

Student Learning Outcomes for Biology 225

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Upon successful completion of this course, students will be able to:

1. Explain the role of evolutionary processes in creating the diversity of organisms.
2. Analyze evidence for the phylogenetic relationships among organisms.
3. Compare and contrast cellular and body structures of organisms from major classifications.
4. Analyze the application of basic ecological principles to populations and communities.
5. Investigate and explain the morphological and physiological adaptations of organisms to their environments.
6. Conduct one or more original investigations which include searching for background information, creating hypotheses, obtaining facts, analyzing data, and writing a comprehensive report.
7. Gather and analyze physiological and biochemical data from organisms, and interpret the molecular basis of those data and the consequences for the organism.
8. Explain basic genetic principles, analyze how they operate within populations, and evaluate the consequences to populations and communities.

Assessments

Formative assessment will consist of brief questions requiring oral or written answers in lecture. Brief quizzes and assignments that involve application of concepts taught in lecture will contribute to instructor knowledge of student comprehension. This timely feedback enables adjustment of curriculum presentation.

Achievement of the Student Learning Outcomes will be by written midterm and final exams, periodic quizzes, written lab assignments, practical lab exams, and oral presentations of selected topics. Each student will conduct an original investigation, either in lab or field-based, and complete data analysis and interpretation. Effectiveness of lab work will be evaluated by reviewing student lab portfolios, including their personal statement on what they learned from each activity.