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UNIVERSITY OF CINCINNATI BULLETIN

ANNOUNCEMENT OF THE

Graduate School of Arts and Sciences



1950-1951

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

ENG. s199b. AMERICAN ROMANTICISM: WRITERS OF THE MID-NINETEENTH CENTURY. Three undergraduate, two graduate credits. 9:00-9:50. Mr. Kreider.

ENG. s250b. RESEARCH. Departmental Staff.

GEOLOGY AND GEOGRAPHY

Head of Department: Professor J. L. RICH, Room 29, Old Tech Building; Professors CASE, BARBOUR, COULTER; Associate Professors VON SCHLICHTEN, RITTENHOUSE, CASTER; Assistant Professors FREY, _____; Instructors DURRELL, PRICE, BOWERS.

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. 301, 302. MINERALOGY. Lectures and laboratory. Three graduate credits each semester. Tu., Th., 10:30; M., 1:30-4:30. 34 Old Tech. Messrs. von Schlichten, Frey.
(Code: 15040-301, 302. Formerly Geol. 107.)

*GEOL. 317, 318, 319. GEOLOGIC DEMONSTRATION TRIPS. A two weeks' field excursion, immediately after spring examinations and before Summer School; generally in the Appalachian Highland. Conferences once a week, during the following semester, and the preparation of a comprehensive 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.

(Code: 15040-317, 318, 319. Formerly Geol. 121b, 122b, 123b.)

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

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*GEOL. 321, 322. PRINCIPLES OF HISTORICAL GEOLOGY. An introduction to the study of earth history with particular emphasis on North America. Four graduate credits each semester. Tu., Th., 8:30; W., 1:30-4:30; S., 8:30-11:30. 58 Old Tech. Mr. Caster.

Prerequisites: Geol. 101, 102; 111, 112 or equivalents.
(Code: 15040-321, 322. Formerly Geol. 109.)

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, 322, or its equivalent. Three graduate credits. First semester. Mr. Caster.

(Code: 15040-330. Formerly Geol. 124b.)

GEOL. 401, 402. PETROGRAPHY. Principles of crystal optics. Rocks in thin sections; qualitative and quantitative classification. Four graduate credits each semester. M., W., 9:30; Tu., Th., 1:30-4:30. 32 Old Tech. Mr. von Schlichten.

Prerequisite: Geol. 301, 302 or equivalent.
(Code: 15040-401, 402. Formerly Geol. 212.)

GEOL. 425, 426. INVERTEBRATE PALEONTOLOGY. A systematic survey of the important groups of invertebrate fossils with special emphasis on their zoological character and importance as index fossils. Lectures, laboratory, and conferences. Four graduate credits each semester. M., W., 11:50; Tu., Th., 1:30-4:30. 38 Old Tech. Mr. Caster.

Prerequisites: Geol. 101, 102; 111, 112 or equivalents; or a course in biology, zoology, or botany.

(Code: 15040-425, 426. Formerly Geol. 108.)

GEOL. 443, 444. PHYSIOGRAPHY OF THE UNITED STATES. First semester: Eastern United States. Second semester: Western United States. Three graduate credits each semester. May be entered in February with instructor's permission. M., 1:30-4:30, or at hours to be arranged. 26 Old Tech. Mr. Barbour.

(Code: 15040-443, 444. Formerly Geol. 117.)

*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. Tu., Th., 9:50;

Supplementary work is required of graduate students electing these courses.

laboratory, Sec. I, F., 1:30-4:30; Sec. II, W., 1:30-4:30. Each laboratory section limited to seven students. 37 Old Tech. Mr. Rittenhouse.

Prerequisites: Geol. 101, 102; 111, 112; and 301, 302 or equivalents.

(Code: 15040-469. Formerly Geol. 148a.)

GEOL. 470. BASIC SEDIMENTATION. Principles governing the transportation, deposition, and subsequent alteration of sediments, with particular emphasis on the physical and chemical environments of accumulation. Three graduate credits. Second semester, Tu., Th., 9:30; laboratory, Sec. I, F., 1:30-4:30; Sec. II, W., 1:30-4:30. Each laboratory section limited to nine students. 37 Old Tech. Mr. Rittenhouse.

Prerequisites: Geol. 101, 102; 111, 112; and 301, 302 or equivalents.

(Code: 15040-470. Formerly Geol. 157b.)

