UNIVERSITY OF CINCINNATI BULLETIN

ANNOUNCEMENT OF THE

Graduate School of Arts and Sciences

1954-1955

PUBLISHED BY THE UNIVERSITY OF CINCINNATI
VAN WORMER ADMINISTRATION BUILDING
CINCINNATI 21, OHIO

ENGL. 329. THE SHORT STORY. Mr. Krouse.

ENGL. 499. EIGHTEENTH-CENTURY ENGLISH POETRY. Mr. Krouse.

ENGL. 352. AMERICAN ROMANTICS. Mr. Kreider.

ENGL. 380. THE POETRY AND PROSE OF T. S. ELIOT. Mr. Boyce.

ENGL. 901, 902. RESEARCH IN ENGLISH. Staff.

For further information, see the Announcement of the Summer School.

GEOLOGY AND GEOGRAPHY

Head of Department: Professor JOHN LYON RICH (29 Old Tech Building); Professors CASE (25 Old Tech), BARBOUR (137 McMicken), COULTER (8 Old Tech), CASTER (2-C Old Tech); Assistant Professors SUNDERMAN (31 Old Tech), FRIEDMAN (33 Old Tech); Instructors DURRELL (1 Old Tech), WOLF (23 Old Tech).

This Department offers work in geology leading to the degrees of Master of Arts, Master of Science, and Doctor of Philosophy, and work in geography leading to the degree of Master of Arts.

Not all students admitted to graduate courses are accepted as candidates for degrees. Personal acquaintance and preliminary examinations are required in order to determine their aptitude for self-directed effort. With an adequate basis of undergraduate study it may be possible to finish the work for a master's degree in one year, but the requirement cannot be stated in terms of time or credits. All graduate students will be required to participate in an annual three- or four-day field trip.

The thesis required for the master's degree may represent either original research, or a compilation and analysis of the literature on the chosen subject, of such a nature as to demonstrate the student's ability to sum up existing knowledge and to organize and express it in an approved manner.

GEOLOGY

For Advanced Undergraduate and Graduate Students

*GEOL. 301, 302. MINERALOGY. Morphological relations of crystals, their physical and chemical properties. The important minerals, their occurrence, properties, and uses. Blowpipe analysis and microchemical testing. Three graduate credits each semester. T Th 10:30; M 1:30-4:30. Mr. Friedman.

Prerequisite: High-school or elementary college chemistry.

*Supplementary work is required of graduate students electing this course.

*GEOL. 317, 318, 319. GEOLOGIC DEMONSTRATION TRIPS. A two weeks' field excursion immediately after spring examinations and before Summer School, generally in the Appalachian highlands. Conferences weekly during the following semester and a report to be submitted at the end of the first semester. The three numbers designate different routes followed in successive years. Three graduate credits. Mr. Durrell.

*GEOL. 321, 322. PRINCIPLES OF HISTORICAL GEOLOGY. An introduction to the study of the physical and biological history of the earth with particular emphasis on North America. Four graduate credits each semester. T Th 8:30; W 1:30-4:30; S 8:30-11:30. Mr. Caster.

Prerequisites: Geol. 101-2; 111-2; or equivalents.

GEOL. 330. ADVANCED GEOLOGY FIELD TRIP. A two weeks' field excursion immediately after spring examinations and before Summer School. Conferences once a week during the following semester and preparation of a comprehensive report to be submitted at the end of the first semester. For students who have already taken a geologic demonstration trip (Geol. 317, 318, or 319) and Geol. 321-2 or its equivalent. Three graduate credits. First semester. Mr. Caster.

GEOL. 401, 402. PETROGRAPHY. Principles of crystal optics and recognition of transparent minerals under the microscope. Principles of petrology and classification of igneous rocks. Mainly thin-section study. Four graduate credits each semester. Lecture, M W 9:30; laboratory, T Th 1:30-4:30. Mr. Friedman.

Prerequisites: Geol. 301-2 or equivalent.

GEOL. 425, 426. INVERTEBRATE PALEONTOLOGY. A systematic survey of the important groups of invertebrate fossils with special emphasis on their zoological character and geologic significance. Four graduate credits each semester. Lecture, M W 11:30; laboratory, T Th 1:30-4:30. Mr. Caster.

