

52-54

UNIVERSITY OF CINCINNATI BULLETIN

ANNOUNCEMENT OF THE

Graduate School of Arts and Sciences



1953-1954

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VAN WORMER ADMINISTRATION BUILDING
CINCINNATI 21, OHIO

ENGL. 571, 572. MODERN PROSE. 15001-571, 572

ENGL. 573, 574. TWENTIETH-CENTURY FICTION. 15001-573, 574

Primarily for Graduate Students

*ENGL. 911, 912. FOREIGN BACKGROUNDS OF ENGLISH LITERATURE. 14001-911, 912

*ENGL. 931, 932. GRADUATE SEMINAR: ENGLISH LITERATURE. 14001-931, 932

*ENGL. 951, 952. GRADUATE SEMINAR: AMERICAN LITERATURE. 14001-951, 952

*ENGL. 901, 902. RESEARCH. 14001-901, 902

GEOLOGY AND GEOGRAPHY

Head of Department: Professor JOHN LYON RICH, Room 29, Old Tech Building; Professors CASE, BARBOUR, COULTER; Associate Professors RITTERHOUSE†, CASTER, FREY†; Assistant Professor SUNDERMAN; Instructors DURRELL, BOWERS, FRIEDMAN, WOLF.

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 Graduate and Advanced Undergraduate Students

GEOL. 109. ANCIENT LIFE. 15040-109

GEOL. 209. GEOLOGY OF MINERAL RESOURCES. 15040-209

*Given every year.

†Absent on leave

- *GEOL. 301, 302. MINERALOGY. 15040-301, 302
GEOL. 310. TOPOGRAPHIC MAPPING. 15040-310
*GEOL. 317, 318, 319. GEOLOGIC DEMONSTRATION TRIPS. 15040-317, 318, 319
*GEOL. 321, 322. PRINCIPLES OF HISTORICAL GEOLOGY. 15040-321, 322
*GEOL. 330. ADVANCED GEOLOGY FIELD TRIP. 15040-330
*GEOL. 401, 402. PETROGRAPHY. 15040-401, 402
*GEOL. 425, 426. INVERTEBRATE PALEONTOLOGY. 15040-425, 426
GEOL. 443. PHYSIOGRAPHY OF EASTERN UNITED STATES. 15040-443
GEOL. 444. PHYSIOGRAPHY OF WESTERN UNITED STATES. 15040-444
GEOL. 448. WORLD PHYSIOGRAPHY. 15040-448
GEOL. 449. PRINCIPLES OF GEOMORPHOLOGY. 15040-449
*GEOL. 469. COMMON ROCKS. 15040-469
*GEOL. 470. BASIC SEDIMENTATION. 15040-470
*GEOL. 503, 504. DEPARTMENTAL SEMINAR. 15040-503, 504
GEOL. 561, 562. ECONOMIC GEOLOGY. 15040-561, 562
GEOL. 589. STRUCTURAL GEOLOGY. 15040-589

Primarily for Graduate Students

- GEOL. 906. PETROLOGY OF IGNEOUS ROCKS. 14040-906
GEOL. 909. METAMORPHIC GEOLOGY. 14040-909
GEOL. 910. ADVANCED CRYSTALLOGRAPHY. 14040-910
GEOL. 921, 922. STRATIGRAPHIC GEOLOGY. 14040-921, 922
*GEOL. 925, 926. ADVANCED MEGASCOPIIC PALEONTOLOGY. 14040-925, 926
GEOL. 960. GROUND WATER. 14040-960
*GEOL. 963, 964. ADVANCED SEDIMENTATION. 14040-963, 964

*Given every year.

*GEOL. 971, 972. ADVANCED INDIVIDUAL WORK IN GEOLOGY.
14040-971, 972

*GEOL. 973. FIELD RESEARCH IN GEOLOGY. 14040-973

GEOL. 979. GEOPHYSICS. 14040-979

GEOL. 980. INTERPRETATION OF AERIAL PHOTOGRAPHS. 14040-
980

GEOL. 982. GLACIAL GEOLOGY. 14040-982

GEOGRAPHY

For Graduate and Advanced Undergraduate Students

*GEOG. 307. METEOROLOGY. 15041-307

*GEOG. 308. CLIMATOLOGY. 15041-308

*GEOG. 311, 312. GEOGRAPHY OF NORTH AMERICA. 15041-311, 312

*GEOG. 317. GEOGRAPHY OF SOUTH AMERICA. 15041-317

*GEOG. 327. GEOGRAPHY OF EUROPE. 15041-327

*GEOG. 337. GEOGRAPHY OF ASIA. 15041-337

*GEOG. 338. GEOGRAPHY OF THE PACIFIC. 15041-338

GEOG. 347. GEOGRAPHY OF AFRICA. 15041-347

*GEOG. 399. FIELD GEOGRAPHY OF THE CINCINNATI REGION.
15041-399

*GEOG. 410. ECONOMIC GEOGRAPHY AND INTERNATIONAL TRADE.
15041-410

*GEOG. 420. POLITICAL GEOGRAPHY. 15041-420

Primarily for Graduate Students

*GEOG. 977, 978. ADVANCED INDIVIDUAL WORK IN GEOGRAPHY.
14041-977, 978

*Given every year.

