

# BACHELOR OF SCIENCE IN BIOLOGY (7-12 LIFE SCIENCE CERTIFICATION)

**Web Site:** <https://twu.edu/biology/undergraduate-programs/bachelor-of-science-in-biology-with-teacher-certification/>

## Degree Requirements

**Total Semester Credit Hours (SCH):** 123

**Major:** 36 SCH; **Required Minor:** 26 SCH (Education)

**Program Code:** BIOLOGY.BS; **CIP Code:** 26.0101.00

A minimum grade of C is mandatory in all required courses for Biology majors.

## 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 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
BIOL 2113 & BIOL 2111	Plant Biology and Plant Biology Laboratory	4
BACT 3113 & BACT 3111	General Microbiology and General Microbiology Laboratory	4
BIOL 4223 & BIOL 4221	Ecology and Ecology Laboratory	4
BIOL 4593	Science in the Secondary Classroom	3
BIOL 4681	Biology Seminar	1
BIOL 4813 & BIOL 4811	Molecular and Cellular Biology: Gene Expression and Molecular and Cellular Biology: Gene Expression Laboratory	4

BIOL 4823 & BIOL 4821	Molecular and Cellular Biology: Genetics and Inheritance and Molecular and Cellular Biology: Genetics and Inheritance Laboratory	4
ZOOL 4243 & ZOOL 4241	Medical Physiology and Medical Physiology Laboratory	4
<b>Total SCHs</b>		<b>36</b>

## Departmental Requirements

Code	Title	SCHs
CHEM 1113 & CHEM 1111	General Chemistry I and General Chemistry Laboratory I	4
CHEM 1123 & CHEM 1121	General Chemistry II and General Chemistry Laboratory II	4
CHEM 2213 & CHEM 2211	Organic Chemistry I and Organic Chemistry Laboratory I	4
CHEM 3223 & CHEM 3221	Organic Chemistry II and Organic Chemistry Laboratory II	4
MATH 1303	Elementary Analysis I (may be applied from core)	3
MATH 1313	Elementary Analysis II (may be applied from core)	3
<b>Choose one of the following</b>		<b>4</b>
PHYS 1133 & PHYS 1131	Principles of Physics I and Principles of Physics Laboratory I (may be applied from core)	
PHYS 2153 & PHYS 2151	General Physics I and General Physics Laboratory I	
<b>Choose one of the following</b>		
PHYS 1143 & PHYS 1141	Principles of Physics II and Principles of Physics Laboratory II (may be applied from core)	
PHYS 2163 & PHYS 2161	General Physics II and General Physics Laboratory II	
<b>Total SCHs</b>		<b>26</b>

Students must satisfy the 3 SCH global perspectives graduation requirement.

## Professional Education Studies

Admission to the Educator Preparation Program is required. Students must apply for admission into the Educator Preparation Program prior to enrolling in EDUC 3003/EDUC 3482, EDUC 4113/EDUC 4243, and EDUC 4946. Applications are available from the Office of Educator Preparation Services (<https://twu.edu/teacher-certification/>).

Code	Title	SCHs
<b>Pedagogical and Professional Responsibility</b>		
EDUC 2003	Schools and Society	3
EDUC 3003	Learning Theory and Development	3
EDUC 3482	Teaching Diverse Learners Through Technology Integration	2
EDUC 4113	Design and Implementation of Instruction and Assessment	3
EDUC 4243	Classroom Environment and Management	3
EDUC 4946	Clinical Student Teaching	6

## Related Studies in Education

2 Bachelor of Science in Biology (7-12 Life Science Certification)

READ 3013	Literacy and Learning across the Curriculum	3
EDSP 3203	Learners with Exceptionalities	3
Total SCHs		26

Notes:

1. EDUC 2003 may be taken at a community college. Check with the Office of Educator Preparation Services (<https://twu.edu/teacher-certification/>) to make sure the course has the equivalent number.
2. EDUC 4113 and EDUC 4243 must be taken during the same semester.