

BIOCHEMISTRY B.S.: Sample Plan of Study
(2023-24 General Bulletin or later)

Freshman Year: Fall

BIOC 101	Frontiers in Biochemistry	1
BIOL 214	Genes, Evolution and Ecology	3
BIOL 214L	Genes, Evolution and Ecology Laboratory	1
CHEM 105	Principles of Chemistry I	3
or CHEM 111	or Principles of Chemistry for Engineers	
CHEM 113	Principles of Chemistry Laboratory	2
MATH 121	Calculus for Science and Engineering I	4
GER	Academic Inquiry Seminar or Breadth course	3
Semester total:		17 credit hours

Freshman Year: Spring

BIOL 215	Cells and Proteins	3
BIOL 215L	Cells and Proteins Laboratory	1
CHEM 106	Principles of Chemistry II	3
or ENGR 145	or Chemistry of Materials	
MATH 122 or MATH 124	Calculus for Science and Engineering II or Calculus II	4
PHYS 121 or PHYS 123	General Physics I or Physics and Frontiers I	4
GER	Academic Inquiry Seminar or Breadth course	3
Semester total:		18 credit hours

Sophomore Year: Fall

CHEM 223	Introductory Organic Chemistry I	3
or CHEM 323	or Organic Chemistry I	
CHEM 233	Introductory Organic Chemistry Laboratory I	2
PHYS 122 or PHYS 124	General Physics II or Physics and Frontiers II	4
ENGR 131	Elementary Computer Programming	3
or CSDS 132	or Programming in Java	
GER	Breadth or elective course	3
(BIOC 285)	(Honors Readings in Biochemistry; research honors students only)	(1)
Semester total:		15 credit hours

Sophomore Year: Spring

CHEM 224	Introductory Organic Chemistry II	3
or CHEM 324	or Organic Chemistry II	
CHEM 234	Introductory Organic Chemistry Laboratory II	2
STAT 312 or STAT 312R	Basic Statistics for Engineering/Science (using R))	3
or STAT 313	or Statistics for Experimenters	
GER	Two Breadth or elective courses	6
Semester total:		14 credit hours

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Junior Year: Fall

BIOC 307	Introduction to Biochemistry: From Molecules to Medical Science	4
BIOC core or technical elective	BIOC 334 (core course) or approved technical elective course	3
Elective	Elective course	3
GER	Breadth or elective course	3
Semester total:		13 credit hours

Junior Year: Spring

BIOC 308	Molecular Biology	4
BIOC 391	Capstone Research	3
BIOC core or technical elective	BIOC 312 (core course) or approved technical elective course	3
Elective	Elective course	3
GER	Breadth or elective course	3
Semester total:		16 credit hours

Senior Year: Fall

BIOC 373	Biochemistry Senior Seminar	3
BIOC core or technical elective	BIOC 334 or BIOC 350 (core courses) or approved technical elective course	3
Electives	Two elective courses (one course should be BIOC 391 for research honors students)	6
GER	Breadth or elective course	3
Semester total:		15 credit hours

Senior Year: Spring

BIOC 393 (BIOC 393R)	Senior Capstone Communication (BIOC 393R instead of BIOC 393 for research honors students)	3
BIOC core or technical electives	BIOC 312 (core course) or approved technical elective courses	6
Electives	Two elective courses	6
Semester total:		15 credit hours

Biochemistry B.S. total: 123 credit hours

BIOC core courses: Students must complete two of BIOC 312, BIOC 334, or BIOC 350. If students complete all three courses, the third can serve as a technical elective.

BIOC technical electives: B.S. students must complete three technical electives. Approved courses are listed on the Biochemistry major web page.

Research requirement: Students are expected to engage in research multiple semesters and are required to enroll in BIOC 391 at least one semester. (Research honors track students are required to enroll in BIOC 391 at least two semesters.)

BIOL lab requirement: Students must complete any two of BIOL 214L, BIOL 215L, BIOL 222L, or BIOL 216L to fulfill this requirement.