

BACHELOR OF SCIENCE, MAJOR IN ENVIRONMENTAL SCIENCE (WATER RESOURCES)

Additional information: Reference the Program Landing Page (<https://www.shsu.edu/programs/bachelor-of-science-in-environmental-science/>) for additional information, such as cost, delivery format, contact information, or to schedule a visit.

Code	Title	Hours
Bachelor of Science, Major in Environmental Science (Water Resources)		
Core Curriculum (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/)		
Component Area I (Communication)		6
Component Area II (Mathematics) ¹		3
Component Area III (Life and Physical Science) ²		8
Component Area IV (Language, Philosophy, and Culture) ³		3
Component Area V (Creative Arts)		3
Component Area VI (U.S. History)		6
Component Area VII (Political Science/Government)		6
Component Area VIII (Social and Behavioral Sciences) ⁴		3
Component Area IX (Component Area Option) ^{1, 3}		4
Degree Specific Requirements		
BIOL 1406	General Biology I	4
BIOL 1407	General Biology II	4
CHEM 1411	General Chemistry I ²	4
CHEM 1412	General Chemistry II ²	4
MATH 1342	Elementary Statistics	3
or MATH 3379	Statistical Methods in Practice	
MATH 1420	Calculus I ¹	4
Major: Foundation		
BIOL 1401	Environmental Science	4
BIOL/GEOG 3320	Sustainability & Environment	3
BIOL 3409	General Ecology	4
BIOL 4330	Aquatic Biology	3
BIOL 4374	Biostatistics ⁶	3-4
or MATH 1430	Calculus II	
ENGL 3330	Introduction to Technical Writing	3
GEOG 2464	Introduction to Geographic Information Systems (GIS)	4
GEOG 4330	Hydrology and Water Resources	3
GEOG 4331	Conservation of Natural Resources	3
GEOG 4361	Geographic Information Systems for Public Health	3-4
or GEOG 4365	Applied Geographic Information Systems (GIS)	
or GEOG 4468	Remote Sensing	
GEOG 4432	Geomorphology	4
GEOL 3326	Environmental Geology	3
GEOL 4304	Geochemistry ⁵	3
or CHEM 3368	Environmental Chemistry	
GEOL 4426	Hydrogeology	4
PLSC 3440	Soil Science	4
POLS 3395	Environmental Policy	3
Select two courses from the following:		8
GEOG 1401	Weather and Climate	
GEOL 1403	Physical Geology	
GEOL 1405	Geologic & Environmental Hazards	

Major: Prescribed Electives

Select five hours from the following:

5

AGET 3383	Soil & Water Conservation Engineering
BIOL 3461	Wildlife Biology
CHEM 2401	Quantitative Analysis
CHEM 3368	Environmental Chemistry
ECON 3352	Energy and Environmental Economics
GEOG 3301	Environmental Geography
GEOG 3340	Meteorology
GEOG 3342	Climatology
GEOG 4100	Earth and Environment Seminar
GEOG 4333	Field Studies
GEOG 4361	Geographic Information Systems for Public Health
GEOG 4365	Applied Geographic Information Systems (GIS)
GEOG 4399	Environmental and Geoscience Internship
GEOG 4432	Geomorphology
GEOG 4468	Remote Sensing
GEOL 3330	Oceanography
GEOL 4100	Earth and Environment Seminar
GEOL 4312	Economic Geology
GEOL 4399	Environmental and Geoscience Internship
GEOL 4400	Stratigraphy & Sedimentation
HLTH 4390	Environmental Health
PLSC 4330	Soil Fertility Management and Fertilizers
SOCI 4337	Environment And Society
WMGT 2301	Principles of Wildlife Management
WMGT 3382	Habitat & Pond Management

Minor: Not Required ^{7, 8}**Total Hours****120-122**

- ¹ MATH 1420 is recommended, if eligible. In addition to satisfying the Core Curriculum requirement for Component Area II (Mathematics), the course also satisfies one credit hour of the Core Curriculum requirement for Component Area IX (Component Area Option).
- ² CHEM 1411 and CHEM 1412 satisfy the Core Curriculum requirement for Component Area III (Life and Physical Science).
- ³ SOCI 2319, GEOG 2355, or GEOG 2356 are recommended for the Core Curriculum requirement for Component Area IV (Language, Philosophy, and Culture) or Component Area IX (Component Area Option) because they are prerequisites for some of the Environmental Science Prescribed Electives.
- ⁴ ECON 2300, ECON 2301, or ECON 2302 satisfy the Core Curriculum requirement for Component Area VIII (Social and Behavioral Sciences) and serve as a prerequisite for ECON 3352 if desired as a course option. If not, GEOG 1300 is recommended.
- ⁵ Students who would like to take CHEM 3368 must take CHEM 2401 as an elective.
- ⁶ Students interested in groundwater should take MATH 1430; whereas, students interested in surface water should take BIOL 4374 or GEOG 4374.
- ⁷ A minor is **not required** for this degree program; however, a student has the option to add a minor, but to do so, additional semester credit hours will be needed above the degree program's stated total semester credit hours.
- ⁸ All minors can be paired with this degree program.

Notes

Students must earn a 2.0 minimum overall GPA in all coursework.

Students must meet a 2.0 minimum overall major GPA in all major coursework.

Students must earn a 2.0 minimum SHSU GPA in all coursework.

Students must meet a 2.0 minimum SHSU major GPA in all major coursework.

