NR 103 - Ecology, Ecosystems, and Environment  
- Spring 2008-

Lecture: Tuesday and Thursday – 9:30 to 10:45  
Room 104 Aiken

Instructor: John Shane  
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Teaching Assistant: Lesley Schuster  
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Office Hours:  
I. See posting on my office door  
II. Whenever you can find me  
   - I’m almost always in Aiken somewhere.  
III. More formally -- any time by appointment

Office Hours:  
Mon 11-noon, Wed 1-2

Text: We will use the same ecology text you referenced for NR1  
(Smith and Smith)—there may be supplemental readings assigned

Web: http://www.uvm.edu/~jshane/nr103  

will have:  
-- syllabus  
-- lecture outlines  
-- homework

Description:

In NR 1 you were introduced to the natural world - its dynamic nature, and some of its processes. You were asked to observe, record, wonder about, and describe aspects of the environment. NR 103 is designed to go beyond these descriptions. We will examine forces that control physical aspects of ecosystems; manners in which individual organisms respond to the physical environment; and ways in which groups of individuals (populations) interact. We will deal with a variety of scales ranging from molecular through individual, population, community, ecosystem, and landscape levels.

NR 103 is part of the SNR Core, and is delivered as part of the NR 103-104-105 set. Together, these 3 courses will emphasize understanding environmental and natural resource issues from ecological and social perspectives.

Grading:

Quizzes and Homework -- 25%

This work will consist primarily of take-home assignments. Usually the work will be problem oriented, and will focus on readings and lecture material. You are encouraged to discuss and debate potential answers with classmates, and you may ask me, or any other source, for clarification. However, the work that you submit must be your own; your own work, your own words, reflecting your own understanding.

Exams: mid-terms (2) -- 50% (25% each) and final -- 25%
Exams will be based on readings and lecture material. They may include short answer, mini-essay, and problem-solving questions. I am most interested in your ability to digest class material, to use these concepts when thinking about a situation, and then to formulate reasonable, defendable, responses. So, you can expect questions that require synthesis and thought.

Study groups:

I suggest that you try and form informal study groups. Based on feedback from previous semesters, many students have found that it is extremely helpful to study on a regular basis with other members of the class. Simply meeting with a few other students to discuss class material for an hour or so on some regular schedule has proved beneficial. Often another student can provide insight, or a different perspective; more than likely you can provide the same!

Review sessions:

If there is sufficient interest (more than 1 or 2 students) I will be happy to schedule review sessions prior to exams. I only ask that you give me enough notice that I can schedule a room. I anticipate that these sessions would need to occur in the late afternoon/early evening.

Lecture outlines:

It is easy to get lost when taking notes. Listening and writing at the same time can get confusing. This can be particularly troublesome in an ecology class, because the material builds on itself; missing even a small piece can cause problems. I will try to distribute a detailed outline (NOT a set of notes!) for each topic. I will also try and place these on the class web-page. My hope is that organizing your lecture notes to coincide with this outline will provide additional clarity to the class material.

Course Outline:

Introduction:

- Introduction and general principles
- Humans and ecology - global change

Physical Environment:

- Energy and light
- Water
- Temperature-weather-climate
- Soil

-----Tuesday October 7th -- Mid-Term Exam -----
Organism Response to the Physical Environment:

- Adaptation and Acclimation-genetics, population change, and evolution

- Expressions of adaptation and acclimation
  - Responses to light
  - Responses to temperature
  - Responses to moisture

Groups of Organisms- families, populations, and species

- Life histories
- Properties of populations
- Population growth
- Population regulation (intraspecific competition)

-----Tuesday November 4th -- Mid-Term Exam ----- 

Population Interactions:-

- Interspecific competition
- Herbivory and predation

Community-Level Factors:-

- Community concepts and measures
- Multiple communities (landscapes)
- Bioregions

Ecosystem-Level Processes:-

- Productivity
- Nutrient cycling

-- Thursday December 18th -- 8:00 AM ---FINAL EXAM -----