

Bio Department Objectives Draft

Consistent with the Department's mission and goals, a student graduating with a major from the Department of Biological Sciences (i.e., Adolescence Education in Biology, Biomedical Sciences, Biology, and Conservation Biology) should achieve the following objectives (learning outcomes):

Conceptual Knowledge/Content

Be able to explain fundamental biological concepts, as appropriate, on the molecular, cellular, organismal, community, and ecosystem levels.

- Cell theory
- Form and function
- Ecological interactions
- Energetics and metabolism
- Evolution
- Genetics
- Homeostasis
- Organization of living systems
- Reproduction

Scientific Process

Apply the process of scientific inquiry, formulation and testing of scientific hypotheses, and development of experimental protocols to address biological problems.

Use quantitative reasoning (e.g., statistics) to analyze and interpret scientific data, and to formulate appropriate conclusions.

Engage in the evidence-based process of science individually and collaboratively to understand the intersection of science and society.

Communication

Access, review, synthesize, and critique scientific literature.

Accurately discuss and communicate biological concepts, research results, and their importance to a variety of audiences.

Demonstrate effective writing skills that can be applied to both technical and general purposes.