DESCRIPTION
Silviculture is the ‘art and science’ of creating and maintaining communities of trees to meet specific objectives on a sustainable basis. This course will cover the principles for establishing, tending, and regenerating stands in the context of various ecological, economic, and social considerations. Students will develop a broad understanding of the silvicultural concepts and applications needed to manage forest stands for a variety of commodity and non-commodity values. Some of the values to be addressed in this course include timber production, wildlife habitat, water quality, recreation, forest health, and ecosystem restoration. Emphasis will be placed on, but not limited to, silvicultural systems of the Southeast.

TIME AND LOCATION
Wednesday, 5:00-8:00 pm, Room 4814
3 mandatory Saturday field labs; 2 field trips

INSTRUCTOR
Dr. Ajay Sharma
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Email: ajay.sharma@ufl.edu

TEACHING ASSISTANT
John Tracy
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Justin McKeithen
Office: NRC lab at Jay
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.

REQUIRED TEXTBOOKS
Supplemental material and journal articles will be distributed by the instructors throughout the semester.

SUGGESTED READING AND RESOURCES

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). http://apps.webofknowledge.com/UA_GeneralSearch_input.do?product=UA&search_mode=GeneralSearch&SID=4AS8kteP7SRmsEaOyXA&preferencesSaved=
• To set up the VPN on your computer, go to https://connect.ufl.edu/it/wiki/Pages/glvpn.aspx

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
By the end of the course, students should understand the following concepts and techniques:
• Effects of site and silvics on silvicultural systems
• Natural and artificial regeneration concepts and applications
• Site preparation (mechanical and herbicide treatments, prescribed fire)
• Even-aged silviculture (intermediate treatments and reproduction methods)
• Uneven-aged silviculture
• Silvicultural applications to meet specific management objectives

COURSE GRADING SYSTEM
Quizzes (2) 2 @ 25 points 50 10%
Midterm Exam 1 @ 100 points 100 20%
Final Exam 1 @ 100 points 100 20%
Abstracts 2 @ 10 20 4%
Class activities variable @ variable 30 6%
Lab Reports 3 @ 25 points 75 15%
Field Summaries 2 @ 25 50 10%
Final Project Report 1 @ 50 points 50 10%
Final Project Presentation 1 @ 25 points 25 5%

TOTAL POINTS= 500 (100%)
Letter grades will be assigned as follows:  A (93-100), A’ (90-92), B’ (86-89), B (83-85), B’ (80-82), C’(76-79), C (73-75), C’ (70-72), D’(66-69), D (63-65), 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

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, fill in the blanks, true/False, 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 either individually or 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. Class activities in total will constitute 10% of total grade.

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 (2 points; wrong citation format will not receive any points).
2. description of the topic (2 points)
3. findings/results from the research (4 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
Annals of Forest Science
Canadian Journal of Forest Research
Forestry
Forests
Forest Science
Journal of forestry
Forest Ecology and Management
New Forests

Midterm and Final Exams
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.

Field Summaries
The week following a field lab, you will turn in a brief (~2-3 page, double-spaced) report summarizing the main silvicultural practices observed during field visit. Your report should include information on where we went, who we met with (when applicable), the silvicultural practices observed, and any insights gained from the experience.

Labs and Reports
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 silviculture, 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. Students may not use a topic or project that they have completed before as part of another course. 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 Report Submission (15 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
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<thead>
<tr>
<th>Date</th>
<th>Activities</th>
<th>Reading</th>
<th>Assignment Due</th>
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<tbody>
<tr>
<td>Week 1</td>
<td>Introduction to Silviculture and Silvicultural Systems</td>
<td>Ch 1 and 2</td>
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<td>Activity – Prior skills form, student profiles</td>
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<td>Week 2</td>
<td>Concepts of Regeneration</td>
<td>Ch. 4 and 5</td>
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<td>Activity- Regeneration scenarios</td>
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<td>Week 3</td>
<td>Nursery management, tree planting, direct seeding</td>
<td>Ch. 6</td>
<td>Abstract 1 Due</td>
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<td>Activity: Prep for first Lab</td>
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<td>Week 3- Sat</td>
<td>Lab 1- Overview of tree planting options at Jay Research Facility;</td>
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<td>Regeneration and site prep on NIPF land</td>
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<td>Week 4</td>
<td>Guest lecture- Dr. Patrick Minogue (Site preparation)</td>
<td>Ch. 7 and 8</td>
<td>Quiz 1 Due</td>
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<td>Activity- Site Preparation scenarios</td>
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<td>Week 4- Sat</td>
<td>Field Visit 1- BRSF Seed Orchard</td>
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<td>Week 5</td>
<td>Regeneration Methods, Selection Methods</td>
<td>Ch. 9 and 10</td>
<td>Lab 1 Report Due</td>
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<td>Week 6</td>
<td>Uneven-aged Regeneration Methods</td>
<td>Ch. 11 and 12</td>
<td>Field Visit 1 summary due</td>
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<td>Activity: Uneven-aged management calculations</td>
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<td>Week 7</td>
<td>Clearcutting and Shelterwood Methods</td>
<td>Ch. 13 and 14</td>
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<td>Activity: Uneven-aged management calculations</td>
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| Week 7- Sat | Field Visit 2- RMS Sites -Even-aged Silviculture  
Lab 2- Uneven-aged silviculture (Escambia Experimental Forest) |  |
| Week8 | Early Stand Development, Release Treatments  
Activity: TBD | Ch. 15 and 16 | Final Project Part -1 Due; Field Visit 2 summary due |
| Week 9 | SPRING BREAK! |  |
| Week 10 | Thinnings  
Activity- Computer lab- develop thinning prescriptions | Ch 17, 18, and 19 | Abstract 2 Due; Lab 2 Report Due |
| Week 11 | Mid Term Exam |  |
| Sat | Lab 3- Marking a stand for thinning  
(Jay/Escambia Exp. Forest) |  |
| Week 12 | Managing quality in forest stands  
Activity- TBD | Ch. 20 | Quiz 2 Due; Final Project Part -2 Due |
| Week 13 | Silviculture for Forest Health and Protection | Ch. 21 | Lab 3 Report Due |
| Week 14 | Improvement, Salvage operations, and xx cuttings | Ch. 22 | Final Project Part -3 Due |
| Week 15 | Other Partial cuttings | Ch. 23 | Final Project Part -4 Due |
| Week 16 | Student Presentations- Final project  
Course Review |  | Final Project Part -5 and Presentation Due |
| (4/24) | FINAL EXAM |  |