UNIVERSITY OF CINCINNATI BULLETIN

ANNOUNCEMENT OF THE

Graduate School of Arts and Sciences

1959-1960

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

FINE ARTS 551, 552. PAINTING. A studio laboratory for the planning and execution of comprehensive projects in various mediums and techniques expressed in easel painting or mural decoration. Mr. Barnett. (23-360-551, 552)

FINE ARTS 561, 562. PAINTING TECHNIQUES. Experiments and research in the use of pigments and media—water in oil and oil in water emulsion—Putrido; survey of gum, animal glue, casein, and egg as emulsifying agents. Mr. Grooms. (23-361-561, 562)

FINE ARTS 981, 982. THESIS. A major painting project including research and a written thesis covering the aesthetic philosophy involved, the technical means used, and reasons for their choice. Mr. Grooms. (14-060-981, 982)

GEOLOGY AND GEOGRAPHY

Head of Department: Professor WILLIAM F. JENKS (20 Old Tech); Professors BARBOUR (25 Old Tech), CASTER (4-A Old Tech), COULTER (8 Old Tech); Associate Professor SUNDERMAN (31 Old Tech); Assistant Professors DURRELL (35 Old Tech), L. G. WOLF (5 Old Tech), HODGKINS (7 Old Tech), LARSEN (33 Old Tech), R. SCHMIDT (36 Old Tech); Instructor SANDERS (1 Old Tech).

In geology this Department offers work leading to the degrees of Master of Science and Doctor of Philosophy; in geography it offers work leading to the degree of Master of Arts.

A student admitted to graduate work in geology is expected to have satisfactorily passed one-year courses in physics and chemistry and an approved course in calculus or statistics. Biology is recommended as preparation for graduate work chiefly in paleontology. A graduate student with inadequate background in geology or related fields may be required to take one or more undergraduate courses without graduate credit. A summer field course in geology or its equivalent is required before admission or early in the graduate program.

During or prior to the first two years of graduate study in geology a student must acquire a basic knowledge of physical and historical geology, mineralogy, paleontology, petrology, geomorphology, structural geology, sedimentology, stratigraphy, and economic geology. He must also demonstrate his ability to do advanced work in his major field. Each year he must participate in a four-day field trip during the fall.

A student admitted to graduate studies in geography is expected to have had or to acquire a basic knowledge of the field of geography and an understanding of related fields. An approved course in statistics is recommended. The student must demonstrate an aptitude for advanced study and research in his major field.

Not every student accepted for graduate study is accepted as a candidate for a degree. Interviews and early exploratory examinations are required in order to determine the student's prior training and aptitude for advanced studies and self-directed research. Requirements for degrees cannot be stated in terms of time or credits.

The Geological Museum, in the same building as the Department, provides extensive research collections particularly with respect to the Paleozoic faunas of the Cincinnati region. The departmental library contains 15,000 volumes, including the Depository Library of the Association of American Geographers.

Geology

For Advanced Undergraduate and Graduate Students

*Geol. 301, 302. Mineralogy. Introduction to crystallography, crystal chemistry, atomic structures, and geochemistry. Systematic mineralogy of the common minerals. Methods for mineral study. 3 gr. cr. each semester. T Th 11:00; W 1:00-4:00. Mr. Larsen. (15-040-301, 302) Prerequisite: High-school or college chemistry.

*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. T Th 8:00; Tu 2:00-5:00; S 9:00-12:00. 4 gr. cr. each semester. Mr. Caster. (15-040-321, 322)

Geol. 330. Advanced Geology Field Trip. A two weeks' field excursion immediately after spring examinations and before Summer School. Main emphasis on historical and regional geology. Conferences and comprehensive report during following semester. 3 gr. cr. Mr. Caster. (15-040-330) Prerequisites: Geol. 217, 218, or 219 and 321-2 or equivalents.

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. 3 gr. cr. each semester. Lecture, T Th 9:30; laboratory, W 1:00-4:00. Mr. Caster. (15-040-425, 426) Prerequisites: Geol. 101-2, 111-2 or equivalents; or a course in biology, zoology, or botany.

Geol. 448. World Physiography. Study of selected regions in geomorphic terms. (Alternates with Geol. 444.) 3 gr. cr. Second semester, M 1:00-4:00. Mr. Barbour. (15-040-448) Prerequisites: Geol. 101-2, 111-2 or equivalents.

