Bachelor of Science in Geology (Environmental Science)

About This Program

Bachelor of Science in Geology Environmental Science Option emphasizes the application of earth science to environmental problems associated with the hydrosphere, atmosphere and natural hazards.

Competencies

1. Upon graduation, students will demonstrate expertise in the use of methods found within the core disciplines of geology including mineralogy, petrology, sedimentology and stratigraphy, paleontology, and structural geology. In particular, students will apply their knowledge to environmental problems associate with hydrosphere, atmosphere, and natural hazards.
2. Upon graduation, students will be able to interpret geological maps and describe three-dimensional structures of rocks in the earth's crust.
3. Upon graduation, students will be able to analyze scientific data in geoscience.
4. Upon graduation, students will be able to communicate complex information using written reports and oral presentation to both specialists and non-specialists.

Curriculum

Foundations		
General Core Requirements (https://catalog.uta.edu/academicregulations/degreerequirements/generalcorerequirements/)		42
Students must select specific courses in certain core areas.		
For Communication select:		
ENGL 1301 & ENGL 1302	RHETORIC AND COMPOSITION I and RHETORIC AND COMPOSITION II	
For Life & Physical Sciences select:		
PHYS 1441	GENERAL COLLEGE PHYSICS I	
or PHYS 1443	GENERAL TECHNICAL PHYSICS I	
PHYS 1442	GENERAL COLLEGE PHYSICS II	
or PHYS 1444	GENERAL TECHNICAL PHYSICS II	
For Mathematics select:		
MATH 1426	CALCULUS I	
MATH 2425	CALCULUS II	
For US History select:		
HIST 1301	HISTORY OF THE UNITED STATES TO 1865	
HIST 1302	HISTORY OF THE UNITED STATES, 1865 TO PRESENT	
Geology Foundations		
Additional hours required in core.		4
UNIV 1131	STUDENT SUCCESS	1
Communication Competence - pass oral presentation requirement in GEOL 3443, or complete COMS 1301, COMS 2302, or other equivalent course		
Computer Competence - pass Computer Skills Placement test or any computer-related course such as:		
GEOL 4330	UNDERSTANDING GEOGRAPHIC INFORMATION SYSTEMS	
BIOL 1441	BIOLOGY I FOR SCIENCE MAJORS: CELL AND MOLECULAR BIOLOGY	4
CHEM 1441	GENERAL CHEMISTRY I	4
CHEM 1442	GENERAL CHEMISTRY II	4
GEOL 3454	STATISTICS FOR EARTH AND ENVIRONMENTAL SCIENTISTS	4
Geology Environmental Science Specialization		
GEOL 1301	EARTH SYSTEMS	3
GEOL 1302	EARTH HISTORY	3
GEOL 2445	MINERALOGY	4
GEOL 3387	FIELD GEOLOGY I	3
GEOL 3388	FIELD GEOLOGY II	3

GEOL 3442	SEDIMENTOLOGY AND STRATIGRAPHY	4
GEOL 3443	STRUCTURAL GEOLOGY	4
GEOL 3446	PETROLOGY AND GEOCHEMISTRY	4
GEOL 4330	UNDERSTANDING GEOGRAPHIC INFORMATION SYSTEMS	3
ENVR 3317	ENVIRONMENTAL HYDROLOGY	3
or ENVR 4325	TRACER HYDROLOGY	
ENVR 4313	ENVIRONMENTAL REGULATION OF CHEMICAL HAZARDS	3
Select one of the following:		4
GEOL 4405	METEOROLOGY AND CLIMATOLOGY	
GEOL 4420	HYDROGEOLOGY	
GEOL 4465	PHYSICAL OCEANOGRAPHY AND LIMNOLOGY	
ENVR 4458	MACHINE LEARNING FOR EARTH AND ENVIRONMENTAL SCIENTISTS	
BIOL 3457	GENERAL ECOLOGY	
Minor and Electives		
Select a minor of at least 18 hours as required by Biology, Chemistry, Mathematics, or Physics (will include at least one Geology Foundations course)		16
Select courses sufficent to complete 120 hours with 36 hours at the 3000/4000-level		
Total Hours		**120**

SUGGESTED COURSE SEQUENCE

Details of a personal course sequence should be made with the guidance of the Earth and Environmental Sciences undergraduate advisor, particularly since many GEOL courses are not offered every semester. Students should also consult with the appropriate department for minor requirements.

First Year

	First Semester	Hours	Second Semester	Hours
	CHEM 1441	4	CHEM 1442	4
	ENGL 1301	3	ENGL 1302	3
	GEOL 1301	3	GEOL 1302	3
	MATH 1426	4	MATH 2425	4
	UNIV 1131	1		
	15		**14**	

Second Year

	First Semester	Hours	Second Semester	Hours
	BIOL 1441	4	HIST 1302	3
	GEOL 2445	4	PHYS 1442	4
	HIST 1301	3	Creative Arts*	3
	PHYS 1441	4	minor course**	4
	15		**14**	

Third Year

Summer Session	Hours	First Semester	Hours	Second Semester	Hours
GEOL 3387	3	ENVR 3317	3	GEOL 3442	4
GEOL 3388	3	GEOL 3443	4	GEOL 3446	4
		GEOL 3454	4	GEOL 4330	3
		POLS 2311	3	POLS 2312	3
	6		**14**		**14**

Fourth Year

	First Semester	Hours	Second Semester	Hours
	ENVR 4313 or 3317	3	ENVR 4199, 4190, or 4189	1
	GEOL 4405, 4420, 4465, or BIOL 3457	4	minor course**	8
	Social/Behavioral Science*	3	Foundational Component Area	3
	minor course**	3	Language, Philosophy, and Culture*	3
	13		**15**	

Total Hours: 120

* See General Core Requirements (https://catalog.uta.edu/academicregulations/degreerequirements/generalcorerequirements/) for approved courses.

** Actual number of courses/hours and course sequence determined by appropriate department.

Advising Resources

First time in college students should plan to speak to a program advisor when starting their second year. or have an academic advising hold. Transfer students should contact program advising when enrolled or have an academic advising hold.

Location:

SH 328C

Email:

kaycee.nikses@uta.edu

Phone:

817-272-9686

Web:

Schedule an appointment (https://outlook.office365.com/book/PHYSGEOLEESADVISING@mavs.uta.edu/)