Geology, B.S.

The Bachelor of Science in Geology (BS-GEOL) provides students with the tools and skills necessary to observe, interpret, understand, and be stewards of the natural world, including the lithosphere, hydrosphere, atmosphere, and biosphere. The program offers opportunities for hands-on experience in a variety of topics including plate tectonics, sedimentary processes, paleontology, mineralogy, petrology, geochemistry, structures, geomorphology, (paleo)climatology, and hydrology. The program is by nature interdisciplinary, integrating and applying concepts from physics, chemistry, statistics, and other quantitative subjects to questions about earth and planetary science and their interactions with humans, society, and the environment. The program prepares students for graduate programs in earth and environmental sciences, and careers in environmental and geotechnical consulting, geologic engineering, resource management, education and outreach, state and federal government agencies, and energy and mineral resource exploration.

Program Requirements

Code	Title	Credit Hours
Total Credit Hours		**120**
General Education Requirements		**37 Credits**
ENGL 1010	Introduction to Academic Writing CC	3
or ENGH 1005	Literacies and Composition Across Contexts CC	
ENGL 2010	Intermediate Academic Writing CC	3
MATH 1210	Calculus I QL	4
Complete one of the following:		3
HIST 2700 & HIST 2710	US History to 1877 AS and US History since 1877 AS (6)	
HIST 1700	American Civilization AS (3)	
HIST 1740	US Economic History AS (3)	
POLS 1000	American Heritage AS (3)	
POLS 1100	American National Government AS (3)	
Complete the following:		
PHIL 205G	Ethics and Values IH GI	3
HLTH 1100	Personal Health and Wellness TE	2
or EXSC 1097	Fitness for Life TE	
Distribution Courses:		
BIOL 1010	General Biology BB	3
GEO 1010	Introduction to Geology PP	3
or GEO 1030	Natural Disasters and the Environment PP	
or GEO 1040	The Dinosaurian World PP	
or GEO 1050	Geology of National Parks PP	
CHEM 1210	Principles of Chemistry I PP	4
Humanities Distribution		3
Fine Arts Distribution		3
Social/Behavioral Science		3
Discipline Core Requirements		**83 Credits**
CHEM 1215	Principles of Chemistry I Laboratory	1
CHEM 1220	Principles of Chemistry II PP	4
CHEM 1225	Principles of Chemistry II Laboratory	1
GEOG 3600	Introduction to Geographic Information Systems	4
GEO 1015	Introduction to Geology Laboratory	1
GEO 1220	Historical Geology	3
GEO 1225	Historical Geology Laboratory	1
GEO 2500	Introduction to Field Geology	3

GEO 3080 & GEO 3085	Earth Materials WE and Earth Materials Laboratory	4
GEO 3200 & GEO 3205	Geologic Hazards and Geologic Hazards Laboratory either hazards or geomorphology can be taken as core requirement	4
or GEO 3500 & GEO 3505	Geomorphology WE and Geomorphology Lab	
GEO 3700	Structure and Tectonics	4
GEO 4500	Sedimentary Geology WE	4
GEO 4790	Hydrogeology (4790 is recommended)	4
or ENVT 3790	Applied Hydrology WE	
GEO 4600	Field Experience	6
MATH 1220	Calculus II	4
STAT 2040	Principles of Statistics QL	4
GEO 480R	Earth Science Seminar (Must be taken twice)	1
PHYS 2210	Physics for Scientists and Engineers I PP	4
PHYS 2220 & PHYS 2225	Physics for Scientists and Engineers II PP and Physics for Scientists and Engineers II Lab	5
Complete 21 credits from the following list (at least 12 credits must be Upper Division)		21
BIOL 3800	Conservation Biology (3)	
ENVT 2730	Introduction to Soils (4)	
ENVT 3280	Environmental Law (3)	
ENVT 3790	Applied Hydrology WE (4)	
GEO 202R	Science Excursion (1)	
GEO 204R	Natural History Excursion BB (3)	
GEO 3000	Environmental Geochemistry (3)	
GEO 3100	Isotope Geochemistry (3)	
GEO 3105	Isotope Geochemistry Laboratory (1)	
GEO 3200 & GEO 3205	Geologic Hazards and Geologic Hazards Laboratory (4) if not taken as core requirement	
GEO 3500 & GEO 3505	Geomorphology WE and Geomorphology Lab (4) if not taken as core requirement	
GEO 4080 & GEO 4085	Petrology and Petrology Laboratory (4)	
GEO 4510	Paleontology (4)	
GEO 4790	Hydrogeology (undefined)	
GEO 482R	Geologic Environmental Internship (1)	
GEO 489R	Student Research (1-4)	
GEOG 3400	Environmental Remote Sensing (3)	
GEOG 3440	Geospatial Data Science (3)	
GEOG 3650	Advanced Geographic Information Systems (4)	
GEOG 3700	Wetland Studies (3)	
GEOG 3705	Wetland Studies Laboratory (1)	
GEOG 4100	Geospatial Field Methods (3)	
METO 1010	Introduction to Meteorology PP (3)	
METO 1060	Fundamentals of Weather Forecasting PP (3)	
METO 3100	Climate and the Earth System (3)	
PHYS 2215	Physics for Scientists and Engineers I Lab (1)	
Or other department approved electives		

