

BS in Geology (694022) MAP Sheet

Physical and Mathematical Sciences, Geological Sciences

For students entering the degree program during the 2023-2024 curricular year.

The basic degree in geology prepares graduates for professional employment in industry or government or for advanced studies in geology, business, or law.



University Core and Graduation Requirements				Suggested Sequence of Courses			
University Core Requirements:							
Requirements	#Classes	Hours	Classes				
Religion Cornerstones							
Teachings and Doctrine of The Book of Mormon	1	2.0	REL A 275				
Jesus Christ and the Everlasting Gospel	1	2.0	REL A 250				
Foundations of the Restoration	1	2.0	REL C 225				
The Eternal Family	1	2.0	REL C 200				
The Individual and Society							
American Heritage	1-2	3-6.0	from approved list				
Global and Cultural Awareness	1	3.0	from approved list				
Skills							
First Year Writing	1	3.0	from approved list				
Advanced Written and Oral Communications	1	3.0	WRTG 316*				
Quantitative Reasoning	1	3-4.0	MATH 112* or 113*, or STAT 121*				
Languages of Learning (Math or Language)	1	3-4.0	MATH 112* or 113*, or STAT 121*				
Arts, Letters, and Sciences							
Civilization 1	1	3.0	from approved list				
Civilization 2	1	3.0	from approved list				
Arts	1	3.0	from approved list				
Letters	1	3.0	from approved list				
Biological Science	1	3-4.0	from approved list				
Physical Science	1	3.0	GEOL 210*				
Social Science	1	3.0	from approved list				
Core Enrichment: Electives							
Religion Electives	3-4	6.0	from approved list				
Open Electives	Variable	Variable	personal choice				
*THESE CLASSES CAN FILL BOTH UNIVERSITY CORE AND PROGRAM REQUIREMENTS (9–14 hours overlap)							
Graduation Requirements:							
Minimum residence hours required		30.0					
Minimum hours needed to graduate		120.0					
				FRESHMAN YEAR			
				<u>1st Semester</u>			
				First-year Writing	3.0		
				GEOL 111 (FW)	4.0		
				CHEM 105 or CHEM 111	4.0		
				Religion Cornerstone course	2.0		
				Total Hours	13.0		
				<u>2nd Semester</u>			
				American Heritage	3.0		
				CHEM 106, 107 (FWSpSu) or CHEM 112	3-4.0		
				GEOL 112	4.0		
				MATH 112	4.0		
				Total Hours	14-15.0		
				SOPHOMORE YEAR			
				<u>3rd Semester</u>			
				GEOL 210 (F) (Begins meeting before start of Fall semester)	3.0		
				GEOL 230 (F)	3.0		
				GEOL 351 (F)	4.0		
				MATH 113	4.0		
				Religion Cornerstone course	2.0		
				Total Hours	16.0		
				<u>4th Semester</u>			
				General Elective	3.0		
				GEOL 352 (W)	3.0		
				GEOL 370 (W)	3.0		
				PHSCS 105	3.0		
				Religion Cornerstone course	2.0		
				Total Hours	14.0		
				JUNIOR YEAR			
				<u>5th Semester</u>			
				WRTG 316 (FWSpSu)	3.0		
				GEOL 491R (FW)	0.5		
				GEOL 375	3.0		
				Civilization 1	3.0		
				Religion Cornerstone course	2.0		
				STAT 121	3.0		
				Total Hours	14.5		
				<u>6th Semester</u>			
				GEOL 405	3.0		
				GEOL 491R (F)	0.5		
				PHSCS 106	3.0		
				Civilization 2	3.0		
				Religion elective	2.0		
				General electives	2.5		
				Total Hours	14.0		
				<u>Spring/Summer</u>			
				GEOL 420	2.0		
				GEOL 421	2.0		
				GEOL 422	2.0		
				Total Hours	6.0		
				SENIOR YEAR			
				<u>7th Semester</u>			
				GEOL 400-level elective	3.0		
				GEOL 400-level elective	3.0		
				GEOL 491R (FW)	0.5		
				Global & Cultural Awareness	3.0		
				Letters	3.0		
				Religion Elective	2.0		
				Total Hours	14.5		
				<u>8th Semester</u>			
				GEOL 400-level elective	3.0		
				GEOL 491R (FW)	0.5		
				Social Science	3.0		
				Arts	3.0		
				Religion Elective	2.0		
				Biological Science	3.0		
				Total Hours	14.5		
				**Note: The sequence of courses suggested may not fit the circumstances of every student. Students should contact their college advisement center for help in outlining an efficient schedule.			
				Note: Students are encouraged to complete an average of 15 credit hours each semester or 30 credit hours each year, which could include spring and/or summer terms. Taking fewer credits substantially increases the cost and the number of semesters to graduate.			