Additional information: Reference the Program Landing Page (<https://www.shsu.edu/programs/bachelor-of-science-in-environmental-science/>) for additional information, such as cost, delivery format, contact information, or to schedule a visit.

First Year

Fall	Hours	Spring	Hours
Component Area IV (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareiv) ¹		3 BIOL 1401	4
ENGL 1301 ²		3 ENGL 1302 ²	3
GEOG 1401, GEOL 1403, or GEOL 1405		4 GEOG 1401, GEOL 1403, or GEOL 1405	4
HSTY 1301 ³		3 HSTY 1302 ³	3
MATH 1420 ⁴		4	
		17	14

Second Year

Fall	Hours	Spring	Hours
Component Area V (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareav)		3 Component Area IX (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareaix) ¹	3
Component Area VIII (https://catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum/#componentareaviii) ⁵		3 BIOL 1407	4
BIOL 1406		4 CHEM 1412 ⁶	4
CHEM 1411 ⁶		4 POLS 2306 ⁷	3
POLS 2305 ⁷		3	
		17	14

Third Year

Fall	Hours	Spring	Hours
BIOL 3320 or GEOG 3320		3 BIOL 3409	4
ENGL 3330		3 GEOG 2464	4
GEOG 4330		3 GEOL 3326	3
GEOL 4304 or CHEM 3368 ⁸		3 MATH 1430 or BIOL 4374 ¹⁰	3-4
Prescribed Electives ⁹		4	
		16	14-15

Fourth Year

Fall	Hours	Spring	Hours
BIOL 4330		3 GEOG 4331	3
GEOG 4361, 4365, or 4468		3-4 GEOG 4432	4
GEOL 4426		4 POLS 3395	3
PLSC 3440		4 Prescribed Electives ⁹	4
		14-15	14

Total Hours: 120-122

¹ SOCI 2319, GEOG 2355, or GEOG 2356 are recommended for the Core Curriculum requirement for Component Area IV (Language, Philosophy, and Culture) or Component Area IX (Component Area Option) because they are prerequisites for some of the Environmental Science Prescribed Electives.

² ENGL 1301 and ENGL 1302 satisfy the Core Curriculum requirement for Component Area I (Communication).

³ HSTY 1301 and HSTY 1302 satisfy the Core Curriculum requirement for Component Area VI (U.S. History).

⁴ MATH 1420 satisfies the Core Curriculum requirement for Component Area II (Mathematics) and one credit hour of the Core Curriculum requirement for Component Area IX (Component Area Option).

⁵ ECON 2300, ECON 2301, or ECON 2302 satisfy the Core Curriculum requirement for Component Area VIII (Social and Behavioral Sciences) and serve as a prerequisite for ECON 3352 if desired as a course option. If not, GEOG 1300 is recommended.

⁶ CHEM 1411 and CHEM 1412 satisfy the Core Curriculum requirement for Component Area III (Life and Physical Sciences).

⁷ POLS 2305 and POLS 2306 satisfy the Core Curriculum requirement for Component Area VII (Political Science/Government).

⁸ Students who would like to take CHEM 3368 must take CHEM 2401 as an elective.

⁹ See the Prescribed Electives course list below. Students must select a minimum of eight hours to meet the 120-hour degree requirement.

¹⁰ Students interested in groundwater should take MATH 1430; whereas, students interested in surface water should take BIOL 4374 or MATH 3379.

Code	Title	Hours
Prescribed Electives⁹		8
Select five hours from the following:		
AGET 3383	Soil & Water Conservation Engineering	3
BIOL 3461	Wildlife Biology	4
CHEM 2401	Quantitative Analysis	4
CHEM 3368	Environmental Chemistry	3
ECON 3352	Energy and Environmental Economics	3
GEOG 3301	Environmental Geography	3
GEOG 3340	Meteorology	3
GEOG 3342	Climatology	3
GEOG 4100	Earth and Environment Seminar	1
GEOG 4333	Field Studies	3
GEOG 4361	Geographic Information Systems for Public Health	3
GEOG 4365	Applied Geographic Information Systems (GIS)	3
GEOG 4399	Environmental and Geoscience Internship	3
GEOG 4432	Geomorphology	4
GEOG 4468	Remote Sensing	4
GEOL 3330	Oceanography	3
GEOL 4100	Earth and Environment Seminar	1
GEOL 4312	Economic Geology	3
GEOL 4399	Environmental and Geoscience Internship	3
GEOL 4400	Stratigraphy & Sedimentation	4
HLTH 4390	Environmental Health	3
PLSC 4330	Soil Fertility Management and Fertilizers	3
SOCI 4337	Environment And Society	3
WMGT 2301	Principles of Wildlife Management	3
WMGT 3382	Habitat & Pond Management	3

Notes

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Students must earn a 2.0 minimum SHSU GPA in all coursework.

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The Texas Higher Education Coordinating Board (THECB) marketable skills initiative is part of the state's **60x30TX plan** and was designed to help students articulate their skills to employers. Marketable skills are those skills valued by employers and/or graduate programs that can be applied in a variety of work or education settings and may include interpersonal, cognitive, and applied skill areas.

The BS in Environmental Science (Water Resources) is designed to provide graduates with the following marketable skills:

- Use the scientific method to address environmental problems.
- Think critically.
- Generate and/or interpret geospatial data-based geographic information systems (GIS) and remote sensing.
- Use quantitative methods to assess groundwater and surface water issues.

- Analyze water quality and quantity.
- Apply knowledge of the environment and ecosystems to address environmental problems.
- Interdisciplinary problem solvers.