



## BIO 122: Fundamentals of Biological Science II

A consideration of evolutionary theory, including population genetics and a survey of major taxonomic groups of organisms with emphasis on their adaptations and ecology. Prerequisite: BIO 121 with a grade of C or better. Three lecture hours and three laboratory hours per week. Instructional Support Fee applies. Gen. Ed. Competencies Met: Scientific Reasoning and Discovery.

### Course Student Learning Outcomes

1. Explain the importance of Evolution as the foundational theory of Biology; including the core concepts of evolutionary science – natural selection, genetic drift, gene flow, speciation, and the Hardy-Weinberg Equilibrium. 2. Describe the various hypotheses regarding the origins and evolution of life, including the role of horizontal gene transfer 3. Describe and apply systematics and taxonomy of organisms, with an understanding of phylogenetic trees as evolutionary hypotheses. 4. Compare and contrast the ecological roles; and morphological and physiological characteristics of different taxonomic groups of organisms. 5. Explain organismal interactions at the levels of populations, communities, ecosystems, and biosphere. 6. Critically analyze scientific data and literature in written and oral communication

**Credits:** 4

**Program:** Biology