

BIOCHEMISTRY MAJOR

54 credits required

Code	Title	Hours
BIOL 101	Foundations of Biology	4
BIOL 201	Intermediate Cell Biology and Genetics	4
BIOL 311	Cell Biology	4
BIOL 317	Biochemistry	4
BIOL 318	Molecular Genetics	4
CHEM 125	Introduction to Chemical Structure and Properties	4
CHEM 250	Reactions of Nucleophiles and Electrophiles (Reactivity 1)	4
CHEM 251	Intermediate Reactions of Nucleophiles and Electrophiles (Reactivity 2)	4
CHEM 255	Macroscopic Chemical Analysis	4
CHEM 315	Advanced Reactions (Reactivity 3)	4
CHEM 201	Purification and Separation Lab I	1
CHEM 202	Purification and Chromatography Lab II	1
CHEM 203	Synthesis Lab	1
CHEM 205	Chemical Measurement Lab	1
BCHM 317	Biochemistry I ¹	4
BCHM 375	Biochemistry Capstone	2
BCHM XXX		0
4 credits from the following		4
CHEM 323		
CHEM 347	Chemical Biology	
CHEM 352	Signal Transduction	
CHEM 353	Xenobiotic Metabolism	
CHEM 358	Biomacromolecules	
BIOL 307	Biology of Microorganisms	
BIOL 319	Immunology	
BIOL 320	Neurobiology	
BIOL 323	Animal Physiology	
BIOL 329	Histology and Technique	
BIOL 339	Evolution	
BIOL 373L	Mathematical Modelling in Biology	
One of the following		8
PHYS 105 & PHYS 106	Physics for the Life Sciences I and Physics for the Life Sciences II	
PHYS 191 & PHYS 200	Foundations of Physics I and Foundations of Physics II	
MATH 119	Calculus I	4
MATH 120	Calculus II	4
or MATH 124	Probability and Statistical Inference	
Total Hours		70

¹ Same as BIOL 317 Biochemistry; Students enroll in BIOL 317 Biochemistry which will be changed to BCHM 317 Biochemistry I by the Registrar's office.

Supporting Courses

Code	Title	Hours
PHYS 191	Foundations of Physics I	4
PHYS 200	Foundations of Physics II	4
or PHYS 105	Physics for the Life Sciences I	
PHYS 106	Physics for the Life Sciences II	4
MATH 119	Calculus I	4
MATH 120	Calculus II	4
or MATH 124	Probability and Statistical Inference	
Total Hours		20

Special Requirements

Student must enroll in BCHM XXX and fulfill the requirement by taking either the Biology or Chemistry Major Field Assessment Test (MFAT) in the spring of their senior year.

Students pursuing a major in Biochemistry cannot major or minor in Biology or Chemistry.

Additional Requirements:

General Education Requirements:

All undergraduate students must complete the requirements of the Integrations Curriculum (IC) which is designed to ensure all of our students receive a liberal arts education. Please review details of the Integrations Curriculum (<https://catalog.csbsju.edu/catalog/academic-programs-policies-regulations/integrations-curriculum/>) requirements here (<https://catalog.csbsju.edu/catalog/academic-programs-policies-regulations/integrations-curriculum/>).

Graduation Requirements:

In addition to the Integrations Curriculum, all undergraduate students must meet the following minimum degree requirements to earn their degree from CSB and SJU.

Credits: 124 total credits, 40 of which must be from upper division coursework

GPA: 2.0 or higher*

Residency: At least 24 of your last 32 credits must be completed at CSB/SJU

Please visit Graduation (<https://catalog.csbsju.edu/catalog/academic-programs-policies-regulations/graduation/>) under the Academic Policies and Regulations (<https://catalog.csbsju.edu/catalog/academic-programs-policies-regulations/>) portion of the catalog for additional details regarding degree requirements.

* Cumulative GPA as well as major(s)/minor(s) GPA. Please note some majors/minors may require a higher GPA to earn their degree.

Four Year Plan

Course	Title	Hours
First Year		
Fall		
CHEM 125	Introduction to Chemical Structure and Properties	4
INTG 100	Foundations	4
LANG		4
BIOL 101	Foundations of Biology	4
CHEM 201	Purification and Separation Lab I	1

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INTG 105	College Success	1
Hours		18
Spring		
CHEM 250	Reactions of Nucleophiles and Electrophiles (Reactivity 1)	4
XXXX XXX		4
LANG		4
BIOL 201	Intermediate Cell Biology and Genetics	4
CHEM 202	Purification and Chromatography Lab II	1
Hours		17
Second Year		
Fall		
CHEM 251	Intermediate Reactions of Nucleophiles and Electrophiles (Reactivity 2)	4
THEO 1XX		4
PHYS 105 or PHYS 191	Physics for the Life Sciences I or Foundations of Physics I	4
LANG		4
CHEM 203	Synthesis Lab	1
Hours		17
Spring		
CHEM 255	Macroscopic Chemical Analysis	4
PHYS 106 or PHYS 200	Physics for the Life Sciences II or Foundations of Physics II	4
MATH 119	Calculus I	4
XXXX XXX		4
CHEM 205	Chemical Measurement Lab	1
Hours		17
Third Year		
Fall		
CHEM 315	Advanced Reactions (Reactivity 3)	4
BIOL 317	Biochemistry	4
BIOL 3XX or CHEM 3XX		4
MATH 120 or MATH 124	Calculus II or Probability and Statistical Inference	4
Hours		16
Spring		
XXXX XXX		4
XXXX XXX		4
XXXX XXX		4
Hours		12
Fourth Year		
Fall		
THEO 3XX		4
XXXX XXX		4
XXXX XXX		4
BIOL 311	Cell Biology	4
Hours		16
Spring		
INTG 300	Learning Integrations	4
BCHM 375	Biochemistry Capstone	2
BCHM XXX		0
XXXX XXX		4
BIOL 318	Molecular Genetics	4
Hours		14
Total Hours		127