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

(Code: 15040-503, 504. Formerly Geol. 170.)

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. Alternates with Geol. 561. Four graduate credits. First semester, M., W., 10:30-11:30; W., 1:30-4:30; and three additional hours of laboratory to be arranged. 37 Old Tech. Mr. Rich.

(Code: 15040-589. Formerly Geol. 125a.)

Primarily for Graduate Students

GEOL. 906. PETROLOGY OF IGNEOUS ROCKS. The crystallization and differentiation of igneous magmas interpreted from equilibrium diagrams and field relations. Three graduate credits. Second semester. Hours to be arranged. Alternates with Geol. 910. 32 Old Tech. Mr. von Schlichten.

(Code: 14040-906. Formerly Geol. 251b.)

GEOL. 909. METAMORPHIC GEOLOGY. Changes produced in rocks by weathering and metamorphism, including microscopic examination of the minerals and internal structures of metamorphic rocks. Four graduate credits. First semester, Tu., Th., 8:30; M., F., 1:30-4:30. 32 Old Tech. Mr. Frey.

Prerequisite: Geol. 401, 402 or equivalent.

(Code: 14040-909. Formerly Geol. 226a.)

GEOL. 921, 922. STRATIGRAPHIC GEOLOGY. Principles of stratigraphy and general stratigraphy of North America. Roundtable seminar course. Three graduate credits each semester. M., F., 4:30-6:00. Mr. Caster.

Prerequisites: Geol. 321, 322 and permission of the instructor.
(Code: 14040-921, 922. Formerly Geol. 115.)

GEOL. 925, 926. ADVANCED MEGASCOPIC PALEONTOLOGY. By permission of the instructor. Three graduate credits each semester. Two seminar-laboratory meetings per week to be arranged. 38 Old Tech. Mr. Caster.

Prerequisite: Geol. 425, 426 or a course in zoology.
(Code: 14040-925, 926. Formerly Geol. 213.)

GEOL. 963, 964. ADVANCED SEDIMENTATION. Methods of analyzing sediment samples; application of these methods to the identification and interpretation of sedimentary rocks. Three graduate credits each semester. Tu., Th., 10:30; Tu., 1:30-4:30. 34 Old Tech. Limited to 10 students. Mr. Rittenhouse.

Prerequisites: Geol. 470 and 401, 402 or their equivalents.
(Code: 14040-963, 964. Formerly Geol. 258.)

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

(Code: 14040-971, 972. Formerly Geol. 271.)

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

(Code: 14040-973. Formerly Geol. 273.)

GEOL. 980. INTERPRETATION OF AERIAL PHOTOGRAPHS. The geologic and geographic interpretation of aerial photographs, and their use in mapping. Lectures and laboratory. Three graduate credits. Second semester. Hours to be arranged. 37 Old Tech. Mr. Rich.

(Code: 14040-980. Formerly Geol. 130b.)

GEOGRAPHY

For Graduate and Advanced Undergraduate Students

*GEOG. 507. METEOROLOGY. Weather is studied from the points of view of observation, causes, and current methods of prediction. Three graduate credits. First semester, Tu., Th., 10:30, and one hour to be arranged. 26 Old Tech. Mr. Price.

(Code: 15041-507. Formerly Geog. 169a.)

Supplementary work is required of graduate students electing this course.

UNIVERSITY OF CINCINNATI
BULLETIN

ANNOUNCEMENT OF THE

*McMicken College of
Liberal Arts*



1950-1951

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); Associate Professors VON SCHLICHTEN (35 Old Tech), RITTENHOUSE (51 Old Tech), CASTER (2-C Old Tech); Assistant Professor FREY (35 Old Tech); Instructors PRICE (25 Old Tech), DURRELL (1 Old Tech), BOWERS (56 Old Tech); Museum Curator BAIRD.

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 its completion, the student is permitted to enter any of the other courses in geography except (e.g. 577-8).

A student wishing to major in geology shall present Geol. 101-2, 111-2 or its equivalent. He will then continue with Geol. 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, and 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; Ger. 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.

Each autumn the Department conducts a three- or four-day field trip which it is expected will be attended by all advanced students in the Department.

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 34) especially designed to meet their needs, particularly if they intend to seek work involving applications of geology to the search for oil and gas, to mining, or to engineering. In this program, a student receives training in geology, the fundamentals of mathematics through calculus, chemistry through quantitative analysis, physics, mechanics, mechanical drawing, 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 certain latitude of choice is possible, 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 34.) 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.

