

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 |
| Total SCHs | | 42 |

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

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|---------------------------------|--|---|
| 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 | |

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|-----------------------|--|--|
| 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 | |

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|-----------------------------|--|-----------|
| Additional Electives | | 30 |
| Total SCHs | | 73 |

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

Total SCHs 29

Minor

| Code | Title | SCHs |
|-------------------|--------------|-------------|
| Selected Minor | | 18 |
| Total SCHs | | 18 |