograph crayon, which are conducive to free techniques. Elementary lettering, action figures, abstract design and general composition study. Consideration of art as applied to daily living.  
(Curtiss.)

### *Tex. 108. Decorative Fabrics. (2)*

M. T. Th. F., 12:30-1:50, H-215. Laboratory fee, \$5.00. Study of historic and contemporary fabrics and laces with analysis of designs and techniques of decorating fabrics.  
(Wilbur.)

### *Clo. 120. Draping. (3)*

Prerequisites, Clo. 21, Clo. 122. Laboratory fee, \$3.00. Daily, 9:30-12:30, H. 215. Demonstrations and practice in creating costumes in fabrics on individual dress forms; modeling of garments for class criticism.  
(Wilbur.)

### *Clo. 127. Apparel Design. (3)*

Prerequisite, Clo. 120. Laboratory fee, \$3.00. M. T. Th. F., 9:30-12:20, W., 12:30-1:50; 1 hr. arranged. H-215. 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.)

## HORTICULTURE

### *Hort. 198. Special Problems. (2)*

Credit arranged according to work done. For major students in Horticulture or Botany.  
(Staff.)

### *Hort. 399. Advanced Horticultural Research. (2-6)*

Credit granted according to work done.  
(Staff.)

## JOURNALISM AND PUBLIC RELATIONS

### *Journ. 10. Introduction to Journalism. (3)*

Daily, 9:30, G-304. Prerequisites, at least average grade of "C" in Eng. 1 and 2. Laboratory time spent in writing news-story exercises assigned by instructor. Laboratory fee, \$3.00.  
(Carey.)

### *Journ. 173. Scholastic Journalism. (2)*

M. W. Th. F., 11:00, G-304. Introduction to theory and practice in production of high school publications. For education majors who may advise a student publication.  
(Crowell.)

## LIBRARY SCIENCE

### *L. S. S102. Cataloging and Classification. (3)*

Eight lecture periods a week. Daily, 12:30 to 1:50, Library 100. Study and practice in classifying books and making dictionary catalog for school libraries. Simplified form as used in the Children's Catalog. Standard Catalog for High School Libraries and Wilson printed cards are studied.  
(Wilson.)

## Mathematics

### L. S. S104. *Reference and Bibliography for School Libraries.* (4)

Five lecture and five two-hour laboratory periods a week. Daily, 8:00 and 9:30, Library 100. Evaluation, selection and use of standard reference tools, such as encyclopedias, dictionaries, periodical indexes, atlases and yearbooks, for school libraries. Study of bibliographical procedures and forms. (Wilson.)

## MATHEMATICS

### *Math. 0. Basic Mathematics.* (0)

Daily, 8:00-9:20, Y-4. Recommended for students whose curriculum calls for Math. 5 or Math. 10 and who fail the qualifying examination for these courses. The fundamental principles of algebra. Charge made for equivalent of a three-credit course. (Hill.)

### *Math. 1. Introductory Algebra.* (0)

Daily, 9:30-10:50, Y-27. Recommended for students whose curriculum calls for Math. 18 and who fail the qualifying examination for this course. A review of topics covered in a second course in Algebra. Charge made for equivalent of a three-credit course. (Sorensen.)

### *Math. 5. Business Algebra.* (3)

Daily, 9:30-10:50, Y-4. Prerequisite, one unit of algebra. Open only to students in the College of Business and Public Administration, the College of Agriculture, the Department of Air Science, and the Department of Industrial Education. Fundamental operations, fractions, ratio and proportion, linear equations, exponents, logarithms, percentage, trade discount, simple interest, bank discount, true discount, and promissory notes. (Hill.)

### *Math. 6. Mathematics of Finance.* (3)

Section 1—Daily, 8:00-9:20, Y-2.

(Dyer.)

Section 2—Daily, 8:00-9:20, 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)

Daily, 8:00-9:20, Y-26. 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. (Schwartz.)

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

Daily, 9:30-10:50, Y-2. 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. (Dyer.)

*Math. 18. Elementary Mathematical Analysis. (5)*

Daily, 8:00-10:00, M. W. F., 1:00-2:00, Y-14. 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. (Kearney.)

*Math. 19. Elementary Mathematical Analysis. (5)*

Section 1—Daily, 8:00-10:00, M. W. F., 1:00-2:00, Y-17.

(Shepherd.)

Section 2—Daily, 8:00-10:00, M. W. F., 1:00-2:00, Y-18.

(Fusaro.)

Section 3—Daily, 8:00-10:00, M. W. F., 1:00-2:00, Y-19.

(Henney.)

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)*

Daily, 10:00-12:00, Y-16. Prerequisite, Math. 19 or equivalent. Open to students in engineering, education, and the physical sciences. Limits, derivatives, differentials, maxima and minima, curve sketching, curvature, kinematics, integration. (Horvath.)

*Math. 21. Calculus. (4)*

Section 1—Daily, 8:00-10:00, Y-16.

(Rosen.)

Section 2—Daily, 8:00-10:00, Y-15.

(Blakley.)

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

Daily, 8:00-9:20, Y-122. Prerequisite, Math. 21 or equivalent. Required of students in mechanical and electrical engineering. Differential equations of the first and second order with emphasis on their engineering applications. (Jackson.)

