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UNIVERSITY OF CINCINNATI BULLETIN

ANNOUNCEMENT OF THE

Graduate School of Arts and Sciences



1948-1949

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

Courses Offered in the Summer School in 1948

- s114a. ENGLISH DRAMA TO 1600. Mr. Clark.
- s114b. ENGLISH DRAMA FROM 1600-1700. Mr. Kreider.
- s123a. EIGHTEENTH-CENTURY ENGLISH POETRY: POPE TO BLAKE.
Mr. Krouse.
- s140a. AMERICAN LITERATURE OF THE TWENTIETH CENTURY:
DRAMA AND PROSE. Mr. Clark.
- s140b. AMERICAN LITERATURE OF THE TWENTIETH CENTURY:
FICTION AND POETRY. Mr. Kreider.
- s144. THE MODERN CONTINENTAL NOVEL. Mr. Weekes.
- s250. RESEARCH. Departmental Staff.

For further information, see the Summer School Announcement.

GEOLOGY AND GEOGRAPHY

Head of Department: Professor J. L. RICH, Room 29, Old Tech Building; Professors CASE, BARBOUR, COULTER; Associate Professors VON SCHLICHTEN, RITTENHOUSE; Assistant Professors CASTER, ————; Instructor PRICE.

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.

For Graduate and Advanced Undergraduate Students

- *107. MINERALOGY. Lectures and laboratory. Tu., Th., 10:30-11:30; Tu., 1:30-4:30. Three graduate credits each semester. 34 Old Tech. Mr. von Schlichten.

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

108. 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. Tu., Th., 11:30-12:30; F., 1:30-4:30; one other laboratory to be arranged. Four graduate credits each semester. 38 Old Tech. Mr. Caster. Prerequisites: Geol. 1 or equivalent and a course in biology, zoology, or botany.
- *109. PRINCIPLES OF HISTORICAL GEOLOGY AND PALEONTOLOGY. An introduction to paleontology and fundamental principles of the study of earth history with particular emphasis on the geologic history and principal fossil groups of North America. Tu., Th., 8:30-9:30; S., 8:30-11:30; and one laboratory to be arranged. Four graduate credits each semester. 38 Old Tech. Mr. Caster. Prerequisite: Geol. 1 or equivalent.
117. PHYSIOGRAPHY OF NORTH AMERICA. First semester: Eastern North America. Second semester: Western North America. May be entered in February with instructor's permission. M., 1:30-4:30, or at hours to be arranged. Three graduate credits each semester. 26 Old Tech. Mr. Barbour.
- *121b, *122b, *123b. 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. Rich.
- 125a. 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. M., W., 10:30-11:30; W., 1:30-4:30; and three additional hours of laboratory to be arranged. Four graduate credits. 32 Old Tech. Mr. Rich.
- Geology 125a and 226b are given once in two years, beginning in September of the even-numbered years and alternating with Geol 256.
- 130b. INTERPRETATION OF AERIAL PHOTOGRAPHS. The geologic and geographic interpretation of aerial photographs, and their use in mapping. Lectures and laboratory. Hours to be arranged. Three graduate credits. 37 Old Tech. Mr. Rich.

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

- *148a. COMMON MINERALS AND ROCKS. Use of megascopic characteristics to identify igneous, sedimentary, and metamorphic rocks, and to interpret their conditions of origin and subsequent alteration. Tu., Th., 10:30-11:30; Th., 1:30-4:30. Three graduate credits. 32 Old Tech. Mr. Rittenhouse.
- 157b. BASIC SEDIMENTATION. Principles governing the transportation, deposition, and subsequent alteration of sediments, with particular emphasis on the physical and chemical environments of accumulation. Tu., Th., 10:30-11:30; Th., 1:30-4:30. Three graduate credits. 52 Old Tech. Mr. Rittenhouse.
170. SEMINAR. Expected of all advanced students in geology and geography. No additional credit. Th., 4:30.
- *161a. GEOGRAPHY OF SOUTH AMERICA. Land and peoples; displacement of native cultures by Europeans; economic development of the modern states. M., W., F., 11:30-12:30. Three graduate credits. 30 Old Tech. Mr. Price.
- *163a. GEOGRAPHY OF EUROPE. The natural regions and political divisions are studied with regard to the social, political, and economic developments as related to geographic conditions. M., W., F., 11:30-12:30. Three graduate credits. 26 Old Tech. Mr. Case.
- *164a. GEOGRAPHY OF ASIA. A regional study of Asia with emphasis on the culture of the people and their ways of earning a living. M., W., F., 9:30-10:30. Three graduate credits. 26 Old Tech. Mr. Coulter.
- *164b. GEOGRAPHY OF AUSTRALIA, NEW ZEALAND, AND THE PACIFIC. A continuation of Geol. 164a with similar emphasis. It deals also with the political geography of the Pacific. M., W., F., 9:30-10:30. Three graduate credits. 26 Old Tech. Mr. Coulter.
- *166b. ECONOMIC GEOGRAPHY AND INTERNATIONAL TRADE. The distribution of the important raw materials; industry; the principles of world trade. M., W., F., 11:30-12:30. Three graduate credits. 26 Old Tech. Mr. Case.
- *167. GEOGRAPHY OF NORTH AMERICA. The natural regions of North America; present economic development and future possibilities as related to climate, relief, and resources. M., W., F., 2:30-3:30. Three graduate credits each semester. 37 Old Tech. Mr. Case.

