

Biochemistry Major (BA/BS, ACS Approved) Check List

Note: This document is not legally binding: it is intended only to give guidance in planning one's program.

NO MINOR IS REQUIRED FOR THIS MAJOR

CHEMISTRY UNITS REQUIRED (39 UNITS)

Course #	Course Title	Units	Prerequisites
CHEM 102	Introductory Chemistry I	5	MATH 141 (C or better) or waiver thereof.
CHEM 104	Introductory Chemistry II	5	CHEM 102
CHEM 184	Introduction to Chemistry	1	
CHEM 251	Organic Chemistry I	3	CHEM 104
CHEM 252	Organic Chemistry II	3	CHEM 251
CHEM 261	Organic Chemistry Lab I	2	Co-requisite: CHEM 251
CHEM 260	Introduction to Inorgan Chem	4	Chem 104
CHEM 352	Quantitative Analysis	5	CHEM 104
CHEM 370	Physical Chemistry I	3	CHEM 352; Co-requisites: MATH 254 and PHYS 141/181
CHEM 454	Biochemistry I: Biochem of Macromolecules	3	BIOL 120 or 141 (C or better) and CHEM 251
CHEM 456	Biochemistry II: Biochem of Metabolism and Signaling	3	BIOL 120 or 141 (C or better). BIOL 251/253 or Chem 454
CHEM 484	Chemistry Seminar	1	Consent of Instructor
CHEM 458	Research in Biochemistry	2	CHEM 454 or CHEM 456

MATHEMATICS UNITS REQUIRED (10 UNITS)

Course #	Course Title	Units	Prerequisites
MATH 253	Calculus and Analytic Geometry I	5	MATH 152
MATH 254	Calculus and Analytic Geometry II	5	MATH 253

PHYSICS UNITS REQUIRED (10 UNITS)

Course #	Course Title	Units	Prerequisites
PHYSICS 140	Principles of Physics I	5	Coreg. MATH 152
PHYSICS 141	Principles of Physics II	5	Physics 140
	OR		
PHYSICS 180	Physics for Scientists and Engineers I	5	Coreg. MATH 253
PHYSICS 181	Physics for Scientists and Engineers II	5	PHYSICS 180 or consent of instructor. Coreq: MATH 254

BIOLOGY UNITS REQUIRED (UNIQUE REQUIREMENTS) (17 UNITS)

Course #	Course Title	Units	Prerequisites
BIOLOGY 141	Introductory Biology I	5	Coreg. MATH 141
BIOLOGY 142	Introductory Biology II	5	Biology 141 (C or better)
BIOLOGY 251	Introduction to Genetics	4	BIOLOGY 141/142 and CHEM 102, (C or better in all).

BIOLOGY 253	Introduction to Cell Biology	3	BIOLOGY 142 and CHEM 102, (C or better in both). Coreq: CHEM 104.
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Select 6 units from the courses below with at least one course including a lab component (denoted by #)

Subject/Course	Credit Hours
Chemistry	
Chemistry 252 – Organic Chemistry II	3
#Chemistry 262 – Organic Chemistry Laboratory II	2
Chemistry 371 – Physical Chemistry II	3
#Chemistry 470 – Experimental Physical Chemistry	1
#Chemistry 471 – Experimental Physical Chemistry	1
Chemistry 455 – Advanced Organic Chemistry	3
#Chemistry 480 – Instrumental Methods of Analysis	4
#Chemistry 498R – Independent Study (research)	1-4
Biology	
#Biology 254 – Biotechnology Laboratory Methods I	2
#Biology 311 – Microbiology	4
#Biology 345 – Animal Physiology	4
#Biology 364 – Biotechnology Laboratory Methods II	2
#Biology 457 – General Ecology	4
Biology 363 – Molecular Biology	3
#Biology 341 – Developmental Biology	4
Biology 317 – Plant Physiology	3
Biology 412 – Immunology	3
Biology 415 – Endocrinology	3
Biology 442 – Environmental Toxicology	3
Biology 446 – Organic Evolution	3
Biology 448 – Bioinformatics	3
#Biology 450 – Introductory Entomology	4