Prerequisites: Geol. 101-2; 111-2; or equivalents; or a course in biology, zoology, or botany.

GEOL. 443. PHYSIOGRAPHY OF EASTERN UNITED STATES. Three graduate credits. First semester, M 1:30-4:30 or at hours to be arranged. Mr. Barbour.

Prerequisites: Geol. 101-2; 111-2; or equivalents. Alternates with Geol. 449, to be offered in 1955-56.

*Supplementary work is required of graduate students electing these courses.

GEOL. 444. PHYSIOGRAPHY OF WESTERN UNITED STATES. Three graduate credits. Second semester, M 1:30-4:30 or at hours to be arranged. Mr. Barbour.

Prerequisites: Geol. 101-2; 111-2; or equivalents. Alternates with Geol. 448 to be offered in 1955-56.

*GEOL. 469. COMMON ROCKS. Use of megascopic characteristics to identify igneous, sedimentary, and metamorphic rocks and to interpret their conditions of origin and subsequent alteration. Three graduate credits. First semester, lecture, M W 8:30; laboratory, F 1:30-4:30. Mr. Sunderman.

Prerequisites: Geol. 101-2; 111-2; or equivalents.

GEOL. 470. BASIC SEDIMENTATION. Principles governing the origin, transportation, deposition, and subsequent alteration of sediments, with particular emphasis on the physical and chemical environments of accumulation. Three graduate credits. Second semester, lecture, T Th 9:30; laboratory, F 1:30-4:30. Mr. Sunderman.

Prerequisites: Geol. 101-2; 111-2; and 301-2 or equivalents.

GEOL. 503, 504. DEPARTMENTAL SEMINAR. Expected of all advanced students in geology and geography. No additional credit. Th 4:30.

GEOL. 589. STRUCTURAL GEOLOGY. Principles of rock deformation; geologic measurements; applications of descriptive geometry; methods of determination of structure in the field, including practice in field work. This course is given once in two years, beginning in September of the even-numbered years. Four graduate credits. First semester, lecture, M W 10:30; laboratory, W 1:30-4:30 and three additional hours of laboratory to be arranged. Mr. Rich.

Prerequisites: Geol. 101-2; 111-2; or equivalents.

Primarily for Graduate Students

GEOL. 906. PETROLOGY OF IGNEOUS ROCKS. Important petrographic methods. A study of the genesis of igneous rocks. Three graduate credits. Second semester. Hours to be arranged. Mr. Friedman.

Prerequisites: Geol. 301-2; 401; or equivalents.

GEOL. 909. METAMORPHIC GEOLOGY. Changes produced in rocks by weathering and metamorphism, including microscopic examination of the minerals and internal structures of

*Supplementary work is required of graduate students electing this course.

metamorphic rocks. Four graduate credits. Second semester. Hours to be arranged. Mr. Sunderman.

Prerequisite: Geol. 401-2 or equivalent.

GEOL. 925, 926. ADVANCED MEGASCOPIC PALEONTOLOGY. By the instructor's permission. Three graduate credits each semester. Hours to be arranged. Mr. Caster.

Prerequisite: Geol. 425-6, or a course in zoology.

GEOL. 971, 972. INDIVIDUAL WORK IN GEOLOGY. Credit depends on amount of work done. May be entered either semester. Geology Staff.

GEOL. 973. FIELD RESEARCH IN GEOLOGY. Summer work in the field under direction of the Staff. One to six graduate credits.

GEOL. 980. INTERPRETATION OF AERIAL PHOTOGRAPHS. The geologic and geographic interpretation of aerial photographs, and their use in mapping. Three graduate credits. Second semester. Lecture and laboratory. Hours to be arranged. Mr. Rich.

Prerequisites: Geol. 101-2; 111-2; or equivalents. Geol. 589 and 980 alternate with 561-2, to be offered in 1955-56.

GEOGRAPHY

For Advanced Undergraduate and Graduate Students

*GEOG. 307. METEOROLOGY. Weather is studied from the points of view of observation, causes, and current methods of prediction. Three graduate credits. First semester, T Th 10:30-12:00. Mr. ————.

