

UNIVERSITY OF CINCINNATI
BULLETIN

ANNOUNCEMENT OF THE

Graduate School of Arts and Sciences



1944-45

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

120. The Potting of Greek Vases.—Two hours a week. Two credit hours each semester.

Mr. Nash

Experiments inquiring into materials and methods used by Greek potters in the production of their painted vases.

GEOLOGY AND GEOGRAPHY

Head of Department: Professor J. L. Rich, Room 29, Old Tech Building

Professor Emeritus Fenneman; Professors Barbour, Case; Associate Professors von Schlichten, Bergsmark; Assistant Professor Caster; Instructors Felts*, Russell, Linehan

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 must first 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.

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.—Tu., Th., 10:00-11:00; M., 1:00-4:00. Lectures and laboratory. Three credit hours each semester. 34 Old Tech.

Mr. von Schlichten

†108. Invertebrate Paleontology.—Tu., Th., 11:00-12:00; F., 1:00-4:00. Lectures, laboratory, and conferences. Three credit hours each semester. 38 Old Tech.

Mr. Caster

A systematic survey of invertebrate fossils with special emphasis on their zoological character and importance as index fossils.

†109. Historical Geology.—Tu., Th., 8:00-9:00; S., 8:00-10:00 and one additional hour of laboratory to be arranged. Four credit hours each semester. 38 Old Tech.

Mr. Caster

The development of the earth and its life, with special emphasis on the geologic history of North America

†110a. Ancient Life: Animals of the Past.—M., W., 10:00-11:00 and conferences. Three credit hours. 6 Old Tech.

Mr. Caster

A cultural survey of fossil animals from earliest times to the present, with emphasis on the fossil vertebrates along the evolutionary route toward man-

*Absent on leave.

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

kind. Particular attention directed to organisms of the Cincinnati seas; dinosaurian evolution; mammalian responses to environmental factors and fossil man in the old and new world. Optional field excursions.

111b. Principles of Geomorphology.—Tu., Th., 10:00-11:00; F., 1:00-4:00. Three credit hours. 37 Old Tech. Mr. Rich

The interpretation of landscapes, especially as governed by geologic conditions and climate. Reading of topographic maps and aerial photographs.

†121b, †122b, †123b. Geologic Demonstration Trips.—Three credit hours. Mr. Caster

A two weeks' field excursion in the Appalachian highland followed by the preparation of a comprehensive report. The three numbers designate different routes followed in successive years.

125a. Structural Geology.—M., W., 8:00-9:00; W., 1:00-4:00 and three additional hours of laboratory to be arranged. Four credit hours. 32 Old Tech. Mr. Rich

Principles of rock deformation; geologic measurements, applications of descriptive geometry, methods of determination of structure in the field, including practice in field work.

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

130b. Interpretation of Aerial Photographs.—Lectures and laboratory. Hours to be arranged. Three credit hours. 37 Old Tech. Mr. Rich

The geologic and geographic interpretation of aerial photographs, and their use in mapping.

†148a. Common Minerals and Rocks.—Tu., Th., 10:00-11:00; Th., 1:00-4:00. Three credit hours. 32 Old Tech. Mr. Russell

Common minerals and rocks and their mode of occurrence. Identification by means of hand lens.

170. Seminar.—Th., 4:00.

Expected of all advanced students in geology or geography.

†161a. Geography of Latin America.—W., 4:00-6:00 and conferences. Three credit hours. 6 Old Tech. Mr. Case

Natural regions and political divisions are studied with regard to the social, political, and economic developments as related to geographic conditions.

†163a. Geography of Europe.—Tu., 4:00-6:00 and conferences. Three credit hours. 6 Old Tech. Mr. Bergsmark

Geographic aspects of European participation in world affairs and the relation between human life and natural environment in the various geographic regions and countries of Europe.

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

†164b. Geography of Asia.—Tu., 4:00-6:00 and conferences. Three credit hours. 6 Old Tech. Mr. Bergsmark

Problems and resources of Asia are studied in much the same manner as those of Europe in Course 163a.

165a. International Struggle for Raw Materials.—M., W., F., 10:00-11:00. Three credit hours. 26 Old Tech. Mr. Bergsmark

Raw-material pattern of the commercial world; degree of self-sufficiency among nations.

166b. Geography of World Trade.—M., W., F., 10:00-11:00. Three credit hours. 26 Old Tech. Mr. Bergsmark

Principles of international trade; analysis of current trends and problems, especially with regard to the foreign trade of the United States.

†167. Geography of North America.—Th., 4:00-6:00 and conferences. Three credit hours each semester. 6 Old Tech. Mr. Case

The natural regions of North America with regard to the present economic development and future possibilities as related to climate, relief, and resources. Students may enter in the second semester.

