

# BACHELOR OF SCIENCE IN ENVIRONMENTAL SCIENCE

Web Site: <https://twu.edu/sciences/>

## Degree Requirements

Total Semester Credit Hours (SCH): 120

Major: 73 SCH; Required Minor: 18 SCH

Program Code: ENVSCIENCE.BS; CIP Code: 03.0104.00

### Texas Core Curriculum

Code	Title	SCHs
ENG 1013	Composition I	3
ENG 1023	Composition II	3
Mathematics		3
Life & Physical Sciences		6
Language, Philosophy, & Culture		3
Creative Arts		3
HIST 1013	History of the United States, 1492-1865	3
HIST 1023	History of the United States, 1865 to the Present	3
POLS 2013	U.S. National Government	3
POLS 2023	Texas Government	3
Social & Behavioral Sciences		3
CAO: Women's Studies		3
CAO: First Year Seminar, Wellness or Mathematics		3
<b>Total SCHs</b>		<b>42</b>

### Courses Required for Major

Code	Title	SCHs
BIOL 2113 & BIOL 2111	Plant Biology and Plant Biology Laboratory	4
BIOL 4223 & BIOL 4221	Ecology and Ecology Laboratory	4
CSCI 3373	Geographic Information Systems	3
ENG 3253 or BIOL 4293	Technical Writing Scientific Communication	3
ENVS 1213	Introduction to Environmental Science	3
ENVS 4933	Capstone in Environmental Science	3
POLS 4813	Seminar in Public Policy	3
SCI 2113	Earth Science: Global Perspectives	3
SCI 3013	Community Conversation in Sustainability	3
SCI 3033	Water in a Changing Environment	3
SCI 3133	Climate Change: A Human Perspective	3

#### Electives

Choose 8 SCH from the following		8
BACT 3113 & BACT 3111	General Microbiology and General Microbiology Laboratory	
BIOL 4903	Special Topics	
BIOL 4983	Undergraduate Research	

CHEM 2213 & CHEM 2211	Organic Chemistry I and Organic Chemistry Laboratory I	
CHEM 3223 & CHEM 3221	Organic Chemistry II and Organic Chemistry Laboratory II	
CHEM 3333 & CHEM 3331	Quantitative Chemical Analysis and Quantitative Chemical Analysis Laboratory	
CHEM 3633 & CHEM 3632	Biochemistry I and Biochemistry I Laboratory	
CHEM 3713 & CHEM 3711	Environmental Chemistry I and Environmental Chemistry Laboratory I	
CHEM 4903	Special Topics (with advisor permission)	
CHEM 4983	Undergraduate Research (with advisor permission)	
CSCI 3053	Data Structures	
CSCI 3113	Fundamentals of SAS Programming	
CSCI 4303	Advanced Modeling and Visualization	
CSCI 4313	Networking and Data Communication	
CSCI 3423	Database Management	
CSCI 4513	Data Warehousing	
CSCI 3603	Foundations of Data Science	
CSCI 4623	Big Data and High Performance Computing	
CSCI 3703	Interface Design and Development	
CSCI 4723	Machine Learning	
CSCI 4823	Principles of Data Mining	
CSCI 4903	Special Topics (with advisor permission)	
ENVS 4903	Special Topics	
HS 3403	Environmental Health and Safety Education	
MATH 1713	Elementary Statistics II	
MATH 2703	Data Collection	
MATH 3583	Statistical Methods II	
MATH 3593	Statistical Methods III	
MATH 4013	Probability and Statistics	
MATH 4113	Computational Statistics	
MATH 4903	Special Topics (with advisor permission)	
NFS 3063	Ecology of Foods and Nutrition	
POLS 3153	Law, Politics, and Public Policy	
POLS 4113	Public Administration	
ZOOL 4033	Animal Behavior	

<b>Additional Electives</b>		<b>30</b>
<b>Total SCHs</b>		<b>73</b>

### Departmental Requirements

Code	Title	SCHs
BIOL 1113 & BIOL 1111	Principles of Biology I and Principles of Biology I Laboratory	4
BIOL 1123 & BIOL 1121	Principles of Biology II and Principles of Biology II Laboratory	4
CSCI 2003 or CSCI 2493	Software Systems Design and Tools Programming Fundamentals II	3
MATH 1303 or MATH 2014	College Algebra (may be applied from core) Calculus I	3
MATH 1703	Elementary Statistics I (may be applied from core)	3

**Chemistry I Requirement** 4

CHEM 1113 General Chemistry I  
 & CHEM 1111 and General Chemistry Laboratory I  
 or CHEM Principles of Chemistry I  
 1213/1211

**Chemistry II Requirement** 4

CHEM 1123 General Chemistry II  
 & CHEM 1121 and General Chemistry Laboratory II  
 or CHEM Principles of Chemistry II  
 1223/1221

**Physics I Requirement** 4

PHYS 1133 Principles of Physics I  
 & PHYS 1131 and Principles of Physics Laboratory I  
 or PHYS General Physics I  
 2153/2151

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**Total SCHs** 29

**Minor**

<b>Code</b>	<b>Title</b>	<b>SCHs</b>
Selected Minor		18
<b>Total SCHs</b>		<b>18</b>