BS in Geology (694022) MAP Sheet
Physical and Mathematical Sciences, Geological Sciences
For students entering the degree program during the 2022-2023 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
University Core Requirements:
Requirements#ClassesHoursClasses
Religion Cornerstones
Teachings and Doctrine of The Book of Mormon12.REL A 275
Jesus Christ and the Everlasting Gospel12.REL A 250
Foundations of the Restoration12.REL C 225
The Eternal Family12.REL C 200
The Individual and Society
American Heritage1-23.0 from approved list
Global and Cultural Awareness1.0 from approved list
Skills
First Year Writing13.0 from approved list
Advanced Written and Oral Communications13.WRTG 316*
Quantitative Reasoning13-4.0 MATH 112* or 113*, or STAT 121*
Languages of Learning (Math or Language)13-4.0 MATH 112* or 113*, or STAT 121*
Arts, Letters, and Sciences
Civilization 113.0 from approved list
Civilization 213.0 from approved list
Arts13.0 from approved list
Letters13.0 from approved list
Biological Science13-4.0 from approved list
Physical Science13.0 GEOL 210*
Social Science13.0 from approved list
Core Enrichment: Electives
Religion Electives3-46.0 from approved list
Open Electives Variable
*THESE CLASSES CAN FILL BOTH UNIVERSITY CORE AND PROGRAM REQUIREMENTS (9-14 hours overlap)
Graduation Requirements:
Minimum residence hours required30.0
Minimum hours needed to graduate120.0
Suggested Sequence of Courses
Freshman Year
1st Semester
First-year Writing3.0
GEOL 111 (FW)4.0
CHEM 105 or CHEM 1114.0
Religion Cornerstone course2.0
Total Hours13.0
2nd Semester
American Heritage3.0
CHEM 106, 107 (FWSpSu) or CHEM 1123-4.0
GEOL 1124.0
MATH 112
Total Hours 14-15.0
Sophomore Year
3rd Semester
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
4th Semester
General Elective 3.0
GEOL 352 (W) 3.0
GEOL 370 (W) 3.0
PHSCS 1053.0
Religion Cornerstone course 2.0
Total Hours 14.0
Junior Year
5th Semester
WRTG 316 (FWSpSu) 3.0
GEOL 491R (FW) 0.5
PHSCS 1063.0
Civilization 13.0
Religion Cornerstone course 2.0
STAT 1213.0
Total Hours 14.5
6th Semester
GEOL 400-level elective 3.0
GEOL 491R (F) 0.5
GEOL 3753.0
Civilization 23.0
Religion elective 2.0
General electives 2.5
Total Hours 14.0
Spring/Summer
GEOL 4202.0
GEOL 4212.0
GEOL 4222.0
Total Hours 6.0
Senior Year
7th Semester
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
8th Semester
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.

BS in Geology (694022) 2022-2023 Program Requirements (74 - 75 Credit Hours)

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 - Earth Data Visualization 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 405 - Applied Mathematics in the Geological Sciences 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
You may take this course up to 4 times.

requirement 3 Complete 3 courses

GEOL 411 - Geomorphology and Remote Sensing 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 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 1 course
STAT 121 - Principles of Statistics 3.0
STAT 201 - Statistics for Engineers and Scientists 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
requirement 7
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, palaeoclimatology, 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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