

Biology/Env. Studies 419- Community Ecology, Fall 2008
Dept. of Biology, Washington University

T, Th 2:30-4
Life Sciences 118

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Office hours:	Tuesday 1-2:30PM	Thursday 1-2:30 PM

Course website: <http://www.nslc.wustl.edu/courses/Bio419/bio419.html>

Course overview:

Community ecology is a conceptually complex field that requires understanding of both theoretical and empirical issues. Throughout, there will be much discussion of theory, and you will be expected to become facile with the models and their applications. There will also be several computer labs and directed discussions that are designed to give a more intuitive understanding of the models discussed in lectures. In all classroom activities, including lectures, we expect students to play an active role in classroom learning. This is not a passive science, and there will always be interesting and important issues to be discussed.

Assignments and Grading:

1) Take-home 'problems': 2 x 15 % = 30%

There will be two take home problems given over the course of the semester. You are welcome to work in groups on the problems, but your discussions of the answers should be your own. Answers to problems should be both scientifically correct and professionally written and illustrated. Points will be determined by both factors.

2) Literature commentaries/critiques: 2 x 10%=20%

Choose one or more recent papers on a topic from the previous sessions. Write a 3-5 page double spaced paper (not including references) that is fully referenced (10-20 citations), that either (1) discusses the paper/concept and its role in the development and/or advancement of the field—this will generally be a positive paper, or (2) critiques the paper/concept, discussing its limitations—this will generally be a more negative paper. Over the course, you must do 2 of these commentaries/critiques, one of each category (commentary or critique). Full details of the commentaries/critiques will be given in a forthcoming handout.

2) Model presentation (10%) and term paper (30%)

A 'Concepts' paper and presentation on a model that you develop. You can choose any topic so long as it relates to the broad area of community ecology covered in the course. For those needing more guidance, we will provide a series of questions that could form the base for such a paper. The paper should be 15-20 pages (longer is fine) of double-spaced text (not including

references and figures) and should be written as if it were going to be submitted for publication to Ecology (see www.esa.org for Author Guidelines). The only strict requirement is that the paper includes a conceptual model that addresses previously undeveloped ideas—your model MUST have a quantitative component (equations, computational simulations) to it, but it can also include graphical and/or verbal modeling. You are also required to prepare a written proposal for this project, including background and justification, as well as relevant literature.

3) Class participation: 10%

Participation in classroom discussions/activities is mandatory. Students should read assigned readings before lectures, discussions and labs, and play an active role in learning and participating during all classroom activities. Successfully completing computer labs will also be graded in this category.

*All late assignments will be marked off 10% per day late.

Readings:

Although there is no required book for the course, there will be required readings before most lectures. There are 3 books from which many readings will be required. These can be ordered directly from the publishers or amazon.com. If you are interested in a possible career in ecology, I would strongly recommend that you own these books. In addition, they will be available on reserve at the library:

Gotelli 2001. A Primer of Ecology. 3rd edn. Sinauer Associates
Morin 1999. Community Ecology. Cambridge University Press
Chase and Leibold 2003. Ecological Niches: Linking Classical and Contemporary Approaches. University of Chicago Press.

In addition to readings from these books, we will assign readings from the primary literature (generally review papers, book chapters, and the like); these will be made available on the course website. Readings will be assigned prior to each session, and you are strongly encouraged to read the assigned readings before each class session. Your performance in lectures and discussions will depend critically on your ability to read and comprehend material before class.

<i>Date</i>	<i>Topic</i>
August 28	<i>Lecture:</i> Introduction: Questions and approaches
September 2	<i>Lecture:</i> Population growth and dynamics
September 4	<i>Lecture:</i> Interspecific competition
September 9	<i>Computer Lab:</i> Lotka-Volterra competition
September 11	<i>Lecture:</i> Predation

November 25 ***Discussion:*** Global climate change and biodiversity

November 27 *Thanksgiving—no class*

December 2 ***Project presentations***

December 4 ***Project presentations***

****Model paper due on Friday, 12/19***