*Math. 110. Advanced Calculus. (3)*

Daily, 8:00-9:20, Y-121. Prerequisite, Math. 21 or equivalent. Limits and continuity of real and complex functions, Riemann integration, partial differentiation, line and surface integrals, infinite series, elements of vector analysis, elements of complex variable theory. Emphasis on problems and techniques. (Good.)

*\*Math. 128S. Higher Geometry. (2)*

M. T. W. Th., 11:00-12:20, Y-122. Prerequisite, Math. 21 or consent of instructor. Open to students in the College of Education. This course is designed for students preparing to teach geometry in high school and is devoted to the modern geometry of the triangle, circle, and sphere. (Jackson.)

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\*Intended for teachers.

## Microbiology

### Math. 152S. *Vector Analysis*. (2)

M. T. W. Th., 9:30-10:50, Y-121. Prerequisite, Math. 21 or equivalent. Algebra and calculus of vectors and applications. (Good.)

### \*Math. 181. *Foundations of Number Theory*. (3)

Daily, 8:00-9:20, Y-101. Open only to participants in the N.S.F. Institute for Teachers of Junior High School Mathematics. 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. Axiomatic development of the real numbers. Elementary number theory. (Jackson.)

### \*Math. 182. *Foundations of Algebra*. (3)

Daily, 9:30-10:50, Y-101. 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. Modern ideas in algebra and topics in the theory of equations. (Cohen.)

### \*Math. 199. *National Science Foundation Summer Institute for Teachers of Science and Mathematics Seminar*. (1-3)

Daily, 11:00-12:20, Y-101. Prerequisite, consent of instructor and participation in the N.S.F. Institute for Teachers of Junior High School Mathematics. Laboratory fee, \$5.00. Designed primarily for teachers. Not open to students seeking a major directly in the physical sciences. Material background for experimental units in the Maryland and Yale courses for grades 7 and 8 including such topics as: a system of postulates for geometry; elementary properties of closed curves; probability and statistics; coordinate systems. (Brace.)

## MICROBIOLOGY

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

Five lectures and five two-hour laboratory periods a week. Lecture, 8:00, O-30. Laboratory, 9:00, 10:00, T-311. Laboratory fee, \$10.00. The physiology, culture, and differentiation of bacteria. Fundamental principles of Microbiology in relation to man and his environment. (Laffer.)

### Microb. 181. *Microbiological Problems*. (3)

Eight two-hour laboratory periods a week. To be arranged. Prerequisite, 16 credits in Microbiology. Registration only upon consent of the instructor. Laboratory fee, \$10.00. 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 member of the Department. (Faber.)

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\*Intended for teachers.



*Microb. 399. Research.*

Prerequisite, 30 credits in Microbiology. Laboratory fee, \$10.00. Credits according to work done. The investigation is outlined in consultation with, and pursued under, the supervision of a senior staff member of the Department. (Staff.)

## MUSIC

*Mus. 15. Chapel Choir. (1)*

M. W. F., 11:00-12:20, B-7. Open to all students. A program will be prepared and will be presented late in the Summer Session. (Springmann.)

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

Daily, 9:30-10:50, B-8. Open to students in Elementary Education or Childhood Education; other students take Mus. 7. (In the Summer Session, also open to classroom teachers.) Mus. 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. (de Vermond.)

*Mus. 23. Class Piano. (2)*

Daily, 8:00-9:20, B-8. Beginning course. Fundamentals of hand position, and technical problems related to acquiring skill at the piano. (de Vermond.)

*Mus. 167S. Symphonic Music. (2)*

M. T. Th. F., 12:30-1:50, B-7. Prerequisites, Mus. 120 and 121 or the equivalent. The study of orchestral music from the Baroque period to the present. The concerto, symphony, overture, and other forms are examined. (Jordan.)

*Mus. 200. Advanced Studies in the History of Music. (3)*

Daily, 9:30-10:50, B-1. Prerequisites, Music 120, 121, and consent of instructor. A critical study of one style period (Renaissance, Baroque, etc.) will be undertaken. In the 1959 Summer Session, the contemporary period will be studied. The course may be repeated for credit, since a different period will be chosen each time it is offered. (Jordan.)

## APPLIED MUSIC

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. 2, Voice  
 Sec. 3, Violin

Sec. 4, Viola  
 Sec. 5, Cello  
 Sec. 6, Bass

## *Philosophy, Physical Education, Recreation and Health*

*Mus. 12, 13, 52, 53, 112, 113, 152, 153. Applied Music. (2)*

Hours to be arranged with instructor, B-4. Prerequisite, the next lower course in the same instrument. Three half-hour lessons and a minimum of ten practice hours per week. Special fee of \$40 for each course.

## PHILOSOPHY

*Phil. 1. Philosophy for Modern Man. (3)*

Daily, 11:00, T-10. 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 three 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).

(Schlaretzki.)

*Phil. 41. Elementary Logic and Semantics. (3)*

Daily, 9:30, M-101. An introductory study of logic and language, intended to help the student increase his ability to employ language with understanding and to reason correctly. Topics treated include: the uses and abuses of language, techniques for making sound inferences, and the logic of science. No prerequisites.

