

# GEOLOGY (GEOLOGY)

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## **GEOLOGY 1140 Physical Geology 4 Credits**

The physical and chemical earth, materials of the earth's crust and interior, their compositions, distributions, origins, and the processes that modify them; minerals and rocks; interpretation of topographic maps and aerial photographs; field trips.

**Components:** Laboratory, Class

**GE:** Natural Science

## **GEOLOGY 1240 Historical Geology 4 Credits**

Study of the history of the Earth, beginning with its place in the solar system. An introduction to common rocks and minerals, to geological principles and reasoning, and to concepts of geologic time. Study of how the physical geography of Earth has changed through time and how the changes in the rock record tell of seas, mountain ranges, deserts, and ice ages through geologic time. Study of the fossil record and how life on Earth has changed to cope with the varying physical environments of Earth. Laboratory. Field trip(s) may be required.

**Components:** Laboratory, Class

**GE:** Natural Science

## **GEOLOGY 1440 Landscapes of North America 3 Credits**

A general survey of the characteristics and origins of major natural/physical regions of North America, with emphasis on national parks and monuments and other public areas. Field trip(s) may be required.

**Components:** Class

## **GEOLOGY 1690 Environmental Geology 4 Credits**

The physical environment and our interaction with it. Emphasis on earth processes affecting humans, such as flooding, erosion, groundwater, landslides and earthquakes. The impact of humans upon the environment along with the application of the science of geology to these impacts. Air, water and soil pollution studied from a physical-chemical standpoint. The depletion of energy and mineral resources and the need for humans to design with nature. Two hours of lab per week. Field trip(s) may be required.

**Components:** Laboratory, Class

**GE:** Natural Science

## **GEOLOGY 1700 Disasters - Lives on the Edge 3 Credits**

Study of various environmental hazards, their causes, impacts on humans, and mitigations. Core topics are natural hazards (earthquakes, volcanoes, flooding, landslides, tornadoes, hurricanes), and anthropogenic hazards (climate change/global warming, nuclear hazards, and overpopulation). Additional topics may be covered: coastal hazards, pollution of groundwater, air, soil, and water, other atmospheric hazards (extreme weather, droughts), impacts from space, extinctions, biohazards, chemical hazards, and terrorism.

**Components:** Class

## **GEOLOGY 2970 Special Topics 1-4 Credits**

Designed to cover topics not ordinarily covered in existing courses, or that cannot be accommodated in existing course formats. The topics selected in this course will depend on competencies of available staff and will be announced in the course timetable. May be taken more than once for credit if topics are different.

**Components:** Laboratory, Class

## **GEOLOGY 3130 Geology for Engineers 3 Credits**

Geology applied to the solution of a variety of problems in the fields of civil and environmental engineering. Compositions of materials of the earth's crust and interior, geomorphology, seismology, slope stability, hydrogeology; field trips. Research paper and presentation required.

**Components:** Class, Laboratory

**Prereqs/Coreqs:** P: CHEMISTRY 1240 or CHEMISTRY 1450, P or C: CIVILENG 2000, or consent of instructor

## **GEOLOGY 3430 Hydrogeology 3 Credits**

Applied geological concepts and theory of water resources, including both groundwater and surface water. Field trips. Research paper and presentation required.

**Components:** Class

**Prereqs/Coreqs:** P: GEOLOGY 1140 or GEOLOGY 3130; CHEMISTRY 1240 is recommended

## **GEOLOGY 4660 Cooperative Field Experience 1-8 Credits**

**Components:** Field Studies

**Prereqs/Coreqs:** P: consent of department chair

**GEOLOGY 4920 Individual Research in Geology 1-3 Credits**

Supervised research by individual students; written report required.

**Components:** Independent Study

**Prereqs/Coreqs:** P. consent of department chair