

## Ecology Biology 320 - Syllabus Fall 2011

Instructor: Kathleen LoGiudice  
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Office hours: Friday 12:50-1:30, or by appointment  
Lectures: MWF :11:45 – 12:50; Olin 306  
Lab 1: Tues 1:50–4:40; S&E S201 or other designated location  
Lab 2: Wed 1:55–4:45; S&E S201 or other designated location

**Text:** Molles, Ecology, Concepts and Applications, 5<sup>th</sup> Edition

**Final Exam: T.B.A.**

**Objectives of this course are to:**

1. Understand basic theoretical and empirical approaches to the study of natural systems.
2. Learn important ecological concepts and information.
3. Improve writing skills especially in synthesizing and interpreting complex concepts and data.
4. Understand and interpret basic statistics and know when it is appropriate to use them.
5. Understand how mathematical models can be used to help understand complex systems.
6. Develop an appreciation of nature and the services provided by intact ecosystems.

### **1. What you can expect from the course**

Ecology is the study of the relationships among organisms and the mutual influence of organisms and their environment. This course will introduce you to the spectrum of research in ecology, covering 1) physiological ecology, 2) population and community ecology, and 3) landscape ecology and geographic ecology. This is a very field oriented course and you will see that often the lab bleeds into the class and vice versa. We will conduct empirical research in the field and you will learn basic statistical techniques that will allow you to analyze the data that we collect in lab. Outdoor labs and field trips will also serve to increase your familiarity with nature. By the end of the term, you will know about several natural areas within easy reach of the Union campus, and you will be familiar with many of the species encountered in local forests.

My goals in teaching this course are simple: I want you to learn as much ecology as possible *and* I want you to enjoy it. I would be delighted if you all wanted to become professional ecologists, but I don't expect that most of you will go on to serious, post-graduate work in ecology. However, there is still much benefit, both personal and academic to studying ecology. Although the topic of this course is ecology and not environmental science, it is impossible to discuss the natural world without also touching upon some of the effects that humans have on natural systems. As an ecologist, I am very much aware that the future of the biosphere depends on everyone understanding fundamental ecological principles and living their lives accordingly. Therefore, my goal in this class is to inform you as much as possible and try to make the material as memorable as possible so that you will live the rest of your life adhering to sound ecological principles.

## 2. What will be expected of you

### a) *Readings and lectures*

The textbook, *Ecology, Concepts and Applications*, by Manuel Molles systematically covers the content of this course. You may also be asked to read supplemental materials. Keep up with the assigned readings (a tentative schedule is included in this syllabus), which are at most 25-35 pages per class meeting. Lectures will follow the same sequence as the readings, although there may be content that is covered in one but not the other. *You will be responsible for material covered in either format, but the lecture material will represent approximately 80% of the test materials.* Discussion is essential for learning, and I encourage you to interrupt lectures with questions as they come up. You will also be expected to read the laboratory material before lab each week. The lab and course work are fluid and often run into one another. ***Therefore, lab material will be on exams.***

### b) *Exams*

There will be two exams, an in-class mid-term exam and a cumulative final exam. Each exam will comprise essays, short answers, multiple-choice and in some cases, computer-based questions.

### c) *Field work*

Labs meet each week during the term with no lab in week 10. Most of the labs will be outdoors — dress appropriately, expect mud and standing water. Most of the time, rain will not deter our field trips. Written assignments associated with the labs will be a mix of straight data analysis and interpretation and conventional lab reports. Please keep in mind that field trips are unpredictable. I will make every effort to get you back on campus by 4:45 p.m., but on occasion we may be late. Please plan accordingly. Also, you will occasionally be asked to leave early for lab trips or give up your lunch hour (see schedule). Since we do not have lab every week, the amount of time devoted to labs is not excessive.

### d) *Quizzes:*

There will be 2 or 3 quizzes, primarily covering quantitative techniques and species identifications.