(Schlaretzki.)

*Phil. 292. Selected Problems in Philosophy. (1-3)*

Hours arranged. Intensive study of selected topics in systematic philosophy under individual supervision.

(Schlaretzki.)

## PHYSICAL EDUCATION, RECREATION AND HEALTH

*P. E. S10. Physical Education Activities. (1-6)*

Section 1—Swimming (1), Daily, 3:10-4:00; Pool. (Husman.)

Section 2—Golf (1), Daily, 2:00-2:50; Driving Range. (Cronin.)

Section 3—Tennis (1), Daily, 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. 120. Physical Education for the Elementary School. (3)*

Daily, 8:00-9:20, 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. 160. Theory of Exercise. (3)*

Daily, 9:30-10:50, GG-205. Prerequisite, Zool. 1, 14, and 15, and P. E. 100 or the equivalent. A study of exercise and its physiological and kinesiological bases. Special emphasis is placed upon the application of exercise to the development and

*Physical Education, Recreation, and Health*

maintenance of physical efficiency. Corrective therapy conditioning for athletics, the effects of exercise and training on the human organism, fatigue, staleness, relaxation, and the nature of athletic injuries are investigated. (Eyler.)

*P. E. 196. Quantitative Methods. (3)*

Daily, 8:00-9:20, GG-205. A course covering the statistical techniques most frequently used in research pertaining to Physical Education, Recreation, and Health Education. An effort will be made to provide the student with the necessary skills, and to acquaint him with the interpretations and practical applications of these techniques. (Massey.)

*P. E. 200. Seminar in Physical Education, Recreation, and Health. (1)*

Tuesday, 7:00 p.m., GG-205. (Massey.)

*P. E. 201. Foundations in Physical Education, Recreation, and Health. (3)*

Daily, 11:00-12:20, GG-160. 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)*

Daily, 9:30-10:50, GG-128. An analysis of the place of physical education in meeting the growth and developmental needs of children of elementary school age. (Humphrey.)

*P. E. 210. Methods and Techniques of Research. (3)*

Daily, 9:30-10:50, W-131. 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. (Mohr.)

*P. E. 280. Scientific Bases of Exercise. (3)*

Daily, 12:30-1:50, GG-205. Prerequisites, Anatomy, Physiology, P. E. 100, 160, or equivalent. A critical analysis of the role of physical exercise in modern society with attention given to such topics as: the need for physical exercise, its chronic effects, the role of exercise in attaining good physical condition and fitness, factors determining championship performances, and physical fatigue. (Massey.)

*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. 289. 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.)

*P. E. 290. Administrative Direction of Physical Education, Recreation, and Health. (3)*

Daily, 11:00-12:20, W-131. This course is devoted to the analysis of administrative problems in the light of sound educational practice. Students concentrate their efforts upon their own on-the-job administrative problems and contribute to the solution of other class members' problems. (Deach.)

## Physics

*P. E. 291. Curriculum Construction in Physical Education and Health.* (3)  
Daily, 8:00-9:20, W-131. A study of the principles underlying curriculum construction in Physical Education and Health Education and the practical application of these principles to the construction of a curriculum for a specific situation. The specific content of this course is adjusted to meet the needs of the students enrolled in it. (Mohr.)

*Hea. 105. Basic Driver Education.* (3)

Daily, 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.)

*Hea. 145. Advanced Driver Education.* (3)

Daily, 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; measuring 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)

Daily, 9:30-10:50, GG-202. This course is concerned with basic information regarding the physical, psychological, social and historical aspects of sex. The adjustment needs and problems typical of the maturing and aging processes are studied; and consideration is given to the role that the teacher may play in meeting those needs. (Johnson.)

*Hea. 240. Modern Theories of Health.* (3)

Daily, 12:30-1:50, GG-202. This course is designed to review the developments in those scientific and medical areas upon which the concepts of modern health education are based. (Johnson.)

## PHYSICS

*Phys. 100. Advanced Experiments.* (2)

Ten hours laboratory work per week. Hours arranged, Z-306. Prerequisite, consent of instructor. Limited to Physics majors. Laboratory fee, \$10.00. Selected experiments in electricity and magnetism, elementary electronics, and optics. (Marion and Staff.)

\**Phys. 122A. Properties of Materials.* (3)

Five one-and-one-half-hour lectures per week. Daily, 8:00-9:20, Z-115. Prerequisite, a college physics course (for example, Phys. 130, 131). This course is intended for high school teachers. The macroscopic behavior of the various states of matter will be explained in terms of molecular models. Thermodynamic, electrical, and magnetic properties of materials are discussed. The electronic, atomic, and molecular structure

\*Intended for teachers.

of various types of solids such as metals, semi-conductors, polymers, glass, and dielectrics are correlated with their bulk properties. The experimental techniques used in molecular structure determinations are described and the theory of molecular binding reviewed. Hydrodynamic and thermodynamic properties of various types of liquid are presented. (Quinn.)

*\*Phys. 130, 131. Basic Concepts of Physics. (2, 2)*

Four three-hour lectures per week. M. T. W. Th., 9:30-12:20, Z-115. 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 requirements 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. (Goodwin and Staff.)

