Bachelor of Science in Geology

The B.S. in Geology, General Geology Concentration is recommended for students planning to continue to graduate school or to other careers in the geosciences. This Concentration has more flexibility to allow the student to tailor electives to pursue a particular interest.

The B.S. in Geology, Environmental Geology Concentration is recommended for students planning to become professional geologists in the environmental, geotechnical, government service, petroleum, or mining areas, and to prepare for Professional Licensure.

Geology majors must earn a grade of "C-" (1.7) or better in all required geology courses for those courses to satisfy the degree requirements for a B.S. degree in Geology. Students may not earn credit for both concentrations.

Requirements (72-79 units)

Total units required for graduation: 120

Requirements for the B.S. in Geology

Lower-division requirements (26-27)		
CHEM 2100	General Chemistry I	4
CHEM 2100L	General Chemistry I Laboratory	1
CHEM 2200	General Chemistry II	4
CHEM 2200L	General Chemistry II Laboratory	1
Choose one of the following (fulfills GE category B4):		3-4
MATH 1601	Modeling with Calculus	
MATH 2210	Calculus I	
Choose one of the following:		4
PHYS 2000	Introduction to Physics I	
PHYS 2500	General Physics I	
Choose one of the following:		1
PHYS 2000L	Introduction to Physics I Lab	
PHYS 2500L	General Physics I Lab	
Choose one of the following (fulfills GE category B1):		3
GEOL 1000	Introductory Geology	
GEOL 1020	Plate Tectonics: Key to Understanding Earthquakes, Volcanoes and Tsunami	
GEOL 1060	Environmental Geology and Geological Hazards	
Choose one of the following (Laboratory Activity associated with GE B1):		1
GEOL 1000L	Introductory Geology Laboratory	
GEOL 1060L	Environmental Geology and Geological Hazards Laboratory	
GEOL 2000	Interpreting Earth Systems History: Stories from an Ancient Planet	4
Upper-division requirements (36)		
GEOL 3100	Introduction to Geologic Mapping	3
GEOL 3200	Mineralogy	5
GEOL 3220	Introduction to Geochemistry	4
GEOL 3240	Igneous and Metamorphic Petrology	4
GEOL 3300	Sedimentary Geology: Principles and Applications	4
GEOL 3600	Structural Geology	4
Choose five units from the following:		5
GEOL 3902	Advanced Field Geology	
GEOL 3903	Advanced Field Geology	
GEOL 3904	Advanced Field Geology	
GEOL 3906	Advanced Field Geology	
GEOL 5280	Digital Mapping and GIS for Scientists	
GEOL 3990	Geological Research Design	3
GEOL 4000	Undergraduate Geological Research	2
GEOL 4900	Senior Seminar	2
Concentration (7-15)		
Students must satisfy the requirements of one of the concentrations listed below:		7-15
Total Units		**69-78**

Concentrations (7-15 Units)

General Geology Concentration (7 units)

(Program Code: GEOL)

A minimum of 7 units chosen from the following list after consultation with a faculty advisor. No more than 3 units may be taken from supervision courses. At least 3 units of elective must be from Geology courses.		7
Any 3100-level or above Geology course, not previously used for the degree		
GEOL 2500	Geology of California	
GEOG 2250	Introduction to Geographic Information Systems and Cartography	
GEOG 3730	Geo-Spatial Analysis	
GEOG 4400	Geomorphology	
GEOG 4870	Environmental GIS	
Up to 6 units of 2000-level or above Math, Biology, Chemistry or Physics courses, not previously used for the degree.		
Total Units		**7**

Environmental Geology Concentration (13-15 units)

(Program Code: ENVG)

GEOL 3700	Groundwater Hydrology	3
GEOL 4100	Engineering Geology	4
Choose a minimum of two courses, one from Group A, and one from either Group A or Group B:		6-8
Group A:		
GEOL 2500	Geology of California	
GEOG 4400	Geomorphology	
GEOL 5600	Earth Resources	
Group B:		
GEOG 2250	Introduction to Geographic Information Systems and Cartography	
GEOL 3750	Field Methods in Hydrology	

GEOL 5220	Neotectonics and Seismic Hazard Analysis	
GEOL 5400	Environmental Hydrology	
GEOL 5620	Site Investigation, Siting, and Case Histories in Engineering Geology	
Total Units		**13-15**