Bachelor of Science in Biochemistry

The B.S. degree in biochemistry is appropriate for students interested in the medical fields, graduate study in chemistry or biochemistry, or employment in the biochemical, pharmaceutical or biotechnology industries. All courses in the major core, major electives and supporting courses must be taken in the traditional grading mode (A-F). Undergraduate research is required for the B.S. degree in biochemistry.

Please see the current approved curriculum on the SSU official catalog web page.

Major Core Requirements	**Units**	**Completed**	**To Do (Semester)**
CHEM 115 AB, General Chemistry (10 units, 4 in the major core, 6 in general education)	4	☐	
CHEM 255, Quantitative Analysis	4	☐	
CHEM 310 AB, Physical Chemistry	6	☐	
CHEM 325, Inorganic Chemistry	3	☐	
CHEM 335 AB, Organic Chemistry	8	☐	
CHEM 401, Instrumental Analysis and Chemical Synthesis	3	☐	
CHEM 441, Biochemical Methods	3	☐	
CHEM 445, Structural Biochemistry	3	☐	
CHEM 446, Metabolic Biochemistry	3	☐	
CHEM 494, Undergraduate Research	2	☐	
CHEM 497, Research Seminar	1	☐	
Total units in major core	**40**		
Biology Courses			
BIOL 123, Molecular and Cell Biology (3 units may be applied to GE)	1	☐	
Choose **2** from the following:			
BIOL 320, Molecular Genetics	4	☐	
BIOL 321, Molecular Microbiology	4	☐	
BIOL 324, Animal Physiology	4	☐	
BIOL 325, Cell Biology	4	☐	
BIOL 334, Plant Physiology	4	☐	
BIOL 340, General Bacteriology	4	☐	
BIOL 382, Parasitology	4	☐	
BIOL 383, Virology	4	☐	
BIOL 480, Immunology	4	☐	
BIOL 544, Advanced Cell Biology	4	☐	
Or other courses approved by the Chemistry Department			
Total units in Biology Courses	**9**		
Supporting Courses			
MATH 161, Calculus I (3 units may be applied to GE)	1	☐	
MATH 211, Calculus II	4	☐	
PHYS 114 or 210A, Physics I	3-4	☐	
PHYS 116 or 209A, Physics Laboratory I	1	☐	
PHYS 214 or 210B, Physics II	3-4	☐	
PHYS 216 or 209B, Physics Laboratory II	1	☐	
Total units in Supporting Courses	**13-15**		
Strongly Recommended: Additional units in CHEM 494, Undergraduate Research	1-6		

Freshman Year:

Fall semester (15 units)	*Spring semester (15 units)*
CHEM 115A (5)	CHEM 115B (5)
MATH 161 (4)	MATH 211 (4)
GE (3)	GE (3)
GE (3)	GE (3)

Sophomore Year:

Fall semester (16 units)	*Spring semester (14 units)*
CHEM 335A (5)	CHEM 335B (3)
PHYS 210A (3) or PHYS 114 (4)	PHYS 210B (3) or PHYS 214 (4)
PHYS 209A (1) or PHYS 116 (1)	PHYS 209B (1) or PHYS 216 (1)
BIOL 123 (4)	GE (3)
Elective (2 or 3)	GE (3 or 4)

Junior Year:

Fall semester (16 units)	*Spring semester (15 units)*
CHEM 255 (4)	CHEM 310B (3)
CHEM 310A (3)	CHEM 441 (3)
CHEM 445 (3)	CHEM 446 (3)
GE (3)	GE (3)
GE (3)	GE (3)

Senior Year:

Fall semester (15 units)	*Spring semester (14 units)*
CHEM 401 (3)	CHEM 497 (1)
CHEM 494 (2)	CHEM 325 (3)
BIOL elective Upper division (4)	BIOL elective Upper division (4)
GE (3)	GE (3)
GE (3)	Elective (3)

Total semester units: 120