

Earth & Environmental Sciences - Geoscience Emphasis, A.S.

Program Description

The Associate's of Science degree in Earth and Environmental Sciences (ENVS) is an interdisciplinary study of the relevant natural science disciplines, with content including the geosciences, geography, and environmental sciences. This program provides knowledge and experience through lecture, laboratory, and field courses that immerse the students into the world around them, preparing them for entry level positions in the discipline and bringing them one step closer to a Bachelor's degree. Students will analyze and solve problems associated with use of energy, water, and mineral resources; in protection of the environment; in planning for the impact of natural hazards; and in sustainable approaches to societal development. The region and ecosystems that surround Utah Tech University provide the ideal laboratory to apply concepts to the earth, energy, and environmental issues that impact the future of humanity. This program naturally feeds into the Bachelor's of Science degree in Earth, Energy, and Environmental science.

Program Curriculum

60 credits

Utah Tech General Education Requirements

All Utah Tech General Education requirements must be fulfilled. A previously earned degree may fulfill those requirements, but courses must be equivalent to Utah Tech's minimum General Education standards in American Institutions, English, and Mathematics.

Code	Title	Hours
General Education Core Requirements (catalog.utahtech.edu/programs/generaleducation/#gerequirementstext)		
	English	3-7
	Mathematics	3-5
	American Institutions	3-6
	Life Sciences	3-10
	Physical Sciences	3-5
	Laboratory Science	0-1
	Fine Arts	3
	Literature/Humanities	3
	Social & Behavioral Sciences	3
	Exploration	3-5

Code	Title	Hours
Earth and Environmental Sciences Core Requirements		
BIOL 1610 & BIOL 1615	Principles of Biology I (LS) and Principles of Biology I Lab (LAB)	5
CHEM 1210 & CHEM 1215	Principles of Chemistry I (PS) and Principles of Chemistry I Lab (LAB)	5
ENER 2310	Energy and the Environment	3
ENGL 2201	Literature and the Land (HU, GC)	3
ENVS 1210 & ENVS 1215	Introduction to Environmental Science and Introduction to Environmental Science Laboratory	4
ENVS 2210	Environmental Pollution and Remediation Techniques	3
GEO 1110 & GEO 1115	Physical Geology (PS) and Physical Geology Lab (LAB)	4
GEO 2050	Earth Materials	4
GEOG 2410	Paleoclimatology	3
MATH 1210	Calculus I (MA)	4
PHYS 2210 & PHYS 2215	Physics/Scientists Engineers I (PS) and Physics/Scientists Engineers I Lab (LAB)	5

Code	Title	Hours
Geoscience Emphasis Requirements		
GEO 2700R	Field Methods in Geoscience Research	1
GEO 2990R	Seminar in Geology	1

Graduation Requirements

1. Complete a minimum of 60 college-level credits (1000 and above).
2. Complete at least 20 lower-division credits at Utah Tech for institutional residency.
3. Grade of C- or higher and cumulative GPA 2.0 or higher in all required courses.

Graduation Plan

1st Year

Fall Semester	Hours	Spring Semester	Hours
ENVS 1210 & ENVS 1215		4 BIOL 1610 & BIOL 1615	5
GEO 1110 & GEO 1115		4 ENGL 2010	3
ENGL 1010		3 PHYS 2210 & PHYS 2215	5
MATH 1210		4 General Education (Fine Arts) (catalog.utahtech.edu/programs/generaleducation/#gerequirementstext)	3
		15	16

2nd Year

Fall Semester	Hours	Spring Semester	Hours
ENER 2310		3 ENVS 2210	3
GEOG 2410		3 GEO 2050	4
CHEM 1210 & CHEM 1215		5 GEO 2990R	1
GEO 2700R		1 ENGL 2201	3
General Education (Social & Behavioral Science) (catalog.utahtech.edu/programs/generaleducation/#gerequirementstext)		3 General Education (American Institutions) (catalog.utahtech.edu/programs/generaleducation/#gerequirementstext)	3
		15	14

Total Hours 60

Earth and Environment Sciences - Geoscience Emphasis Degree Program Learning Outcomes

At the successful conclusion of this program, students will be able to:

1. Articulate the interdisciplinary nature of the issues related to geological sciences.
2. Formulate sustainable approaches to earth science issues that integrate environmental, economic, and sociopolitical perspectives.
3. Distinguish between Earth's surface and deep energy sources and the processes they power and appraise how we depend on and harvest those energy resources.
4. Evaluate the effects of geologic time as they pertain to the interactive nature of and changes to Earth systems. (Geosphere, atmosphere, hydrosphere, and biosphere)