

Forest Ecology (FOR 3153C) Course Syllabus Fall 2015

INSTRUCTOR

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OFFICE HOURS

I have an open door policy- if I'm in, we can talk. Or, if you want to ensure that I will be available, contact me ahead of time (phone, email or see me after class) to set up an appointment.

MEETING TIMES

Mondays 5-8pm, Room 4814
3 Saturday field labs, including one over-night field trip

CREDIT HOURS

This is a 3 credit "C" course, which means there is a lab associated with this course.

Two credits of lecture = two hours of contact time per week

One credit of lab = two to five hours of contact time per week

We will have one-hour "mini labs" during regular class hours, and Saturday field labs will be used to supplement and/or expand on activities completed during the week

PREREQUISITES

3FY or higher or 3AG-WIE or higher or 3NE or higher

PURPOSE OF THE COURSE

Forest ecology is the study of the relationship of organisms with each other and the environment, specifically within a forested ecosystem. This course is designed to provide students with the conceptual background needed to understand the complexity of interactions that occur within a forest ecosystem over time. Emphasis is also placed on developing the professional skills needed to evaluate, apply, and present this conceptual, scientific understanding in the context of resource management.

OBJECTIVES AND GOALS

By the end of the course, students should have a broad understanding of ecological concepts across various scales, as they pertain to forests:

- Individuals (plant responses to the environment)
- Species (climatic and environmental influences on species distributions)
- Populations (influences on population growth and mortality)
- Communities (species interactions, biodiversity)
- Ecosystems (nutrient cycling, primary production, disturbance, succession)

You should be able to apply these concepts to a variety of contexts, i.e. across various forest types in the southeastern U.S and other regions of the country or globe.

Upon successful completion of the course, the students will also be proficient in the following skills:

- Observing the forested landscape
- Devising hypotheses and tests

- Interpreting data and communicating results
- Reading and interpreting scientific literature
- Improved writings and speaking skills

FORMAT

This is a 3-credit course, consisting of instruction in both the classroom and the field. We will use the class meeting time for formal instruction including discussions and class activities. I do not “lecture” to you, but will seek your active engagement and contribution in discussing the reading material each week. I will hand out a Reading Guide one week ahead, which will provide a guideline for the next week’s discussion and allow you to prepare your thoughts so you can actively participate in class. There will be a brief quiz on the assigned reading at the start of each class.

Most in-class field labs will consist of ‘observation’ days when the professor and students observe and discuss the landscape (on and around the PSC campus) in context to the reading material for the week. These are scheduled during the regular class meeting time. Dress appropriately- boots or sturdy sneakers, long pants, rain gear.

Three Saturday field trips will be reserved for more detailed observation and/or field measurements. As the semester progresses you will first observe the landscape, devise hypotheses/methods for testing the ecological relationships, and then implement a scientific experiment. Small groups (3-4 students) will select an individual feature of the landscape to observe/ investigate and will present their findings during the following week. We will work as a class to synthesize the data and draw conclusions, and each lab group will write a summary report.

REQUIRED MATERIALS

The *required text* for the course is:

Perry D.A., R. Oren, and S.C. Hart. 2008. *Forest Ecosystems*. **2nd Ed.** Johns Hopkins University Press.

A useful *optional text*, some of which we will be reading this semester is:

Kimmens, J.P. 2004. *Forest Ecology: A Foundation for Sustainable Management*. **3rd Ed.** Prentice Hall.

Supplemental chapters and journal articles will be distributed by the instructor.

RECOMMENDED MATERIALS

Calculator, clip board, flash drive (or some other storage device compatible with Campus computers)

ELECTRONIC COMMUNICATIONS

There is an e-learning (Canvas) site set up for this course. There you will be able to find assignments, handouts, lecture materials etc. Periodically, I will also send email to the class list regarding critical updates to the syllabus or clarifications of assignments. If you aren’t doing so already, you should be checking your UF email account on a regular basis (at least weekly, if not more).