*Phys. 150. Special Problems in Physics. (Arranged)*

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. 160A. Physics Problems. (1, 2, or 3)*

Lectures and discussion sessions arranged. Credit according to work done. 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 principles of physics are treated fully. The necessary mathematical methods are developed as needed. (Staff.)

*\*Physics 199. National Science Foundation Summer Institute for Teachers of Science Seminar. (1)*

One two-hour seminar each week, June 22 to July 31. T., 3:00-4:40. In addition, daily three-hour seminar August 3 to August 7. Daily, 1:30-4:30, Z-115. 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. (Laster and Staff.)

*Phys. 248. Special Topics in Modern Physics: Group Theory and Applications. (2)*

Two two-and-one-half-hour lectures per week. M. W., 7:30-9:50. During the summer of 1959 this course will study the use of group theory in physics. (Herzfeld.)

*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. Thesis research conducted under approved supervision. (Staff.)

\*Intended for teachers.

## POULTRY

*P. H. S111. Poultry Breeding and Feeding. (1)*

Daily, 9:00. 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. (Wilcox and Combs.)

*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. 110.—Educational Psychology. (3)*

Five periods a week. Daily, 9:30-10:50, M-105. Prerequisite, Psych. 1 or equivalent. Research 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. (Rosen.)

*Psych. 131S. Abnormal Psychology. (2)*

Four periods a week. M. T. Th. F., 11:30-12:20, M-105. Prerequisite, six credit hours in Psychology. The nature, diagnosis, etiology, and treatment of mental disorders. (Rosen.)

*Psych. 225. Practicum in Counseling and Clinical Procedures. (1-3)*

Hours arranged. Prerequisite, Psych. 220 and consent of instructor. (Magoon, Pumroy.)

*Psych. 288. Special Research Problems. (1-3)*

Hours arranged. Prerequisite, consent of individual faculty supervisor. (Staff.)

*Psych. 399. Research for Thesis. (1-6)*

Hours arranged. (Staff.)

## SOCIOLOGY

*Soc. 1. Sociology of American Life. (3)*

Daily, 8-9:20, R-103. Sociological analysis of the American social structure, metropolitan, small town, and rural communities; population distribution, composition and change; social organization. (Hirzel.)

*Soc. 2. Principles of Sociology. (3)*

Daily, 8-9:20, R-205. Prerequisite, Soc. 1 or sophomore standing. The basic forms of human association and interaction; social processes, institutions; culture, human nature and personality. (Fitzgerald.)

*Soc. 5. Anthropology. (3)*

Daily, 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. 112. Rural-Urban Relations. (3)*

Daily, 11:00-12:20, R-110. The ecology of population and the forces making for change in rural and urban life; migration, decentralization and regionalism as methods of studying individual and national issues. Applied field problems. (Fitzgerald.)

*Soc. 118. Community Organization. (3)*

Daily, 12:30-1:50, R-103. Community organization and its relation to social welfare; analysis of community needs and resources; health, housing, recreation; community centers; neighborhood projects. (McElhenie.)

*Soc. 125. Cultural History of the Negro. (3)*

Daily, 8-9:20, R-110. The cultures of Africa south of the Sahara and the cultural adjustments of the Negro in North and South America. (Anderson.)

*Soc. 141. Sociology of Personality. (3)*

Daily, 12:30-1:50, R-110. Development of human nature and personality in contemporary social life; processes of socialization; attitudes, individual differences, and social behavior. (Schmidt.)

*Soc. 153. Juvenile Delinquency. (3)*

Daily, 9:30-10:30, 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)*

Daily, 9:30-10:50, R-103. 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. 291. Special Social Problems. (3)*

Credit to be determined. Time to be arranged. (Staff.)

*Soc. 399. Research in Sociology. (3-6)*

Credit to be determined. Time to be arranged. (Staff.)

## SPEECH AND DRAMATIC ART

*Speech 1. Public Speaking. (3)*

9:30-10:50, M. T. W. Th. F., R-101. Prerequisite for advanced Speech courses. Laboratory fee, \$1.00. The preparation and delivery of short original speeches; outside readings; reports; etc. It is recommended that this course be taken during the freshman year. (Batka.)

## Speech and Dramatic Art, Zoology

### Speech 106. *Clinical Practice.* (1-6)

Hours arranged. Prerequisite, Speech 105. Fee, \$1.00 per credit hour. A laboratory course dealing with the various methods of correction plus actual work in the clinic. (Conlon.)

### Speech 112. *Phonetics.* (3)

9:30-10:50, M. T. W. Th. F., R-109. Prerequisite, Speech 3 or consent of instructor. Laboratory fee, \$3.00. Training in the recognition and production of the sounds of spoken English, with an analysis of their formation. Practice in transcription. Mastery of the International Phonetic Alphabet. (Dew.)

### Speech 120. *Speech Pathology.* (3)

11:00-12:20, M. T. W. Th. F., R-109. Laboratory fee, \$3.00. A continuation of Speech 105, with emphasis on the causes and treatment of organic speech disorders. (Dew.)

