

# GEOLOGY ASSOCIATE IN SCIENCE



Geology is the scientific study of the planet earth. Geologists study the origin and evolution of the earth and various life forms, the composition of the earth, its structures, and the many processes which modify the earth's crust. Geology is an interdisciplinary science with many applied aspects including: the study of natural resources such as water, petroleum, and minerals; the mitigation of earth's hazards such as earthquakes, landslides, and volcanoes; and land use planning. Students who are curious about our planet and its environment, and want to meet the challenges presented by the interaction of humans with the earth should consider geology as a major.

The curriculum leads to the Associate in Science degree in Geology and will prepare students for upper division coursework at a baccalaureate institution. However, it is recommended that students consult the catalog of the transfer institution for specific course requirements.

## Career Opportunities

<https://www.grossmont.edu/student-support/career-center/resources.php>

Engineering Geologist<sup>1</sup>  
 Environmental Geologist<sup>1</sup>  
 Geochemist<sup>1</sup>  
 Geology Assistant  
 Geophysicist<sup>1</sup>  
 Hydrogeologist<sup>1</sup>  
 Marine Geologist<sup>1</sup>  
 Mineralogist<sup>1</sup>  
 Oceanographer<sup>1</sup>  
 Paleobotanist / Paleontologist<sup>1</sup>  
 Petroleum Geologist<sup>1</sup>  
 Petrologist<sup>1</sup>  
 Seismologist<sup>1</sup>  
 Soils Technician  
 Teacher / Professor<sup>1</sup>  
 Volcanologist<sup>1</sup>  
 Waste Management Geologist<sup>1</sup>

<sup>1</sup> Bachelor's Degree or higher required.

The Program-level Student Learning Outcomes (PSLOs) below are outcomes that students will achieve after completing specific degree / certificate requirements in this program. Students will:

1. Recognize and explain the role of fundamental geologic principles, such as plate tectonic theory and deep time, in the interpretation of observed geologic phenomena.
2. Research, evaluate, and cite scientific information in order to formulate coherent summaries of earth processes.
3. Define the scientific method and apply it to observed geologic phenomena.

4. Interpret geologic processes using underlying chemical properties and physical laws.
5. Measure, manipulate, and interpret scientific data.

## Associate Degree Major Requirements

Code	Title	Units
CHEM-141	General Chemistry I	5
CHEM-142	General Chemistry II	5
GEOL-110	Planet Earth	3
GEOL-111	Planet Earth Laboratory	1
GEOL-121	Earth History	4
MATH-180	Analytic Geometry and Calculus I	5
Select two of the following:		8-10
BIO-120	Principles of Biology	
MATH-280	Analytic Geometry and Calculus II	
PHYC-201	Mechanics and Waves	
PHYC-202	Electricity, Magnetism, and Heat	
Select a minimum of six units from the following:		6
GEOG-104	Introduction to Geographic Information Science	
ASTR-110	Descriptive Astronomy	
GEOG-120	Physical Geography: Earth Systems	
GEOG-140	Meteorology: Weather and Climate	
GEOL-150	Field Study of the Natural History of the Greater San Diego Region	
GEOL-162	Geologic Field Studies: Southern California Mountain Areas	
GEOL-163	Geologic Field Studies: Mojave Desert and Adjacent Areas	
GEOL-164	Geologic Field Studies: Southern California Coastal Areas	
GEOL-165	Geologic Field Studies: Colorado Desert/Salton Trough Area	
GEOL-172	Field Exploration: Colorado Plateau	
GEOL-173	Field Exploration: Cascade Range/Modoc Plateau	
GEOL-174	Field Exploration: Basin and Range Province	
GEOL-175	Field Exploration: California Coastal Mountains	
GEOL-176	Field Exploration: Sierra Nevada	
GEOL-210	Geology of California	
GEOL-220	Geology of the National Parks	
GEOL-230	Natural Disasters	
OCEA-112	Introduction to Oceanography	
OCEA-113	Oceanography Laboratory	

**Total Units** **37-39**

Plus General Education (<https://catalog.gcccd.edu/grossmont/admission-information/general-education-transfer/>) and Elective Requirements