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 at multiple scales and 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
2 mandatory Saturday field labs

INSTRUCTOR
Dr. Ajay Sharma
Office: Bldg. 4900, Room # 4907
Tel: 850-983-7129
Cell: 850-382-0720
Email: ajay.sharma@ufl.edu

TEACHING ASSISTANT
Justin McKeithen
Office: NRC lab at Jay
Tel: 850-983-7111
Email: justmck@ufl.edu

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

OTHER COURSE RESOURCES
- com, which can be accessed by UF students for free at http://www.it.ufl.edu/training/ is a useful resource for help in excel and other common software
- For scientific literature, the “web of science” is available to students free of charge on campus or when connected by the campus VPN (virtual private network).
- To set up the VPN on your computer, go to https://connect.ufl.edu/it/wiki/Pages/glvpn.aspx
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 use scientific literature, with a focus on interpreting graphs and tables
5. be equipped with skills to make their own ecological observations and measurements
6. 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 (2) 2 @ 25 points 50 10%
Midterm Exam 1 @ 100 points 100 20%
Final Exam 1 @ 100 points 100 20%
Class Activities or mini labs and/or abstracts Variable# @ variable points 100 20%
Lab Reports 2 @ 25 points 50 10%
Final Project Report 1 @ 75 points 75 15%
Final Project Presentation 1 @ 25 points 25 5%

TOTAL POINTS= 500

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 after the posted deadline will lose value at the rate of 10% for each 24 hours that is late (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.
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.

Class Activities or mini labs
This course will have long class sessions (typically 3 hrs). In addition to the lectures during the class sessions, we will have some activities, case studies and/or mini labs designed to supplement and reinforce the lecture material and concepts discussed. Students will work in groups for these activities. These activities will be due either at the end of the class or next week, for which you will receive points upon satisfactory completion. You are expected to participate fully in these activities. If you do not engage with your group in these activities, you will receive zero credit for that activity.

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:


List of journals
Ecology
Ecological Applications
Journal of Applied Ecology
Journal of forestry
Journal of Wildlife Management
Forest Ecology and Management
Plant Ecology

Midterm and Final
There will two exams- midterm and final. These exams will consist of mix of short and long answer type questions, in addition to some objective questions. The exam will test your understanding of the course material and the questions will require you to synthesize and apply concepts learned in lectures, labs, class activities, and assigned readings. The exam will be closed book.
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 either (1) develop a review/synthesis article on that topic or (2) come up with a research topic and data collection design and will collect and analyze data. The final paper should be minimum 5 pages long + literature cited + Tables and Figures. Final Project submissions will be divided into several parts due at different times: Part 1: Title and Group formation (5 points), Part 2: Literature Review (10 points), Part 3: Introduction and Methods (10 points), Part 4: First Draft(10 points), and Part 5: Final Submission (40 points).

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:
- Online Course: http://www.distance.ufl.edu/student-complaint-process

COURSE OUTLINE (WEEKLY SCHEDULE)
(SUBJECT TO CHANGE BY THE INSTRUCTOR)

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<thead>
<tr>
<th>Week</th>
<th>General Topic</th>
<th>Critical Dates</th>
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<tbody>
<tr>
<td>1 (Jan 10)</td>
<td>Discussion of Syllabus, Introduction to Forest Ecology</td>
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<td>2 (Jan 17)</td>
<td>Class cancelled</td>
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<td>3 (Jan 24)</td>
<td>Forest Ecosystems, Abiotic environment-I, Tree Biology</td>
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<td><em>(Solar radiation, temperature, water, class activities)</em></td>
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<td>4 (Jan 31)</td>
<td>Abiotic environment-II, Longleaf Pine Ecology</td>
<td>Abstract 1 Due</td>
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<td><em>(Class activities: Jose et al. Paper Discussion)</em></td>
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<td>4 (Feb 3)</td>
<td>Lab 1 (Saturday)</td>
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<td>5 (Feb 7)</td>
<td>Community Ecology-I</td>
<td>Quiz 1</td>
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<td><em>(Community structure, Diversity, Species Interactions, Niche Concept)</em></td>
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<td>6 (Feb 14)</td>
<td>Community Ecology –II</td>
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<td></td>
<td><em>(Ecological Interactions and Species Coexistence, class activities)</em></td>
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<td>7 (Feb 21)</td>
<td>Community Ecology –III</td>
<td>Lab Report 1 Due</td>
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<td><em>(Invasive plants and forest ecosystems, class activities)</em></td>
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<td>8 (Feb 28)</td>
<td>Midterm Exam</td>
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<td>9 (Mar 7)</td>
<td>SPRING BREAK</td>
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<td>10 (Mar 14)</td>
<td>Disturbance Ecology</td>
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<td>10 (March 17)</td>
<td>Lab 2 (Saturday)</td>
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<td>11 (Mar 21)</td>
<td>Biogeochemistry and Nutrient cycling</td>
<td>Final Project Part 1 Due on March 22</td>
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<td>12 (Mar 28)</td>
<td>Succession</td>
<td>Quiz 2; Final Project Part 2 Due</td>
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<td>13 (Apr 4)</td>
<td>Landscape ecology</td>
<td>Lab Report 2 Due; Final Project Part 3 Due</td>
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<td><em>(The Island Biogeography Theory, Ecosystem Restoration, Ecological Information and Sustainable Forest Management, class activities)</em></td>
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<td>14 (Apr 11)</td>
<td>Restoration Ecology</td>
<td>Abstract 2 Due; Final Project Part 4 Due</td>
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<td>15 (Apr 18)</td>
<td>Course Revision and wrap-up</td>
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<td>16 (April 25)</td>
<td>Student presentations and Final Project</td>
<td>Final Project Due</td>
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<td>17 (May 2)</td>
<td>Final</td>
<td>Final Project Report Due</td>
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<td>Activity</td>
<td>Description/Title</td>
<td>Due Date</td>
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<td>Abstract 1</td>
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<td>Jan 31</td>
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<td>Lab 1</td>
<td>Lab on Forest Communities and Microenvironment</td>
<td>Feb 3</td>
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<td>Quiz 1</td>
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<td>Feb 7</td>
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<tr>
<td>Lab 1 Report</td>
<td>Lab on Forest Communities and Microenvironment</td>
<td>Feb 21</td>
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<td>Midterm Exam</td>
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<td>Feb 28</td>
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<td>Lab 2</td>
<td>Stand Structure and Productivity</td>
<td>March 17</td>
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<tr>
<td>Final Project- Part 1: Title and group selection</td>
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<td>March 18</td>
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<td>Quiz 2; Final Project-Part 2: Literature Review</td>
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<td>March 28</td>
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<tr>
<td>Lab Report 2; Final Project-Part 3: Intro and Methods</td>
<td>Stand Structure and Productivity</td>
<td>April 4</td>
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<td>Abstract 2 Due; Final Project-Part 4: First Draft</td>
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<td>April 11</td>
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<td>Final Project-Part 5: Final Draft and Presentations</td>
<td>In class</td>
<td>April 25</td>
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<tr>
<td>Final Exam</td>
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<td>May 2</td>
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