### Speech 138. *Methods and Materials in Speech Correction.* (3)

9:30-10:50, M. T. W. Th. F., R-110. Prerequisite, Speech 120 or the equivalent. Laboratory fee, \$3.00. The design and use of methods and materials for diagnosis, measurement, and retraining of the speech-handicapped. (Conlon.)

### Speech 149. *Television Workshop.* (3)

12:30-1:50, M. T. W. Th. F., R-9. Prerequisites, Speech 22, Speech 140, and Speech 148, or consent of instructor. Laboratory fee, \$10.00. Two-hour laboratory. (Aylward.)

## ZOOLOGY

### †Zool. 1. *General Zoology.* (4)

Five lectures and five two-hour periods a week. Lecture, 8:00, K-310; laboratory, 9:00, 10:00, K-306. Laboratory fee, \$8.00. This course, which is cultural and practical in its aim, deals with the basic principles of animal life. (Grollman.)

### Zool. 55S. *Development of the Human Body.* (2)

Five lecture periods a week. M. T. Th. F., 11:00-12:20, K-104. 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)

Eight lecture periods a week. Daily, 9:30-10:50, K-104. Prerequisite, one course in zoology or botany. A consideration of the basic principles of heredity. (Staff.)

### \*Zool. 118. *Invertebrate Zoology.* (4)

Five lectures and five three-hour laboratory periods a week. Lecture, 8:00, K-9; laboratory, 9:00, 10:00, 11:00, K-9. Prerequisite, one year of zoology. Laboratory fee, \$8.00. An advanced course dealing with the taxonomy, morphology, and embryology of the invertebrates, exclusive of insects. (Linder.)

†Recommended for teachers.

\*Intended for teachers.



\*Zool. 199. *National Science Foundation Summer Institute for Teachers of Science and Mathematics. Seminar.* (1)

One two-hour seminar each week, Th., 3:00, 4:00, June 22 to July 31, and daily seminar, 8:30, 9:30, 10:30, August 3 to August 7. 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 organized discussion groups. Student participation will be encouraged. Open only to participants in the National Science Foundation Institute.

(Brown and Staff.)

Zool. 208. *Special Problems in Zoology.*

Credit hours, and topics to be arranged. Laboratory fee, \$8.00.

(Staff.)

Zool. 231S. *Acarology.* (3)

June 22 through July 10. Lectures, recitations, and laboratory daily, 9:00-12:00, 2:00-4:00, K-310 and K-109. Laboratory fee, \$8.00. An introductory study of the Acarina, or mites and ticks, with special emphasis on classification and biology.

(Baker.)

Zool. 232S. *Medical and Veterinary Acarology.* (3)

July 13 through July 31. Lectures, recitations, and laboratory daily, 9:00-12:00, 2:00-4:00, K. 310 and K-109. Laboratory fee, \$8.00. The recognition, collection, culture, and control of Acarina important to public health and animal husbandry with special emphasis on the transmission of diseases.

(Camin.)

Zool. 233S. *Agricultural Acarology.* (3)

July 13 through July 31. Lectures, recitations, and laboratory daily, 9:00-12:00, 2:00-4:00, K-310 and K-6. Laboratory fee, \$8.00. The recognition, collection, culture, and control of acarine pests of crops and ornamentals.

(Baker.)

Zoology 399. *Research.*

Credit to be arranged. Research on thesis project only. Laboratory fee, \$8.00. (Staff.)

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\*Intended for teachers.

THE FACULTY  
SUMMER SESSION, 1959  
JUNE 22 - JULY 31

DR. ORVAL L. ULRY, *Director*

- GRACE L. ADAMS, *Assistant Professor of Education, Institute for Child Study*  
B.S., University of Southern California, 1940; M.S., 1956.
- ALBERT L. ALFORD, *Assistant Professor of Government and Politics*  
B.A., University of Akron, 1948; M.A., Princeton University, 1951; PH.D., 1953.
- GEORGE ANASTOS, *Professor of Zoology*  
B.S., University of Akron, 1942; M.A., Harvard University, 1947; PH.D., 1949.
- CHARLES R. ANDERSON, *Junior Instructor of Office Techniques and Management*  
B.S., University of Maryland, 1957.
- FRANK G. ANDERSON, *Assistant Professor of Sociology*  
B.A., Cornell University, 1941; PH.D., University of New Mexico, 1951.
- 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 G. ANDREWS, *Professor and Head, Department of Psychology*  
B.A., University of Southern California, 1937; M.A., University of Nebraska, 1939;  
PH.D., 1941.
- JOHN W. ASHER, *Research Coordinator, Health Education and Welfare, Visiting  
Lecturer in Education*  
B.A., DePauw University, 1950; M.S., Purdue University, 1951; PH.D., 1955.
- 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.
- EDWARD W. BAKER, *Visiting Lecturer in Zoology*  
B.S., University of California, 1936; PH.D., 1938.
- 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.

