BIO 221L Principles of Terrestrial and Aquatic Ecology Lab

General Information

Date September 13th, 2023
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Department Science and Technology
Course Prefix BIO
Course Number 221L
Course Title Principles of Terrestrial and Aquatic Ecology Lab
Dual Listing (also listed as): CON 202L

Course Information

Catalog Description In this hands-on laboratory-based course, students will have the opportunity to conduct studies and perform experiments that enrich their knowledge and understanding of the scientific concepts learned in the lecture portion of CON 202/BIO 221 Principles of Terrestrial/Aquatic Ecology. Laboratory exercises will include a combination of field trips and observational and experimental studies as well as in-classes exercises aimed at preparing students for upper level coursework in the field of ecology (e.g. reading scientific papers, presenting data, interpreting graphs).

Credit Hours 1
Lecture Contact Hours 0
Lab Contact Hours 2
Other Contact Hours 0
Grading Scheme Letter

Prerequisites

CON 202/BIO 221 Principles of Terrestrial and Aquatic Ecology AND BIO 122 General Biology II OR BIO 125 Foundations of Life Science; minimum grade C -

Co-requisites

CON 202/BIO 221
First Year Experience/Capstone Designation

This course DOES NOT satisfy the outcomes applicable for status as a FYE or Capstone.

SUNY General Education

This course is designated as satisfying a requirement in the following SUNY Gen Ed categories
None

FLCC Values

Institutional Learning Outcomes Addressed by the Course
None

Course Learning Outcomes

Course Learning Outcomes

1. Exercise the steps of scientific method from the initial stages of collecting observations, to building hypotheses and analyzing results

2. Review, interpret, evaluate, and analyze peer-reviewed scientific studies that are related to laboratory exercises

3. Execute standard ecological sampling procedures, calculate and analyze data, and compare these results to those published in peer-reviewed, scientific papers

Outline of Topics Covered

I. Population Ecology
   a. Population Dynamic Studies (e.g. life history / cohort tables, mark-recapture experiments, dendrochronology studies, intra-specific competition experiments)

II. Community Ecology
   a. Field Sampling of Different Communities
   b. Species Interaction Experiments (e.g. interspecific competition experiments, predator-prey studies)
   c. Species Richness / Biodiversity Sampling

III. Ecosystem Ecology
   a. Biogeochemical Studies (e.g. carbon flow experiments, nutrient cycling studies)