

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.

	Units	Completed	To Do (Semester)
Major Core Requirements			
CHEM 115 AB or CHEM 125 AB*, General Chemistry (10 units, 4 in the major core, 6 in general education B1 & B3)	4	<input type="checkbox"/>	_____
CHEM 255, Quantitative Analysis*	4	<input type="checkbox"/>	_____
CHEM 310 AB, Physical Chemistry	6	<input type="checkbox"/>	_____
CHEM 325, Inorganic Chemistry	3	<input type="checkbox"/>	_____
CHEM 335 AB, Organic Chemistry	8	<input type="checkbox"/>	_____
CHEM 401, Instrumental Analysis and Chemical Synthesis	3	<input type="checkbox"/>	_____
CHEM 441, Biochemical Methods	3	<input type="checkbox"/>	_____
CHEM 445, Structural Biochemistry	3	<input type="checkbox"/>	_____
CHEM 446, Metabolic Biochemistry	3	<input type="checkbox"/>	_____
CHEM 494, Undergraduate Research	2	<input type="checkbox"/>	_____
CHEM 497, Research Seminar	1	<input type="checkbox"/>	_____
Total units in major core	40		
Biology Courses			
BIOL 123, Molecular and Cell Biology (4 units, 1 in the major core, 3 in general education B2)	1	<input type="checkbox"/>	_____
Choose 2 from the following:			
BIOL 320, Molecular Genetics	4	<input type="checkbox"/>	_____
BIOL 321, Molecular Microbiology	4	<input type="checkbox"/>	_____
BIOL 324, Animal Physiology	4	<input type="checkbox"/>	_____
BIOL 325, Cell Biology	4	<input type="checkbox"/>	_____
BIOL 334, Plant Physiology	4	<input type="checkbox"/>	_____
BIOL 340, General Bacteriology	4	<input type="checkbox"/>	_____
BIOL 382, Parasitology	4	<input type="checkbox"/>	_____
BIOL 383, Virology	4	<input type="checkbox"/>	_____
BIOL 480, Immunology	4	<input type="checkbox"/>	_____
BIOL 544, Advanced Cell Biology	4	<input type="checkbox"/>	_____
Or other courses approved by the Chemistry Department			
Total units in Biology Courses	9		
Supporting Courses			
MATH 161, Calculus I (4 units, 1 in the major core, 3 in GE B4)	1	<input type="checkbox"/>	_____
MATH 211, Calculus II	4	<input type="checkbox"/>	_____
PHYS 114 or 210A, Physics I	3-4	<input type="checkbox"/>	_____
PHYS 116 or 209A, Physics Laboratory I	1	<input type="checkbox"/>	_____
PHYS 214 or 210B, Physics II	3-4	<input type="checkbox"/>	_____
PHYS 216 or 209B, Physics Laboratory II	1	<input type="checkbox"/>	_____
Total units in Supporting Courses	13-15		
<i>Strongly Recommended:</i>	1-6		
Additional units in CHEM 494, Undergraduate Research			

GE Courses

CHEM 115AB.....	6
MATH 161.....	3
Bio 123.....	3
Others.....	<u>39</u>
Total units in GE courses	51

Electives..... 5 or 7

Total units to graduate.....120

Freshman Year:

<i>Fall semester (15 units)</i>	<i>Spring semester (13 or 14 units)</i>
CHEM 115A or CHEM 125A (5)	CHEM 115B or CHEM 125B (5)
MATH 161 (4)	MATH 211 (4)
GE (3)	PHYS 210A (3) or PHYS 114 (4)
GE (3)	PHYS 209A (1) or PHYS 116 (1)

Sophomore Year:

<i>Fall semester (15 or 16 units)</i>	<i>Spring semester (16 units)</i>
CHEM 335A (5)	CHEM 335B (3)
PHYS 210B (3) or PHYS 214 (4)	CHEM 255 (4) *
PHYS 209B (1) or PHYS 216 (1)	GE (3)
GE (3)	GE (3)
Elective (2 or 4) Recommended: MATH 261 (4)	GE (3)

Junior Year:

<i>Fall semester (16 units)</i>	<i>Spring semester (15 units)</i>
CHEM 310A (3)	CHEM 310B (3)
CHEM 445 (3)	CHEM 446 (3)
BIOL 123 (4)	GE (3)
GE (3)	GE (3)
GE (3)	Elective (3)

Senior Year:

<i>Fall semester (15 units)</i>	<i>Spring semester (14 units)</i>
CHEM 401 (3)	CHEM 497 (1)
CHEM 494 (2)	CHEM 325 (3)
BIOL elective Upper division (4)	CHEM 441 (3)
GE (3)	BIOL elective Upper division (4)
GE (3)	GE (3)

* Students must place into the Chemistry 125 AB series by receiving an appropriate score on the chemistry placement exam. Quantitative Analysis (CHEM 255) is not required for students who have completed CHEM 125 A & B. Students should replace these four units by completing the challenge by exam form upon completion of the series.