

GENETICS

(for students entering Biology in Fall 2011 or later)

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
- 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) or BIOL 19500 CASPIE Laboratory (2cr.;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 Intro. to Ecology and Evolution (2 cr.; spring) or BIOL 29500, Intro. to Evolution & Ecology (2 cr.; fall)

9. Intermediate Requirement: Choose one of these four options:

(Genetics majors may not use BIOL 43800, General Microbiology, or BIOL 439, Laboratory in Microbiology, to satisfy this requirement)

- a. BIOL 32800 Principles of Physiology (4 cr.; spring)
- b. BIOL 36600 Principles of Development (4 cr.; spring)
- c. BIOL 39500 Macromolecules (3 cr.; fall)
- d. BIOL 43800 General Microbiology (3 cr.; fall) and BIOL 43900 Microbiology Lab (2 cr.; fall)

10. BIOL 41600 Viruses and Viral Diseases (3 cr.; spring)
11. BIOL 44100 Senior Seminar in Genetics (1 cr.; spring)
12. BIOL 48100 Eukaryotic Genetics (3 cr.; spring)
13. BCHM 56100 General Biochemistry (3 cr.; fall) or CHM 533 Introductory Biochemistry (3 cr.; fall)
14. BIOL 44201¹ Introductory Module: Protein Expression plus two additional modules of BIOL 442xx¹ (1-2 cr.; both) (various titles) or 54200¹ Neurophysiology (1 cr.; fall)

16. Biology Electives: Six credits of the following:

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| BIOL 43800 | General Microbiology (3 cr.; fall) | BIOL 57300 | Molecular Biology of Animal Cells (3 cr.; fall) |
| BIOL 44400 | Human Genetics (3 cr.; fall) | BIOL 58000 | Evolution (3 cr.; spring) |
| BIOL 47800 | Intro to Bioinformatics (3 cr.; fall) | AGRY 53000 | Plant Genetics (3 cr.; fall) |
| BIOL 51600 | Molecular Biology of Cancer (3 cr.; spring) | ANSC 51100 | Population Genetics (3 cr.; fall) |
| BIOL 54100 | Molecular Genetics of Bacteria (3 cr.; fall) | BCHM 56200 | General Biochemistry II (3 cr.; spring) |
| BIOL 55000 | Plant Molecular Biology (3 cr.; spring) | | |

CHEMISTRY

1. CHM 11500 General Chemistry (4 cr.; both)
2. CHM 11600 General Chemistry (4 cr.; both)
3. One of these three options:
 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. CHM 25700 Organic Chemistry (4 cr.; both) and CHM 25701 Organic Chemistry Lab (1 cr.; both) and one of:
 - A. CHM 33300 Principles of Biochemistry (3 cr.; both) or BCHM 30700 Biochemistry (3 cr.; both)

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 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 - 22 credits

¹ Three credits of research, approved by the Undergraduate Studies Committee, may replace some or all of these modules.