

**Principles of Ecology Laboratory**  
**11:216:352 Section 03, Spring 2015**  
**Wednesdays, 3:55pm - 6:55pm, Bartlett Hall 012**

**Instructors:** Drs. Henry John-Alder, Peter Morin, John Wiedenmann

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**Teaching Assistant:** Paul Walberg (paul.walberg@rutgers.edu)

**Office Hours:** by arrangement

**Course Website:** <https://sakai.rutgers.edu>, course 11:704:352

**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 (11:704:352) serves as the companion to Principles of Ecology (11:704:351). 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. Laboratory exercises will introduce students to observational and experimental methods and procedures in ecology and to critical analyses of primary ecological research papers.

**Learning Goals:**

1. Understanding of collecting, organizing, analyzing, and graphically presenting descriptive and experimental ecological data.
2. Ability to read and critically analyze primary scientific literature; ability to identify the rationale of a study, its hypotheses and objectives, its methods, its results, the authors' interpretations, and new and unanswered questions.
3. Written communication of scientific information through researching of topics using appropriate sources, attributing sources correctly, and conveying research in the format of a scientific journal article.

**Course text:** Lab manuals for each week and all materials for the course will be posted on the course sakai site. You should obtain a binder or notebook for use as your lab notebook.

**Grading:** Grades will be determined based on quizzes, laboratory assignments, and a laboratory report (draft and final). Quizzes will begin promptly at the beginning of each lab. Students arriving late will not be permitted to take the quiz. Make sure you read the lab handout before coming to lab so you're prepared! The quizzes will ask about the current week's lab as well as review major concepts from the previous week's lab.

Grades will be determined by the percentage of the possible points earned, following the standard grade scale. Grades are not curved, and extra credit is not available.

<u>Point breakdown:</u>	
Attendance and participation:	40
Quizzes:	60
Assignments:	180
<u>Draft and final lab reports</u>	<u>200</u>
TOTAL	480

**Attendance, Make-up, and Lateness Policy:** Attendance at every lab is **required** and necessary to earn a good grade in lab. You must arrive within 5 minutes of the lab start time to be considered present. More than two unexcused absences will result in a failing grade. You will not be permitted to turn in an assignment for a lab you did not attend. If you must miss lab for a valid reason, you may attend another lab section during the SAME week, but only with appropriate documentation (doctor's or dean's note) of your excuse. You **MUST** let your TA know in advance if you want to make up a missed 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)

Date	Lab	Assignment due in lab**
21-Jan	NO LABS	
28-Jan	Lab 1: Ecological energetics: Allometry of bird eggs I	
4-Feb	Lab 2: Ecological energetics: Allometry of bird eggs II	
11-Feb	Lab 3: Thermal ecology: swimming performance in Daphnia I	Lab 1 & 2 (combined)
18-Feb	Lab 4: Thermal ecology: swimming performance in Daphnia II	
25-Feb	Lab 5: Physiological ecology: habitat selection in response to abiotic cues	Lab 3 & 4 (combined)
4-Mar	Lab 6: Density-dependent population growth in Paramecium	
11-Mar	Lab 7: Predator-prey interactions, Mantid-Drosophila functional response curves	Lab 6
18-Mar	NO LABS - SPRING BREAK	
25-Mar	Lab 8: Estimating abundances and spatial patterns in Tenebrio and Plantago	Lab 7, Draft lab report
1-Apr	Lab 9: Building and analyzing life tables for pea aphids	Lab 8
8-Apr	Lab 10: Stream Ecology in Buell Brook, RU Eco preserve	Lab 9
15-Apr	Lab 11: Interspecific competition in plants	Lab 10
22-Apr	Lab 12: Species area curves I (data collection at HMF)	Lab 11
29-Apr	Lab 13: Species area curves II (analysis of data)	Final lab report
	NO LABS	Lab 12 & 13 (combined)

**\*\*Printed, typed lab assignments are due at the beginning of the following week's lab.**

**Lab Safety:** General safety precautions:

- **No eating or drinking in the lab.**
- Wear closed-toed shoes to lab.
- Follow the directions for lab procedures and ask your TA if you're unsure about how to operate any equipment.
- Keep an organized workspace and label all materials.
- Notify your TA immediately of any injuries, spills, or broken equipment.