*GEOG. 308. CLIMATOLOGY. The major climatic regions of the world. Description, explanation, and distribution of each type. Three graduate credits. Second semester, T Th 10:30-12:00. Mr. ————.

Prerequisite: Geog. 307 or 100.

*GEOG. 310. CARTOGRAPHY. An introduction to maps; map compilation and design; maps as a useful tool in teaching and research. Brief survey of the history of map-making. Three graduate credits. First semester, M W F 9:30. Mr. Wolf.

*GEOG. 311, 312. GEOGRAPHY OF NORTH AMERICA. The natural regions of North America; present economic development and future possibilities as related to climate, relief, and resources. Three graduate credits each semester. W 4:00-6:00 and one additional hour to be arranged. Mr. Case.

Prerequisite: Geog. 100 or equivalent.

*Supplementary work is required of graduate students electing these courses.

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McMicken College of Arts and Sciences

1954-1955

PUBLISHED BY THE UNIVERSITY OF CINCINNATI
VAN WORMER ADMINISTRATION BUILDING
CINCINNATI 21, OHIO

GEOLOGY AND GEOGRAPHY

Professors RICH (*Head of Department*, 29 Old Tech), CASE (25 Old Tech), BARBOUR (137 McMicken), COULTER (8 Old Tech), CASTER (2-C Old Tech); Assistant Professors SUNDERMAN (31 Old Tech), FRIEDMAN (33 Old Tech); Instructors DURRELL (1 Old Tech), WOLF (23 Old Tech), HODGKINS (36 Old Tech); Museum Curator ————.

Fields of concentration, leading to the degree of B.A. or B.S., are offered in geology and in geography. The beginning courses in geology are planned as broad cultural surveys of the earth and its history—the processes which shape its surface and mold its landscapes; minerals and rocks; some of the important mineral resources; and the history of development of life as revealed by the fossil record. Geol. 101-2, 111-2 is the basic course preliminary to the advanced courses in the Department.

The beginning semester of geography (Geog. 100) deals with the basic principles of location, topography, weather and climate, and major vegetational and mineral resources—all desirable for further studies in geography. On completing it, the student is permitted to enter any of the other courses in geography except 577-8.

A student wishing to major in geology shall present Geol. 101-2, 111-2 or its equivalent. He will then continue with 301-2, 321-2, 317 (318, 319), and 501-2. Further courses in geology and their sequence will depend upon the plans and the interest of the student. For all students planning geology as a profession, a five- or eight-week summer field course is most strongly recommended.

A student wishing to major in geography shall present Geog. 100 or its equivalent, Geol. 101-2, 111-2 or its equivalent, Geog. 501-2. Further courses in geography and their sequence will depend upon the plans and the interest of the student.

Among the nongeological courses recommended to students who will concentrate in geology are the following (preference depending in part on fields of concentration): Chem. 101-2, 111-2; Phys. 101-2, 111-2; Zool. 101-2, 111-2, 317, 320; Bot. 101-2, 111-2, 421-2, 553-4; Geog. 410 or one of the regional courses in geography; mathematics through calculus; Astr. 101-2; German 001-2 and 011-2; Econ. 101-2; Phil. 121-2.

Among the nongeographical courses recommended to students who will concentrate in geography are the following: Geol. 449, 443-4, 448, 980; Hist. 107-8, 117, 207-8; Econ. 101-2; Pol. Sc. 471-2; Bot. 221-2, 925, 421-2; Soc. 301-2, 411-2, 340, 230.

Each autumn the Department conducts a three- or four-day field trip which all advanced students in the Department are expected to attend.

Five-Year Co-ordinated Program in Geology. Students looking toward a professional career in geology are urged to follow a special co-ordinated program (described on page 32), designed to meet the requirements for employment in the oil industry or mining or geological engineering. In this program, a student receives training in geology, the fundamentals of mathematics through calculus, chemistry through quantitative analysis, physics, mechanics, and surveying. Some of the work will be chosen from the "Degree" courses in engineering offered by the Evening College. All courses have been so scheduled as to provide a logical sequence of subjects and produce a uniformly distributed load. A considerable latitude of choice is possible in the last three years, but changes should be made only after consultation with the Head of the Department of Geology. On the satisfactory completion of four years' work, the student will receive the degree of Bachelor of Science in Geology and, after an additional year of successful study in the Graduate School, he will receive the degree of Master of Science. (See also page 33.) Students contemplating entering this course should consult in advance the Head of the Department of Geology and Geography, who serves as their adviser throughout the course. The program should be s ed in the freshman year.

