

FOR 3153C Forest Ecology (3 Credits)
Spring 2018

DESCRIPTION

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.

TIME AND LOCATION

Wednesday, 5:00-8:00 pm, Room 4814
3 mandatory Saturday field labs

INSTRUCTOR

Dr. Ajay Sharma
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TEACHING ASSISTANT

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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.

RECOMMENDED TEXTBOOKS

Kimmins, J. P. (2004). Forest Ecology. 3rd edition. Prentice-Hall Inc., NJ.
Perry D.A., R. Oren, and S.C. Hart. (2008). Forest Ecosystems. 2nd Ed. Johns Hopkins University Press.

ADDITIONAL READINGS

Instructor will assign readings throughout the semester

ELECTRONIC COMMUNICATIONS

Course material will be available through the Canvas e-learning site. It is the responsibility of the student to print off the material in advance of class. On occasion, I may send emails to your UF email address or via canvas messaging regarding course updates. If you aren't doing so already, you should be checking your UF email on a regular basis.

COURSE OBJECTIVES

At the end of the course, students will

1. have understanding of the concepts and principles of plant ecology
2. have learnt how abiotic and biotic factors affect forest productivity and nutrient cycling
3. have developed understanding of temporal changes in ecosystem structure and function
4. be able to apply ecological knowledge in the restoration and multifunctional management of forest ecosystems at local and landscape levels across various forest types in the southeastern U.S and other regions of the country or globe.

COURSE GRADING SYSTEM

Quizzes (3)	3	@	30 points	90
First Exam	1	@	100 points	100
Second Exam	1	@	100 points	100
Third Exam	1	@	100 points	100
Abstracts	2	@	10 points	20
Lab Reports	2	@	25 points	50
Final Project Report	1	@	100 points	100
Final Project Presentation	1	@	40 points	40

Letter grades will be assigned as follows: A (90% and above), B+ (85% - 89.4), B (80% - 84.4), C+ (75% - 79.4), C (70% - 74.4), D (60% - 69.4), E (Below 60%)

A complete explanation of the UF Grading policies can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

ATTENDANCE AND MAKE-UP WORK

Assignments turned in on paper at the start of the class period or electronically by 5 pm (central) are considered on time. After that, late assignments will lose value at the rate of 10% each subsequent late day (weekend days count too!). Exams cannot be rescheduled, except in the cases of extended serious illness or family emergencies. Arrangements to make up missed exams or turn in late assignments must be made with the instructor in advance of the due date.

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.

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

DESCRIPTION OF ASSIGNMENTS

Quizzes

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.

Abstracts of scientific journal articles

Students will select a full-length article from a scientific journal (see the list of journals below) that expands upon material covered in this course, and prepare a summary (up to one page long, typed) that will have the following components

1. complete reference to the article (4 points; wrong citation format will not receive any points).
2. description of the topic (2 points)
3. findings/results from the research (2 points)
4. interesting ideas about the article (1 point)
5. relevance of the article to topics covered in this course (1 point)

E.g. Citation Format:

Waldrop T.A., White D.L. and Jones S.M. (1992). Fire regimes for pine-grassland communities in the southeastern United States. *Forest Ecology and Management* 47:195-210

List of journals

Ecology

Ecological Applications

Journal of Applied Ecology

Journal of forestry

Journal of Wildlife Management

Forest Ecology and Management

Plant Ecology

Labs and Reports

Much of the lab work done in this course is conducted in the field. Whenever field (outdoor) labs are scheduled, students should wear appropriate field clothing. For labs, you are supposed to collect and analyze data or summarize discussions for each lab project. 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.

Final Project Paper/Report

Students will select a topic of their interest, but relevant to the field of forest ecology, and develop a review/synthesis article on that topic. At least 10 peer-reviewed articles must be reviewed for this assignment. The final paper should be minimum 5 pages long + literature cited + Tables and Figures.

Final Project Presentations

Students (group) will have up to 20 minutes for presentation and 5 minutes for questions. Instructor and teaching assistant will grade your presentations.

ONLINE COURSE EVALUATION PROCESS

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.

ACADEMIC HONESTY:

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: *"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."* You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."*

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>.

SPECIAL ACCOMMODATION:

"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."

SOFTWARE USE:

All faculty, staff and students of the University of Florida are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.

SERVICES FOR STUDENTS WITH DISABILITIES

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. 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

0001 Reid Hall, 352-392-8565, www.dso.ufl.edu/drc/

CAMPUS HELPING RESOURCES

Students experiencing crises or personal problems that interfere with their general wellbeing are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu/cwc/
Counseling Services
Groups and Workshops
Outreach and Consultation
Self-Help Library
Wellness Coaching
- U Matter We Care, www.umatter.ufl.edu/
- Career Resource Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/

STUDENT COMPLAINTS:

- Residential Course: https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf
- Online Course: <http://www.distance.ufl.edu/student-complaint-process>

COURSE OUTLINE (WEEKLY SCHEDULE)

Week	General Topic	Critical Dates
1 (Jan 10)	Introduction to Forest Ecology; Ecosystem Concept	
2 (Jan 17)	Production Ecology (<i>Biomes of the World, Transfer and storage of energy, class activities</i>)	
3 (Jan 24)	Abiotic environment-I (<i>Solar radiation, temperature, wind, water, class activities</i>)	Quiz 1
4 (Jan 31)	Abiotic environment-II (<i>Soil and Biogeochemistry, class activities</i>)	
5 (Feb 7)	Exam 1	Exam 1
6 (Feb 14)	Abiotic environment -III (<i>Climate change and forest ecosystems, class activities</i>)	Abstract 1 due
7 (Feb 21)	The biotic environment (<i>Populations and Communities, class activities</i>)	Lab Report 1 Due
8 (Feb 28)	Community ecology (<i>Ecological interactions, Biodiversity, class activities</i>)	Quiz 2

9 (Mar 7)	SPRING BREAK	
10 (Mar 14)	Exam 2	Exam 2
11 (Mar 21)	Disturbance ecology <i>(Succession, Stand dynamics, Forest Fires, class activities)</i>	
12 (Mar 28)	Invasion Ecology <i>(Invasive plants and forest ecosystems, class activities)</i>	Lab Report 2 Due
13 (Apr 4)	Landscape ecology <i>(The Island Biogeography Theory, Ecosystem Restoration, Ecological Information and Sustainable Forest Management, class activities)</i>	Quiz 3
14 (Apr 14)	Student presentations	Abstract 2 Due
15 (Apr 21)	Student Presentations and Course wrap-up	Final Project Report Due
16 (May 1)	Exam 3	Exam 3

CRITICAL ASSIGNMENTS AND DATES

Activity	Description/Title	Due Date
Quiz 1	Online	Jan 24
Exam 1	In Class	Feb 7
Abstract 1		Feb 14
Lab Report 1	Lab on Forest Communities and Microenvironment	Feb 21
Quiz 2	Online	Feb 28
Exam 2	In Class	Mar 14
Lab Report 2	Lab on phytosociology and ecosystem productivity	Mar 28
Quiz 3	Online	Apr 4
Abstract 2 Due		Apr 14
Final Project	A synthesis paper (group assignment)	Apr 21
Exam 3	In class	May 1