

# ECOLOGY, EVOLUTION AND ENVIRONMENTAL BIOLOGY

## Graduation Requirements:

- A minimum 2.0 average in all biology courses required for this major
- A minimum of 32 credits at or above the 300-level completed at a Purdue campus
- At least one 500-level Biology course other than BIOL 54200
- 120 Total Credits

## BIOLOGY:

1. BIOL 12100 Biology I: Diversity, Ecology and Behavior (2 cr.; fall) **or**  
BIOL 19500 Biodiversity, Ecology & Evolution (3 cr.; fall)
2. BIOL 13100 Biology II: Development, Structure, and Function of Organisms (3 cr.; spring) **or**  
BIOL 19500 Organismal Development & Physiology (3 cr.; spring)
3. BIOL 13500 1<sup>st</sup> Year Biology Lab (2 cr.; both) **or**  
BIOL 14501 1<sup>st</sup> Year Biology Lab w/Neuro Research Project (2 cr.; fall) **or**  
IT 22600 Biotechnology Lab (2 cr.; fall)
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 Intro. to Ecology and Evolution (2 cr.; spring)
  
9. **Intermediate Biology Selective: Choose one of these eight options:**
  - A. BIOL 32800 Principles of Physiology (4 cr.; spring)
  - B. BIOL 36700 Principles of Development (2 cr.; spring) **plus** BIOL 36701<sup>1</sup> Principles of Development Laboratory (1 cr.; spring)
  - C. BIOL 39500 Macromolecules (3 cr.; fall)
  - D. BIOL 41500 Intro. to Molecular Biology (3 cr.; fall)
  - E. BIOL 41600 Viruses & Viral Diseases (3 cr.; spring)
  - F. BIOL 42000 Eukaryotic Cell Biology (3 cr.; fall)
  - G. BIOL 43600 Neurobiology (3 cr.; fall)
  - H. BIOL 43800<sup>1</sup> General Microbiology (3 cr.; fall)
  
10. BIOL 58000 Evolution (3 cr.; spring)
11. BIOL 58500 Ecology (3 cr.; fall)
  
12. **Ecology Selective I:**
  - A. Research<sup>2</sup> (BIOL 49400 or 49900; (1 cr.; both))
  - B. BIOL 59100<sup>3</sup> Field Ecology (4 cr.; alternate fall)
  
13. **Ecology Selective II: One of these five courses:**
  - A. BIOL 59100<sup>3</sup> Field Ecology (4 cr.; alternate fall)
  - B. BIOL 59200 Evolution of Behavior (3 cr.; spring)
  - C. BIOL 58705 Animal Communication (3 cr.; alternate fall)
  - D. BIOL 59500 Ecological Statistics (3 cr.; fall)
  - E. BIOL 59500 Sensory Ecology (3 cr.; alternate spring)
  - F. BIOL 59700 Sex and Evolution (3 cr.; alternate fall)
  
14. **Biology Selective: One course (not being used for #13 above) from the following:**

BIOL 43800 <sup>1</sup> General Microbiology (3 cr.; fall)	ANTH 53500 Foundations of Biological Anthropology (3 cr.; fall)
BIOL 43900 Microbiology Lab (2 cr.; fall)	ANTH 53600 Primate Ecology (3 cr.; spring)
BIOL 44400 Human Genetics (3 cr.; fall)	CE 35000 Environmental Engineering (3 cr.; both)
BIOL 48300 Environmental & Conservation Biology (3 cr.; spring)	CE 35200 Biological Principles of Environmental Engineering (3 cr.; both)
BIOL 58705 Animal Communication (3 cr.; alternate fall)	ENTM 50000 Fundamentals of Entomology (3 cr.; fall)
BIOL 59100 <sup>3</sup> Field Ecology (4 cr.; alternate fall)	FNR 44700 Vertebrate Population Dynamics (4 cr.; fall)
BIOL 59200 Evolution of Behavior (3 cr.; spring)	FNR 48800 Global Environmental Issues (3 cr.; fall)
BIOL 59500 Ecological Statistics (3 cr.; fall)	POL 52300 Environmental Politics and Public Policy (3 cr.; fall)
BIOL 59500 Sensory Ecology (3 cr.; alternate spring)	
BIOL 59700 Sex and Evolution (3 cr.; alternate fall)	
AGEC 52500 Environmental Policy Analysis (3 cr.; spring)	

Other courses may be considered for this elective requirement (#14). See your advisor for more information.

<sup>1</sup> BIOL 43800 may be used for requirement #9 or for requirement #14, but not both.

<sup>2</sup> Research must be in the lab of a Biology Department Ecology faculty member, or have the approval of a Biology Department Ecology faculty member.

<sup>3</sup> BIOL 59100 may be used for #12, #13, or #14. It may be used for #12 and #13, or #12 and #14. It may not be used for #13 and #14.

Other requirements are on the back of this page.

## **CHEMISTRY**

### **1. General Chemistry:**

1. CHM 12901<sup>4</sup> General Chemistry with a Biological Focus (5 cr.; fall)

### **2. Organic Chemistry Selectives:** (Must choose one option)

1. CHM 25500 Organic Chemistry (3 cr.; both) and CHM 25501 Organic Chemistry Lab (1 cr.; both) and CHM 25600 Organic Chemistry (3 cr.; both) and CHM 25601 Organic Chemistry Lab (1 cr.; both)
2. CHM 26505 Organic Chemistry (3 cr.; fall) and CHM 26300 Organic Chemistry Lab (1 cr.; fall) and CHM 26605 Organic Chemistry (3 cr.; spring) and CHM 26400 Organic Chemistry Lab (1 cr.; spring)

### **3. Chemistry Selective:**<sup>4</sup> (must choose one of the eight options)

#### A. Analytical Chemistry

1. BCHM 22100 Analytical Biochemistry (3 cr.; both)
2. CHM 22400 Introductory Quantitative Analysis (4 cr.; spring)
3. CHM 32100 Analytical Chemistry I (4 cr.; fall)

#### B. Biochemistry

1. BCHM 56100 General Biochemistry I (3 cr.; both)
2. CHM 33900<sup>4</sup> Biochemistry: A Molecular Approach (3 cr.; spring)
3. CHM 53300 Introductory Biochemistry (3 cr.; fall)

#### C. Physical Chemistry

1. CHM 37200 Physical Chemistry (4 cr.; spring)
2. CHM 37300 Physical Chemistry (3 cr.; fall)

## **PHYSICS Selectives:** One of these two options:

1. PHYS 23300 Physics for Life Sciences I (4 cr.; both) and PHYS 23400 Physics for Life Sciences II (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 25200 Electricity and Optics Laboratory (1 cr.; spring)

## **UNIVERSITY CORE and 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 6-22 credits

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<sup>4</sup> Students who select 12901 for General Chemistry must also select CHM 33900 and 33901 for the Chemistry Selective. Students who end up with Special Case approval for some other Gen Chem courses may choose the other Chem Selective options.

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