

BS in Earth & Space Science Education (694020) MAP Sheet

Physical and Mathematical Sciences, Geological Sciences

For students entering the degree program during the 2018-2019 curricular year.

This major is designed to prepare students to teach in public schools. In order to graduate with this major, students are required to complete Utah State Office of Education licensing requirements. To view these requirements go to <http://education.byu.edu/ess/licensing.html> or contact Education Advisement Center, 350 MCKB, (801) 422-3426.



University Core and Graduation Requirements	Suggested Sequence of Courses																																																																																																																																																																																																																	
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	<p>**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.</p> <p>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.</p> <p>FOR UNIVERSITY CORE OR PROGRAM QUESTIONS, CONTACT THE ADVISEMENT CENTER.</p>																																																																																																																																																																																																																	

BS in Earth & Space Science Education (694020)

2018-2019 Program Requirements (83 - 85 Credit Hours)

This major is designed to prepare students to teach in public schools. In order to graduate with this major, students are required to complete Utah State Office of Education licensing requirements. To view these requirements go to <http://education.byu.edu/ess/licensing.html> or contact Education Advisement Center, 350 MCKB, (801) 422-3426.

For students accepted into the major after August 1, 2014, grades below C in any required coursework in a teaching major or teaching minor will not be accepted. Teacher candidates must maintain a total GPA of 3.0 or higher throughout the program and to qualify for student teaching. For details on admission and retention requirements for teaching majors and teaching minors, see Educator Preparation Program Requirements in the Undergraduate Catalog.

REQUIREMENT 1 Complete 4 courses

GEOL 111 - Physical Geology	4.0
GEOL 112 - Historical Geology	4.0
*GEOL 210 - Field Studies	3.0
GEOL 411 - Geomorphology and Remote Sensing	3.0

REQUIREMENT 2 Complete 2.0 hours from the following course(s)

TAKE 4 TIMES.

GEOL 491R - Geology Seminar	0.5
<i>You may take up to 2 credit hours.</i>	

REQUIREMENT 3 Complete 3 courses

GEOL 100 - Dinosaurs	3.0
GEOL 109 - Geology of the Planets	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 405 - Applied Mathematics in the Geological Sciences	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 8 courses

*ENGL 316 - Technical Communication	3.0
*MATH 112 - Calculus 1	4.0
PHSCS 105 - General Physics 1	3.0
PHSCS 106 - General Physics 2	3.0
PHSCS 107 - General Physics Lab 1	1.0
PHSCS 108 - General Physics Lab 2	1.0
PHSCS 127 - Descriptive Astronomy	3.0
PHSCS 137 - Energy, Ecology, Weather, and the Environment	3.0

REQUIREMENT 6 Complete 2 options

PROFESSIONAL EDUCATION COMPONENT:

Licensure requirements: Contact Education Student Services, 120 MCKB, 422-3426, to schedule the final interview to clear your application for the secondary teaching license. You should be registered for your last semester at BYU prior to the scheduled appointment.

OPTION 6.1 Complete 9 courses

CPSE 402 - Educating Students with Disabilities in Secondary Classroc	2.0
IP&T 371 - Integrating K-12 Educational Technology 1	1.0
IP&T 372 - Integrating K-12 Educational Technology 2	1.0
IP&T 373 - Teaching in K-12 Online and Blended Learning Contexts	1.0
PHY S 276 - Exploration of Teaching	4.0
PHY S 377 - Teaching Methods and Instruction	3.0
PHY S 378 - Practicum in Secondary Education	1.0
*SC ED 353 - Multicultural Education for Secondary Education	3.0
SC ED 375 - Adolescent Development and Classroom Management	3.0

Note: Fingerprinting and FBI clearance must be completed before enrollment in Phy S 377.

OPTION 6.2 Complete 12.0 hours from the following course(s)

PHY S 476 - Secondary Student Teaching	12.0v
PHY S 496 - Academic Internship: Secondary Education	12.0v

Student teachers/interns must complete three forms in their LiveText accounts (PIBS, CDS, FED) and attach their TWS to the LiveText account for their program. All four must be completed to be cleared for 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.

BS in Earth & Space Science Education (694020)

2018-2019

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