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

- *169a. METEOROLOGY. Weather is studied from the points of view of observation, causes, and current methods of prediction. Tu., Th., S., 10:30-11:30. Three graduate credits. 26 Old Tech. Mr. Price.
- 172b. CLIMATOLOGY. The major climatic regions of the world. Description, explanation, and the distribution of each type. Tu., Th., S., 10:30-11:30. Three graduate credits. 26 Old Tech. Mr. Price.

Primarily for Graduate Students

212. PETROGRAPHY. Principles of crystal optics. Rocks in thin sections; qualitative and quantitative classification. M., W., 9:30-10:30; M., 1:30-4:30; and three additional hours of laboratory to be arranged. Four graduate credits each semester. 32 Old Tech. Mr. von Schlichten.
213. ADVANCED MEGASCOPIC PALEONTOLOGY. Hours to be arranged. Three graduate credits each semester. 38 Old Tech. Mr. Caster.
- 226b. METAMORPHISM. Changes produced in rocks by weathering and metamorphism; microscopic examination of the minerals and internal structures of metamorphic rocks. M., W., 10:30-11:30; W., 1:30-4:30; and three additional hours of laboratory to be arranged. Four graduate credits. 32 Old Tech. Mr. Rittenhouse.
- Prerequisite: Geol. 212 or equivalent.

Geology 125a and 226b are given once in two years beginning in September of the even-numbered years and alternating with 256, Economic Geology.

- 251b. PETROLOGY OF IGNEOUS ROCKS. The crystallization and differentiation of igneous magmas interpreted from equilibrium diagrams and field relations. Hours to be arranged. Three graduate credits. 32 Old Tech. Mr. von Schlichten.
- This course is given once in two years, alternating with Geology 249b, Advanced Crystallography.
258. ADVANCED SEDIMENTATION. Methods of analyzing sediment samples; application of these methods to the identification and interpretation of sedimentary rocks. Tu., 9:30-10:30, and two laboratory periods to be arranged. Three graduate credits each semester. 34 Old Tech. Mr. Rittenhouse.
- Prerequisites: Geol. 157b and 212 or their equivalents.

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

- 523b. ENGINEERING GEOLOGY. Geological knowledge and principles as applied to the problems of locating engineering structures and locating and analyzing natural materials used in construction. Hours to be arranged. Three graduate credits. 37 Old Tech. Mr. Rittenhouse.
271. INDIVIDUAL WORK IN GEOLOGY. Credit depends on amount of work done. May be entered either semester. Geology Staff.
273. FIELD RESEARCH IN GEOLOGY. Summer work in the field under direction of the staff. One to six graduate credits.
275. INDIVIDUAL WORK IN GEOGRAPHY. Credit depends on amount of work done. May be entered either semester. Geography Staff.

Courses Omitted in 1948-49

The following courses, offered in alternate years or at longer intervals, will not be given in 1948-49: 110a, Ancient Life: Animals of the Past; 111a, Principles of Geomorphology; 115, Stratigraphy; 118b, World Physiography; 152b, Glacial Geology; 162b, Geography of Africa; 165a, International Struggle for Raw Materials; 168b, Political Geography; 216, Advanced Physiography of the United States; 227b, Groundwater; 249b, Advanced Crystallography; 256, Economic Geology.

Courses Offered in the Summer School in 1948

- *s163b. GEOGRAPHY OF EUROPE. Mr. _____.
- s273. FIELD RESEARCH IN GEOLOGY. Geology Staff.
- s275. INDIVIDUAL WORK IN GEOGRAPHY. Geography Staff.

For further information, see the Summer School Announcement.

GERMAN

Head of Department: Professor E. H. ZEYDEL, Room 305D, Teachers College; Professors LOTSPEICH, MERKEL; Assistant Professor SYRING.

This Department offers work leading to the degrees of Master of Arts and Doctor of Philosophy.

