Community & Ecosystem Ecology (EEOB 720)
Spring Quarter 2011
General Information

Instructor: Dr. Jim Bauer
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Co-Instructors:
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Dr. Gil Bohrer, CEE
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Course Theme and Structure:
This year the course will focus on ecosystem ecology and biogeochemistry of ecosystems. Community ecology will occupy only a relatively small part of the entire course and will not receive any formal treatment. In an ecosystems ecology approach that detailed features and roles of individual organisms, populations and communities are de-emphasized and integrated, and the net impact of these and other levels of organization on overall ecosystem elemental and energy budgets and cycles is evaluated. Our general approach in the course will be highly interdisciplinary and will examine the interplays and feedbacks between key physical, chemical, geological and ecological parameters and processes.

Classes will consist of a mixture of standard lectures, student-led presentations/discussions, guest lectures, and tours and demonstrations of selected ecosystems and measurement approaches. Details are provided in the separate “Class Schedule and Syllabus” document. Because this is an upper level, largely graduate, class your participation is as important as mine and the co-instructors’. As a result, you will be expected to ask questions and challenge information and concepts during lectures, participate and interact fully at the level of colleagues in the student-led presentation/discussion classes, and to wring as much information as possible out of course. Passive behavior is discouraged!

Finally, the course will examine key features of the three dominant ecosystem types: terrestrial, inland (fresh) waters, and marine ecosystems. Inasmuch as possible we will emphasize a comparative approach between and among these major ecosystem types, and examine the similarities and differences in the processes controlling the functioning of each.
Textbooks:
➤ $44.99 from Amazon
➤ $62.36 from Amazon
➤ $33.07 from Amazon

Other readings will primarily be provided to you as PDF files sent either directly to you via email or posted on Carmen. These are listed as part of the assigned readings in the detailed syllabus and the full citations are provided immediately after the class schedule in the same document.

A note on readings assigned from the primary literature: In a course such as this, becoming familiar with the relevant primary literature is a cornerstone of your development as a scholar and informed scientist. You will note that the assigned reading list is extensive and possibly a bit daunting, but rest assured that these selected readings represent a tiny part of the tip of the iceberg of relevant literature in ecosystem ecology. The readings that have been chosen are intended to give you a sense and flavor for everything ranging from historical context and perspective on the development of ecosystem ecology, to large-scale earth processes impacting the development and function of terrestrial, freshwater and marine ecosystems, to cutting-edge contemporary research and findings on ecosystem ecology related to, for example, climate change.

Question: “Do I need to read everything and understand it in detail?” Understanding even a single peer-reviewed paper can take many readings, often over extended periods of time, to fully comprehend, even for experienced scientists. Authors are also human, and some write and explain things better than others. My expectation of you is that you read over each paper carefully to try and glean as much as you can, and take with you the 2-3 most important take-home messages of the paper. If a paper interests you, spend more time with it and check out others related to it in its literature cited section, and/or do a search on the topic to find even more up-to-date publications. The primary literature is a resource for all of us to use in our development and to nurture our interests.

You will not be grilled on the assigned papers from the primary literature in the exams, but you may need to draw on the concepts and important findings in them as examples to illustrate parts of your answers. So at a minimum you will need to at least be familiar with each assigned paper and the main concepts and findings in it.

Assigned chapters from various books are more likely to relate directly to lecture material, and as such you should use those readings to reinforce and embellish the topics covered in lecture.
If, on your own, you should encounter interesting peer-reviewed papers that are relevant to the class, I would very much like to hear about them so that I can bring them up in class when appropriate, and post them for others to take a look at as well if they wish.

Finally, note that you are expected to be well-versed in the papers assigned for the discussion classes. You should plan to read the discussion papers over several times in order to understand them as fully as possible, to formulate your ideas and questions ahead of the discussion classes, and to be able to participate in an informed manner during the discussion classes.

Additional class documents you will need to be familiar with:
   1) “Class Schedule and Syllabus”. This includes the topics and activities to be covered each class meeting, assigned readings and full citations of papers assigned.
   2) “Guidelines for Discussions”. This provides expectations and general guidance for the student-led discussion classes, including the ~25 min. introductory presentation and the subsequent discussion of the assigned paper.
   3) “Student Discussion Evaluation Form”. This form must be filled out and emailed to me by the end of the day following each student-led discussion class. Your scores and responses will be compiled and used to provide constructive feedback to that presenter/discussion leader.
   4) “Critique Guidelines”. As part of the course you will conduct a critical review of a peer-reviewed paper – this document provides information on the expectations for this assignment, as well as guidance and recommendations for what a successful critique should include.

Grading:
Your final course grade will be based on the following:

Mid-term exam: 25%
Final exam: 25% (non-cumulative)
Student-led presentation and discussion class: 20%
Participation in all student-led discussion classes: 10%
Critical writing assignment: 20%

You are also expected to:
   i) submit 2 compelling and thought-provoking questions for each discussion class no later than 12:00 noon prior to that class to the discussion leader, who will compile them (and edit them, if necessary) and distribute the night before the discussion class. Your questions are to be based on your reading of the assigned paper for that discussion class. You must bring your own copy of the compiled discussion questions to that class after receiving them from the discussion leader.
   ii) submit discussion class evaluations no later than the evening of the day following that discussion class. These are to be emailed to me.
   iii) participate in all class trips and demonstration activities.
While you will not be graded specifically on these 3 things, failure to be responsible for them will result in points being deducted from your final course grade at the end of the quarter.

Other Policies:
Students with disabilities will be accommodated to the fullest extent possible. See http://www.ods.ohio-state.edu/ods/accser/index.htm for more information on the disability services that are provided by OSU.

Any forms of cheating, plagiarism, or other academic misconduct will be handled in accordance with the policies set forth by OSU's Committee on Academic Misconduct, which may be viewed at: http://oaa.ohio-state.edu/coam/code.html.