

## Biology Learning Outcomes

The undergraduate BS degree in Biology is designed for students seeking an interdisciplinary background in the life sciences. The major couples a comprehensive biological and physical sciences core with a variety of electives and transcript-visible options that can be catered to meet specific professional goals. Biology majors receive excellent training for graduate and professional programs, and students can elect to complete transcript-visible options in Ecology, Genetics, Marine Biology, Physiology and Behavior, Pre-Dentistry/Biology, Pre-Education/Biology, Pre-Medicine/Biology, and Pre-Veterinary Medicine. Options in the Biology major require fifteen or fewer additional credits (one term) beyond the basic Biology major and most students complete the additional course work in four years.

PO1: Students will be able to explain and apply of the fundamental concepts of the biological sciences including:

- Ecology and Evolution
- Organismal Biology
- Cell Biology and Biochemistry
- Molecular Biology and Genetics

PO2: Students will be able to apply the process of science through:

- Accessing primary literature, identifying relevant works for a particular topic, and evaluating the scientific content of these works.
- Formulating testable hypotheses based on observation, gathering data to address these hypotheses and analyzing those data to assess the degree to which their hypothesis is supported.
- Employing fundamental quantitative and statistical principles to present and critique scientific findings.

PO3: Students will be able to communicate scientific information through effective formal and informal writing and speaking in a format used by practicing scientists.

PO4: Students will be able to integrate and analyze information across levels of organization ranging from biochemistry and molecular biology to ecosystems within the biological sciences to formulate arguments and critically evaluate scientific claims.

PO5: Student will be able to conduct background research and apply fundamental biological science principles to make informed decisions on socio-scientific issues.