# BIOLOGICAL SCIENCES (BA OR BS)

The biological sciences are organized into three departments: the Department of Ecology and Evolutionary Biology (EEB), the Department of Molecular and Cell Biology (MCB), and the Department of Physiology and Neurobiology (PNB). Introductory level courses are listed under General Biology (BIOL).

The Bachelor of Science degree is generally recommended for students planning a scientific career in biology, but the Bachelor of Arts degree in Biological Sciences allows a richer liberal arts program and provides good preparation for many careers, including subsequent graduate study.

**Credit restriction:** In no case may students receive more than 12 credits for courses in biology at the 1000 level.

## Biological Sciences Major

The Biological Sciences major gives students a broad training in all aspects of biological sciences and prepares students interested in graduate programs in science, biotechnology, or health (M.D., D.D.S., P.A.), science education, and other related fields. The major can be tailored for a student's interest in any area of biology. Students can obtain a Bachelor of Science (B.S.) or Bachelor of Arts (B.A.) degree. The Biological Sciences B.A. degree does not require students to also take chemistry, physics and calculus and focuses solely on classes related to biology.

## Location

- Storrs Campus

## Modality

- In Person

## Requirements

All Biology majors are required to take the following introductory classes and are encouraged to do so by the end of their sophomore year: BIOL 1107 Principles of Biology I; BIOL 1108 Principles of Biology II or BIOL 1110 Introduction to Botany. Students are required to take a class from each of the five core areas of ecology, evolution, genetics, physiology, cells and molecules.

| Course | Title | Credits |
|---|---|---|
| **Ecology** | | |
| EEB 2244E | General Ecology | 4 |
| or EEB 2244WE | General Ecology | |
| **Evolution** | | |
| EEB 2245 | Evolutionary Biology | 3 |
| or EEB 2245W | Evolutionary Biology | |
| **Genetics** | | |
| MCB 2410 | Genetics | 3 |
| or MCB 2400 | Human Genetics | |
| **Physiology** | | |
| Select one of the following: | | 3-8 |
| PNB 2250 | Comparative Animal Physiology | |
| PNB 2774 & PNB 2775 | Enhanced Human Physiology and Anatomy I and Enhanced Human Physiology and Anatomy II | |
| **Cells and Molecules** | | |
| Select one of the following: | | 3-4 |
| MCB 2000 | Biochemistry | |
| MCB 2210 | Cell Biology | |
| MCB 2215 | Honors Cell Biology | |
| MCB 2610 | Fundamentals of Microbiology | |

Students must complete a total of 36 credits from any EEB, MCB, or PNB course at the 2000 level or higher. Six credits must be at the 3000 level or higher. Students are also required to take a 'W' course from any W course offered by EEB, MCB or PNB. A maximum of three independent study credits from among EEB 3899 Independent Study; MCB 3899 Independent Study, MCB 4896 Undergraduate Research; MCB 4996 Honors Undergraduate Research; and PNB 3299 Independent Study may count toward the 36-credit requirement. A maximum of eight 2000-level or above transfer credits in EEB, MCB, or PNB may count toward the major with approval of the respective department. A minor in Biological Sciences is described in the “Minors” section.

Majors are also offered in Ecology and Evolutionary Biology, Molecular and Cell Biology, Physiology and Neurobiology, and Structural Biology and Biophysics. These majors are described in separate sections in the Catalog.

## Learning Objectives

1. Explain ecology and evolutionary processes.
2. Describe how living systems are interconnected.
3. Explain the processes that control flow of genetic information within organisms.
4. Explain how organisms use chemical transformation to build and degrade anatomical structures.