DESCRIPTION OF ASSIGNMENTS

Quizzes

A short quiz will be given at the start of class. The quiz is intended to evaluate your comprehension of the main concepts from the reading material. The format may vary between short answer (3 sentences), matching, or multiple choice. Quiz questions will be derived from the Reading Guides. The lowest quiz grade will be dropped.

In-class labs/activities

For in-class mini labs, assignments will consist of primarily short answer questions which can be completed during the class period. Other small assignments (e.g. journal article summaries) will be due prior to the start of class in order to facilitate discussion.

Lab Reports

The purpose of the lab exercises and reports is to develop skills for analyzing the environment, interpreting results in relation to ecological concepts, and presenting your findings. The lab reports will consist of the following sections: *Abstract, Introduction (including objectives and hypotheses), Methods, Results, Discussion, and Conclusions*. The Introduction should relate your group's particular study to the concepts learned in class and should demonstrate why you chose your particular hypothesis. The Methods and Results sections will explain what you did and what you found. In the discussion section, you should interpret your results in relation to your original hypothesis. In this section, you can also elaborate and integrate other groups' results in order to demonstrate your knowledge of the conceptual material being studied. The Conclusions section should summarize whether or not your hypothesis was supported by your results and discuss any broader implications of your study. The Abstract (usually written last) will contain a brief summary of the entire lab report.

Written/oral presentation of forest ecology article

You will demonstrate your ability to interpret and critically review forest ecology literature with written and oral presentations. The written portion will include a summary of a scientific article as well as additional background information on the ecosystem or organism of interest (not to exceed 5 pages). You will also deliver the same information as an oral presentation, which can be supplemented with powerpoint slides or other visual aids (creativity is encouraged).

Exams

The exams are intended to evaluate your understanding of the conceptual material, and to demonstrate your critical thinking and problem solving skills in applying these concepts to known and unknown ecosystems. The format of the exam will primarily be short answer (3-4 sentences). About 20% of the exam may include matching, multiple choice or true/false questions, and another 10-20% of the exam will require long answers (1-2 paragraphs). You will be asked to define concepts and apply them to various contexts (e.g. results and figures from a unique ecosystem or different management scenarios). Exams will be cumulative! That means you can't forget the information you learned at the start of the semester!

EVALUATION AND PERFORMANCE CRITERIA

<u>Assignment</u>	<u>% of final grade</u>
Quizzes	5
In-class assignments	10
3 Lab reports	30
Written report and oral presentation (forest ecology literature)	20
2 mid-term exams and 1 Final (cumulative)	35
Total	100

Letter grades will be assigned as follows: A (93-100), A⁻ (90-92), B⁺ (87-89), B (83-86), B⁻ (80-82), C⁺(77-79), C (73-76), C⁻(70-72), D⁺(67-69), D (63-66), D⁻ (60-62), E (<60)

A complete explanation of the UF Grading policies can be found at :
<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

At the very minimum, the student is expected to attend class, complete all assignments on time, and be able to define the key concepts of forest ecology in lab reports, exams, and presentations. Evaluation of written and oral assignments will reward accuracy, thoroughness, clarity and organization. Grading “assessment” sheets, which describe requirements of the assignment, will be handed out prior to the due date. It is in your best interest to read and follow these instructions carefully.

Policy on late work and absences—Assignments submitted electronically or in person by **5 pm** on the due date are considered on time. After those specified times, late assignments will lose value at the rate of 10% for each additional day (**weekend days count too!**). In cases of extended illness or family emergencies, arrangements to make up missed exams or turn in late assignments must be made with the professor at least one day prior to the due date.

Policy on lateness to class- Late arrivals will not be tolerated. Students arriving more than 10 minutes into the class session may not be allowed into the classroom until the next available session break.

CODE OF CONDUCT

All students are expected to abide by the Student Honor Code as described in the Student Handbook (<http://www.dso.ufl.edu/sccr/honorcodes/honorcode.php>). Students are expected to behave in a professional and courteous manner towards the instructor and other classmates.