- GEORGE F. BATKA, *Associate Professor of Speech and Dramatic Art*  
B.A., University of Wichita, 1938; M.A., University of Michigan, 1941.
- WHITNEY K. BATES, *Instructor in History*  
B.A., University of Washington, 1941; M.A., University of Wisconsin, 1948; PH.D., 1951.
- OTHO T. BEALL, JR., *Assistant Professor of English*  
B.A., Williams College, 1930; M.A., University of Minnesota, 1933; PH.D., University of Pennsylvania, 1952.
- EARL S. BEARD, *Assistant Professor of History*  
B.A., Baylor University, 1948; M.A., State University of Iowa, 1950; PH.D., 1953.
- BERNARD R. BELDEN, *Associate Professor of Education, Chico State College; Visiting Lecturer in Education*  
B.ED., State University of New York, 1947; M.A., New York University, 1949; PH.D., Syracuse University, 1955.
- E. PAUL BENOIT, *Chief Psychologist, Governor Bacon Health Center, Delaware City, Delaware. Visiting Lecturer in Education*  
PH.D., University of Connecticut, 1955.
- JOEL H. BERMAN, *Assistant Professor of Music*  
B.S., Juilliard School of Music, 1951; M.A., Columbia University, 1953.
- WILLIAM E. BICKLEY, *Professor and Head of Entomology*  
B.S., University of Tennessee, 1934; M.S., 1936; PH.D., University of Maryland, 1940.
- GEORGE R. BLAKLEY, *Assistant Instructor in Mathematics*  
B.A., Georgetown University, 1954.
- LLOYD E. BLAUCH, *Assistant Commissioner and Director, Division of Higher Education, U. S. Office of Education, Visiting Lecturer in Education*  
A.B., Goshen College, 1916; A.M., University of Chicago, 1917; PH.D., University of Chicago, 1923.
- GLENN O. BLOUGH, *Associate Professor of Education*  
B.A., University of Michigan, 1929; M.A., 1932; LL.D., Central Michigan College of Education, 1950.
- B. LUCILLE BOWIE, *Assistant 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.
- EMMA M. BOWMAN, *Supervisor of Elementary Education, Prince George's County; Visiting Lecturer in Education*  
B.S., University of Maryland, 1941; M.ED., 1951.
- 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.

## Faculty

- ELEANOR A. BROOME, *Instructor in Childhood Education*  
B.A., University of Maryland, 1943; M.ED., 1957.
- JAMES G. BROWN, *Instructor of Office Techniques and Management*  
B.A., George Washington University, 1948; M.A., 1949.
- JOSHUA R. C. BROWN, *Associate Professor of Zoology*  
B.A., Duke University, 1948; M.A., 1949; PH.D., 1953.
- MARIE D. BRYAN, *Associate Professor of Education*  
B.A., Goucher College, 1923; M.A., University of Maryland, 1945.
- RICHARD H. BYRNE, *Professor of Education*  
B.A., Franklin and Marshall College, 1938; M.A., Columbia University, 1947; ED.D., 1952.
- CHARLES E. CALHOUN, *Professor of Finance*  
B.A., University of Washington, 1925; M.B.A., 1930.
- JOSEPH H. CAMIN, *Visiting Lecturer in Zoology*  
B.S., Ohio State University, 1946; M.S., 1947; PH.D., 1949.
- EARNESTINE CAMP, *Visiting Lecturer in Institution Management*  
Assistant State Supervisor, School Lunch Service, State of Arkansas.
- MARJORIE H. CAMPBELL, *Instructor in Science Education, Teacher's College, District of Columbia. Visiting Lecturer in Education*  
B.S., University of Maryland, 1938; M.A., 1940.
- ROBERT G. CAREY, *Assistant Professor of Journalism*  
A.B., Westminster College, 1950; A.M., University of Pittsburgh, 1954.
- VIOLET M. CARVER, *Instructor of Office Techniques*  
B.S., State Teachers College, Indiana, Pa., 1955; M.ED., Pennsylvania State University, 1958.
- CARLETON M. CLIFFORD, *Research Associate in Zoology*  
B.A., University of Vermont, 1954; PH.D., University of Maryland, 1958.
- LEON W. COHEN, *Professor and Head, Department of Mathematics*  
B.A., Columbia University, 1923; M.A., 1925; PH.D., University of Michigan, 1928.
- ELISABETH N. COLLINS, *Assistant Professor, Institution Management*  
B.A., Pembroke College, 1921; M.S., Simmons College, 1947.
- GERALD F. COMBS, *Professor of Poultry Husbandry*  
B.S., University of Illinois, 1940; PH.D., Cornell University, 1948.
- SARA E. CONLON, *Instructor in Speech and Dramatic Arts*  
B.A., University of Maryland, 1947; M.A., State University of Iowa, 1950.
- FRANKLIN D. COOLEY, *Associate Professor of English*  
B.A., The Johns Hopkins University, 1927; M.A., University of Maryland, 1933; PH.D., The Johns Hopkins University, 1940.