Program Requirements

Licensure: This program meets the educational requirements designed to lead to an occupationally required professional license or certificate in the state of Utah. Students pursuing occupations requiring a license or certificate in a state other than Utah should contact the appropriate BYU academic advisement center as well as the licensing agency in the state where they intend to work to seek information and guidance regarding licensure and certification requirements.

No D credit is allowed in major courses.

Requirement 1 — Complete 12 Courses

GEOL 111 - Physical Geology 4.0
GEOL 112 - Historical Geology 4.0
GEOL 210 - Field Studies 3.0
GEOL 230 - Geological Communications 3.0
GEOL 351 - Mineralogy 4.0
GEOL 352 - Petrology 3.0
GEOL 370 - Sedimentology & Stratigraphy 3.0
GEOL 375 - Structural Geology 3.0
GEOL 405 - GeoMathematics 3.0
GEOL 420 - Geological Field Methods 2.0
GEOL 421 - Geological Mapping 2.0
GEOL 422 - Geologic Writing 2.0

Requirement 2 — Complete 2 hours

Take 4 times.

GEOL 491R - Geology Seminar - You may take up to 2.0 credit hours 0.5

Requirement 3 — Complete 3 of 8 Courses

GEOL 411 - Geomorphology 3.0
GEOL 435 - Groundwater 3.0
GEOL 440 - Solid Earth Geophysics 3.0
GEOL 445 - Geochemistry 3.0
GEOL 452 - Petrography to Petrogenesis 3.0
GEOL 460 - Economic & Resource Geology 3.0
GEOL 476 - Intro Seismic Interpretation 3.0
GEOL 480 - Paleontology 3.0

Requirement 4 — Complete 1 of 2 Options

Option 4.1

Complete 3 Courses

CHEM 105 - Gen College Chem 1+Lab Integr 4.0
CHEM 106 - General College Chemistry 2 3.0
CHEM 107 - Gen Coll Chem Lab 1.0

Option 4.2

Complete 2 Courses

CHEM 111 - Principles of Chemistry 1 4.0
CHEM 112 - Principles of Chemistry 2 3.0

Requirement 5 — Complete 1 of 2 Courses

STAT 121 - Principles of Statistics 3.0
STAT 201 - Stat for Engineers & Scientist 3.0

Requirement 6 — Complete 5 Courses

MATH 112 - Calculus 1 4.0
MATH 113 - Calculus 2 4.0
PHSCS 105 - General Physics 1 3.0
PHSCS 106 - General Physics 2 3.0
WRTG 316 - Technical Communication 3.0

THE DISCIPLINE

Geological sciences consist of a number of disciplines aimed at understanding the Earth's origin and development and the natural processes that have operated upon it and within it from the time of formation of the solar system. With the development of remote sensing technology and the exploration of the solar system by spacecraft, geological sciences have become increasingly important for understanding not only the Earth but the Moon, other planets and their moons, and small bodies that orbit the sun.

Understanding the dynamic processes of Earth and other planets is relevant to many societal needs, such as assessment and forecasting of natural hazards, environmental change, and discovery of energy and mineral resources. Some of the diverse disciplines that can be studied in this department include general geology, plate tectonics, volcanology, geochemistry, geophysics, paleontology, environmental geology, petroleum geology, hydrogeology, paleoclimatology, and planetary geology.

CAREER OPPORTUNITIES

Graduates have the opportunity to work both outdoors and in the laboratory, pursuing careers in energy, mineral, and water resources or in environmental evaluation with industry, government, or consulting firms. The substantial preparation in basic sciences and mathematics also leads to a broad spectrum of teaching opportunities. Some scholarship money is available for those who pursue a geological sciences degree as a pre-law track.

The most marketable terminal degree in geological sciences is the MS. Starting salaries for this degree are often very competitive with any other discipline.

MAP DISCLAIMER

While every reasonable effort is made to ensure accuracy, there are some student populations that could have exceptions to listed requirements. Please refer to the university catalog and your college advisement center/department for complete guidelines.

DEPARTMENT INFORMATION

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ADVISEMENT CENTER INFORMATION

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