Community Ecology ZOO 5413

Teacher: Mike Kaspari, 311 Sutton Hall
Email: mkaspari@ou.edu
Class hours: 10:30-11:45, Richards 304
Office Hours: by appointment
Prerequisites: Principles of Ecology 3403 (or equivalent), Calculus.
Suggested Books: *Ecology: from individuals to ecosystems*, by Begon, Harper and Townsend, *A Primer of Ecological Statistics,* by Gotelli and Ellison. Both are available, used, online.
Web Site: Our syllabi, readings, and announcements are available on Desire2Learn. Also, this is the place you will upload your writing assignments.
How I contact you: All of my communication to you outside of class will take place via email. I will use the email registered to you by OU.
Required readings and assignments: By 5:00PM Friday, I will have posted the next week's readings and writing assignment on the Desire2Learn. Unless otherwise specified, these will be available as PDF downloads, with supplementary reading from your textbooks.

About Community Ecology

Community Ecology (CE) explores the properties of species assemblages (e.g., diversity, abundance, morphology, and function). It arose at the end of the 19th century as an attempt to understand the "balance of nature". Given the 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. From the start, 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 (the two textbooks I have assigned are for reference). There is ample opportunity for groundbreaking work in CE for those able to recognize and act on them. 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. Such an overview would not allow us to chew on any major controversies. Furthermore, CE is an integrative science, and its subject matter naturally bleeds into comparative physiology, evolutionary biology, population biology, biogeography, conservation biology, and reclamation ecology. 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—Writing out your argument is the best way to practice critical thinking. An idea that sounds great in your head may be less wonderful down on paper. In this class, you will write two paragraphs a week on topics that require 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 formal education has been structured around lectures. Lectures are good tools for downloading information. They require a particular dynamic. This dynamic, bluntly stated, is "professor professes, student transcribes". Lectures, however, are pretty lousy ways to learn how 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 manuscripts. For a typical class, you will be given one or two readings, plus some study questions. For the 1 hour and 15 minutes of each class period we will work our way through the readings in order to better understand the context of the study, major findings, flaws and strengths of each study. At the beginning of each class, I may select two students to 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 some aspect of that week's topic. These paragraphs are an opportunity to practice your writing and to engage the material. Paragraphs must be submitted online (via Desire2Learn) by 10:00AM the day of class. They will be graded pass/fail.

Critiquing Paragraphs—Toward becoming better writers and editors, you will be given the opportunity to critique other folks writing and attempt to improve it.

A word on my grading philosophy--This course is an opportunity to have some structured time in which to pursue course goals. I will assign grades based on the following criteria:

A: Attends class and voluntarily contributes to the daily discussion. Answers when called upon. Completes all essay paragraphs. Shows progress, thinks creatively, and is consistently engaged.

B: Attends class and will occasionally volunteer a viewpoint. Answers when called upon. Completes essay paragraphs, but is not consistently engaged.

C or lower: Misses class, rarely contributes to discussion (voluntarily), does not answer when called upon, and fails to complete essay paragraphs.

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

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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

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