In addition, plagiarism is taken very seriously at this institution, and can result in a reduced grade, failure of the course, and possible dismissal from the college. Plagiarism includes: 1) the direct use of any written material (**including internet sites!!**) without proper quotations and citation or 2) the submission of a document, in part or wholly authored by someone other than the student. It is up to the professor to evaluate the severity of any infraction and to determine the disciplinary action to be taken. The student should also be aware of his/her legal rights as defined in the Student Honor Code.

UNIVERSITY SERVICES

You have full access to all the student services available through the University of Florida, including:

[Disability Resource Center](#) : Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation

University Counseling Center, <http://www.counsel.ufl.edu/>, 310 Peabody Hall, 352-392-1575, personal and career counseling

Student Mental Health, Student Health Care Center, <http://shcc.ufl.edu/smhs/>, 352-392-1171, personal counseling

Sexual Assault Recovery Services, Student Health Care Center, <http://shcc.ufl.edu/care/>, 352-392-1161, assault recovery counseling

Career Resource Center, <http://www.crc.ufl.edu/>, Reitz Union, 352-392-1601, career development assistance and counseling

Tentative SCHEDULE (lab dates, class activities, and assignment due dates will be finalized by 8/24)

Date	Class Period			Chapter Reading (rq'd txt, unless noted)	Assignment Due
	Discussion	In-class Lab	Activity		
Mod 1 8/24	"What is forest ecology"	Observing Landscape	Prior knowledge quiz; syllabus	Ch. 2	
Mod 2 8/31	Plant responses to the environment...	Lab 1: Measuring plant physiology	Production and Carbon allocation lecture/discussion	Selected txt from Kimmens Ch.7-10; Ch 15 (Perry)	
9/7	LABOR DAY- NO CLASS!				
Mod 3 9/14	Climate , topoedaphic influence on spp. dist.	Develop hypotheses, methods for lab	Discuss journal article	Ch. 4 (Sect. 4.1) Ch. 5 (all)	In-class lab 1; Article abstract 1
SAT 9/19?	LAB - Observing and measuring environmental gradients and plant response (Blackwater River State Forest: longleaf pine/ pitcher plant ecotones)				
Mod 4 9/ 21	Population dynamics	Lab2: computer lab-modelling populations	Groups Present results from lab	Kimmens Ch.14	
9/28	<i>Exam 1</i>				
Mod 5 10/5	Forest Structure Part 1	Forest Structure Part 2 (habitats, niches)	Lab 3: trophic levels and energy exchange	Ch.9 (p 157-182);	Lab report 1; In-class lab 2
Mod 6 10/12	Diversity in forests	Lab 4: Diversity Indices and species area curves	Discuss journal article	Ch. 9 (p183-end); Ch 10	Article abstract 2 In-class lab 3
Mod 7 10/19	Community and Species interactions	tba	Go over oral presentation requirements	Ch. 11, 13	In-class lab 4;
Mod 8 10/26	Nutrient cycling; N and C cycles	Lab 5: Nutrient budgets	develop hyp and methods for lab	Ch 17, Ch 18	In-class lab 5;
Oct 31- Nov 1	Solon Dixon weekend- structural/ tree community changes along a topo-edaphic gradient				
11/2	<i>Take home exam due by noon 11/8</i>				
Mod 8 11/9	Disturbance	Develop hyp and methods for next lab; Present SD lab results	discuss journal article	Ch. 7	Article Abstract 3 Lab report 2?
SAT 11/14?	LAB- Disturbance gradients and recovery (Garcon point area)				
Mod9 11/16	Succession	Succession Part 2	Groups present lab results	Ch. 8	
Mod10 11/23	Ecosystem stability	Ecosystem stability Pt 2	<i>Student selected topic</i>	Select sections from ch 20-22	Lab report 3
11/30	Student presentations		<i>Student selected topic</i>	handouts	
12/7	Student presentations		Review		Written report
12/14	FINAL EXAM				