

# BS in Geology (694022) MAP Sheet

## Physical and Mathematical Sciences, Geological Sciences

For students entering the degree program during the 2020-2021 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			
<b>University Core Requirements:</b>				<b>FRESHMAN YEAR</b>			
<b>Requirements</b>	<b>#Classes</b>	<b>Hours</b>	<b>Classes</b>	<b>1st Semester</b>		<b>JUNIOR YEAR</b>	
<b>Religion Cornerstones</b>				<b>5th Semester</b>			
Teachings and Doctrine of The Book of Mormon	1	2.0	REL A 275	First-year Writing	3.0	WRTG 316 (FWSpSu)	3.0
Jesus Christ and the Everlasting Gospel	1	2.0	REL A 250	GEOL 111 (FW)	4.0	GEOL 491R (FW)	0.5
Foundations of the Restoration	1	2.0	REL C 225	CHEM 105 or CHEM 111	4.0	PHSCS 106	3.0
The Eternal Family	1	2.0	REL C 200	Religion Cornerstone course	2.0	Civilization 1	3.0
<b>The Individual and Society</b>				<b>Total Hours</b>	<b>13.0</b>	Religion Cornerstone course	2.0
American Heritage	1-2	3-6.0	from approved list	<b>2nd Semester</b>		STAT 121	3.0
Global and Cultural Awareness	1	3.0	from approved list	American Heritage	3.0	<b>Total Hours</b>	<b>14.5</b>
<b>Skills</b>				CHEM 106, 107 (FWSpSu) or CHEM 112	3-4.0	<b>6th Semester</b>	
First Year Writing	1	3.0	from approved list	GEOL 112	4.0	GEOL 400-level elective	3.0
Advanced Written and Oral Communications	1	3.0	WRTG 316*	MATH 112	4.0	GEOL 491R (F)	0.5
Quantitative Reasoning	1	3-4.0	MATH 112* or 113*, or STAT 121*	<b>Total Hours</b>	<b>14-15.0</b>	GEOL 375	3.0
Languages of Learning (Math or Language)	1	3-4.0	MATH 112* or 113*, or STAT 121*	<b>SOPHOMORE YEAR</b>			
<b>Arts, Letters, and Sciences</b>				<b>3rd Semester</b>			
Civilization 1	1	3.0	from approved list	GEOL 210 (F) (Begins meeting before start of Fall semester)	3.0	Civilization 2	3.0
Civilization 2	1	3.0	from approved list	GEOL 230 (F)	3.0	Religion elective	2.0
Arts	1	3.0	from approved list	GEOL 351 (F)	4.0	General electives	2.5
Letters	1	3.0	from approved list	MATH 113	4.0	<b>Total Hours</b>	<b>14.0</b>
Biological Science	1	3-4.0	from approved list	Religion Cornerstone course	2.0	<b>Spring/Summer</b>	
Physical Science	1	3.0	GEOL 210*	<b>Total Hours</b>	<b>16.0</b>	GEOL 420	2.0
Social Science	1	3.0	from approved list	<b>4th Semester</b>			
<b>Core Enrichment: Electives</b>				General Elective	3.0	GEOL 421	2.0
Religion Electives	3-4	6.0	from approved list	GEOL 352 (W)	3.0	GEOL 422	2.0
Open Electives	Variable	Variable	personal choice	GEOL 370 (W)	3.0	<b>Total Hours</b>	<b>6.0</b>
*THESE CLASSES CAN FILL BOTH UNIVERSITY CORE AND PROGRAM REQUIREMENTS (9-14 hours overlap)				PHSCS 105	3.0	<b>SENIOR YEAR</b>	
<b>Graduation Requirements:</b>				Religion Cornerstone course	2.0	<b>7th Semester</b>	
Minimum residence hours required		30.0		<b>Total Hours</b>	<b>14.0</b>	GEOL 400-level elective	3.0
Minimum hours needed to graduate		120.0		<b>8th Semester</b>			
				<b>**Note:</b> 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.			
				<b>Note:</b> 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.			

**BS in Geology (694022)**  
**2020-2021 Program Requirements (74 - 75 Credit Hours)**

*No D credit is allowed in major courses.*

**REQUIREMENT 1** Complete 11 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 and Stratigraphy	3.0
GEOL 375 - Structural Geology	3.0
GEOL 420 - Geological Field Methods	2.0
GEOL 421 - Geological Mapping	2.0
GEOL 422 - Geologic Writing	2.0

**REQUIREMENT 2** Complete 2.0 hours from the following course(s)  
**TAKE 4 TIMES.**

GEOL 491R - Geology Seminar	0.5
<i>You may take this course up to 4 times.</i>	

**REQUIREMENT 3** Complete 4 courses

GEOL 405 - Applied Mathematics in the Geological Sciences	3.0
GEOL 411 - Geomorphology and Remote Sensing	3.0
GEOL 435 - Introduction to 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 and Resource Geology	3.0
GEOL 476 - Introduction to Seismic Interpretation	3.0
GEOL 480 - Paleontology	3.0

**REQUIREMENT 4** Complete 1 option

**OPTION 4.1** Complete 3 courses

CHEM 105 - General College Chemistry 1 with Lab (Integrated)	4.0
CHEM 106 - General College Chemistry 2	3.0
CHEM 107 - General College Chemistry Laboratory	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 6 courses

ENGL 316 - (Not currently offered)	
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
STAT 121 - Principles of Statistics	3.0

**REQUIREMENT 6**  
 All students are required to construct a portfolio of their work that includes samples of their writing, scientific data analysis, and presentations, both oral and written. The portfolio will be evaluated during the semester before graduation.

**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**

**Department of Geological Sciences**  
 Brigham Young University  
 S-389 ESC  
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**ADVISEMENT CENTER INFORMATION**

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