- JOHN L. COULTER, *Assistant Professor of English*  
B.A., American University, 1934; M.A., University of North Carolina, 1936.
- FRANK H. CRONIN, *Associate Professor of Physical Education, Head Golf Coach*  
B.S., University of Maryland, 1946.
- ALFRED A. CROWELL, *Professor and Head, Department of Journalism and Public Relations*  
A.B., University of Oklahoma, 1929; M.S.J., Northwestern, 1940.
- VIENNA CURTISS, *Professor and Head, Department of Practical Art*  
B.A., Arizona State College, 1933; M.A., Columbia University, 1935; ED.D., 1957.
- JOHN A. DAIKER, *Assistant Professor of Accounting*  
C.P.A., District of Columbia, 1949; B.S., University of Maryland, 1941; M.B.A., 1951.
- RICHARD F. DAVIS, *Professor and Head, Department of Dairy*  
B.S., University of New Hampshire, 1950; M.S., 1952; PH.D., Cornell University, 1953.
- TOWNES L. DAWSON, *Associate Professor of Business Law*  
B.B.A., University of Texas, 1943; B.S., U. S. Merchant Marine Academy, 1946; M.B.A., University of Texas, 1947; PH.D., 1950; LL.B., 1954.
- DOROTHY F. DEACH, *Professor and Head, Department of Physical Education for Women*  
B.S., University of Illinois, 1931; M.S., 1932; PH.D., University of Michigan, 1951.
- MARY DE VERMOND, *Instructor of Music*  
B.MUS., Howard University, 1942; M.A., Columbia University, 1948.
- DONALD DEW, *Instructor of Speech and Dramatic Art*  
B.A., University of Maryland, 1950; M.A., State University of Iowa, 1956; PH.D., 1958.
- CAROLYN C. DUNLAP, *Director of Practice, State Teachers College, Salisbury, Maryland. Visiting Lecturer in Education*  
B.A., Western Maryland College, 1939; M.A., University of Maryland, 1950; ED.D., 1954.
- THOMAS H. DYER, *Instructor in Mathematics*  
B.S., U. S. Naval Academy, 1924.
- MARVIN H. EYLER, *Associate Professor of Physical Education*  
B.A., Houghton College, 1942; M.S., University of Illinois, 1948; PH.D., 1956.
- JOHN E. FABER, *Professor and Head, Microbiology*  
B.S., University of Maryland, 1926; M.A., 1927; PH.D., 1937.
- E. JAMES FERGUSON, *Assistant Professor of History*  
B.A., University of Washington, 1939; M.A., 1941; PH.D., University of Wisconsin, 1951.

