

B.S. IN CHEMISTRY/ BIOCHEMISTRY (6-12 PHYSICAL SCIENCE TEACHER CERTIFICATION)

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

Recommended Plan of Study

First Year

| Fall | TCCN | SCHs |
|------------------------------------------------------------------------------------------|---------------------------------|------|
| CHEM 1213 Principles of Chemistry I & CHEM 1211 and Principles of Chemistry Laboratory I | | 4 |
| MATH 2014 Calculus I | MATH 2413 | 4 |
| ENG 1013 Composition I | ENGL 1301 | 3 |
| HIST 1013 History of the United States, 1492-1865 | HIST 1301 | 3 |
| UNIV 1231 Learning Frameworks: The First Year Experience | EDUC 1100, EDUC 1200, EDUC 1300 | 1 |
| Wellness/Mathematics CAO Core | | 2 |
| SCHs | | 17 |

Spring

| | TCCN | SCHs |
|--------------------------------------------------------------------------------------------|-----------|------|
| CHEM 1223 Principles of Chemistry II & CHEM 1221 and Principles of Chemistry Laboratory II | | 4 |
| MATH 2024 Calculus II | MATH 2414 | 4 |
| ENG 1023 Composition II | ENGL 1302 | 3 |
| HIST 1023 History of the United States, 1865 to the Present | HIST 1302 | 3 |
| Multicultural Women's Studies Core CAO | | 3 |
| SCHs | | 17 |

Second Year

| Fall | TCCN | SCHs |
|------------------------------------------------------------------------------|-----------------------|------|
| CHEM 2213 Organic Chemistry I & CHEM 2211 and Organic Chemistry Laboratory I | CHEM 2323 & CHEM 2123 | 4 |
| PHYS 2153 General Physics I & PHYS 2151 and General Physics Laboratory I | PHYS 2325 & PHYS 2125 | 4 |
| POLS 2013 U.S. National Government | GOVT 2305 | 3 |
| Creative Arts Core | | 3 |
| Language, Philosophy, & Culture Core | | 3 |
| SCHs | | 17 |

Spring

| | TCCN | SCHs |
|----------------------------------------------------------------------------------------------------|-----------------------|------|
| CHEM 3223 Organic Chemistry II & CHEM 3221 and Organic Chemistry Laboratory II | | 4 |
| PHYS 2163 General Physics II & PHYS 2161 and General Physics Laboratory II | PHYS 2326 & PHYS 2126 | 4 |
| POLS 2023 Texas Government | GOVT 2306 | 3 |
| CHEM 3333 Quantitative Chemical Analysis & CHEM 3331 and Quantitative Chemical Analysis Laboratory | | 4 |

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|------------------------|----|
| Social/Behavioral Core | 3 |
| SCHs | 18 |

Third Year

| Fall | TCCN | SCHs |
|--------------------------------------------------------------------------------|-----------|------|
| EDUC 2003 Schools and Society | EDUC 1301 | 3 |
| CHEM 3633 Biochemistry I & CHEM 3632 and Biochemistry I Laboratory | | 5 |
| CHEM 3413 Physical Chemistry I & CHEM 3411 and Physical Chemistry Laboratory I | | 4 |
| SCI 1114 Sustainable Physical Science | PHYS 1415 | 4 |
| SCHs | | 16 |

Spring

| | TCCN | SCHs |
|----------------------------------------------------------------------------------|-----------|------|
| EDUC 3003 Learning Theory and Development | | 3 |
| EDUC 3482 Teaching Diverse Learners Through Technology Integration | | 2 |
| CHEM 3423 Physical Chemistry II & CHEM 3421 and Physical Chemistry Laboratory II | | 4 |
| SCI 2103 Introduction to Environmental Chemistry: Global Perspectives | ENVR 1401 | 3 |
| SCI 2113 Earth Science: Global Perspectives | GEOL 1401 | 3 |
| SCHs | | 15 |

Fourth Year

| Fall | TCCN | SCHs |
|-------------------------------------------------------------------|------|------|
| EDUC 4113 Design and Implementation of Instruction and Assessment | | 3 |
| EDUC 4243 Classroom Environment and Management | | 3 |
| BIOL 4593 Science in the Secondary Classroom | | 3 |
| EDSP 4203 Learners with Exceptionalities | | 3 |
| READ 3013 Literacy and Learning across the Curriculum | | 3 |
| SCHs | | 15 |

Spring

| | TCCN | SCHs |
|-------------------------------------|------|------|
| EDUC 4946 Clinical Student Teaching | | 6 |
| SCHs | | 6 |
| Total SCHs: | | 121 |