

B.S. IN BIOCHEMISTRY/MOLECULAR BIOLOGY

The Biochemistry/Molecular Biology major is the in-depth study of the chemical processes that underlie all living systems in the world. As collaborative programs of the Biological Sciences (<https://www.bethel.edu/undergrad/academics/biology/>) and Chemistry (<https://www.bethel.edu/undergrad/academics/chemistry/>) departments, they are an ideal choice for students in the health sciences and in pre-professional programs such as medicine, dentistry, law, and pharmacy.

Code	Title	Credits
Major in Biochemistry/Molecular Biology (B.S)		
BIO 124 & BIO 124D	Integrative Biology: Genes, Cells, Change and Integrative Biology: Genes, Cells, Change Lab	4
BIO 128 & BIO 128D	Integrative Biology: Metabolism, Energy, Biodiversity and Integrative Biology: Metabolism, Energy, Biodiversity Lab	4
BIO 332 & BIO 333	Genetics and Genetics Lab ⁴	4
BIO 354 & BIO 355	Cell Biology and Cell Biology Lab	4
BIO 396 & BIO 397	Molecular Biology and Molecular Biology Lab	4
CHE 113 & CHE 113D	General Chemistry I and General Chemistry I Lab	4
CHE 200	Laboratory Safety and Chemical Hygiene	1
CHE 214 & CHE 215	General Chemistry II and General Chemistry II Lab	4
CHE 224 & CHE 225	Organic Chemistry I and Organic Chemistry I Lab	4
CHE 226 & CHE 227	Organic Chemistry II and Organic Chemistry II Lab	4
CHE 312 & CHE 313	Quantitative Analysis and Quantitative Analysis Lab	4
CHE 344 & CHE 345	Thermodynamics, Kinetics, and Statistical Mechanics and Thermodynamics, Kinetics, and Statistical Mechanics Lab	4
CHE 388 & CHE 389	Biochemistry I and Biochemistry I Lab	4
CHE 396 & CHE 397	Biochemistry II and Biochemistry II Lab	4
MAT 124M	Calculus 1 ³	4
MAT 125	Calculus 2	4
Choose one of the following sequences: ²		8
PHY 202 & PHY 202D & PHY 206 & PHY 207	Introductory Physics I and Introductory Physics I Lab and Introductory Physics II and Introductory Physics II Lab	

or

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PHY 292 General Physics I
& PHY 292D and General Physics I Lab
& PHY 296 and General Physics II
& PHY 297 and General Physics II Lab

Choose one of the following sequences: 4-6

BIO 399 Introduction to Research
& BIO 495 and Biology Seminar
& BIO 496 and Biology Research
& BIO 497 and Advanced Biology Research
& BIO 499 and Symposium ⁵

or

CHE 395 Chemistry Seminar: Research and Professional Development
& CHE 490 and Chemistry Seminar: Research
& CHE 494 and Chemistry Seminar: Research Presentation ⁶

Code	Title	Credits
Major		73-75
General Education *		40-48
Electives ¹		1-7
Total Credits		122

¹ BIO 234 is recommended.

² Students planning to attend graduate school are strongly encouraged to take PHY 292/PHY 292D and PHY 296/PHY 297.

³ Placement at MAT 124M on the Math and Computer Science department placement exam; MAT 121M, concurrent enrollment in MAT 122, or equivalent high school or college course(s) is a prerequisite for this course.

⁴ BIO 218 or BIO 120/BIO 120D is a prerequisite for this course.

⁵ BIO 218 is a prerequisite for BIO 399.

⁶ Biochemistry/Molecular Biology students who select Chemistry Seminar will qualify for the ACS-accredited degree by completing CHE 364 in addition to those required by the major.

* Courses whose number is followed by a letter fulfill a General Education requirements. Students may not declare a B.S. in Biochemistry/Molecular Biology and a B.A. in Biochemistry. Students may not declare a B.S. in Biochemistry/Molecular Biology and a Minor in Biology. Students may not declare a B.S. in Biochemistry/Molecular Biology and a Minor in Chemistry.