GEOLOGY

15-040

101-2. INTRODUCTION TO GEOLOGY. Prerequisite to all other geology courses except Geol. 103-4, 301-2, 109, and 425-6. It is not prerequisite to any geography courses, but is required of geography majors. With Geol. 111-2, it satisfies the science requirement. Geol. 101-2 and 111-2 form two parts of a single 10-credit course. With the instructor's permission, however, students who do not offer geology in fulfillment of the science requirement may take 101-2 alone. Lecture, MWF 8:30. Mr. Durrell.

111-2. INTRODUCTION TO GEOLOGY, LABORATORY. A laboratory course to accompany Geol. 101-2. With the instructor's permission, transfer students and other qualified students may take the course without the lectures (101-2). MW 1:30-4:30; TTh 1:30-4:30. 2 crs. each sem. Mr. Durrell and assistants.

103-4. GENERAL GEOLOGY. An elementary course for general students not expecting to do further work in the subject; fulfills the science requirement only if taken in combination with an elementary course in another science. MW 8:30, F 1:30-4:30. Mr. Barbour.

301-2. MINERALOGY. Morphological relations of crystals, their physical and chemical properties. The important minerals, their occurrence, properties, and uses. Blowpipe analysis and microchemical testing. Prerequisite: High-school or elementary college chemistry. M 1:30-4:30; TTh 10:30. Mr. Friedman.

317, 318, 319. GEOLOGIC DEMONSTRATION TRIPS. A two weeks' field excursion immediately after spring examinations and before Summer School, generally in the Appalachian highlands. Conferences weekly during the following semester and a report to be submitted at the end of the first semester. Special work required for graduate credit. The three numbers designate different routes followed in successive years. Prerequisite: Geol. 101-2, 111-2 or equivalent. Mr. Durrell.

321-2. PRINCIPLES OF HISTORICAL GEOLOGY. An introduction to the study of the physical and biological history of the earth with particular emphasis on North America. Prerequisite: Geol. 101-2, 111-2 or equivalent. TTh 8:30, W 1:30-4:30, S 8:30-11:30. 4 crs. each sem. Mr. Caster.

330. ADVANCED GEOLOGY FIELD TRIP. A two weeks' field excursion immediately after spring examinations and before Summer School. Conferences once a week during the following semester and preparation of a comprehensive report to be submitted at the end of the first semester. For students who have already taken a Geologic Demonstration Trip (317, 318, 319) and Geol. 321-2 or equivalent. Mr. Caster.

401-2. PETROGRAPHY. Principles of crystal optics and recognition of transparent minerals under the microscope. Principles of petrology and classification of igneous rocks. Mainly thin-section study. Prerequisite: Geol. 301-2 or equivalent. MW 9:30, TTh 1:30-4:30. 4 crs. each sem. Mr. Friedman.

425-6. INVERTEBRATE PALEONTOLOGY. A systematic survey of the important groups of invertebrate fossils with special emphasis on their zoological character and geologic significance. Prerequisite: Geol. 101-2, 111-2 or equivalent, or a course in biology, zoology, or botany. MW 11:30, TTh 1:30-4:30. 4 crs. each sem. Mr. Caster.

443. (1st sem.) PHYSIOGRAPHY OF EASTERN UNITED STATES. Prerequisite: Geol. 101-2, 111-2 or equivalent. Alternates with Geol. 449, to be offered in 1955-56. M 1:30-4:30 or at hours to be arranged. Mr. Barbour.

444. (2nd sem.) PHYSIOGRAPHY OF WESTERN UNITED STATES. Prerequisite: Geol. 101-2, 111-2 or equivalent. Alternates with Geol. 448, to be offered in 1955-56. M 1:30-4:30 or at hours to be arranged. Mr. Barbour.

469. (1st sem.) COMMON ROCKS. Use of megascopic characteristics to identify igneous, sedimentary, and metamorphic rocks and to interpret their conditions of origin and subsequent alteration. Prerequisites: Geol. 101-2, 111-2, and 301-2 or equivalents. Lecture, MW 8:30; laboratory, F 1:30-4:30. Mr. Sunderman.