### e) *Attendance:*

Lab: Room in the vans is limited and will you often work in small groups where each group member has a specific skill. For this reason, **it is essential that you attend all labs and that you always attend your own lab section.** Switching sections will usually not be possible. Lecture: Although I post the lecture outlines on Blackboard, I do not consider attendance at lecture to be optional, since I depend on your input when shaping the lectures and the material. Also, we may use lecture sessions to learn important statistical and other quantitative techniques. I will take attendance at lectures and more than three absences will result in a reduction in your final grade.

f) *Events outside of the regular class time:*

- During Week 4 we will leave early for our field trip. We will end the class at 12:30 and you will have 30 minutes (12:30 p.m. until 1:00) to get lunch and return prepared for the field trip. We will leave campus for this field trip at 1:00 p.m.
- On Thursday, September 29<sup>th</sup> Dr. Dawn O’Neal from the Edmond Niles Huyck Preserve will present a research seminar in Olin 115 at 12:45 p.m. *Attendance is required.* Her title is: “From Birds to Buffalo: Climate and immune function as mediators of life history traits”.

g) *Assignments*

**Lab reports.** You will submit brief analyses of the data from several of the labs throughout the term. You will also write one conventional lab report in this course. It will be broken into several assignments designed to get you to read the literature and to practice writing clearly and succinctly (technical writing style). You will perform peer reviews of each other’s work and submit a full re-write incorporating the reviewer’s comments.

3. **Writing:**

- a. You will have 1 significant writing assignment (a full scientific paper based on the data collected on our biodiversity/forest fragmentation labs), but you will also have a number of smaller statistics assignments and problem sets. You should treat every assignment as a writing assignment. You will be graded not only on your ability to solve the problems and interpret the statistical results, but also on your precision in language and the effectiveness of your writing.
- b. Each assignment produced for this class that includes a figure should also include a well written figure caption. Assume that every figure is to be included in a paper submitted to a scientific journal.

4. **Evaluation**

Item	Weight	Week
Mid-term Exam	20%	5
Annotated Bibliography/scientific writing exercise	15%	3
Urban Biodiversity Paper		8
Peer Reviews	5%	9
Final Version (response to reviewers)	20%	10
Quizzes, homework, participation:	15%	Various
Final Exam	25%	

**A word on academic honesty:** It is imperative that you thoroughly understand the definition of plagiarism and assiduously avoid. You would be surprised how many students reach their senior year without fully understanding exactly what is considered to be plagiarism. Please read the definition below and ask for clarification if any of it is not consistent with your understanding of the issue. We will employ Turnitin.com in this class. You will submit each long writing assignments (Ecology in the News and both versions of the Lab Report), electronically to Turnitin.com on the day that it is due. I expect to use Turnitin almost exclusively as an instructional aid, to point out when wording or concepts are dangerously close to another writer’s, but if it should turn up an egregious case of academic dishonesty, I will not hesitate to

take it to Dean Bidoshi (which I really hope doesn't happen!). Turnitin also levels the playing field so that all students are treated equally.

Definitions of cheating and plagiarism provided below are adapted from "Tools for Teaching," by Barbara Gross Davis, Jossey-Bass Publishers, San Francisco, 1993 and from the webpage of Deborah Achtenburg (<http://www.unr.nevada.edu/~achten/Ari07MetCO.html>).

**"Cheating** means getting unauthorized help on an assignment, quiz, or examination (1) you must not receive from any other student or give to any other student any information, answers, or help during an exam. (2) You must not use unauthorized sources for answers during an exam. You must not take notes or books to the exam when such aids are forbidden, and you must not refer to any book or notes while you are taking the exam unless the instructor indicates it is an "open book" exam. (3) You must not obtain exam questions illegally before an exam or tamper with an exam after it has been corrected. You have committed plagiarism if you purchase a term paper or submit a paper as your own that you did not write."  
**"Plagiarism** means submitting work as your own that is someone else's. For example, copying material from a book or other source without acknowledging that the words or ideas are someone else's and not your own is plagiarism. If you copy an author's words exactly, you must treat the passage as a direct quotation (put it in quotes "") and supply the appropriate citation. Changing a few words in a phrase or sentence is not enough to avoid plagiarism. It is fine to paraphrase someone, but when you do, you must say so. You can make it clear by saying "Jacobsen et al. (2006) found that . . ." or "Several authors (Chu 2002, Rajput and Kirk 2005) indicated . . ." If you use someone else's ideas, even if you paraphrase the wording, appropriate credit must be given. Finally, do not utilize even short phrases from another person's work without a citation."

