

Biochemistry

Academic Planning Worksheet 2023-2024

Simmons University

Office of Undergraduate Advising

Notes

- Students are required to complete 72 credit hours in one of the tracks listed below. Simmons requires that all undergraduates complete a minimum of 128 credits of coursework, fulfill PLAN and major/program requirements, and submit a Senior Audit form to graduate.
- You must declare a major prior to earning 80 credits.
- The major in Biochemistry is jointly administered by the departments of Biology and Chemistry and is approved by the American Chemical Society. To meet the ACS standards biochemistry majors must also complete CHEM 248- Descriptive Inorganic Chemistry.
- Depending on previous preparation, a student may substitute MATH 123 for the MATH 120-121 sequence.

Course Requirements

First Year

Course #	Course Title	Credits	Completed
BIOL 113	General Biology (Fall)	4	
BIOL 221	Microbiology (Spring)	4	
CHEM 113	General & Quantitative Chemistry I (Fall)	4	
CHEM 216	General & Quantitative Chemistry II (Spring)	4	
MATH 120	Calculus I (Fall or Spring, recommended Spring)	4	

Sophomore Year

Course #	Course Title	Credits	Completed
MATH 121	Calculus II (Fall or Spring, recommended Fall)	4	
BIOL 225	Cell Biology (Spring)	4	
CHEM 224	Organic Chemistry I (Fall)	4	
CHEM 225	Organic Chemistry II (Spring)	4	
PHYS 114	Fundamentals of Physics I (Fall) **	4	
PHYS 115	Fundamentals of Physics II (Spring)**	4	

***The Physics sequence may also be taken in the junior year (Note: PHYS 115 is a prerequisite for CHEM 331)*

Junior & Senior Years

Course #	Course Title	Credits	Completed
CHEM 345	Biochemistry (Fall)	4	
BIOL 337	Molecular Biology (Spring)	4	
CHEM 331	Thermodynamics & Kinetics (Fall)	4	

Electives

Complete 8-credits of 300-level Biology or Chemistry courses. Suggested electives are listed below.

Courses Selected	Credits	Completed

BIOL 331	Immunobiology (Spring Even Years)	4 credits
BIOL 334	Neurobiology with Lab (Spring Even Years)	4 credits
BIOL 335	Stem Cells, Regeneration, and Developmental Biology with Lab (Spring Odd Years)	4 credits
BIOL 336	Genetics with Lab (Fall)	4 credits
BIOL 338	Microbial Pathogenesis (Spring Odd Years)	4 credits
CHEM 347	Advanced Topics in Biochemistry; 2 Labs and Limited Lecture (Spring Odd Years)	4 credits

Capstone

Complete 8 semester hours to fulfill the Capstone Requirement in Biology or Chemistry (CHEM 355, CHEM 390, BIOL 350, BIOL 355 and BIOL 370).

Courses Selected	Credits	Completed

PLAN Requirements

The Simmons PLAN is the undergraduate general education program. Some PLAN courses will be fulfilled with courses required for this major, as indicated below. Additional PLAN requirements may be fulfilled through electives, courses in minors, or other course offerings. Work closely with your advisor(s) to choose courses.

Year/ Semester	PLAN Course Requirements	Completed	
One/ Summer	Math: 1) Prior to first year, pass Math Placement Exam or 2) In first year, enroll in MATH 101 (4 credits)		
One/ Fall	BOS 101: The Boston Course (4 credits)		
	SIM 101: The Simmons Course: Explore (2 credits)		
One/ Spring	LDR 101: The Leadership Course (4 credits)		
Two	Integrative Learning Course (4 credits)		
	SIM 201: The Simmons Course: Experience (1 credit)		
Three	SIM 301: The Simmons Course: Excel (1 credit)		
Other PLAN Requirements		Courses Used to Fulfill	Completed
Language: (8 credits) Successful completion of the 102 level in any modern language or the equivalent determined through approved channels as outlined below. - Complete the 102 level in any modern language at Simmons University or another accredited academic institution with pre-approval from the Department of Modern Languages and Literatures. - Place above the 102 level on the placement exam administered by Simmons University. - Received a 3 or above on an AP modern language exam. If students have taken or wish to take other equivalent exams, they should consult with the MLL Department.			
Quantitative Literacy (QL)		MATH 120 or higher	

Key Content Areas (KCA's): May be met by major, minor or Integrative Learning courses.	Aesthetic, Literary and Artistic (ALA)		
	Global Cultural (GC)		
	Scientific Inquiry (SCI)	Science courses	
	Social and Historical (SH)		