Plant Ecology
EEB 433
Spring 2017 T/R 11:10-12:25

Instructor:
Dr. Jennifer Schweitzer
Jen.Schweitzer@utk.edu
Office Hrs: TR 1:30-2:30 or by appt.

Teaching Assistant:
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Office Hrs: By appt.

Course Objectives: Gain knowledge and a working toolkit of the fundamental concepts/techniques in plant ecology, including topics such as plant interactions with climate, microorganisms/microbiomes/herbivores, community dynamics and plant-mediated ecosystem processes. By the end of the course students will have a working knowledge of the major concepts, current research being done and a toolbox of lab and field techniques in plant ecology. Specific skills that will be developed include how to read, understand, synthesize and write ecological literature, experimental design, field/lab sampling techniques, lab analyses of plants and plant processes, statistics/data analysis, and science communication.

Assessment:
Quizzes/assignments 120
3 Group Projects (50 pts each) 150
Blog posts 100
370 total points

Quizzes/assignments will be near weekly (online or in class). They will be based on the readings and problem-sets and are designed to ensure core concepts have been understood and practiced.

Group projects are experiments performed by groups of 3-4 students on ecological topics. Groups will implement an experiment, analyze the data and write up a research paper in scientific format (models on Bb). The 3rd project will be based on a field project.

Blog is to be focused on any broad concept in Plant Ecology (instructors permission required). Posts (BP) of 1500 words will be written relating to that unit topic as related to the broad concept; 4 posts in total.
Final grades will be based on the following percentage of total points:

A  90-100  B+  87-89  B  80-87  C+  77-79  C  70-77
D+  67-69  D  60-67  F  0-59

**Classroom communication:** Check the Blackboard site and your email frequently. All of the readings, lectures, handouts and out-of-class assignments will be available on the site, as well as answers to follow-up questions and unclear concepts.

**Textbook/Readings:** ‘The Ecology of Plants’ 2nd Ed. by Gurevitch, Scheiner & Fox (GSF). Readings are background info; concepts, terms and definitions from each GSF assignment are expected before class. The lectures expand on these readings. Additional readings from the ecological literature will be made available on Blackboard, and are required reading, R1-R8.

**Expectations:**

I pledge to do my part. I will:

- Stay abreast of the latest ideas in this field.
- Teach you what I believe you need to know, with all the enthusiasm and creativity I possess.
- Invite your comments and questions and respond constructively.
- Make myself available to you outside of class (within reason).
- Evaluate your work carefully and return it promptly with feedback.
- Be as fair, respectful, and understanding as I can humanly be.
- If you need help beyond the scope of this course, I will do my best to provide it or see that you get it.

In return, I expect you to:

- **Show up for class** each day or let me know (preferably in advance) if you have some good reason to be absent.
- **Do your reading** and other assignments outside of class and be prepared for each class meeting.
- **Focus during class** on the work we’re doing and not on extraneous matters (like your phone).
- **Participate** in class discussions.
- **Be respectful** of your fellow students and their points of view.
## Re-Updated Plant Ecology Schedule:

<table>
<thead>
<tr>
<th>Date (week of)</th>
<th>Topic</th>
<th>Readings</th>
<th>Approx. due dates$^6$</th>
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<tbody>
<tr>
<td>11 Jan</td>
<td>Introduction</td>
<td>GSF chs. 1 &amp; 6</td>
<td></td>
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<tr>
<td>17 Jan</td>
<td>Intro &amp; In-class project work day</td>
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| 24 Jan         | **Plant-Environment Interactions**  
Light & Water | GSF ch. 2-3 R1 | |
| 31 Jan         | Temperature & Nutrients | GSF ch. 4 pp. 82-92, ch. 17 | BP |
| 7 Feb          | Environmental Gradients | R2 | |
| 14 Feb         | **Plant-Biotic Interactions**  
In-class work day  
Plant-Microbe: Mutualisms | GSF ch. 4 pp. 92-96 | |
| 16 Feb         | Plant-Microbe: Mutualisms | R3 | P1 (due 26 Feb) |
| 21 Feb         | Plant-Microbe: Microbiome | | |
| 23 Feb         | Plant-Microbe: Microbiome | | |
| 28 Feb 2 March | **Plant-Microbe: Microbiome**  
Plant-Herbivore | GSF ch. 11 | |
| 7 March 9 March | Plant-Herbivore  
Plant-Herbivore | R4 | BP (due 12 March) |
| 13-17 March    | **Spring Break** | | |
| 21 March 23 March | **Plant-Plant Interactions**  
In class work day  
Competition, Facilitation & Rarity | GSF chs. 10 & 13 R5 | |
| 28 March 30 March | Communities & Biodiversity  
Communities & Biodiversity | GSF ch. 9 | P2 (due 2 April) |
| 4 April 6 April | Succession & Colonization  
Succession & Colonization | GSF ch. 12 R6 | |
| 11 April 13 April | **Plant-Soil Interactions**  
Soil  
Soil Ecology | GSF ch.4 pp. 71-82 R7 | BP (due 9 April) |
| 18 April 20 April | **Plant-Soil Linkages**  
Plant-Soil Linkages | GSF ch. 14 | |
| 25 April 27 April | **Plant-Soil Feedbacks**  
Plant-Soil Feedbacks | R8 | BP (due 30 April) |
| 4 May          | Final project paper due | | P3 |

$^6$Due dates may change depending on circumstances and timing
University Policies

Academic Integrity:
“An essential feature of the University of Tennessee, Knoxville is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the university, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity.”

University Civility Statement:
Civility is genuine respect and regard for others: politeness, consideration, tact, good manners, graciousness, cordiality, affability, amiability and courteousness. Civility enhances academic freedom and integrity, and is a prerequisite to the free exchange of ideas and knowledge in the learning community. Our community consists of students, faculty, staff, alumni, and campus visitors. Community members affect each other’s well-being and have a shared interest in creating and sustaining an environment where all community members and their points of view are valued and respected. Affirming the value of each member of the university community, the campus asks that all its members adhere to the principles of civility and community adopted by the campus: http://civility.utk.edu/.

Disability Services:
“Any student who feels he or she may need an accommodation based on the impact of a disability should contact the Office of Disability Services (ODS) at 865-974-6087 in 100 Dunford Hall to document their eligibility for services. ODS will work with students and faculty to coordinate reasonable accommodations for students with documented disabilities.”

Your Role in Improving Teaching and Learning Through Course Assessment:
At UT, it is our collective responsibility to improve the state of teaching and learning. During the semester, you may be requested to assess aspects of this course either during class or at the completion of the class. You are encouraged to respond to these various forms of assessment as a means of continuing to improve the quality of the UT learning experience.

Key Campus Resources for Students:
• Undergraduate Catalog: (Listing of academic programs, courses, and policies)
• Graduate Catalog
• Hilltopics: (Campus and academic policies, procedures and standards of conduct)
• Course Timetable: (Schedule of classes)
• Academic Planning: (Advising resources, course requirements, and major guides)
• Student Success Center: (Academic support resources)
• Library: (Access to library resources, databases, course reserves, and services)
• Career Services: (Career counseling and resources; HIRE-A-VOL job search system)
• Student Health Center (visit the site for a list of services)
• OIT Help Desk: (865) 974-9900