Students electing work in this Department should have completed an undergraduate major in German or its equivalent. German 4 and 5 in the College of Liberal Arts, or their equivalents, are strongly recommended.

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

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UNIVERSITY OF CINCINNATI
BULLETIN

ANNOUNCEMENT OF THE

*McMicken College of
Liberal Arts*



1948-1949

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 (510 Library), COULTER (8 Old Tech); Associate Professors VON SCHLICHTEN (33 Old Tech), RITTENHOUSE (31 Old Tech); Assistant Professor CASTER (2-C Old Tech); Instructors PRICE (23 Old Tech), DURRELL (1 Old Tech), BOWERS (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 course in geology (Geology 1) is planned as a broad cultural survey 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. It is also the basic course preliminary to the advanced courses in the Department.

The beginning semester of geography (Geography 60R a, b) deals with the basic principles of location, topography, and climate which are necessary for all further studies in that field. On its completion, the student is permitted to enter any of the other courses in geography except Geography 75.

A student wishing to major in geology shall present Geology 1, including laboratory, or its equivalent. A student wishing to major in geography shall present Geography 60a or Rb or its equivalent and Geology 1 or its equivalent. Suggested sequences of courses following Geology 1 are:

- (a) For those interested in mineralogy and petrography: 7, 48a, 12;
- (b) For those interested in historical geology and paleontology: 9, 8;
- (c) For those interested in geomorphology: 48a, 11a, 17, 30b.

Among the nongeological courses recommended to students who will concentrate in geology are the following (preferences depending in part on fields of concentration): Chemistry 1; Physics 1; Zoology 1, 5, and 7; Botany 1, 22, 23, 52, 21; Geography 60 or 501; mathematics through calculus; Astronomy 1, 2; German 1, 2; Economics 1; Philosophy 2.

Among the nongeographical courses recommended to students who will concentrate in geography are the following: Geology 1, 11a, 17, 18, 30b; History 1, 2a, 10; Economics 1; Political Science 39; Botany 21a, 21b, 22a, 22b, 23; Sociology 3, 6, 7, 19b, 21.

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 32) 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 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.

For interdepartmental programs including work in geography, see page 28.

GEOLOGY

1. (5, 5) INTRODUCTION TO GEOLOGY. This is the beginning course in geology for all who are intending to major in the subject and for all students who plan to complete the liberal arts science requirement with one ten-credit course. It is prerequisite to all other geology courses except Geology 7 and 10. It is not required for any geography courses, but is required of geography majors. With the permission of the instructor, students who do not offer geology in fulfillment of the science requirement may omit the laboratory. For such students, and for transfer students who may be taking only the laboratory, the lectures alone count 3 credits each semester, the laboratory alone 2 credits each semester. Lectures, M W F 8:30. 6 Old Tech. Laboratory, 24, 26 Old Tech, Sec. I: M W 1:30-4:30; Secs. II and III: T Th 1:30-4:30. Mr. Rich and assistants.
3. (3, 3) ELEMENTARY 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. 26 Old Tech. Mr. Barbour.
7. (3, 3) MINERALOGY. Prerequisite: High-school or elementary college chemistry. T Th 10:30; T 1:30-4:30. 34 Old Tech. Mr. von Schlichten.

8. (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: Geology 1 or equivalent and a course in biology, zoology, or botany. T Th 11:30; F 1:30-4:30 and one other laboratory to be arranged. 38 Old Tech. Mr. Caster.
9. (4, 4) PRINCIPLES OF HISTORICAL GEOLOGY AND PALEONTOLOGY. An introduction to paleontology and fundamental principles of the study of earth history with particular emphasis on the geologic history and principal fossil groups of North America. Prerequisite: Geology 1 or equivalent. T Th 8:30; S 8:30-11:30 and one other laboratory to be arranged. 38 Old Tech. Mr. Caster.
12. (4, 4) PETROGRAPHY. Principles of crystal optics. Rocks in thin sections; qualitative and quantitative classification. Prerequisite: Geology 7 or equivalent. M W 9:30; M 1:30-4:30 and three additional hours of laboratory to be arranged. 52 Old Tech. Mr. von Schlichten.
15. (3, 5) ADVANCED MEGASCOPIC PALEONTOLOGY. By permission of the instructor. Prerequisite: Geology 8 or a course in zoology. Three hours a week to be arranged. 38 Old Tech. Mr. Caster.
17. (3, 5) PHYSIOGRAPHY OF NORTH AMERICA. First semester: Eastern North America. Second semester: Western North America. May be entered in February with permission of the instructor. Prerequisite: Geology 1 or its equivalent. M 1:30-4:30 or at hours to be arranged. 26 Old Tech. Mr. Barbour.
- 21b, 22b, 23b. (3) 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. Special work required for graduate credit. The three numbers designate different routes followed in successive years. Prerequisite: Geology 1 or equivalent. Mr. Rich.
- 25a. (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: Geology 1 or equivalent. M W 10:30; W 1:30-4:30 and three additional hours of laboratory to be arranged. 52 Old Tech. Mr. Rich.

