

BIOL 475 Ecological Field Methods**Fridays 1-5pm**

Instructor: Dr. Kimberly Russell

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Office: 431 Colton Hall

Office Hours: MW 1:30-2:30

Introduction and Syllabus

Ecological studies require the qualitative and quantitative characterization of plant and animal populations and the communities and ecosystems they form. Although some modern ecologists spend most of their days in front of a computer screen, the discipline relies on data collected in the field including observations & measurements, species surveys and experimental manipulations. This field-oriented class will examine and characterize animal and plant communities using a sampling of modern ecological methods. In addition to becoming familiar with basic techniques, students will learn how to use these methods to ask relevant questions and test ecological principles. Students will not only collect data but also analyze them and report the results in written and oral format.

Due to weather constraints, roughly the first half of the semester will be devoted to the collection of field data and the second half to the processing and analysis of these data in the lab. BIOL 475 is classified as a writing intensive course, so all students are required to submit two formal lab reports (rough and final drafts).

GRADES

5 Quizzes (5 points each)

2 Formal lab reports (50 points each)

7 Lab Data Sheets (10 points each)

1 Oral Presentation (30 points)

1 Final Exam (75 points)

TEXT

1. Karban, R. and M. Huntzinger. 2006. How to do Ecology. Princeton University Press.

2. (*Optional*). Pechenik, Jan A. 2006. A Short Guide to Writing about Biology. Sixth Edition.

Additional Readings: Labs will be posted on the course website (<http://moodle.njit.edu>) no later than Wednesday morning. Students are required to read the posted lab description prior to attending class. Quizzes will be given at random to ensure students come to class prepared.

Tentative Syllabus

Day	Date	Topic	Assignments
F	4-Sep	Species Distribution in Space: Campus Weeds	<i>Data sheets due</i> Wednesdays
F	11-Sep	Pollination Ecology: Liberty State Park	Karban & Huntzinger Ch. 1
F	18-Sep	Marine Biology: Animal Communities in Sandy Hook	Karban & Huntzinger Ch. 2
F	25-Sep	Bee Distribution & Abundance in an Urban Garden	Karban & Huntzinger Ch. 3

Sat	26-Sep	2009 Saw Mill River BioBlitz	
F	2-Oct	Estimating Populations Sizes: Mark-recapture in an Old Field	Karban & Huntzinger Ch. 4
F	9-Oct	Quantifying the Effects of Disturbance: Deer Enclosures in Morristown National Historical Park	Karban & Huntzinger Ch. 5
F	16-Oct	Optimal Foraging Behavior: Squirrels in campus versus natural settings	Karban & Huntzinger Ch. 6
F	23-Oct	Human Demography and Lichen Succession: Graveyard trip!	Karban & Huntzinger Ch. 7
F	30-Oct	Group analysis and presentation of Pollination Lab	
F	6-Nov	Data collation/Analysis: In Lab	
F	13-Nov	Data collation/Analysis: In Lab	Rough Draft 1 due
F	20-Nov	Data collation/Analysis: In Lab	
F	25-Nov	Student presentations	Rough Draft 2 due
F	27-Nov	Thanksgiving (no class)	
F	4-Dec	Review	Final Paper 1 due
		**Final Exam	Final Paper 2 due
		*rain day 1: Optimal Foraging	
		*rain day 2: Behavioral Observations (video)	

**The final exam WILL be held during the regular final exam period. DO NOT make arrangements to leave town prior to this, as taking the exam early will NOT be an option.

Class Policies

Attendance. All field trips are mandatory! In case of an emergency, notify me prior to the trip. BE ON TIME TO LAB. If you are not there when the van leaves, you will be counted as absent. Please dress appropriately. In the absence of thunder, we will go out in the rain. Wear long pants & socks – some of these places will have ticks. Bring water!

Make up exams, quizzes and late assignments. Make up exams and quizzes will be possible only with a doctor's or a dean's letter or with prior approval. If you have a serious reason for missing an exam, you must call me BEFORE the scheduled exam period to notify me that you cannot take the exam. You are then responsible for arranging with me to make up the test or quiz within two days. Late assignments will be accepted, but penalized 10% of the points available for each 24-hour interval that they are late. E-mailed assignments will be accepted, but at your own risk – i.e., if the file I receive is corrupted or unreadable, it will be counted as late.

Academic dishonesty. I will have zero tolerance for academic dishonesty, including plagiarism or cheating. Instances of dishonesty will be punished by a zero on the assignment and consultation with the office of the Dean of Students to determine if further action is required.

Office hours. I will be in my office in Colton during office hours (unless otherwise noted) and will be happy to meet with students who have questions or concerns. I am happy to answer questions via e-mail during these times. However, if you e-mail me outside of these times, I cannot guarantee how quickly I will be able to respond. Please be patient and you will get a response.