

# BACHELOR OF SCIENCE IN BIOCHEMISTRY (PRE-HEALTH MAJORS)

**Web Site:** <https://twu.edu/chemistry-biochemistry/undergraduate-programs/bs-in-biochemistry-for-pre-health-majors/>

## Degree Requirements

**Total Semester Credit Hours (SCH):** 120

**Major:** 34 SCH

**Program Code:** BIOCHEMISTRY.BS.HLTH; **CIP Code:** 26.0202.00

### 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
CHEM 1001	Horizons of Chemistry and Biochemistry I: Career Possibilities	1
CHEM 1101	Horizons of Chemistry and Biochemistry II: Current Applications	1
CHEM 1213 & CHEM 1211	Principles of Chemistry I and Principles of Chemistry Laboratory I	4
CHEM 1223 & CHEM 1221	Principles of Chemistry II and Principles of 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 3633 & CHEM 3632	Biochemistry I and Biochemistry I Laboratory	5
CHEM 3333 & CHEM 3331	Quantitative Chemical Analysis and Quantitative Chemical Analysis Laboratory	4
CHEM 3643	Biochemistry II	3

CHEM 4001	Research Presentations in Chemistry and Biochemistry	1
<b>Total SCHs</b>		<b>34</b>

### Departmental Requirements

Code	Title	SCHs
MATH 2014	Calculus I	4
MATH 2024	Calculus II	4
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
PHYS 2153 & PHYS 2151	General Physics I and General Physics Laboratory I (may be applied from core)	4
PHYS 2163 & PHYS 2161	General Physics II and General Physics Laboratory II (may be applied from core)	4
Choose one of the following		4
BIOL 4223 & BIOL 4221	Ecology and Ecology Laboratory	
BIOL 4823 & BIOL 4821	Molecular and Cellular Biology: Genetics and Inheritance and Molecular and Cellular Biology: Genetics and Inheritance Laboratory	
BIOL 4813 & BIOL 4811	Molecular and Cellular Biology: Gene Expression and Molecular and Cellular Biology: Gene Expression Laboratory	
BACT 3113 & BACT 3111	General Microbiology and General Microbiology Laboratory	
ZOOL 4243 & ZOOL 4241	Medical Physiology and Medical Physiology Laboratory	
<b>Total SCHs</b>		<b>28</b>

### Electives

Code	Title	SCHs
<b>Choose 16-17 SCH not already taken</b>		<b>16-17</b>
Global Perspectives Course (see advisor for selection)		
CHEM 3413 & CHEM 3411	Physical Chemistry I and Physical Chemistry Laboratory I	
CHEM 3423 & CHEM 3421	Physical Chemistry II and Physical Chemistry Laboratory II	
CHEM 4983	Undergraduate Research	
CHEM 4313 & CHEM 4311	Instrumental Analysis and Instrumental Analysis Laboratory	
CHEM 4513 & CHEM 4511	Inorganic Chemistry and Inorganic Chemistry Laboratory	
CHEM 4913	Independent Study	
BIOL 4223 & BIOL 4221	Ecology and Ecology Laboratory	
BIOL 4823 & BIOL 4821	Molecular and Cellular Biology: Genetics and Inheritance and Molecular and Cellular Biology: Genetics and Inheritance Laboratory	

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BIOL 4813      Molecular and Cellular Biology: Gene  
& BIOL 4811      Expression  
                    and Molecular and Cellular Biology: Gene  
                    Expression Laboratory

BACT 3113      General Microbiology  
& BACT 3111      and General Microbiology Laboratory

ZOOL 4243      Medical Physiology  
& ZOOL 4241      and Medical Physiology Laboratory

CHEM 3713      Environmental Chemistry I  
& CHEM 3711      and Environmental Chemistry Laboratory I

**Total SCHs**

**16-17**