BIOL-UA 16 Ecological Field Methods

Instructor:
Katie Schneider-Paolantonio

Course Description:
The main objective of this course is to provide you with the skills needed to design and implement field experiments, interpret data and present ecological research. While investigating real habitats, such as forests, salt marshes and urban landscapes, you will gain experience in all parts of the scientific method. Examples of data collected include spatially referenced biological surveys and measurements of abiotic parameters. Ecological techniques will be nested within greater contexts of questions in biodiversity and community structure, invasion biology, urban ecology, habitat alteration and climate change. Scientific communication skills will be strengthened through written assignments and discussion of peer-reviewed scientific literature. A significant component of this class will be an independent group research project. During approximately half of our lectures, we will be meeting at off-campus field sites. Please inform me if you need any specific accommodations to access or visit these sites. You will be responsible for your own transportation to some of these locations (accessible via public transportation). Some classes may run a little late or early with required travel time. Students should not schedule meetings or classes either directly before or after our class time. During alternating weeks when we will not be in the field, we will have shortened class periods and meet in the laboratory.

Pre-requisite:
Principles of Biology II (BIOL-UA 12) or Environmental Systems Science (ENVST-UA 100)

Co-requisite:
Fundamentals of Ecology (BIOL-UA 63)

Textbook and Required Materials:

Grading:
Writing assignments 43%
Team project 44%
Participation 14%

Topics:
Introduction to the course; lab safety, tour of campus green space Field guides, keys, GPS, Introduction to bird and tree identification
Tree identifications, survey methods Define Groups
Birds, Restoration Ecology & Invasive species 8: 30 birds, 9:30 hallet - 11, 11:30 amnh
Introduction to water chemistry kits and biological sampling Campus Ecology Group Questions
Disturbance, Climate Change Freshwater vs. Saltwater Habitats
Time designated for group work or Jamaica Bay RAIN DATE
Microbiome of Salamanders
Demography
Discussion of demography, Jamaica Bay, Preparation for the Bronx Project Update
Presentation/Consultations
Urban Stream Ecology, River continuum concept Aquatic decomposition and food webs
RAIN DATE Field trip OR
Intro to knots, Jamaica Finalize, Group time
Discussion of Bronx Findings, Soil dwelling invertebrates, Terrestrial decomposition, food webs,
Species Accumulation Curves
Bronx Data Overview/Knots/Any questions on group work