*Open to graduate students from other departments with permission of the instructor and Advisory Department. No graduate credit for students in geology.

GEOL. 449. PRINCIPLES OF GEOMORPHOLOGY. The interpretation of landscapes, especially as governed by geologic and climatic conditions. (Alternates with Geol. 443.) 3 gr. cr. First semester, M 1:00-4:00. Mr. Barbour. (15-040-449) Prerequisites: Geol. 101-2, 111-2 or equivalents.

*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. First semester, T Th 8:00; F 1:00-4:00 and 2:00-5:00. 3 gr. cr. Mr. Sunderman. (15-040-469) Prerequisite: Geol. 301-2 or equivalent.

GEOL. 470. BASIC SEDIMENTOLOGY. Principles governing the origin, transportation, deposition, and subsequent alteration of sediments. 3 gr. cr. First semester, M W F 9:00 and 2 additional hours. Mr. Schmidt. (15-040-470) Prerequisites: Geol. 301-2, 469 or equivalents.

GEOL. 472. PRINCIPLES OF STRATIGRAPHY. Stratigraphic and biostratigraphic principles and methods, with emphasis on geochronology, paleoecology, and paleogeography. 3 gr. cr. Second semester, M F 9:00; W 9:00-12:00. Mr. Schmidt. (15-040-472) Prerequisites: Geol. 301-2, 425-6, 470 or equivalents.

GEOL. 474. THE POLARIZING MICROSCOPE. Crystal optics; use of the polarizing microscope for recognition of transparent substances in immersion media. 4 gr. cr. Second semester, M W 8:00; M W 1:00-4:00. Mr. Sunderman. (15-040-474) Prerequisite: Geol. 301-2 or permission of the instructor.

GEOL. 481. GLACIAL GEOLOGY. Principles of glacial geology, with field work in the Cincinnati area. 3 gr. cr. First semester, M W 10:00; Tu 2:00-5:00. Mr. Durrell. (15-040-481) Prerequisites: Geol. 301-2, 321-2.

GEOL. 503, 504. SEMINAR. Required of all graduate students in geology. 1 gr. cr. each semester. M 4:00. Staff. (15-040-503, 504)

GEOL. 511. PETROLOGY. Occurrence and thin section study of the common igneous, metamorphic, and sedimentary rocks. 4 gr. cr. Second semester, M F 10:00; T Th 2:00-5:00. Mr. Larsen. (15-040-511) Prerequisites: Geol. 301-2, 469 or equivalents.

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*Open to graduate students from other departments with permission of the instructor and Advisory Department. No graduate credit for students in geology.

GEOL. 563. PRINCIPLES OF ECONOMIC GEOLOGY. Physical and chemical processes producing economic concentration in mineral deposits. 3 gr. cr. First semester, T Th 11:00; W 1:00-4:00. Mr. Jenks. (15-040-563) Prerequisites: Geol 301-2, 589.

GEOL. 564. GEOLOGY OF ORE DEPOSITS. (Alternates with Geol. 566.) 4 gr. cr. Second semester, T Th 11:00; M W 1:00-4:00. Mr. Jenks. (15-040-564) Prerequisite: Geol. 563.

GEOL. 589. STRUCTURAL GEOLOGY. Principles of rock deformation; applications of descriptive geometry; methods of determination of structure in the field. 3 gr. cr. Second semester, T Th 8:00; F 1:00-4:00. Mr. Sunderman. (15-040-589) Prerequisite: Geol. 301-2 or equivalent.

Primarily for Graduate Students

GEOL. 921, 922. SEMINAR IN STRATIGRAPHIC GEOLOGY. Study and integration of stratigraphic information on North America and the world. Due to the non-repetitive nature of the material covered this course may be elected more than once. 3 gr. cr. each semester. Mr. Schmidt. (14-040-921, 922) Prerequisites: Geol. 470, 472; 425, 426 and permission of the instructor.

GEOL. 925, 926. ADVANCED MEGASCOPIC PALEONTOLOGY. By the instructor's permission. 3 gr. cr. each semester. M W F 8:00. Mr. Caster. (14-040-925, 926) Prerequisite: Geol. 425-6 or a course in zoology.

GEOL. 952. PETROLOGY OF THE SEDIMENTARY AND METAMORPHIC ROCKS. Petrogenesis and advanced methods of study of the sedimentary and metamorphic rocks. 4 gr. cr. First semester, M F 10:00; T Th 2:00-5:00. Mr. Larsen. (14-040-952) Prerequisites: Geol 469, 474, and 511 or equivalents or permission of instructor.