For interdepartmental programs including work in geography, see page 30.

GEOLOGY

101-2. (3, 3) 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 Liberal Arts 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, M W F 8:30. 6 Old Tech. Mr. Durrell.
(Code: 15040-101,-102. Formerly Geol. 1.)

111-2. (2, 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). Sec. I: M W 1:30-4:30; Secs. II and III: T Th 1:30-4:30. 24, 26 Old Tech. Mr. Durrell and assistants.
(Code: 15040-111,-112. Formerly Geol. 1 lab.)

- 105-4. (3, 3) GENERAL GEOLOGY. An elementary course for general students not expecting to do further work in the subject; fulfills the Liberal Arts science requirement only if taken in combination with an elementary course in another science. M W 8:30, 30 Old Tech; F 1:30-4:30, 24, 26, 30 Old Tech. Mr. Barbour.
(Code: 15040-105,-104. Formerly Geol. 3.)
- 301-2. (3, 3) MINERALOGY. Prerequisite: High-school or elementary college chemistry. T Th 10:30; M 1:30-4:30. 34 Old Tech. Messrs. von Schlichten, Frey.
(Code: 15040-301,-302. Formerly Geol. 7.)
- 317, 318, 319. (3) GEOLOGIC DEMONSTRATION TRIPS. A two weeks' field excursion, immediately after spring examinations and before Summer School, generally in the Appalachian highlands. Conferences once a week during the following semester and the preparation of a comprehensive 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.
(Code: 15040-317,-318,-319. Formerly Geol. 21b, 22b, 25b.)
- 321-2. (4, 4) PRINCIPLES OF HISTORICAL GEOLOGY. An introduction to the study of earth history with particular emphasis on North America. Prerequisite: Geol. 101-2, 111-2 or equivalent. T Th 8:30; W 1:30-4:30; S 8:30-11:30. 38 Old Tech. Mr. Caster.
(Code: 15040-321,-322. Formerly Geol. 9.)
350. (5) 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.
(Code: 15040-350. Formerly Geol. 24b.)
- 401-2. (4, 4) PETROGRAPHY. Principles of crystal optics. Rocks in thin sections; qualitative and quantitative classification. Prerequisite: Geol. 301-2 or equivalent. M W 9:30; T Th 1:30-4:30. 52 Old Tech. Mr. von Schlichten.
(Code: 15040-401,-402. Formerly Geol. 12.)
- 425-6. (4, 4) INVERTEBRATE PALEONTOLOGY. A systematic survey of the important groups of invertebrate fossils with special emphasis on their zoological character and importance as

- index fossils. Prerequisites: Geol. 101-2, 111-2 or equivalent, or a course in biology, zoology, or botany. M W 11:30; T Th 1:30-4:30. 38 Old Tech. Mr. Caster.
(Code: 15040-425,-426. Formerly Geol. 8.)
443. (3) PHYSIOGRAPHY OF EASTERN UNITED STATES. Prerequisite: Geol. 101-2, 111-2, or equivalent. Alternates with Geol. 449, to be offered in 1951-52. M 1:30-4:30 or at hours to be arranged. 26 Old Tech. Mr. Barbour.
(Code: 15040-443. Formerly Geol. 17a.)
444. (3) PHYSIOGRAPHY OF WESTERN UNITED STATES. Prerequisite: Geol. 101-2, 111-2, or equivalent. Alternates with Geol. 448, to be offered in 1951-52. M 1:30-4:30 or at hours to be arranged. 26 Old Tech. Mr. Barbour.
(Code: 15040-444. Formerly Geol. 17b.)
469. (3) 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. T Th 9:30; Laboratory, Sec. I: F 1:30-4:30; Sec. II: W 1:30-4:30. 37 Old Tech. Mr. Rittenhouse.
(Code: 15040-469. Formerly Geol. 48a.)
470. (3) 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. T Th 9:30; Laboratory, Sec. I: F 1:30-4:30; Sec. II: W 1:30-4:30. 37 Old Tech. Mr. Rittenhouse.
(Code: 15040-470. Formerly Geol. 57b.)
- 501-2. (3, 3) READINGS FOR SENIORS. Required of all seniors majoring in geology, not open to other students.
(Code: 15040-501,-502. Formerly Geol. 50.)
- 503-4. SEMINAR. Expected of all advanced students in geology and geography. No additional credit. Th 4:30.
(Code: 15040-503,-504. Formerly Geol. 70.)
- 571-2. INDIVIDUAL WORK IN GEOLOGY. Credit depends on amount of work done. May be entered either semester. Geology Staff.
(Code: 15040-571,-572. Formerly Geol. 71.)

