

B.S. IN CHEMISTRY/ BIOCHEMISTRY (7-12 COMPOSITE SCIENCE TEACHER CERTIFICATION)

Web Site: <https://twu.edu/chemistry-biochemistry/undergraduate-programs/bs-in-chemistrybiochemistry-with-teacher-certification/>

Degree Requirements

Total Semester Credit Hours (SCH): 124

Major: 36 sch; **Required Minor:** 26 sch

Program Code: CHEMISTRY.BS.EDUC; **CIP Code:** 40.0501.00

Texas Core Curriculum

Code	Title	SCHs
ENG 1013	Composition I (10)	3
ENG 1023	Composition II (10)	3
Mathematics (20)		3
Life & Physical Sciences (30)		6
Language, Philosophy, & Culture (40)		3
Creative Arts (50)		3
HIST 1013	History of the United States, 1492-1865 (60)	3
HIST 1023	History of the United States, 1865 to the Present (60)	3
POLS 2013	U.S. National Government (70)	3
POLS 2023	Texas Government (70)	3
Social & Behavioral Sciences (80)		3
CAO: Multicultural-Women's Studies (90)		3
CAO: First Year Seminar, Wellness or Mathematics (91)		3
Total SCHs		42

Courses Required for Major

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
CHEM 3313	Physical Chemistry for the Life Sciences	3
CHEM 3333 & CHEM 3331	Quantitative Chemical Analysis and Quantitative Chemical Analysis Laboratory	4
CHEM 3633 & CHEM 3632	Biochemistry I and Biochemistry I Laboratory	5
PHYS 1133 & PHYS 1131	Principles of Physics I and Principles of Physics Laboratory I	4

PHYS 1143 & PHYS 1141	Principles of Physics II and Principles of Physics Laboratory II	4
Total SCHs		36

Departmental Requirements

Code	Title	SCHs
BIOL 1113 & BIOL 1111	Principles of Biology I and Principles of Biology I Laboratory (may be applied from core)	4
BIOL 1123 & BIOL 1121	Principles of Biology II and Principles of Biology II Laboratory (may be applied from core)	4
BIOL 4223 & BIOL 4221	Ecology and Ecology Laboratory	4
BIOL 4593	Science in the Secondary Classroom	3
MATH 2014	Calculus I (may be applied from core)	4
SCI 2113	Earth Science: Global Perspectives	3
SCI 3133	Climate Change: A Human Perspective	3
ZOOL 4243 & ZOOL 4241	Medical Physiology and Medical Physiology Laboratory	4
Total SCHs		29

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. Information is available from the Office of Educator Preparation Services (<https://twu.edu/teacher-certification/>).

Code	Title	SCHs
Pedagogical and Professional Responsibility		
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

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

Notes:

1. Six SCH of clinical teaching are required. Students typically take one semester of EDUC 4946 to fulfill this requirement. With permission from the component and the Educator Preparation Program (EPP), students may be eligible to take two semesters of EDUC 4943.
2. 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.
3. EDUC 4113 and EDUC 4243 must be taken during the same semester.