**BIOCHEMISTRY**

**Graduation Requirements:**
- A minimum 2.0 average in all biology courses required for this major
- A minimum of 32 credits at or above the 30000-level completed at a Purdue campus
- At least one 50000-level Biology course other than BIOL 50000 or 54200
- 124 Total Credits

**BIOLOGY:**

1. BIOL 12100  Biology I: Diversity, Ecology and Behavior  (2 cr.; fall)
2. BIOL 13100  Biology II: Development, Structure, and Function of Organisms  (3 cr.; spring)
3. BIOL 13500  First Year Biology Lab  (2 cr.; both)
4. BIOL 23100  Biology III: Cell Structure and Function  (3 cr.; fall)
5. BIOL 23200  Laboratory in Biology III: Cell Structure and Function  (2 cr.; fall)
6. BIOL 24100  Biology IV: Genetics and Molecular Biology  (3 cr.; spring)
7. BIOL 24200  Laboratory in Genetics and Molecular Biology  (2 cr.; spring)
8. BIOL 28600  Introduction to Ecology  (2 cr.; spring)
9. One of these four options: (Biochemistry majors must choose BIOL 39500, Macromolecules)
   - A. BIOL 39500  Macromolecules  (3 cr.; fall)
   - B. BIOL 39500  Principles of Development  (4 cr.; spring)
   - C. BIOL 39500  Principles of Physiology  (4 cr.; spring)
   - D. BIOL 43800  General Microbiology  (3 cr.; fall) and BIOL 43900  Microbiology Lab  (2 cr.; fall)
10. BIOL 41500  Intro. to Molecular Biology  (3 cr.; fall)
11. BIOL 42000  Eukaryotic Cell Biology  (3 cr.; fall)
12. BIOL 59500  Methods & Measurement in Physical Biochemistry  (3 cr.; fall)
13. Two of these courses:
   - A. BIOL 41600  Viruses and Viral Diseases  (3 cr.; spring)
   - B. BIOL 43800  General Microbiology  (3 cr.; fall)
   - C. BIOL 47800  Intro to Bioinformatics  (3 cr.; fall)
   - D. BIOL 48100  Eukaryotic Genetics  (3 cr.; spring)
   - E. BIOL 51100  Intro. to X-Ray Crystallography  (3 cr.; spring)
   - F. BIOL 51700  Molecular Biology of Proteins  (2 cr.; spring)
   - G. BIOL 52900  Bacterial Physiology  (3 cr.; spring)
   - H. BIOL 53700  Immunology  (3 cr.; spring)
   - I. BIOL 53800  Molecular, Cellular & Developmental Neurobiology  (3 cr.; spring)
   - J. BIOL 54100  Molecular Genetics of Bacteria  (3 cr.; fall)
14. BIOL 50000  Introductory Module: Protein Expression plus two additional modules\(^1\) of BIOL 50000  (2 cr.; both) or 54200  (1 cr.; both) (various titles)
15. BCHM 56100  General Biochemistry I  (3 cr.; both)
16. BCHM 56200  General Biochemistry II  (3 cr.; both)

\(^1\) The two additional modules may be replaced by one of these: BIOL 43900  Microbiology Lab  (2 cr.; fall); or by four credits of undergraduate research (BIOL 49400 or 49900 – this must be approved in advance by the Biochemistry Area Committee).

*Other Biochemistry requirements are on the back of this page.*

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**BIOCHEMISTRY HONORS CURRICULUM**

A 3.0 or higher graduation index is required to graduate in the Biochemistry Honors Curriculum.

In addition to the requirements listed for the Biochemistry program, at least two of the following courses/course sequences must be completed when fulfilling other requirements:

1. CHM 32100  Analytical Chemistry  (4 cr.; fall)
2. CHM 37300  Physical Chemistry  (3 cr.; fall) and CHM 374  Physical Chemistry  (4 cr.; spring)
3. PHYS 17200  Modern Mechanics  (4 cr.; both) and one of the following two choices:
   - A. PHYS 27200  Electric and Magnetic Interactions  (4 cr.; both)
   - B. PHYS 24100  Electricity and Optics  (3 cr.; both) and PHYS 24200  Intro to Heat and Thermal Physics  (1 cr.; spring) and PHYS 25200  Electricity and Optics Laboratory  (1 cr.; spring)
CHEMISTRY
1. CHM 11500  General Chemistry (4 cr.; both)
2. CHM 11600  General Chemistry (4 cr.; both)
3. CHM 26505  Organic Chemistry (3 cr.; fall)
4. CHM 26300  Organic Chemistry Lab (1 cr.; fall)
5. CHM 26605  Organic Chemistry (3 cr.; spring)
6. CHM 26400  Organic Chemistry Lab (1 cr.; spring)

7. One of these three courses:
   A. BCHM 22100  Analytical Biochemistry (3 cr.; both)
   B. CHM 22400  Intro. to Quantitative Analysis (4 cr.; spring)
   C. CHM 32100  Analytical Chemistry (4 cr.; fall)

8. One of these two options:
   A. CHM 37200  Physical Chemistry (4 cr.; spring)
   B. CHM 37300  Physical Chemistry (3 cr.; fall) and CHM 37400  Physical Chemistry (4 cr.; spring)

MATH
For the Biochemistry Major, you must choose one of the following calculus options when fulfilling CoS Core requirements:
MA 16100-16200, MA 16500-16600, or MA 17300.

PHYSICS
One of these two options:
1. PHYS 22000  General Physics (4 cr.; both) and PHYS 22100  General Physics (4 cr.; both)
2. PHYS 17200  Modern Mechanics (4 cr.; both) and one of the following two choices:
   A. PHYS 27200  Electric and Magnetic Interactions (4 cr.; both) or
   B. PHYS 24100  Electricity and Optics (3 cr.; both) and PHYS 24200  Intro to Heat and Thermal Physics (1 cr.;
      spring) and PHYS 25200  Electricity and Optics Laboratory (1 cr.; spring)

COLLEGE OF SCIENCE CORE REQUIREMENTS
Composition and Presentation; Teambuilding and Collaboration; Language and Culture; Great Issues; General Education;
Multidisciplinary Experience; Mathematics; Statistics; Computing (see handout).

FREE ELECTIVES  Approximately 0 - 9 credits

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