GEOL. 958. SEMINAR IN MEGATECTONICS. 3 gr. cr. Second semester. Mr. Schmidt. (14-040-958) Prerequisite: Permission of the instructor.

GEOL. 971, 972. RESEARCH. Credit depends on amount of work done. Staff. (14-040-971, 972)

GEOL. 973. FIELD RESEARCH. Work in the field under direction of the staff. 1-6 gr cr. (14-040-973)

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247-8. THE ART AND ARCHAEOLOGY OF THE NEAR EAST AND GREECE. Identical with Cl. Civ. 247-8. MWF 11:00. Mr. Boulter. (Code: 15-007)

443. GREEK AND ROMAN SCULPTURE. Identical with Cl. Civ. 443. Tu 4:00-6:00. Mr. Boulter. (Code: 15-007)

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

Omitted in 1959-60: Cl. Civ. 442, Roman Art; Cl. Civ. 445, Greek Architecture; Cl. Civ. 446, Greek Vases.

GEOLOGY AND GEOGRAPHY

Professor JENKS (*Head of Department*, 20 Old Tech), BARBOUR (25 Old Tech), CASTER (4-A Old Tech), COULTER (8 Old Tech); Associate Professor SUNDERMAN (31 Old Tech); Assistant Professors DURRELL (35 Old Tech), LARSEN (33 Old Tech), WOLF (5 Old Tech), HODGKINS (7 Old Tech), SCHMIDT (36 Old Tech), ————; Instructor SANDERS (1 Old Tech).

The student may choose a concentration leading to the B.A. or B.S. in Geology, or to the B.A. in Geography.

GEOLOGY

15-040

Geol. 101-2 and 111-2 taken together are the basic preliminary courses to all advanced courses in geology except Geol. 301-2.

To qualify for the B.S. degree with a major in geology a student shall include in his program Geol. 301-2, 217 (218, 219), 321-2, 425-6, 469, 501, 503-4, 589; Chem. 101-2, 111-2, and 6 to 9 hours of calculus and 6 to 10 hours of physics or zoology. Additional advanced courses in geology must be selected as electives. A reading knowledge of German, French, or Russian is required by the end of the junior year.

To qualify for the B.A. degree in geology a student shall have completed Geol. 301-2, 217 (218, 219), 321-2, 501, 503-4, and 6 additional credits in geology, plus at least 18 hours in chemistry, physics, zoology, botany, and mathematics.

Both the B.S. and B.A. majors may lead to graduate work in geology. Typical programs may be obtained from the Head of the Department.

For all students planning geology as a profession, a six-to-eight-week summer field course or its equivalent is required. Alternative acceptable field training may be obtained by summer work with one of the geological surveys or by summer field employment by a mining or oil company, with the approval of the adviser.

Each autumn all students majoring in geology are expected to attend a four-day field trip and should anticipate the cost of the trip.

101-2. INTRODUCTION TO GEOLOGY. Prerequisite to all other geology courses except Geol. 103-4 and 301-2. 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 ten-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 8:00. 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 1:00-4:00; TTh 2:00-5:00. 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. TTh 8:00; F 1:00-4:00. 3 cr. each sem. Mr. Barbour.

219. GEOLOGIC DEMONSTRATION TRIP. A two weeks' field excursion in May and June 1959; the excursion is generally in the Appalachians. One-hour conference weekly during the first half of the following semester and a report to be submitted at the end of the semester. (Alternates with Geol. 217 and 218; each number designates a different route.) Conferences, M 10:00. Mr. Durrell.

301-2. MINERALOGY. Introduction to crystallography, crystal chemistry, atomic structures, and geochemistry. Systematic mineralogy of the common minerals. Methods for mineral study. Prerequisite: High-school or college chemistry. TTh 11:00; W 1:00-4:00. Mr. Larsen.

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. TTh 8:00; Tu 2:00-5:00; S 9:00-12:00. 4 cr. each sem. Mr. Caster.

330. ADVANCED GEOLOGY FIELD TRIP. A two weeks' field excursion immediately after spring examinations and before Summer School. Main emphasis on historical and regional geology. Conferences and comprehensive report during following semester. Prerequisites: Geol. 217, 218, or 219 and 321-2. Mr. Caster.

