



# Biology, B.S. *major*

Required Credits: 68

Required GPA: 2.25

## I REQUIRED BIOLOGY CORE COURSES

COMPLETE THE FOLLOWING COURSES:

- BIOL 1211 Introductory Biology I (4 credits)
- BIOL 1212 Introductory Biology II (4 credits)
- BIOL 2360 Genetics (4 credits)
- BIOL 2610 General Ecology (3 credits)

## II REQUIRED BIOLOGY ELECTIVES

SUBORGANISMAL

SELECT 1 OF THE FOLLOWING COURSES:

- BIOL 3260 Medical Physiology (4 credits)
- BIOL 3300 Introduction to Hematology (4 credits)
- BIOL 3380 Molecular Genetics: Theory and Practice (4 credits)
- BIOL 3580 Immunology (4 credits)
- BIOL 3590 Cell Biology (4 credits)
- BIOL 3720 Plant Form and Function (4 credits)
- BIOL 3755 Medical Microbiology (3 credits)
- BIOL 4270 Histology (4 credits)
- BIOL 4360 Developmental and Tumor Biology (4 credits)

ORGANISMAL

SELECT 1 OF THE FOLLOWING COURSES:

- BIOL 2110 Human Anatomy and Physiology (5 credits)
- BIOL 3250 Comparative Vertebrate Anatomy (4 credits)
- BIOL 3310 Entomology (4 credits)
- BIOL 3710 Microbiology (4 credits)
- BIOL 3730 Plant Diversity (4 credits)
- BIOL 3830 Aquatic Plants (4 credits)
- BIOL 4210 Parasitology (4 credits)
- BIOL 4510 Ornithology (4 credits)
- BIOL 4520 Mammalogy (4 credits)
- BIOL 4534 Ichthyology (4 credits)

## III CAPSTONE PROJECT

The Biology capstone project, completed in the senior year, provides a culminating experience that integrates the knowledge and skills learned in previous courses and applies them to a scholarly activity. Examples of capstone projects may include original research projects, internships with state or federal agencies, shadowing experiences with professionals, or successfully passing professional/graduate school entrance exams.

The capstone project must be designed or chosen by the student in consultation with a faculty mentor or advisor, who must approve the project before work begins. Students should consult with their faculty mentor or advisor before their senior year commences. All capstone projects will include a written and oral component (except for professional/graduate school entrance exams).

The capstone project may be completed in one of the following ways (0-4 credits):

1. Students using a professional or graduate entrance exam as their capstone project must register for this course. Students must place in at least the

60th percentile on their exam to successfully complete this course.

- BIOL 4800 Advanced Project Certification (0 credit)

2. Complete BIOL 4894 OR BIOL 4895 (2 credits):

- BIOL 4894 Advanced Research Project I (2 credits)
- BIOL 4895 Advanced Research Project II (2 credits)

3. Complete BIOL 4894 and BIOL 4895 (2 credits each):

- BIOL 4894 Advanced Research Project I (2 credits)
- BIOL 4895 Advanced Research Project II (2 credits)

## IV REQUIRED GENERAL BIOLOGY ELECTIVES

SELECT ELECTIVES FROM BIOLOGY COURSES (EXCEPT 1000-LEVEL BIOL CLASSES AND BIOL 2925) TO ACHIEVE A MINIMUM OF 40 SEMESTER CREDITS IN BIOL COURSES. THESE

ELECTIVES CAN ALSO INCLUDE ONE OF THE FOLLOWING OPTIONS FROM OTHER DEPARTMENTS

- CHEM 4411 Biochemistry I (3 credits)
- CHEM 4411 Biochemistry I (3 credits) and CHEM 4471 Biochemistry Laboratory I (1 credit)
- ENVR 4400 Environmental Microbiology (3 credits)
- ENVR 4500 Environmental Toxicology (4 credits)

## V REQUIRED COURSES IN RELATED FIELDS

A. SELECT 1 OF THE FOLLOWING GROUPS:

*GROUP 1:*

- CHEM 2211 Principles of Chemistry I (4 credits)
- CHEM 2212 Principles of Chemistry II (4 credits)

*GROUP 2:*

- CHEM 1111 General Chemistry I (4 credits)
- CHEM 1112 General Chemistry II (4 credits)

B. SELECT 1 OF THE FOLLOWING COURSES:

- STAT 2610 Applied Statistics (4 credits)
- PSY 3401 Basic Statistics for Research (4 credits)

C. SELECT 1 OF THE FOLLOWING GROUPS:

*GROUP 1:*

- PHYS 2101 Physics I (5 credits)
- PHYS 2102 Physics II (5 credits)

*GROUP 2:*

- PHYS 1101 General Physics I (4 credits)
- PHYS 1102 General Physics II (4 credits)

D. COMPLETE THE FOLLOWING 4 COURSES:

- CHEM 3311 Organic Chemistry I (3 credits)
- CHEM 3312 Organic Chemistry II (3 credits)
- CHEM 3371 Organic Chemistry Laboratory I (1 credit)

- CHEM 3372 Organic Chemistry Laboratory II (1 credit)

## SUGGESTED SEMESTER SCHEDULE FOR BIOLOGY MAJOR, B.S.

The following is a list of required Biology Major, B.S. courses arranged by year. This schedule is intended to assist students in planning their courses in an orderly fashion. There is some flexibility in this schedule, but graduation within four years will require close adherence to the specified sequence of courses. Always consult your Biology academic advisor as to the proper courses and sequence of courses needed for graduation.

### Freshman

- BIOL 1211 Introductory Biology I (4 credits)
- BIOL 1212 Introductory Biology II (4 credits)
- CHEM 1111 General Chemistry I (4 credits)  
or CHEM 2211 Principles of Chemistry I (4 credits)
- CHEM 1112 General Chemistry II (4 credits)  
or CHEM 2212 Principles of Chemistry II (4 credits)
- Liberal Education requirements
- Consult with your Biology academic advisor

### Sophomore

- BIOL 2360 Genetics (4 credits)
- BIOL 2610 General Ecology (3 credits)
- CHEM 3311 Organic Chemistry I (3 credits)
- CHEM 3312 Organic Chemistry II (3 credits)
- CHEM 3371 Organic Chemistry Laboratory I (1 credit)
- CHEM 3372 Organic Chemistry Laboratory II (1 credit)
- PHYS 1101 General Physics I (4 credits)  
or PHYS 2101 Physics I (5 credits)
- PHYS 1102 General Physics II (4 credits)  
or PHYS 2102 Physics II (5 credits)
- Biology degree requirements
- Liberal Education requirements
- Consult with your Biology academic advisor

### Junior

- Biology degree requirements
- Liberal Education requirements
- Consult with your Biology academic advisor

### Senior

- Complete Biology degree requirements
- Complete Liberal Education requirements
- Consult with your Biology academic advisor