

# PREMEDICINE THREE YEAR

Completion of the first year in medical school is substituted for the senior year. Students wishing to continue residency at Purdue University for a fourth year must choose one of the Department's regular four-year programs and complete the courses required in that major.

## 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 19500 First Year Biology Lab (2 cr.; both)
4. BIOL 27000 Laboratory III: Cell Structure and Function (2 cr.; fall)
5. BIOL 27100 Laboratory in Biology III: Cell Structure and Function (2 cr.; fall)
6. BIOL 28000 Biology IV: Genetics and Molecular Biology (2 cr.; spring)
7. BIOL 28100 Laboratory in Genetics and Molecular Biology (2 cr.; spring)
8. BIOL 28600 Introduction to Ecology (2 cr.; spring)
9. One of these four options:
  - A. BIOL 39500<sup>1</sup> Principles of Physiology (4 cr.; spring)
  - B. BIOL 39500<sup>1</sup> Macromolecules (3 cr.; fall)
  - C. BIOL 39500<sup>1</sup> Principles of Development (4 cr.; spring)
  - D. BIOL 43800<sup>1</sup> General Microbiology (3 cr.; fall) and BIOL 43900<sup>1</sup> Microbiology Lab (2 cr.; fall)
10. **Two courses** from the following:

BIOL 30100 <sup>3</sup>	Human Anatomy & Physiology (3 cr.; fall)	BIOL 53800	Molecular, Cellular & Developmental Neurobiology (3 cr.; spring)
BIOL 30200 <sup>3</sup>	Human Anatomy & Physiology (3 cr.; spring)	BIOL 54100	Molecular Genetics of Bacteria (3 cr.; fall)
BIOL 39500 <sup>1</sup>	Principles of Physiology (3 cr.; fall)	BIOL 54900	Microbial Ecology (2 cr.; alternate spring)
BIOL 39500 <sup>1</sup>	Principles of Development (4 cr.; spring)	BIOL 55000	Plant Molecular Biology (3 cr.; spring)
BIOL 41500	Intro. to Molecular Biology (3 cr.; fall)	BIOL 55900	Endocrinology (3 cr.; fall)
BIOL 41600	Molecular Virology (3 cr.; spring)	BIOL 56200	Neural Systems (3 cr.; spring)
BIOL 42000	Eukaryotic Cell Biology (3 cr.; fall)	BIOL 57300	Molecular Biology of Animal Cells (3 cr.; fall)
BIOL 43800 <sup>1</sup>	General Microbiology (3 cr.; fall)	BIOL 58000	Evolution (3 cr.; spring)
BIOL 43900 <sup>1</sup>	Microbiology Lab (2 cr.; fall)	BIOL 58500	Ecology (3 cr.; fall)
BIOL 44400	Human Genetics (3 cr.; fall)	BIOL 59100	Field Ecology (4 cr.; alternate fall)
BIOL 44600	Cellular Microbiology (3 cr.; spring)	BIOL 59200	Evolution of Behavior (3 cr.; spring)
BIOL 45500	Animal Physiology (3 cr.; spring)	BIOL 59500	Protein Bioinformatics (2 cr.; spring)
BIOL 47800	Intro to Bioinformatics (3 cr.; fall)	BIOL 59500	Developmental Biology (3 cr.; spring)
BIOL 48100	Eukaryotic Genetics (3 cr.; spring)	BIOL 59500	Animal Communication (3 cr.; alternate fall)
BIOL 48300	Environmental & Conservation Biology (3 cr.; fall)	BIOL 59500	Methods & Measurement in Physical Biochemistry (3 cr.; fall)
BIOL 49300	Intro. to Ethology (3 cr.; fall)	BIOL 59500	Cellular Biology of Plants (3 cr.; fall)
BIOL 49500	Reproductive Physiology (3 cr.; fall)	BIOL 59700	Sex and Evolution (3 cr.; alternate fall)
BIOL 49500	Intro. to Neurobiology (3 cr.; fall)	BCHM 56100 <sup>2</sup>	General Biochemistry I (3 cr.; both)
BIOL 51100	Intro. to X-Ray Crystallography (3 cr.; spring)	BCHM 56200	General Biochemistry II (3 cr.; both)
BIOL 51400	Laboratory in Crystallography (2 cr.; fall)	BCHM 57200	Adv. Biochemical Techniques (2-4 cr.; fall)
BIOL 51600	Molecular Biology of Cancer (3 cr.; spring)	CHM 53300 <sup>2</sup>	Introductory Biochemistry (3 cr.; fall)
BIOL 51700	Molecular Biology: Proteins (2 cr.; spring)	HORT 30100	Plant Physiology (4 cr.; fall)
BIOL 52900	Bacterial Physiology (3 cr.; spring)		
BIOL 53300	Medical Microbiology (3 cr.; fall)		
BIOL 53700	Immunology (3 cr.; spring)		

<sup>1</sup> BIOL 39500, 39500, 43800, and 43900 may satisfy #9 above and still count as part or all of the two course requirement (#10).

<sup>2</sup> BCHM 56100 or CHM 53300 may count as a chemistry elective or as a biology elective but not both.

<sup>3</sup> If both BIOL 30100 & 30200 are completed, one of the two courses will count toward the two course biology elective requirement. The other course will count as free elective. If only BIOL 30100 or 30200 is completed, the credits will count only as free elective credit.

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

## **CHEMISTRY**

1. CHM 11500 General Chemistry (4 cr.; both)
2. CHM 11600 General Chemistry (4 cr.; both)
3. One of these three options:
  - A. CHM 25500 Organic Chemistry (3 cr.; both) and CHM 255L Organic Chemistry Lab (1 cr.; both) and CHM 25600 Organic Chemistry (3 cr.; both) and CHM 256L Organic Chemistry Lab (1 cr.; both)
  - B. CHM 26100 Organic Chemistry (3 cr.; fall) and CHM 26300 Organic Chemistry Lab (1 cr.; fall) and CHM 26200 Organic Chemistry (3 cr.; spring) and CHM 26400 Organic Chemistry Lab (1 cr.; spring)
  - C. CHM 25700 Organic Chemistry (4 cr.; both) and CHM 257L Organic Chemistry Lab (1 cr.; both) and one of: CHM 33300 Principles of Biochemistry (3 cr.; both) or BCHM 30700 Biochemistry (3 cr.; both)
4. One of these seven options:
  - A. BCHM 22100 Analytical Biochemistry (3 cr.; both)
  - B. CHM 22400 Introductory Quantitative Analysis (4 cr.; spring)
  - C. CHM 32100 Analytical Chemistry I (4 cr.; fall)
  - D. BCHM 56100<sup>2</sup> General Biochemistry I (3 cr.; both)
  - E. CHM 53300<sup>2</sup> Introductory Biochemistry (3 cr.; fall)
  - F. CHM 37200 Physical Chemistry (4 cr.; spring)
  - G. CHM 37300 Physical Chemistry (3 cr.; fall)

## **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 PHYS 27200 Electric and Magnetic Interactions (4 cr.; both)

## **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 4 - 33 credits