

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 ³ | 4 |
| BIO 396 & BIO 397 | Molecular Biology and Molecular Biology Lab ³ | 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 ⁶ | 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

B.S. in Biochemistry/Molecular Biology 2

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: 4-5

BIO 399 Introduction to Research
& BIO 495 and Biology Seminar
& BIO 496 and Biology Research
& BIO 497 and Advanced Biology Research
& BIO 499 and Biology Symposium⁵

or

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

| Code | Title | Credits |
|------------------------|-------|------------|
| Major | | 73-74 |
| General Education | | 40-41 |
| Electives ¹ | | 8 |
| 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 This is a designated research 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 Students may test into this course via successful completion of the Math and Computer Science department placement exam or by completing MAT 123M and the Math and Computer Science department placement exam requirements.

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 Minor in Biology.

Students may not declare a B.S. in Biochemistry/Molecular Biology and a Minor in Chemistry.