470. (2nd sem.) BASIC SEDIMENTATION. Principles governing the origin, transportation, deposition, and subsequent alteration of sediments, with particular emphasis on the physical and chemical environments of accumulation. Prerequisites: Geol. 101-2, 111-2, and 301-2 or equivalents. Lecture, TTh 9:30; laboratory, F 1:30-4:30. Mr. Sunderman.

501-2. READINGS FOR SENIORS. Required of all seniors majoring in geology; not open to other students.

503-4. DEPARTMENTAL SEMINAR. Expected of all advanced students in geology and geography. No additional credit. Th 4:30.

571-2. INDIVIDUAL WORK IN GEOLOGY. Credit depends on amount of work done. May be entered either semester. Geology Staff.

589. (1st sem.) STRUCTURAL GEOLOGY. Principles of rock deformation; geologic measurements; applications of descriptive geometry; methods of determination of structure in the field, including practice in field work. This course is given once in two years, beginning in September of the even-numbered years. Prerequisite: Geol. 101-2, 111-2 or equivalent. MW 10:30, W 1:30-4:30 and three additional hours of laboratory to be arranged. 4 crs. Mr. Rich.

*906. (2nd sem.) PETROLOGY OF IGNEOUS ROCKS. Important petrographic methods. A study of the genesis of igneous rocks. Prerequisites: Geol. 301-2 and 401 or equivalent. Mr. Friedman. (Code: 14-040)

*909. (2nd sem.) METAMORPHIC GEOLOGY. Changes produced in rocks by weathering and metamorphism, including microscopic examination of the minerals and internal structures of metamorphic rocks. Prerequisite: Geol. 401-2 or equivalent. Hours to be arranged. 4 crs. Mr. Sunderman. (Code: 14-040)

*Primarily for graduate students. May be taken by qualified undergraduates by special permission of the instructor.

*925-6. Advanced Megascopic Paleontology. By the instructor's permission. Prerequisite: Geol. 425-6 or a course in zoology. Hours to be arranged. Mr. Caster. (Code: 14-040)

*980. (2nd sem.) Interpretation of Aerial Photographs. The geologic and geographic interpretation of aerial photographs and their use in mapping. Prerequisites: Geol. 101-2, 111-2 or equivalent. Geol. 589 and 980 alternate with 561-2, to be offered in 1955-56. Lecture and laboratory. Mr. Rich. (Code: 14-040)

Omitted during 1954-55: 109, Ancient Life; 209, Geology of Mineral Resources; 310, Topographic Mapping; 448, World Physiography; 449, Principles of Geomorphology; 561-2, Economic Geology; 910, Advanced Mineralogy; 921-2, Stratigraphic Geology; 960, Ground Water; 963-4, Advanced Sedimentation; 979, Geophysics; 982, Glacial Geology.

Geography

15-041

The following year-courses may be entered in February with the instructor's permission: Geog. 311-2, 577-8.

100. (1st sem., repeated in 2nd sem.) Fundamentals of Geography. A survey of the natural geographic environment as related to human activities. Two field trips. Prerequisite for all other courses in geography except Geog. 307 and 401. First semester, MWF 11:30, MWF 1:30; second semester, MWF 2:30. Mr. Hodgkins.

108. (2nd sem.) World Geography. An introductory course in regional human geography. Prerequisite: Geog. 100 or equivalent. MWF 11:30. Mr. Coulter.

307. (1st sem.) Meteorology. Weather is studied from the points of view of observation, causes, and current methods of prediction. TTh 10:30-12:00. Mr. Hodgkins.

308. (2nd sem.) Climatology. The major climatic regions of the world. Description, explanation, and distribution of each type. Prerequisite: Geog. 307 or 100. TTh 10:30-12:00. Mr. Hodgkins.

310. (1st sem.) Cartography. An introduction to maps; map compilation and design; maps as a useful tool in teaching and research. Brief survey of the history of map-making. MWF 9:30. Mr. Wolf.

*Primarily for graduate students. May be taken by qualified undergraduates by special permission of the instructor.