- 26b. (4) METAMORPHISM. Changes produced in rocks by weathering and metamorphism, including microscopic examination of the minerals and internal structures of metamorphic rocks. Prerequisite: Geology 12 or equivalent. M W 10:30; W 1:30-4:30 and three additional hours of laboratory to be arranged. 32 Old Tech. Mr. Rittenhouse.
- Geology 25a and 26b are given once in two years beginning in September of the even-numbered years and alternating with Geology 56, Economic Geology.
- 30b. (3) INTERPRETATION OF AERIAL PHOTOGRAPHS. The geologic and geographic interpretation of aerial photographs, and their use in mapping. Prerequisite: Geology 1 or equivalent. Lectures and laboratory. Hours to be arranged. 37 Old Tech. Mr. Rich.
- 48a. (5) COMMON MINERALS AND ROCKS. Use of megascopic characteristics to identify igneous, sedimentary, and metamorphic rocks, and to interpret their conditions of origin and subsequent alteration. Prerequisite: Geology 1. T Th 10:30; Th 1:30-4:30. 32 Old Tech. Mr. Rittenhouse.
- 51b. (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 Geology 49b. Prerequisite: Geology 12 or equivalent. Hours to be arranged. 32 Old Tech. Mr. von Schlichten.
- 57b. (3) BASIC SEDIMENTATION. Principles governing the transportation, deposition, and subsequent alteration of sediments, with particular emphasis on the physical and chemical environments of accumulation. Prerequisite: Geology 1 or equivalent. T Th 10:30; Th 1:30-4:30. 32 Old Tech. Mr. Rittenhouse.
58. (3, 5) ADVANCED SEDIMENTATION. Methods of analyzing sediment samples; application of these methods to the identification and interpretation of sedimentary rocks. Prerequisites: Geology 57b and 12 or their equivalents. Tu 9:30 and two laboratory periods to be arranged. 34 Old Tech. Mr. Rittenhouse.
50. (3, 3) READINGS FOR SENIORS. Required of all seniors majoring in geology; not open to other students.
70. SEMINAR. Expected of all advanced students in geology and geography. No additional credit. Th 4:30.

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

Omitted during 1948-49: 2a, Geology of Mineral Resources; 5b, Topographic Mapping; 6, Geology of Cincinnati; 10a, Ancient Life: Animals of the Past; 11a, Principles of Geomorphology; 15, Stratigraphy; 16, Advanced Physiography of the United States; 18b, World Physiography; 27b, Groundwater; 49b, Advanced Crystallography; 52b, Glacial Geology; 56, Economic Geology.

GEOGRAPHY

The following year-courses may be entered in February with permission of the instructor: 67, 75.

60R a, b. (3) FUNDAMENTALS OF GEOGRAPHY. A survey of topography, climate, and location as they affect human activities. Two field trips. This course is offered each semester. It is prerequisite for all other courses in geography, except Geology 69a. 60a: M W F 11:30. 6 Old Tech. Mr. Coulter. 60R b: M W F 2:30. 6 Old Tech. Mr. Price.

60b. (3) WORLD GEOGRAPHY. Introductory course in human geography with emphasis on the regions of the continents. Prerequisite: Geography 60a or Rb or equivalent. M W F 11:30. 6 Old Tech. Mr. Coulter.

61a. (3) GEOGRAPHY OF SOUTH AMERICA. Land and peoples; displacement of native cultures by Europeans; economic development of the modern states. Prerequisites: Geography 60a or Rb or equivalent. M W F 11:30. 30 Old Tech. Mr. Price.

63a. (3) GEOGRAPHY OF EUROPE. The natural regions and political divisions are studied with regard to the social, political, and economic developments as related to geographic conditions. Prerequisite: Geography 60a or Rb or equivalent. M W F 11:30. 26 Old Tech. Mr. Case.

64a. (3) GEOGRAPHY OF ASIA. A regional study of Asia with emphasis on the culture of the people and their ways of earning a living. Prerequisite: Geography 60a or Rb or equivalent. M W F 9:30. 26 Old Tech. Mr. Coulter.

64b. (3) GEOGRAPHY OF THE PACIFIC. Geography of Japan, Malay Archipelago, Australia, New Zealand and the islands of Polynesia, Melanesia and Micronesia. Prerequisite: Geography 60a or Rb or equivalent. M W F 9:30. 26 Old Tech. Mr. Coulter.