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. TTh 9:30; W 1:00-4:00. 3 cr. 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 1:00-4:00. Mr. Barbour.

449. (1st sem.) PRINCIPLES OF GEOMORPHOLOGY. The interpretation of landscapes, especially as governed by geologic and climatic conditions. (Alternates with Geol. 443.) Prerequisites: Geol. 101-2, 111-2 or equivalent. M 1:00-4:00. 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. Prerequisite: Geol. 301-2 or equivalent. TTh 8:00; F 1:00-4:00 and 2:00-5:00. Each laboratory limited to 6 students. 3 cr. Mr. Sunderman.

470. (1st sem.) BASIC SEDIMENTOLOGY. Principles governing the origin, transportation, deposition, and subsequent alteration of sediments. Prerequisites: Geol. 301-2 and 469 or equivalents. MWF 9:00 and additional hours to be arranged. Mr. Schmidt.

472. (2nd sem.) PRINCIPLES OF STRATIGRAPHY. Stratigraphic and biostratigraphic principles and methods, with emphasis on geochronology, paleoecology, and paleogeography. Prerequisites: Geol. 301-2, 425-6, and 470 or equivalents. MF 9:00; W 9:00-12:00. Mr. Schmidt.

474. (2nd sem.) THE POLARIZING MICROSCOPE. Crystal optics; use of the polarizing microscope for recognition of transparent substances in immersion media. Prerequisite: Geol. 301-2, or permission of the instructor. MW 8:00; MW 1:00-4:00. 4 cr. Mr. Sunderman.

481. (1st sem.) GLACIAL GEOLOGY. Principles of glacial geology, with field work in the Cincinnati area. Prerequisites: Geol. 301-2, 321-2. MW 10:00; Tu 2:00-5:00. Mr. Durrell.

501. (1st sem.) READINGS FOR SENIORS. Required of all seniors majoring in geology. Not open to other students. 2 cr. Staff.

503-4. GEOLOGY SEMINAR. Required of all juniors and seniors majoring in geology. No additional credit. M 4:00.

511. (2nd sem.) PETROLOGY. Occurrence and thin section study of the common igneous, metamorphic, and sedimentary rocks. Prerequisites: Geol. 301-2, 469, and 474 or equivalents. MF 10:00; TTh 2:00-5:00. 4 cr. Mr. Larsen.

563. (1st sem.) PRINCIPLES OF ECONOMIC GEOLOGY. Physical and chemical processes producing economic concentration in mineral deposits. Prerequisites: Geol. 301-2 and 589. TTh 11:00; W 1:00-4:00. Mr. Jenks.

564. (2nd sem.) GEOLOGY OF ORE DEPOSITS. (Alternates with Geol. 566.) Prerequisite: Geol. 563. TTh 11:00; MW 1:00-4:00. 4 cr. Mr. Jenks.

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

589. (2nd sem.) STRUCTURAL GEOLOGY. Principles of rock deformation; applications of descriptive geometry; methods of determination of structure in the field. Pererquisites: Geol. 301-2 and 321-2 or equivalents. TTh 8:00; F 1:00-4:00. Mr. Sunderman.

Omitted during 1959-60: 215, Economic Mineral Deposits; 443, Physiography of Eastern United States; 444, Physiography of Western United States; 480, Interpretation of Aerial Photographs; 565, Nonmetallic Mineral Deposits; 566, Petroleum Geology.

GEOGRAPHY

15-041

Students majoring in geography shall present Geog. 101-2 or its equivalent, Geog. 205-6 and 211, which should be taken as early as possible in the student's academic career, and 436, 493-4, and 495-6, which should be taken in the junior or senior year.

The student should aim toward a balanced program of regional and systematic courses in geography, with as wide a selection as possible of electives in related fields.

The science requirement is to be satisfied by Geol. 101-2, 111-2, or its equivalent. The recommended foreign language is German, French, or Russian. A reading knowledge of a foreign language is strongly recommended by the end of the junior year. A course in statistics is strongly recommended.

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101-2. PRINCIPLE
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205. (1st sem.) W
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206. (2nd sem.)
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MWF 1:00. M

211. (1st sem.) I
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sciences. MF

216. (2nd sem.)
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331. (1st sem.) U
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TTh 9:30. Mr

346. (2nd sem.)
basis of Soviet
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10:00. Mr. Ho

351. (1st sem.) E
occupations an
Prerequisite: G
Coulter.

361. (1st sem.) E
emphasis on
environment.