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		
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 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
ENGL 3330	Introduction to Technical Writing	3
Select two of the following:		8
GEOG 1401	Weather and Climate	
GEOL 1403	Physical Geology	
GEOL 1405	Geologic & Environmental Hazards	
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
Select one from the following: [6]		3-4
BIOL 4374	Biostatistics [6]	
MATH 1430	Calculus II [6]	
MATH/STAT 3379	Statistical Methods in Practice [6]	
PLSC 3440	Soil Science	4
POLS 3395	Environmental Policy	3
Major: Prescribed Electives		

Select eight hours from the following:		8
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 3310	Sustainable Development	
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 fulfilling the 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 MATH 3379 or BIOL 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[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
HIST 1301[3]	3	HIST 1302[3]	3
MATH 1420[4]	4		
	17		**14**

Second Year

Fall	Hours	Spring	Hours
Component Area V	3	Component Area IX[1]	3
Component Area VIII[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, 3379, 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
GEOL 4426	4	GEOG 4432	4
GEOG 4361, 4365, or 4468	3-4	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. HIST 1301 and HIST 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) as well as 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. 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 MATH 3379 or BIOL 4374.

Code	Title	Hours
Prescribed Electives [9]		**8**
Select eight 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 3310	Sustainable Development	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

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.

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.

All minors can be paired with this degree program.

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.