

Principles of Ecology Laboratory
11:216:352
Spring 2022

Section 1: Monday 2:00 – 5:00PM, ENR 123
Section 2: Wednesday 12:10 PM – 3:10 PM, Bartlett 012
Section 3: Wednesday 3:50-6:50pm, Bartlett 012
Section 4: Thursday 12:10-3:10pm, ENR 237

Instructors: Dr. Julie Lockwood
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Office Hours: by arrangement

Course Website:

Course Prerequisites: [11:119:101 and 11:119:102], or [11:119:115 and 11:119:116], or [11:704:101], and previous or concurrent registration in Principles of Ecology (11:704:351).

Course Description: This laboratory course (11:216:352) serves as the companion to Principles of Ecology (11:216:351). The laboratory will extend the scope of Principles of Ecology and not simply reinforce the content of the lecture course. Principles of Ecology Laboratory will involve observations of, and experiments on, ecological principles and phenomena.

We will set up zoom links as needed for virtual sessions.

We will set up lab section Slack channels for communication between students, TAs, and the Instructor.

Learning Goals:

1. Understanding of collecting, organizing, analyzing, and graphically presenting observational and experimental ecological data.
2. Proficiency in developing and testing hypotheses within an ecological context
3. Ability to distinguish between experimental, model, and observational approaches to ecological research; including identifying their respective pros and cons
4. Proficiency in written communication of quantitative results in scientific format

Course text: Lab materials for each week and all materials for the course will be posted on the Canvas site under MODULES. At the beginning of each module there will be a short (~15 minute) video lecture, and scientific readings, that you **are required to watch** before the start of that module. We will assess student adherence to this requirement via Canvas quizzes.

Assignments: All assignments will be submitted via the Canvas site. Assignments must be submitted in Microsoft Word or Adobe Acrobat as a PDF unless otherwise noted. Note that the files must be named in a standard way described on the Canvas site.

Grading: Grades will be determined based on participation, intermediate research deliverables (hypothesis sets; experimental design; graphics), and three written lab reports. We do not curve grades and we do not give extra credit. We do round grades up from the 0.5% level (for example, if your final grade is 86.5%, you will be rounded up to 87%). If you want an A in this class, you have to earn it by showing up to class and participating in lab. Grade cut-offs are as follows:

A	90 TO 100%
B+	87 TO 89
B	80 TO 86
C+	77 TO 79
C	70 TO 76
D	60 TO 69
F	BELOW 60

Grade breakdown:

- Attendance: 10%
- Module Quizzes: 10%
- Hypothesis, Design : 20%
- Graphics: 20%
- Module Write ups: 40%

Attendance, Make-up, and Lateness Policy: This lab is in person. Attendance at every lab is **required** and necessary to earn a good grade in lab. If you arrive to class, either virtually or in person, more than 15 minutes past the start of class you will be counted as ‘absent’ for that day. If you must miss lab for a valid reason, you may attend another lab section but it must be during the SAME week. You must receive prior permission from your TA to make up a lab. **Late assignments will be deducted 10% of the points available for each 24 hours after the assignment was due.**

Academic Dishonesty: The course has a zero tolerance policy for academic dishonesty, including plagiarism and cheating. Please note that while we often work together in this course during labs, all work you turn in must be your own. 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. If you have any questions about what constitutes plagiarism or cheating, please ask your TA or refer to the academic integrity code: <http://academicintegrity.rutgers.edu/academic-integrity-policy>

Schedule (modifications may be made over the course of the semester)

Week of	Lab	Assignment due by end of day
1/18	NO LAB	
1/24	Course Introduction MODULE 1: Using models to test hypotheses Introduction to Netlogo	Module 1 Quiz
1/31	Hypothesis generation; data management	Model Hypothesis Set Due

2/7	Use models to test hypotheses	
2/14	Data analysis, quantitative graphics; report writing	Model Graphics Set Due
2/21	MODULE 2: Ecological Detective Linear Regression Human Demography	Model Report Due; Module Quiz 2
2/28	Hypothesis generation; data management	Observation Hypothesis Set Due
3/7	Cemetery data collection	
3/14	NO LABS SPRING BREAK	
3/21	Data analysis; quantitative graphics	
3/28	Data analysis; report writing	Observation Graphics Set Due
4/4	MODULE 3: Ecological Experiments Red-backed salamanders and frequency dependent predation	Observation Report Due; Module 3 Quiz
4/11	Design; build claymanders, set up transects, set up data collection schedule; data sheet for class	Experimental Design Due
4/18	Claymander data collection	
4/25	Claymander data collection	
5/2	Data analysis, quantitative graphics; report writing	Experimental Graphics Set Due
5/4	Reading Day – NO LAB	Experimental Report Due