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UNIVERSITY OF CINCINNATI
BULLETIN

ANNOUNCEMENT OF THE

*McMicken College of
Arts and Sciences*



1953-1954

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

For statements regarding credit for work in the Art Academy of Cincinnati, the Cincinnati Conservatory of Music, and the College of Music of Cincinnati, see page 36.

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); Associate Professor RITTENHOUSE* (31 Old Tech); Assistant Professor SUNDERMAN (35 Old Tech); Instructors DURRELL (1 Old Tech), FRIEDMAN (33 Old Tech), WOLF (23 Old Tech); Museum Curator HOLLAND.

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-weeks' 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.

*Absent on leave.

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 35) designed to meet the requirements for employment in the oil industry, 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 35.) 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 started in the freshman year.

For interdepartmental programs including work in geography see page 32.

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 cr. 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, 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. TTh 10:30, M 1:30-4:30. 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 its 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. Hand-specimen and 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.
448. (2nd sem.) WORLD PHYSIOGRAPHY. Study of selected regions in geomorphic terms. (Alternates with Geol. 444.) Prerequisite: Geol. 101-2, 111-2 or equivalent. M 1:30-3:30; additional hours to be arranged. Mr. Barbour.

449. (1st sem.) PRINCIPLES OF GEOMORPHOLOGY. The interpretation of landscapes, especially as governed by geologic and climatic conditions. (Alternates with Geol. 443.) Prerequisite: Geol. 101-2, 111-2 or equivalent. M 1:30-5:30; additional 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. Each laboratory section limited to seven students. Lecture, TTh 9:30; laboratory, F 1:30-4:30 or W 1:30-4:30. Mr. Sunderman.
470. (2nd sem.) BASIC SEDIMENTATION. Principles governing the 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. Each laboratory section limited to nine students. Lecture, TTh 9:30; laboratory, F 1:30-4:30 or W 1:30-4:30. Mr. Sunderman.
- 501-2. READINGS FOR SENIORS. Required of all seniors majoring in geology; not open to others.
- 503-4. DEPARTMENTAL SEMINAR. Expected of all major and graduate students in geology and geography. No additional credit. Th 4:30.
- 561-2. ECONOMIC GEOLOGY. Mineral fuels, useful nonmetallics, and ore deposits. (Alternates with Geol. 589 and 980.) Two-weeks' field trip at end of spring semester. Prerequisite: Geol. 401-2 or equivalent. Lecture, MW 10:30; laboratory, W 1:30-4:30, F 8:30-11:30. 4 crs., 1st sem.; 5 crs., 2nd sem. Mr. Rich.
- 571-2. INDIVIDUAL WORK IN GEOLOGY. Credit depends on amount of work done. May be entered either semester. Geology Staff.
- *910. (2nd sem.) ADVANCED MINERALOGY. Morphological and mathematical relations of crystals. Systematic survey of important minerals not covered in Geol. 301-2. (Alternates with Geol. 906.) Prerequisite: Geol. 301-2 or equivalent. Mr. Friedman. (Code: 14-040)
- *921-2. STRATIGRAPHIC GEOLOGY. The basic principles of stratigraphy and a survey of the stratigraphic history of North America. Prerequisites: Geol. 321-2, 425-6, or equivalents. MF 4:30-6:00. Mr. Caster. (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. TTh 10:30-12:00. Mr. Caster. (Code: 14-040)
- *960. (2nd sem.) GROUND WATER. Principles of ground-water movement; measurement of quantity and quality. Study of supplies in selected localities. Prerequisites: Geol. 470; Phys. 101-2; or equivalents. Mr. Sunderman. (Code: 14-040)

Omitted during 1953-54: 109, Ancient Life; 209, Geology of Mineral Resources; 310, Topographic Mapping; 443, Physiography of Eastern United States; 444, Physiography of Western United States; 589, Structural Geology; 906, Petrology of Igneous Rocks; 909, Metamorphic Geology; 963-4, Advanced Sedimentation; 979, Geophysics; 980, Interpretation of Aerial Photographs; 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 HUMAN GEOGRAPHY. A survey of human activities as they are affected by the natural environment. Two field trips. Prerequisite for all other courses in geography except Geog. 307. First semester, MWF 11:30, MWF 1:30; second semester, MWF 2:30. Mr. Coulter.
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. Wolf.
310. (2nd 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. (Alternates with Geog. 308.) TTh 10:30-12:00. Mr. Wolf.
- 311-2. GEOGRAPHY OF NORTH AMERICA. The natural regions of North America; present economic development and future possibilities as related to climate, relief, and resources. Prerequisite: Geog. 100 or equivalent. MWF 2:30. Mr. Case.

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