BIOL& 221 : Ecology and Evolution with Lab

Credits 5
Quarter Offered Fall
First course in the three-quarter sequence of introductory biology for science students. An introduction to evolutionary and ecological processes involved in the generation of our planet's biodiversity, including a review of patterns and processes that influence the origin, evolution, distribution, and abundance of living things. This class may include students from multiple sections. (Natural Sciences with Lab, Elective)
Prerequisites
Eligibility for ENGL& 101; completion or concurrent enrollment in MATH 98 or equivalent
Course Outcomes

Read, correctly interpret, and critically evaluate biological information in books, journals, online resources, and the popular media.
Explain and give examples of the basic themes and concepts of ecology, including abiotic and biotic factors, the ecology of individuals, interactions, populations, communities, ecosystems, landscapes, global ecology, succession, and conservation biology.
Explain and give examples of the basic themes and concepts of evolution, including natural selection, sexual selection, genetic drift, gene flow, mutation, microevolution, Hardy-Weinberg equilibrium, and macroevolution.
Explain and give examples of the evolution and diversity of animals.
Correctly and safely use scientific equipment to make observations and collect data.
Apply quantitative analysis to solve problems in hypothetical and real situations.
Demonstrate ability to process information and experiences in the form of laboratory write-ups and project presentations to convey findings of library research and/or scientific inquiry using appropriate language, format, and graphical methods.
As a group (3-6 students) design and conduct a scientific exploration, interpret results, and explain findings in a logical and appropriate manner using critical thinking and problem solving skills.
Describe connections of the covered concepts of biology to their local environments and daily lives.