***Turnitin.com: Class ID: 4306913; Enrollment password: EcologyF11***

5. **Electronic devices:** Please show your respect to me and your classmates by turning your phone off during class. No phones, pda's or other electronic devices will be allowed during exams or quizzes.
6. **Final Grading Scheme:**
  - 94-100 (A), 90-93 (A-): Indicates excellent critical analysis, writing skills and attendance, active and insightful contributions to discussions, exceptional understanding of material.
  - 87 – 89 (B+), 84 – 86 (B), 80 – 83 (B-): Indicates good critical analysis skills, good attendance and participation, good understanding of course material.
  - 77 – 79 (C+), 74 – 76 (C), 70 – 73 (C-): Indicates adequate critical analysis skills, average attendance and participation, satisfactory understanding of course material
  - 60 – 69 (D): Inadequate critical analysis skills and inability or unwillingness to really think about the material. Poor participation and/or attendance (missing more than 4 classes or any labs without valid excuse) usually indicate that the student just didn't try very hard.
  - Below 60 (F): Self explanatory.
7. **Special Needs:** I encourage students with disabilities, including non-visible disabilities, to discuss with me (during office hours, by appointment or after class) appropriate accommodations that might help facilitate your learning. You will need appropriate documentation in the Dean of Students Office. All discussions will remain confidential.
8. **Lab Manuals:** Rather than have the Book Store print off the lab manual and charge you for it, I will photocopy the lab manual and give it to you as separate handouts. You should bring in a **3-hole binder** so you can keep the labs together and use them to study for exams. Always bring your lab manual to lab.

*Lab Schedule Fall 2011*

<b>Date</b>	<b>General description</b>	<b>Details</b>	<b>Assignment</b>	<b>Location</b>	<b>Time</b>	<b>Week</b>
9/7			No Lab			
9/12 & 9/14	Mark Recapture	Estimate population size of blacknose dace via mark/recapture	Enter data, data analysis	Plotterkill Preserve	Normal lab	1
9/19 & 9/21	Carbon storage	Set grid and measure DBH of trees	Enter data/ data analysis	Various	Normal lab	2
9/26 & 9/28	Landscape/ Urban Ecology I	Train to use cameras, tracking plates, vegetation sampling; mark/recap analysis	Learn species for quiz	Lab, campus	Normal lab	3
10/3 & 10/5	Landscape/Urban Ecology II	Visit field sites, set up transects, cameras, etc. bird/amphibian sampling.	Annotated bibliography	Reist Sanctuary & Environs	<b>Long trip 1:00–4:35</b>	<b>4</b>
10/10 & 10/12	Landscape/ Urban Ecology III	Visit field sites, set up tracking plates, check cameras, etc. bird sampling.	None	Reist Sanctuary & Environs	Normal lab	5
10/17 & 10/19	Landscape/ Urban Ecology IV	Remove tracking plates, cameras, bird sampling.	None	Reist Sanctuary & Environs	Normal lab	6
10/24 & 10/26	Data capture	Island Biogeography Model/Data capture	Results & interpretation	Lab	Normal lab	7
10/31 & 11/2	Albany Pine Bush Ecosystems	Rare, fire-maintained ecosystem, a restored, remnant site and a degraded site.	None	Albany Pine Bush	Normal lab	8
11/7 & 11/9	Carbon storage or survivorship (weather dependent)	Analyze carbon storage data and compare with data collected elsewhere or collect and analyze survivorship data.	Data analysis	Lab or cemetery	Normal lab	9
11/14			No Lab			10