

BS in Geology (694022) MAP Sheet

Physical and Mathematical Sciences, Geological Sciences

For students entering the degree program during the 2024-2025 curricular year

University Core and Graduation Requirements				Suggested Sequence of Courses			
University Core Requirements:				FRESHMAN YEAR		JUNIOR YEAR	
Requirements	# Classes	Hours	Classes	<u>1st Semester</u>		<u>5th Semester</u>	
Religion Cornerstones				UNIV 101	2.00	WRTG 316	3.00
Teachings and Doctrines of the Book of Mormon	1	2.00	REL A 275	First Year Writing	3.00	GEOL 491R	1.00
Jesus Christ and the Everlasting Gospel	1	2.00	REL A 250	GEOL 111	4.00	GEOL 375	1.00
Foundations of the Restoration	1	2.00	REL C 225	CHEM 105 or CHEM 111	4.00	GE Arts, Letters, Sciences	2.00
The Eternal Family	1	2.00	REL C 200	Religion Cornerstone Class	2.00	Religion Cornerstone Class	3.00
BYU Foundations for Student Success				Total Hours:	15.00	PHSCS 106	3.00
Foundations for Student Success	1	2.00	UNIV 101			Total Hours:	13.00
The Individual and Society				<u>2nd Semester</u>		<u>6th Semester</u>	
American Heritage	1 to 2	3.00-6.00	from approved list	American Heritage	3.00	GEOL 405	3.00
Global and Cultural Awareness	1	3.00	from approved list	CHEM 106 & 107 or CHEM 112	3.00-4.00	GEOL 491R	0.50
Skills				GEOL 112	4.00	Stat 121 or 201	3.00
First Year Writing	1	3.00	from approved list	MATH 112	4.00	GE Arts, Letters, Sciences	3.00
Advanced Written and Oral Communications	1	3.00	WRTG 316*	Total Hours:	14.00-15.00	GE Religion	2.00
Quantitative Reasoning	1	4.00	MATH 112*			Open Elective	2.50
Languages of Learning (Math of Language)	1	4.00	MATH 112*			Total Hours:	14.00
Arts, Letters and Sciences (Complete 6 of 7)				SOPHMORE YEAR		SPRING/SUMMER	
Civilization 1	1	3.00	from approved list	<u>3rd Semester</u>		GEOL 420	2.00
Civilization 2	1	3.00	from approved list	GEOL 210*	3.00	GEOL 421	2.00
Arts	1	3.00	from approved list	GEOL 230	3.00	GEOL 422	2.00
Letters	1	3.00	from approved list	GEOL 351	4.00	Total Hours:	6.00
Biological Science	1	3.00-4.00	from approved list	MATH 113	4.00		
Physical Science	2	3.00	GEOL 210*	Religion Cornerstone Class	2.00		
Social Science	1	3.00	from approved list	Total Hours:	16.00		
Core Enrichment: Electives						SENIOR YEAR	
Religion Electives	3 to 4	6.00	from approved list	<u>4th Semester</u>		<u>7th Semester</u>	
Open Electives	Variable	Variable	personal choice	GE Arts, Letters, Sciences	3.00	GEOL 400-level elective	3.00
Graduation Requirements:				GEOL 352	3.00	GEOL 400-level elective	3.00
Minimum residence hours required		30.00		GEOL 370	3.00	GEOL 491R	0.50
Minimum hours needed to graduate		120.00		PHSCS 105	3.00	Global & Cultural Awareness	3.00
				Religion Cornerstone Class	2.00	GE Arts, Letters, Sciences	3.00
				Total Hours:	14.00	GE Religion	2.00
						Total Hours:	14.50
						<u>8th Semester</u>	
*These classes fill both university core and program requirements						GEOL 400-level elective	3.00
						GEOL 491R (FW)	0.50
						GE Arts, Letters, Sciences	3.00
						GE Religion	2.00
						Open Elective	5.00
						Total Hours:	13.50

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 - Intro to Stat Data Analysis 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
WRITG 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

Department of Geological Sciences
Brigham Young University
S-389 ESC
Provo, UT 84602
Telephone: (801) 422-3918

ADVISEMENT CENTER INFORMATION

Computational, Mathematical, & Physical Sciences College Advisement Center
Brigham Young University
N-181 ESC
Provo, UT 84602
Telephone: (801) 422-2674