

# 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 a collaborative program of the Biological Sciences (<https://www.bethel.edu/undergrad/academics/biology/>) and Chemistry (<https://www.bethel.edu/undergrad/academics/chemistry/>) departments, this major is an ideal choice for students in the health sciences and in pre-professional programs such as medicine, dentistry, law, and pharmacy.

Code	Title	Credits
<b>Major in Biochemistry/Molecular Biology (B.S)</b>		
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
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 and General Chemistry 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 <sup>3</sup>	4
MAT 125	Calculus 2	4
Choose one of the following sequences: <sup>2</sup>		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

## B.S. in Biochemistry/Molecular Biology 2

PHY 292 & PHY 292D & PHY 296 & PHY 297	General Physics I and General Physics I Lab and General Physics II and General Physics II Lab	
Choose one of the following sequences:		2-6
BIO 399 & BIO 495 & BIO 496 & BIO 497 & BIO 499	Introduction to Research and Biology Seminar and Biology Research and Advanced Biology Research and Symposium	
or		
CHE 395 & CHE 494	Chemistry Seminar: Research and Professional Development and Chemistry Seminar: Research Presentation <sup>4</sup>	
and		
CHE 490 or CHE 492	Chemistry Seminar: Research Chemistry Seminar: Summer Research	
<b>Code</b>	<b>Title</b>	<b>Credits</b>
Major		71-75
General Education *		40-48
Electives <sup>1</sup>		3-7
<b>Total Credits</b>		<b>122</b>

<sup>1</sup> BIO 234 is recommended.

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

<sup>3</sup> 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.

<sup>4</sup> 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.