168b. Political Geography.—W., 4:00-6:00, and conferences. Three credit hours. 30 Old Tech. Mr. Case

The political pattern of the world as related to present and past adjustments to resources, land forms, and other factors of the natural environment; outstanding territorial problems; geographic aspects of current international issues.

This course is given every other year, alternating with Course 162b, Geography of Africa and Australia.

172b. Climatology.—Tu., Th., S., 10:00-11:00. Three credit hours. 30 Old Tech. Mr. Linehan

The major climatic regions of the world. Description, explanation, and distribution of each type.

Primarily for Graduate Students

212. Petrography.—M., W., 9:00-10:00; M., 1:00-4:00, and three additional hours of laboratory to be arranged. Four credit hours each semester. 32 Old Tech. Mr. von Schlichten

Principles of crystal optics. Rocks in thin sections; qualitative and quantitative classification.

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

213. **Advanced Megascopic Paleontology.**—Hours to be arranged. Three credit hours each semester. 38 Old Tech. Mr. Caster

Six divisions each requiring a semester as follows: 13 A, Fossil Arthropoda; 13 B, Fossil Mollusca, Cephalopoda; 13 C, Fossil Mollusca—Gastropoda and Pelecypoda; 13 D, The Brachiopoda; 13 E, Fossil Echinoderma; 13 F, The Chordata.

216. **Advanced Physiography of the United States.**—W., 4:00-6:00; S., 10:30-11:30. Four credit hours each semester. 28 Old Tech. Mr. Fenneman
This course runs through two years, either of which may be taken independently.

226b. **Metamorphism.**—M., W., 8:00-9:00; W., 1:00-4:00, and three additional hours of laboratory to be arranged. Four credit hours. 32 Old Tech. Mr. Rich

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

251b. **Petrology of Igneous Rocks.**—Hours to be arranged. Three credit hours. 32 Old Tech. Mr. von Schlichten

The crystallization and differentiation of igneous magmas interpreted from equilibrium diagrams and field relations.

This course is given once in two years, alternating with Course 249b, Advanced Crystallography.

271. **Individual Work in Geology.**— Geology Staff

273. **Field Research in Geology.**—
Summer work in the field under direction of the staff. One to six credit hours.

275. **Individual Work in Geography.**— Geography Staff

Courses Omitted in 1944-45

The following courses, offered in alternate years or at longer intervals, will not be given in 1944-45: 115, Stratigraphy; 118, World Physiography; 152b, Glacial Geology; 157a, Sedimentation; 162b, Geography of Africa and Australia; s163b, Geography of Europe; s167, Geography of North America; 249b, Advanced Crystallography; 256, Economic Geology; 257b, Methods of Sedimentary Analysis.

Courses Offered in the Summer Session of 1944

s163b. **Geography of Europe.**— Mr. Bergsmark

s275. **Individual Work in Geography.**— Geography Staff

For further information, see Summer Session Announcement.

**UNIVERSITY OF CINCINNATI
BULLETIN**

ANNOUNCEMENT OF THE

McMICKEN COLLEGE OF LIBERAL ARTS



1944-45

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

GEOLOGY AND GEOGRAPHY

Professors Fenneman†, Rich (Head of Department, 29 Old Tech), Case (25 Old Tech), Barbour (510 Library); Associate Professors von Schlichten (33 Old Tech), Bergsmark (23 Old Tech); Assistant Professor Caster (2 C Old Tech); Instructors Felts*, Russell (31 Old Tech), Linehan (36 Old Tech); Curator —————

Fields of concentration, leading to the degree of *Bachelor of Arts*, are offered in geology and in geography. A student wishing to major in geology must present Geology 1, including laboratory, or its equivalent. A student wishing to major in geography must present Geography 60 or its equivalent. Suggested sequences of courses following Geology 1 are:

- (a) For those interested in mineralogy and petrography: 48, 2a, 7, 12;
- (b) For those interested in historical geology and paleontology: 9 or 10, 8;
- (c) For those interested in geomorphology: 48, 11, 16, 30.

Among the bracketed 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, 3, 20, 21; Geography 60 or 501; Mathematics A, 3, 2, 5; Astronomy 1, 2; German 1, 2; Economics 1; Philosophy 2.

Among the bracketed courses recommended to students who will concentrate in geography are the following: Geology 1; History 1 or 10; Economics 1, 24; Political Science 12; Botany 1, 3, 20, 21; Sociology 3, 5, 20.

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 20) 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 study in the Graduate School he will receive the degree of Master of Science. (See also page 20.) 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.

†Professor Emeritus in part-time service.

*Absent on leave.