## Faculty

- ALPHORETTA FISH, *Visiting Lecturer in Education*  
B.S., State Teachers College, 1955; M.A., Western Michigan University, 1956.
- SHERMAN K. FITZGERALD, *Assistant Lecturer in Education*  
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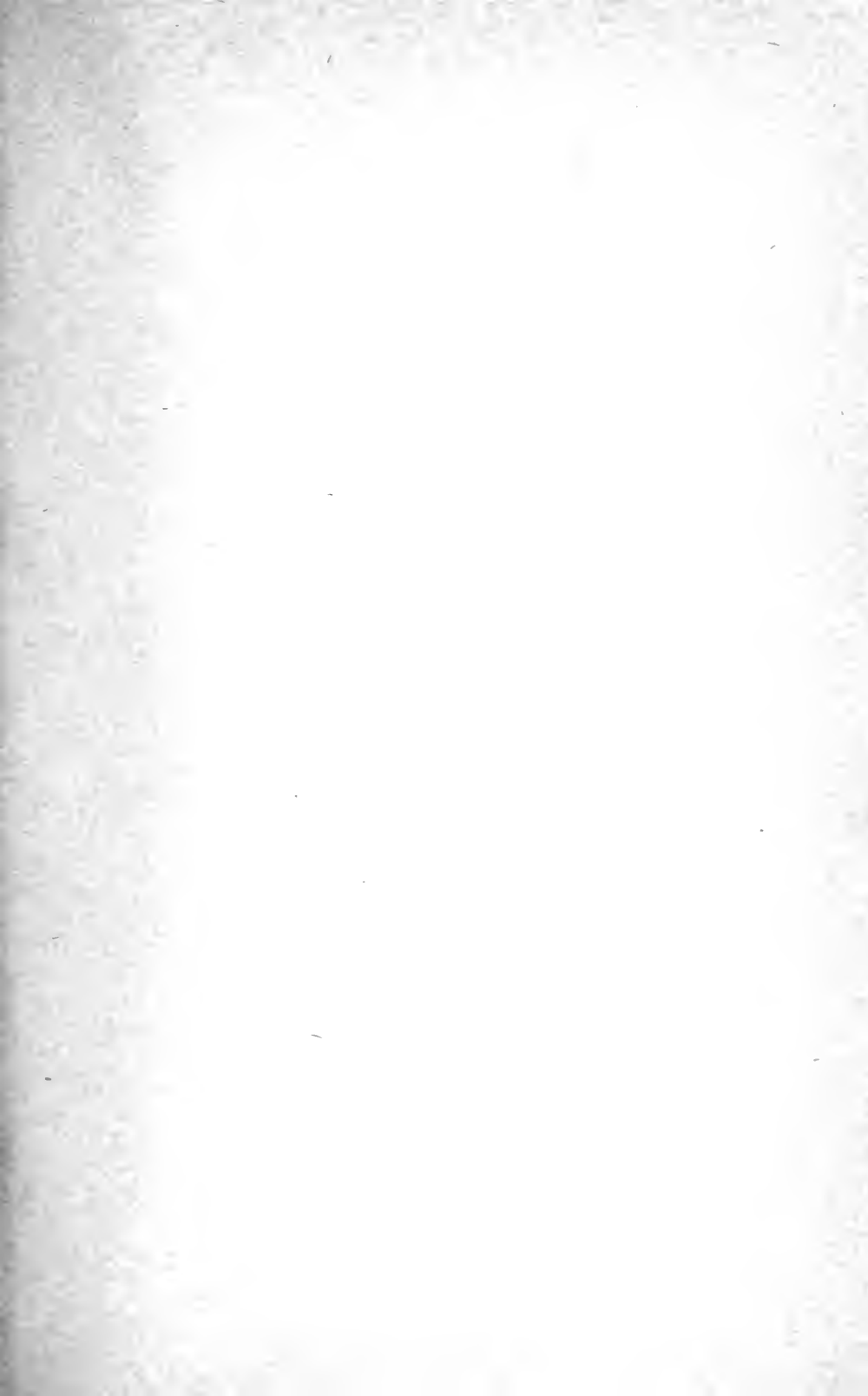
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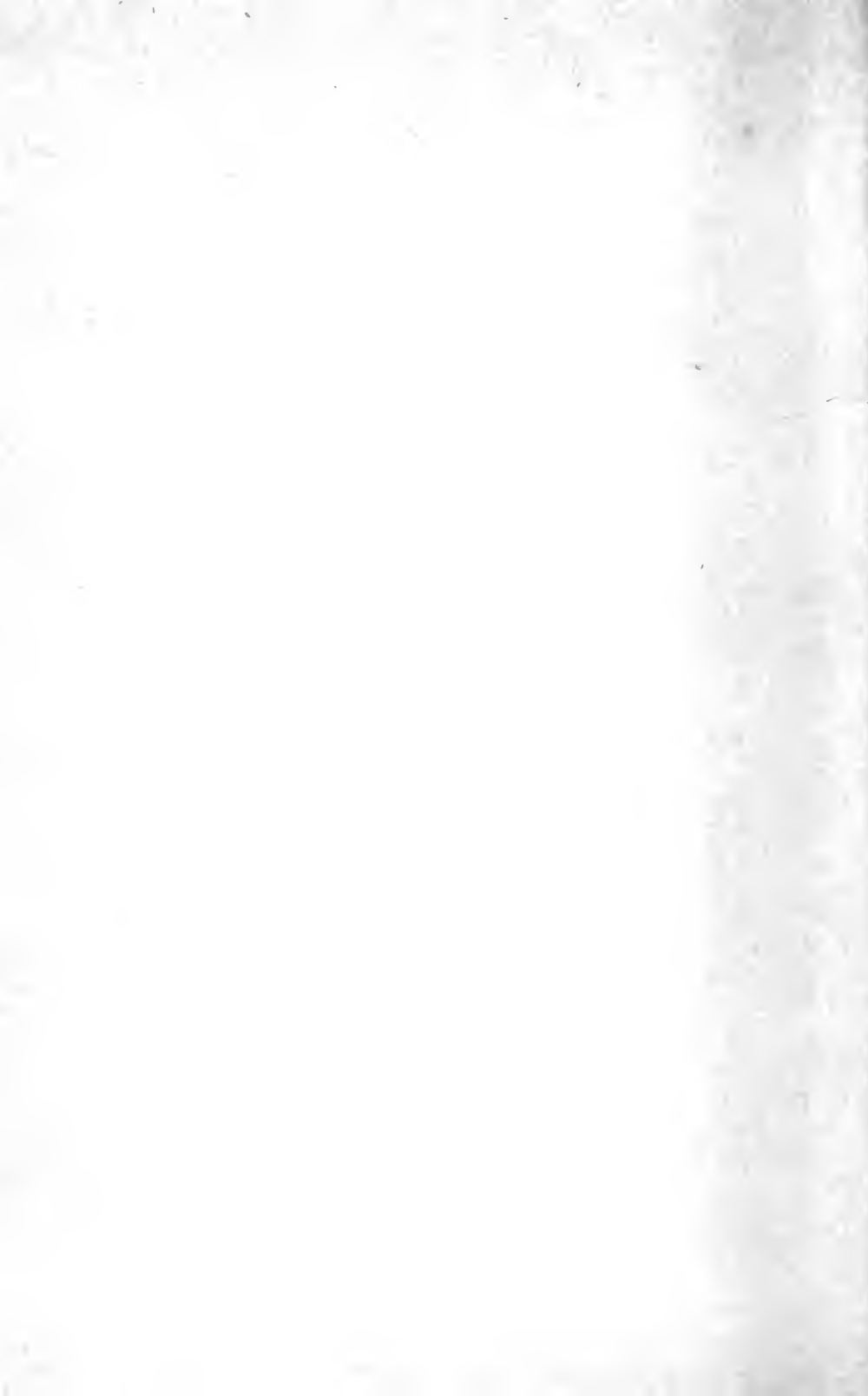
















*—The University is the rear guard and the advance agent of society. It lives in the past, the present and the future. It is the storehouse of knowledge; it draws upon this depository to throw light upon the present; it prepares people to live and make a living in the world of today; and it should take 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.

