

Geology

Area: Science and Engineering
Dean: TBD
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Geology is the study of the origin and evolution of the earth, using the principles of mathematics, chemistry, physics, and biology. Geologists study rocks, minerals, and fossils in an effort to draw conclusions about the Earth's observable surface processes, as well as those processes taking place inside the Earth.

GEOL 300 Physical Geology 3 Units

Formerly: GEOL 1

Prerequisite: None

Advisory: MATH 100, ENGRD 116, ENGWR 51, or ESLW 310; or placement through the assessment process.

Course Transferable to UC/CSU

Hours: 54 hours LEC

This in-depth course provides an understanding of the dynamic nature of the earth through the study of earth processes including plate tectonics, plate boundary events and features of the ocean basins, earthquakes and the earth's interior, mineral and rock systems, ground water, development and destruction of landforms, glaciers, deserts and examples of environmental geology. One field trip experience is required. May be taken separately from the physical geology laboratory. (CAN GEOL 2) (CAN GEOL 6) AA/AS area 3A; CSU area B1; IGETC area 5A.

GEOL 301 Physical Geology Laboratory 1 Unit

Prerequisite: None

Corequisite: GEOL 300.

Course Transferable to UC/CSU

Hours: 54 hours LAB

This course encompasses the study and identification of common rocks and minerals, the interpretation and recognition of geologic structures and landforms, interpretation of maps, aerial photographs, remote sensing images, seismic information, analysis of geologic hazards, and field observations of the local geology. (CAN GEOL 2) AA area A; CSU area 3B; IGETC area 5A.

GEOL 305 Earth Science 3 Units

Prerequisite: None

Advisory: MATH 32 and ENGRD 116, ENGWR 51 or ESLW 310; or placement through assessment.

Course Transferable to UC/CSU

Hours: 54 hours LEC

This is an introductory science course covering major topics in geology, oceanography, meteorology, astronomy, scientific method and philosophy of science. A field trip may be required. This course is not designed for science and/or geology majors. This course may not be taken with GEOL 301 (Physical Geology Laboratory). AA area 3A; CSU area B1, IGETC area 5A.

GEOL 306 Earth Science Laboratory 1 Unit

Prerequisite: None

Corequisite: GEOL 305.

Course Transferable to UC/CSU

Hours: 54 hours LAB

This course emphasizes scientific methods, critical thinking skills, and systematic Earth science laboratory procedures. Topics include weather analysis, rock and mineral identification, study of geologic concepts by means of topographic and geologic maps, and exercises in astronomy and oceanography. This course is not available for credit to students who have completed GEOL 300 or GEOL 301. CSU area B1; IGETC area 5A.

GEOL 310 Historical Geology 3 Units

Formerly: GEOL 3

Prerequisite: None

Advisory: GEOL 300.

Course Transferable to UC/CSU

Hours: 54 hours LEC

This course covers geologic history of earth as shown by the changing pattern of land and sea and by the succession of fauna and flora. Stratigraphic and other techniques for interpreting the sequence of past geological events are studied. (CAN GEOL 8) AA/AS area 3A; CSU area B1; IGETC area 5A.

GEOL 311 Historical Geology Laboratory 1 Unit

Formerly: GEOL 3L

Prerequisite: None

Corequisite: GEOL 310.

Course Transferable to UC/CSU

Hours: 54 hours LAB

This course is a laboratory study in historical geology. Principles of physical geology and paleontology are applied in the reconstruction of the history of the earth. Exercises in stratigraphy, paleontology and interpretation of geologic maps will be utilized. CSU area 3B; IGETC area 5A

GEOL 325 Environmental Hazards and Natural Disasters 3 Units

Formerly: GEOL 13

Prerequisite: None

Course Transferable to UC/CSU

Hours: 54 hours LEC

This course covers the environmental effects and applications of Earth-related processes. It focuses on earthquakes, volcanic eruptions, landslides, and flooding; availability and exploitation of natural resources, waste disposal and global climate change. Humans as a force in environmental change will be emphasized. The course is designed to address interests in geology, engineering, environmental studies, geography, and science education. One field trip is required. Not open to students who have completed GEOG 307. AA/AS area 3A; CSU area B1.

GEOL 330 Introduction to Oceanography (same as Geography 308) 3 Units

Prerequisite: None

Advisory: GEOG 300 or GEOL 300.

Course Transferable to UC/CSU

Hours: 54 hours LEC

This course is an integrated study of water on earth emphasizing physical oceanography. Topics include ocean and shoreline processes, plate tectonics, sea floor morphology, types and distribution of seafloor sediment, ocean sediment transport, ocean chemistry, ocean currents, marine resources, and environmental concerns. Regional oceanographic features are emphasized and a field trip to gain familiarity with regional physical shoreline features is required. This course is not open to students who have completed GEOG 308. AA/AS area 3A; CSU area B1; IGETC area 5A.

GEOL 331 Introduction to Oceanography Lab 1 Unit

Prerequisite: None

Corequisite: GEOG 308 or GEOL 330.

Advisory: GEOG 301 or GEOL 301.

Course Transferable to UC/CSU

Hours: 54 hours LAB

This course is a laboratory investigation of water on Earth, emphasizing the shape of the sea floor, marine navigation, plate tectonics, sea floor materials and their utilization, the spatial distribution of ocean sediment, the physical and chemical nature of sea water, currents, tides, and marine weather. This course is not open to students who have completed GEOG 309. CSU area B1; IGETC area 5A.

GEOL 342 Geology of the National Parks 3 Units

Formerly: GEOL 18

Prerequisite: None

Advisory: GEOL 300 and 301.

Course Transferable to CSU

Hours: 54 hours LEC

This course is designed to introduce Earth's geologic story as revealed by the rocks and landscapes in our National Parks. Attention will focus on how natural earth processes have formed our National Parks and National Monuments. Surface shaping processes such as volcanism, plutonism, deformation, sedimentation, glaciation, and fluvial activity will be studied as displayed in our western parks and monuments. One field trip is required. AA/AS area 3A; CSU area B1.

GEOL 345 Geology of California 3 Units

Formerly: GEOL 12

Prerequisite: None

Course Transferable to UC/CSU

Hours: 54 hours LEC

This course provides a survey of the physical and historical aspects of California geology, emphasizing the linkage of geology and people through economic and social impacts. This course is recommended for non-majors and majors in geology and is of particular value to science, engineering, environmental studies, education, and economics majors. One field trip is required. AA/AS area 3A; CSU area B1.

GEOL 390 Field Studies in Geology .5-4 Units

Formerly: GEOL 24

Prerequisite: None

Course Transferable to CSU

Hours: 3-24 hours LEC; 18-144 hours LAB

This course involves field trips to selected locations of geologic interest. Course content will vary according to field trip destination but may include topics in physical geology, environmental geology, economic geology, and/or introduction to tools and techniques used for geosciences field research (e.g. map and compass, the Global Positioning System (GPS), Geographic Information Systems (GIS), etc.). Field trip(s) are required. May be taken 4 times for a maximum of 6 units.