Geology

1. (3, 3) **Introduction to Earth Sciences.**—M W F 8:00. 6 Old Tech. With permission of instructor, students who do not offer geology as their required science may omit the laboratory course.
Messrs. Barbour, von Schlichten, Rich, Caster
- (2, 2) **Laboratory.**—T Th 1:00-4:00. 24, 26 Old Tech.
The staff and assistants
- 2a. (3) **Geology of Mineral Resources.**—M W F 9:00. 24 Old Tech. Prerequisite: Geology 1 and high-school or college chemistry. Mr. Rich
7. (3, 3) **Mineralogy.**—T Th 10:00; M 1:00-4:00. 34 Old Tech. Prerequisite: High-school or elementary college chemistry. Mr. Russell
8. (4, 4) **Invertebrate Paleontology.**—T Th 11:00; F 1:00-4:00; and one laboratory to be arranged. 38 Old Tech. Prerequisite: Geology 1 or a course in biology, zoology, or botany. Mr. Caster
9. (4, 4) **Historical Geology.**—T Th 8:00; S 8:00-10:00; and one laboratory to be arranged. 38 Old Tech. Prerequisite: Geology 1 or permission. Mr. Caster
- 10a. (3) **Ancient Life: Animals of the Past.**—M W 10:00 and conferences. 38 Old Tech. Mr. Caster
- 11b. (3) **Principles of Geomorphology.**—T Th 10:00; F 1:00-4:00. 37 Old Tech. Mr. Rich
- 21b, 22b, 23b. (3) **Geologic Demonstration Trips.**—A two-weeks' field excursion in the Appalachian highland. Conferences once a week during the following semester. Prerequisite: Geology 1 or equivalent. Mr. Caster
12. (4, 4) **Petrography.**—M W 9:00; M 1:00-4:00 and three additional hours of laboratory to be arranged. 32 Old Tech. Mr. von Schlichten
13. (3, 3) **Advanced Megascopic Paleontology.**—Three hours a week to be arranged. 38 Old Tech. Prerequisite: Geology 8 or course in zoology. (By permission of the instructor.) Mr. Caster
16. (4, 4) **Advanced Physiography of the United States.**—W 4:00-6:00; S 10:00-12:30. 28 Old Tech. Runs through two years. Either year may be taken independently. Prerequisites: Geology 1 and 9. Mr. Fenneman
18. (3, 3) **World Physiography.**—Hours to be arranged. Mr. Barbour
- 25a. (4) **Structural Geology.**—M W 8:00; W 1:00-4:00 and three additional hours of laboratory to be arranged. 32 Old Tech. Prerequisite: Geology 9. Mr. Rich
- 26b. (4) **Metamorphism.**—M W 8:00; W 1:00-4:00 and three additional hours of laboratory to be arranged. 32 Old Tech. Prerequisite: Geology 12 or equivalent. Mr. Rich

30b. (3) Interpretation of Aerial Photographs.—Lectures and laboratory. Hours to be arranged. 37 Old Tech. Prerequisites: Geology 1 and 11b, or equivalent satisfactory to instructor. Mr. Rich

48a. (3) Common Minerals and Rocks.—T Th 10:00; Th 1:00-4:00. 32 Old Tech. Prerequisite: Geology 1. Mr. Russell

51b. (3) Petrology of Igneous Rocks.—Hours to be arranged. 32 Old Tech. Prerequisite: Geology 12 or equivalent. Mr. von Schlichten

57a. (3) Sedimentation.—Lectures and laboratory. T Th 9:00; F 8:00-11:00. 34 Old Tech. Prerequisite: Geology 1 or equivalent. Mr. ———

50. (3, 3) Readings for Seniors.

70. Seminar.—Th 4:00.

71. Individual Work in Geology.—Credit depends on amount of work done. May be entered either semester.

Omitted during 1944-45: 5b, Topographic Mapping; 6, Geology of Cincinnati; 15, Stratigraphy: Principles and Regional; 49b, Advanced Crystallography; 52b, Glacial Geology; 56, Economic Geology; 57b, Methods of Sedimentary Analysis.

Geography

The following year-courses may be entered in February by permission of the instructor: 60, 67, 75.

60. (3, 3) Elements of World Geography.—
Sec. I: M W F 11:00. 6 Old Tech. Mr. Case
Sec. II: M W F 1:00. 6 Old Tech. Mr. Bergsmark

61a. (3) Geography of Latin America.—W 4:00-5:40 and conferences. 6 Old Tech. Mr. Case

62b. (3) Geography of Africa and Australia.—W 4:00-5:40 and conferences. 6 Old Tech. Mr. Case

63a. (3) Geography of Europe.—Tu 4:00-5:40 and conferences. 6 Old Tech. Mr. Bergsmark

64b. (3) Geography of Asia.—Tu 4:00-5:40 and conferences. 6 Old Tech. Mr. Bergsmark

65a. (3) International Struggle for Raw Materials.—M W F 10:00. 26 Old Tech. Mr. Bergsmark

66b. (3) Geography of World Trade.—M W F 10:00. 26 Old Tech. Mr. Bergsmark