

Earth and Environmental Systems

Geology is the study of processes affecting the earth — geological, hydrological, and chemical.

Geology majors study past and present-day interrelationships between earth components and earth processes — rocks, minerals, fossils, landforms, structural features, earthquakes, glaciers, magmas, volcanoes, atmospheric gases, surface water, subsurface water, and environmental pollutants. Required coursework in geology is integrated with required or recommended coursework in forestry, soils, hydrology, chemistry, physics, and mathematics.

Requirements for the Major in Geology

The major requires successful completion of the following:

Course Requirements ¹

FORS/GEOL 332	Oral Presentations	2
FORS/GEOL 432	Senior Field Project	4
GEOL 121	Physical Geology (Lab)	4
GEOL 221	Mineralogy (Lab)	4
GEOL 225	Sedimentology (Lab)	4
GEOL 320	Igneous and Metamorphic Petrology (Lab)	4
GEOL 325	Field and Structural Geology (Lab)	4
GEOL 230 or GEOL 235	Paleoecology or Earth Systems and Climate Change	4
Select one of the following:		4
CSCI 101	Introduction to Computer Science	
MATH 101	Calculus I	
MATH 102	Calculus II	
STAT 204	Elementary Statistics	
Select three of the following:		12
ENST 217 or ENST 317	Fundamentals of GIS or Advanced Applications of GIS	
FORS 121	Introduction to Forestry (Lab)	
FORS/GEOL 303	Soils (Lab)	
FORS/GEOL 314	Hydrology (Lab)	
GEOL 305	Economic Geological Resources (Lab)	
PHYS 101 or PHYS 102	General Physics I (Lab) or General Physics II (Lab)	
One unduplicated course from MATH 101, MATH 102		
A summer geology field camp (at least 4 weeks in length and at least 4 credit hours)		
Select one laboratory course in chemistry (CHEM) numbered 120 or above		4
Total Semester Hours		50

Additional Requirements

A comprehensive examination

¹ All B.S. degrees require four science/math courses outside the major taken at Sewanee, two with labs.

Writing-Intensive Course in the Major Requirement

Students majoring in forestry, geology, or natural resources and the environment can satisfy their writing-in-the-major requirement by

1. successfully completing GEOL 320, or other designated writing-intensive course in the department, or
2. by successfully completing four forestry and/or geology designated “writing portfolio” courses. Written and edited scientific papers from each writing portfolio course are to be compiled into a scientific writing portfolio by each student, and maintained by his/her advisor.

The following courses are designated as writing portfolio or writing-intensive courses in the Department of Earth and Environmental Systems. Other courses may be approved as such during some years. In exceptional cases and by faculty permission, one of the four writing portfolio courses might be fulfilled by FORS 444 or GEOL 444.

Writing Portfolio Courses in the Department of Earth and Environmental Systems (four required):

Code	Title	Semester Hours
Forestry Major		
FORS 204	Forest Wildlife Management (project report)	4
FORS 262	Forest and Watershed Restoration (Lab) (class paper)	4
FORS 305	Forest Ecology (Lab) (lab report or paper)	4
FORS 312	Silviculture (Lab) (lab report or paper)	4
FORS 319	Natural Resource Management and Decisions (project report)	4
Geology Major		
GEOL 320	Igneous and Metamorphic Petrology (Lab) (writing-intensive)	4
Natural Resources and the Environment Major		
FORS 204	Forest Wildlife Management (project report)	4
FORS 262	Forest and Watershed Restoration (Lab) (class paper)	4
FORS 305	Forest Ecology (Lab) (lab report or paper)	4
FORS 312	Silviculture (Lab) (lab report or paper)	4
FORS 319	Natural Resource Management and Decisions (project report)	4
GEOL 222	Historical Geology (Lab) (term paper)	4
GEOL 305	Economic Geological Resources (Lab) (field trip report)	4
GEOL 314	Hydrology (Lab) (lab report)	4