Graduation Requirements

1. Completion of a minimum of 120 semester credits, with a minimum of 40 upper-division credits.
2. Overall grade point average of 2.0 (C) or above.
3. Grade of C- or better in every ENVT, GEO, GEOG, and METO course.

4. Residency hours--minimum of 30 credit hours through course attendance at UVU, with at least 10 hours earned in the last 45 hours.
5. **Completion of an exit interview with the department chair and a Qualtrics Exit Survey prior to graduation.**
6. Completion of GE and specified departmental requirements.
7. Successful completion of at least one Global/Intercultural course.
8. Successful completion of at least two Writing Enriched (WE) courses.

Graduation Plan

This graduation plan is a sample plan and is intended to be a guide. Your specific plan may differ based on your Math and English placement and/or transfer credits applied. You are encouraged to meet with an advisor and set up an individualized graduation plan in Wolverine Track (http://www.uvu.edu/wolverinetrack/).

First Year		
Semester 1		**Credit Hours**
ENGL 1010	Introduction to Academic Writing CC	3
GEO 1010 or GEO 1030 or GEO 1040 or GEO 1050	Introduction to Geology PP or Natural Disasters and the Environment PP or The Dinosaurian World PP or Geology of National Parks PP	3
GEO 1015	Introduction to Geology Laboratory	1
American Institutions		3
MATH 1210	Calculus I QL	4
	Credit Hours	**14**
Semester 2		
GEO 1220	Historical Geology	3
GEO 1225	Historical Geology Laboratory	1
ENGL 2010	Intermediate Academic Writing CC	3
Fine Art		3
MATH 1220	Calculus II	4
	Credit Hours	**14**
Second Year		
Semester 3		
CHEM 1210	Principles of Chemistry I PP	4
CHEM 1215	Principles of Chemistry I Laboratory	1
HLTH 1100 or EXSC 1097	Personal Health and Wellness TE or Fitness for Life TE	2
Geology Elective		3
BIOL 1010	General Biology BB	3
PHIL 205G	Ethics and Values IH GI	3
	Credit Hours	**16**
Semester 4		
GEO 2500	Introduction to Field Geology	3
CHEM 1220	Principles of Chemistry II PP	4
CHEM 1225	Principles of Chemistry II Laboratory	1
Geology Elective		3
PHYS 2210	Physics for Scientists and Engineers I PP	4
	Credit Hours	**15**
Third Year		
Semester 5		
PHYS 2220 & PHYS 2225	Physics for Scientists and Engineers II PP and Physics for Scientists and Engineers II Lab	5
GEO 3080	Earth Materials WE	3
GEO 3085	Earth Materials Laboratory	1
GEO 3200 & GEO 3205 or GEO 3500 ***and*** GEO 3505 or GEOG 3500 ***and*** GEOG 3505	Geologic Hazards or Geomorphology WE ***and*** Geomorphology Lab or Geomorphology WE ***and*** Geomorphology Lab	4
Geology Elective		3
	Credit Hours	**16**
Semester 6		
STAT 2040	Principles of Statistics QL	4
GEOG 3600	Introduction to Geographic Information Systems	4
GEO 4790	Hydrogeology	4

GEO 480R	Earth Science Seminar	0.5
Humanities		3
	Credit Hours	**15.5**
Fourth Year		
Semester 7		
GEO 3700	Structure and Tectonics	4
GEO 4500	Sedimentary Geology WE	4
Geology Elective		3
Geology Elective		3
	Credit Hours	**14**
Semester 8		
Geology Elective		4
Geology Elective		2
Social/Behavioral Science Course		3
GEO 480R	Earth Science Seminar	.5
GEO 4600	Field Experience	6
	Credit Hours	**15.5**
	Total Credit Hours	**120**

Program Learning Outcomes

1. Apply the processes encompassed within the rock cycle to geologic questions, including identifying and interpreting Earth materials.
2. Interpret Earth processes within the unifying theory of plate tectonics and other scientific laws and theories.
3. Evaluate geologic processes within the context of deep time using the geologic time scale and dating tools.
4. Employ modern scientific methods to address relevant Earth science problems.
5. Communicate Earth science findings orally, visually, and in writing to a wide audience including laypeople and scientific peers.