

Geology

Geology Concentration - BS in Environmental Earth and Soil Sciences

Suggested Four-Year Flowcharts are planning guides and do not represent a required course sequence.

Courses may be completed in a different order, provided requisite requirements are satisfied.

First Year

Term 1		Units
ERSC 1144	Introduction to Earth Science	3
GEOL 2240	Physical Geology	3
BOT 1121	General Botany (5B) ¹	4
General Education Requirement (1A)		3
General Education Requirement (1C)		3

Units 16

Term 2		Units
SS 1120	Introductory Soil Science (5A & 5C) ¹	4
GEOL 2241	Physical Geology Laboratory	1
MATH 1261	Calculus I (2) ^{1,3}	4
General Education Requirement (1B)		3
General Education Requirement		3

Units 15

Second Year

Term 1		Units
SS 3321	Soil Morphology	4
GEOL 3310	Igneous and Metamorphic Petrology	4
CHEM 1120	Fundamentals of Chemical Structure and Properties	4
PHYS 1121 or PHYS 1141	College Physics I or General Physics I	4

Units 16

Term 2		Units
GEOL 3330	Principles of Stratigraphy ^{2,3}	3
NR/LA 2218	Introduction to Geographic Information Systems (GIS)	3
STAT 1110	Applied Statistical Concepts and Methods	3
General Education Requirement		3
General Education Requirement		3

Units 15

Third Year

Term 1		Units
ERSC 4450	Geomorphology ^{2,3}	3
GEOL 4420	Field Geophysics	3
NR 3318	Introduction to Environmental Data Science	3
CHEM 2240	Organic Chemistry: Fundamentals and Applications	4
General Education Requirement		3

Units 16

Term 2		Units
NR 3310	Global Climate Change (Upper-Division 2/5) ¹	3
NR 3363	Career Preparation and Practices in Natural Resources Fields	2
General Education Requirement		3
General Education Requirement		3
General Education Requirement		3

Units 14

Fourth Year

Term 1		Units
BRAE 3345 or GEOG 4441 or NR 4418 or SS/NR 4431	Photogrammetry and Remote Sensing with GIS Applications ² or Advanced Applications in Geospatial Technologies or Applied Geographic Information System or Spatial Data Analysis and Environmental Mapping	2-4
ERSC 4442 or ERSC 4443 or SS 4424	Applied Groundwater Hydrology ² or Applied Environmental Contaminant Transport or Environmental Soil Physics	4
GEOL 4415	Structural Geology	3
SS 4423	Environmental Soil and Water Chemistry	4

Units 14

Term 2		
ERSC/NR 4478 or ERSC/NR 4479	Senior Project - Current Topics in Environmental Science or Senior Project - Independent Study	2
GEOL 4417	Field Geology Methods and Mapping	5
SS 4424 or ERSC 4442 or ERSC 4443	Environmental Soil Physics ² or Applied Groundwater Hydrology or Applied Environmental Contaminant Transport	4
Major ERSC/NR/SS Elective ²		3-4
Free Elective ⁵		0-1
Units		14
Total Units		120

- ¹ Required in Major or Support; also satisfies General Education (GE) requirement.
- ² Courses taken to meet a Major or Support requirement cannot be double-counted in the concentration or the Approved Electives.
- ³ ERSC 4450, GEOL 3330, MATH 1261, and PHYS 1141 are prerequisite courses for those pursuing the Geology concentration.
- ⁴ Courses may need to be at the 3000-4000 level to ensure completion of the requirement minimum of 40 units of upper-division.
- ⁵ If a General Education (GE) course is used to satisfy a Major or Support requirement, additional units of Free Electives may be needed to complete the total units required for the degree.