

B.S. Geology with Engineering Geology Concentration

The B.S. degree is offered for undergraduates who wish to become professional - geoscientists either after their bachelor’s degree or after subsequent graduate study. It trains students in the essential observational and analytical skills of field geology as well as more applied areas of microscope petrology, geochemistry, and geotechnology. The B.S. degree is designed to give the student a broad and comprehensive understanding of the discipline of geology and a firm background in math, physics, and chemistry.

Program Admissions Requirements

There are no program admission requirements for the BS in Geology, Engineering Geology Concentration.

General Education

The listing below includes program requirements that also fulfill General Education requirements.

Code	Title	Credits
Objective 1		6
Objective 2		3
Objective 3 - MATH 1170		4
Objective 4		6
Objective 5 - CHEM 1111, CHEM 1111L, and PHYS 1111		8
Objective 6		6
Students must fulfill Objective 7 or Objective 8		3
Objective 7 - GEOL 1107		
Objective 8		
Objective 9		3
Total Credits		39

Major Requirements

Code	Title	Credits
Required Courses:		
MATH 1170	Calculus I	4
MATH 1175 or MATH 3350	Calculus II Statistical Methods	3-4
CHEM 1111 & 1111L	General Chemistry I and General Chemistry I Lab	5
CHEM 1112 & 1112L	General Chemistry II and General Chemistry II Lab	4
PHYS 1111 or PHYS 2211	General Physics I ¹ Engineering Physics I	3-4
GEOL 1107	Real Monsters ²	3
GEOL 2204	Fluid Earth	4
GEOL 2205	Solid Earth	4
GEOL 3310	Geologic Field Methods	3
GEOL 3313	Earth Materials I	4
GEOL 3314	Earth Materials II	4
GEOL 3315	Evolution of the Earth's Surface	4

GEOL 4403 & 4403L	Principles of Geographic Information Systems and Principles of GIS Laboratory	3
GEOL 4421	Structural Geology	4
GEOL 4450	Field Geology ³	6
GEOL 4452	Sedimentation-Stratigraphy	4
Concentration in Engineering Geology		
GEOL 4454	Basic Engineering Geology	3
GEOL 4455	Geologic Data Methods	3
GEOL 4475	Essentials of Geomechanics	3
GEOL 4476	Engineering Geology Project	1
CE 4480	Earthquake Engineering	3
Total Credits		73

¹ May choose the following optional courses: PHYS 1113, PHYS 1114, General Physics Laboratory, 2 cr; PHYS 2213, PHYS 2214, Engineering Physics Laboratory, 2 cr.

² Transfer students may substitute other courses for GEOL 1107 with the permission of the Geosciences Department Chair or Geosciences Undergraduate Advisor.

³ GEOL 4450 is a 5-week summer field course, usually taken between the junior and senior years.

Degree Totals

Code	Title	Credits
	Program Admission Requirements	0
	General Education	39
	Major Requirements (Required General Education credits removed.)	58
	Upper Division Free Electives	0
	Free Electives	23
Total Credits		120

ISU Degree Requirements (<https://coursecat.isu.edu/undergraduate/degree/requirements/>)

ISU General Education (<https://coursecat.isu.edu/undergraduate/academicinformation/generaleducation/>)

Major Academic Plan (MAP)