

Welcome to Community Ecology ZOO 5413

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Class hours: 1:30-3:00, Sutton 111

Office Hours: by appointment

Prerequisites: Principles of Ecology 3403 (or equivalent), Calculus. Please check with me if you are missing one of these prerequisites.

Web Site: Our web site is accessible via <https://ou.blackboard.com>. This requires your university 4x4, plus a password. Contact the Technology Information Center (TIC) at 325-INFO (325-4636) if you have questions about your 4x4 or password.

How I contact you: All of my communication to you outside of class will take place via email. Specifically, I will use the email registered to you by the University of Oklahoma. If you use another ISP for your email, make sure you let the TIC know. To do this, go to <http://www.ou.edu/helpdesk> and click "Your OUNet account". You will also need Adobe Acrobat Reader free software that is installed on OU computers and can be downloaded from the following website:

<http://www.adobe.com/products/acrobat/readstep2.html>.

Required readings and assignments: By 12:00PM Friday, I will have posted the next week's readings and writing assignment on Blackboard. Most will be available for download as PDFs. However as this is not always possible, \$15.00 will be charged to your bursar account to cover photocopy expenses. Photocopies will be available in Richards 314 by 1:00PM on Friday.

About Community Ecology

Community Ecology (CE) studies the properties of species assemblages (e.g., diversity, abundance, morphology, and function). CE arose at the end of the 19th century as an attempt to understand the "balance of nature". Given the bewildering variety of species that can be found in a prairie, pond, or forest, naturalists were curious why there were repeated patterns of species composition and life form. CE melded two traditions—physiology and biogeography—in pursuit of these answers. Even then, CE questions had an applied bent; early ecologists were often range scientists or wildlife managers. Back then, (e.g., in the Dust Bowl of the 20's) there was a grave concern that humans were doing irrevocable harm to the structure and functioning of biotic assemblages.

CE is in an exciting state of flux. There is no definitive textbook, no standard curriculum. There is enormous opportunity for groundbreaking work for those able to recognize and act on opportunities. This may mean discovering the perfect biological system to approach an old problem, or an established set of theory perfectly applicable to CE.

Course Goals

I have four goals for this course (you may have more).

Introduce you to some of the main ideas in CE—This course is not a panoramic overview of CE. The reason for this is two-fold. First, such an overview would not allow us to really chew on some of the major controversies and hot topics. Second, CE is an integrative science, and its subject matter naturally bleeds into comparative physiology, evolutionary biology, population biology, biogeography, conservation biology, reclamation ecology...well, you get the idea. If there is a single focal point for the papers we choose, it will be biodiversity, as both a cause and result of variety of interesting processes.

Practice critical thinking—Critical thinking involves using a variety of forms of information, synthesized logically, to solve a problem. Critical thinking is a key tool for any educated citizen of the planet, and is essential for a practicing scientist. It will be my job to give you a structured opportunity to practice critical thinking by interacting with the literature, your colleagues, and me. This means giving you readings and assignments that allow you to stretch your mental muscles a bit.

Practice writing—A great way to practice critical thinking is to write out your argument—an idea that sounds great in your head may be less wonderful when down on paper. In this class, you will write short paragraphs and longer essays that ask you to synthesize and apply what you have learned.

Practice reading the literature—The primary literature remains the first front in the advance of science. The quantity of the literature is growing exponentially. Reading it *effectively* is a skill that can be learned and practiced.

Toward achieving these goals

By now, 95% of your education has likely been structured around lectures. Lectures are good tools for downloading information. They require a particular dynamic. This dynamic, bluntly stated, is "professor professes, student writes it down". Lectures, however, are pretty lousy ways to learn how to engage the literature and to learn how to read and think like a scientist. Instead, we will use the following tools to work on our community ecology skills.

Readings and the case method—We will use the case method to dissect these manuscripts. Through this analysis, we get to know the material by working with it, not by memorizing it. Thus for a typical class, you will be given one or two readings, plus some study questions. For the 1 hour and 30 minutes of each class period, we will work our way through the readings in order to better understand the context of the study, its major findings, its flaws and strengths. At the beginning of each class, I may select two

students will read their essay paragraphs in order to get the ball rolling.

Essay Paragraphs—For each class meeting, you will be asked to write a short essay on a study question key to understanding that week's topic. These paragraphs are an opportunity to get some feedback on your writing and to engage the material. Paragraphs must be typed. They will be graded check minus, check, or check plus.

Field Trip—We will visit the Sevilleta Biological Station in New Mexico for a 5-day field trip from 9-13 September. *Note this is a required part of the course—no exceptions.* The OU Zoology department is picking up the cost of the transportation, but you will be responsible for paying for room and board. More on this field trip later.

Term Paper—Two thirds of the way through the course you will have the opportunity to delve into a subject in community ecology that interests you. This five-page paper will be written as a synthetic review, in the style of Trends in Ecology and Evolution. This will receive a letter grade.

A word on my grading philosophy--This course is an opportunity to have some structured time in which to pursue course goals. Students who show a good-faith effort (i.e., are prepared for class, turn in assignments, show progress, and contribute to discussions) can expect an A or B. Serious deviations from such a good faith effort will result in lower grades (graded on a 90, 80, 70 curve). To construct this percentage grade, I use the following weights: Participation (30%), Paragraphs (30%), Term Paper (40%). Midway through the course, I will present each of you with a mid-semester grade report. I encourage you to come by to discuss these during office hours, or by appointment.

Important Announcements

It is the policy of the University to excuse absences of students that result from religious observances and to provide without penalty for the rescheduling of examinations and additional required class work that may fall on religious holidays

Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities

Important Dates:

9-13 September—Field trip to Sevilleta

8 October—Mid term evaluations

5 November—Topic of term paper due.