589. (4) 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. M W 10:30; W 1:30-4:30 and three additional hours of laboratory to be arranged. 37 Old Tech. Mr. Rich.

(Code: 15040-589. Formerly Geol. 25a.)

906. (3) PETROLOGY OF IGNEOUS ROCKS. The crystallization and differentiation of igneous magmas interpreted from equilibrium diagrams and field relations. This course is given once in two years, alternating with Geol. 910. Prerequisite: Geol. 401-2 or equivalent. Hours to be arranged. 32 Old Tech. Mr. von Schlichten.

(Code: 14040-906. Formerly Geol. 51b.)

*909. (4) 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. Geol. 909 alternates with 979, to be offered in 1951-52. T Th 8:30; M F 1:30-4:30. 32 Old Tech. Mr. Frey.

(Code: 14040-909. Formerly Geol. 26a.)

921-2. (3, 3) STRATIGRAPHIC GEOLOGY. Principles of stratigraphy and general stratigraphy of North America. Round-table seminar course. Prerequisite: Geol. 321-2; 425-6 desirable, but not required. Three (or two) meetings a week by arrangement. 38 Old Tech. Mr. Caster.

(Code: 14040-921,-922. Formerly Geol. 15.)

925-6. (3, 3) ADVANCED MEGASCOPIC PALEONTOLOGY. By the instructor's permission. Prerequisite: Geol. 425-6 or a course in zoology. Two seminar-laboratory meetings per week to be arranged. 38 Old Tech. Mr. Caster.

(Code: 14040-925,-926. Formerly Geology 13.)

*963-4. (3, 3) ADVANCED SEDIMENTATION. Methods of analyzing sediment samples; application of these methods to the identification and interpretation of sedimentary rocks. Prerequisites: Geol. 470 and 401-2 or equivalents. Limited to 10 students. T Th 10:30; Tu 1:30-4:30. 34 Old Tech. Mr. Rittenhouse.

(Code: 14040-963,-964. Formerly Geol. 58.)

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

980. (3) 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 1951-52. Lectures and laboratory. Hours to be arranged. 37 Old Tech. Mr. Rich.

(Code: 14040-980. Formerly Geol. 30b.)

Omitted during 1950-51: 109, Ancient Life; 209, Geology of Mineral Resources; 310, Topographic Mapping; 448, World Physiography; 449, Principles of Geomorphology; 561-2, Economic Geology; 910, Advanced Crystallography; 960, Ground Water; 979, Geophysics; 982, Glacial Geology.

GEOGRAPHY

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

100. (3) (1st sem., repeated 2nd sem.) FUNDAMENTALS OF GEOGRAPHY. A survey of topography, climate, and location as they affect human activities. Two field trips. Prerequisite for all other courses in geography, except Geog. 307. First semester: Sec. I: M W F 11:30; Sec. II: M W F 1:30. 6 Old Tech. Mrs. Bowers. Second semester: M W F 2:30. 6 Old Tech. Mr. Price.

(Code: 15041-100. Formerly Geog. 60Ra, b.)

108. (3) WORLD GEOGRAPHY. An introductory course in world regional geography with emphasis on human adaptations. Prerequisite: Geog. 100 or equivalent. M W F 11:30. 6 Old Tech. Mr. Coulter.

(Code: 15041-108. Formerly Geog. 60b.)

307. (3) METEOROLOGY. Weather is studied from the points of view of observation, causes, and current methods of prediction. T Th 10:30-12:00. 26 Old Tech. Mr. Price.

(Code: 15041-307. Formerly Geog. 69a.)

308. (3) CLIMATOLOGY. The major climatic regions of the world. Description, explanation, and the distribution of each type. Prerequisite: Geog. 307 or 100. T Th S 10:30. 26 Old Tech. Mr. Price.

(Code: 15041-308. Formerly Geog. 72b.)

311-2. (3, 3) 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. M W F 2:30. 37 Old Tech. Mrs. Bowers.

(Code: 15041-311,-312. Formerly Geog. 67.)