INTEGRATED NATURAL RESOURCE MANAGEMENT

Lecture: Tuesdays 11:45am – 12:35pm and Wednesdays 10:40 – 11:30am  
Lab: Wednesdays 12:50 – 4:55pm  
Classroom: 222 Newins-Ziegler Hall

Course Syllabus

Instructors: Damian Adams (dcadams@ufl.edu), Tim Martin (tamartin@ufl.edu), Scott Sager (sasager@ufl.edu)

Office hours: TBA

Course Website: http://lss.at.ufl.edu. We will use the UF e-Learning in Canvas website, through which you can send e-mails to classmates or to the instructors, check your grades, check class announcements, access the syllabus, etc. Check the Canvas website regularly for due dates and assignment descriptions.

Course Communications: The Canvas email system is the best way to get in touch with us about any class-related questions, concerns, etc. during the semester.

Required Text and Additional Readings:
There is no required textbook. Readings and resources will be distributed in class and on Canvas.

Course Description and Objectives: Integrated natural resource management deals with providing the right mix of natural resource commodities, functions, and services in the most desirable and sustainable way possible over time, incorporating biological, social, and economic principles and constraints.

This “capstone” course is most likely unlike any other you have taken. This course is project focused. The principle aim of the course is to give you the opportunity to apply the knowledge gained during your curriculum to design an integrated natural resource management plan (or “multiple-use” management plan) for a landowner (private and/or public). Besides providing the basic framework, the instructors will help steer you towards the data and tools you need to complete the task. The course also incorporates subject matter relevant to land management planning that may not be widely known or available in the standard curriculum.
Instructor Expectations: In this class, your group will be expected to rely on your efforts to bring together the information requested for the management plan, which is the ultimate focus of the class. Instructors will give you their best advice and help you as much as they can, but *this is not a “canned” course where you will be given everything in class to complete your plan.* Substantial independent research on your part is expected, but you will be provided with clear guidance on requirements for presentations, reports, etc.

You should rely on other faculty, outside experts, internet, etc. if you have data or other information needs. Powerpoint presentations will be used in class as an enhancement to the lecture, but are not a substitute for good note taking. Powerpoint presentations may be provided via Canvas *at the discretion of the instructors.* Take notes and DO NOT rely on the Powerpoint presentations in their entirety.

It is a good idea to bring a calculator or laptop to class whether you will need it or not on any particular day. Please ask questions of the instructors whenever you feel you need to. If something is wrong, please let your instructor know as soon as possible.

Evaluation of Student Learning (Grades):

<table>
<thead>
<tr>
<th>Weight</th>
<th>Item</th>
<th>Due date and time</th>
</tr>
</thead>
<tbody>
<tr>
<td>20%</td>
<td>Weekly quizzes on lecture material</td>
<td>Sundays at 11:59 p.m.</td>
</tr>
<tr>
<td>10%</td>
<td>Check point #1 - individual conceptual management plan</td>
<td>1/22, 11:59 p.m.</td>
</tr>
<tr>
<td>10%</td>
<td>Check point #2 - oral group presentation summarizing landowner objectives, property, context, conceptual management plan, inventory plan; submit powerpoint file on Canvas by due date</td>
<td>2/5, 12:00 noon</td>
</tr>
<tr>
<td>10%</td>
<td>Check point #3 - oral group presentation of inventory status and issues; adjustments to plan anticipated based on inventory; proposed data analysis; submit powerpoint file on Canvas by due date</td>
<td>2/19, 12:00 noon</td>
</tr>
<tr>
<td>10%</td>
<td>Check point #4 - First draft plan using the full report template</td>
<td>3/11, 11:59 p.m.</td>
</tr>
<tr>
<td>10%</td>
<td>Check point #5 Second draft plan using the full report template</td>
<td>4/1, 11:59 p.m.</td>
</tr>
<tr>
<td>20%</td>
<td>Final written project report</td>
<td>4/15, 11:59 p.m.</td>
</tr>
<tr>
<td>7%</td>
<td>Final project presentation; submit powerpoint file on Canvas before your scheduled presentation time</td>
<td>variable</td>
</tr>
<tr>
<td>3%</td>
<td>Individual reflection document</td>
<td>4/29, 11:59 p.m.</td>
</tr>
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Details of each assignment can be found on the Canvas website under the Assignments tab.

*Grading Scale:* 89.5-100 A, 86.7-89.4 B+, 83.4-86.6 B, 79.5-83.3% B-, 76.7-79.4 C+, 73.4-76.6 C, 69.5-73.3% C-, 66.7-69.4 D+, 63.4-66.6 D, 59.5-63.3% D-, < 59.5% E
Brief Description of Assignments:
Detailed descriptions and rubrics available on Canvas under "Assignments"

Weekly quizzes
Two quizzes per week will be given: one for Tuesday lecture material, and one for Wednesday lecture material. Students who have an unexcused absence for a lecture will not be given credit for the associated quiz. Quizzes are offered on Canvas, and open at 12:01 a.m. on Fridays, and close at 11:59 p.m. on Sundays. Grades will be calculated from the 20 highest quiz scores.

Check point #1
Individual conceptual management plan. A short (1-2 pages) report presenting your individual thoughts about how to approach management of the different compartments to meet landowner objectives.

Check point #2
A ten-minute group powerpoint presentation presenting:
- Summary of landowner objectives
- Overview of parcel, including a map, description of stand types, local context of the parcel
- Consensus conceptual management plan. Include rationale for each major approach, and how biophysical, economic, and policy/social constraints were taken into account.
- General inventory plan. What will you need to measure to get the information you need to make recommendations? What type of sampling plan may be appropriate for the different parts of your property?

Check point #3
Oral presentation of inventory status and issues; adjustments to plan anticipated based on inventory; proposed data analysis

Check point #4
First full report draft based on the final template.

Check point #5
Second full report draft based on the final template. Must include full analysis of inventory data; rationale for each management decision.

Final written project report
Final report fully incorporating previous feedback.

Final presentation
Presentation based on powerpoint template presenting overview of property, landowner objectives, prescriptions, and rationale.

Individual reflection document
A short (2-3 pages) reflection essay covering:
- A summary of your project
- What skills and/or knowledge were most important for you in this course
- A constructive description of group dynamics, both positive and negative
- Topics that you wish you had known more about
Course Policies:

**Late assignments and quizzes:** Due dates for all assignments and quizzes are listed in the syllabus and on Canvas at the start of the semester. Quizzes are left open for 72 hours, and the quiz grades are only calculated from the 20 highest quiz scores. For this reason, no late assignments or quizzes will be accepted. Accordingly, make sure to leave room in your schedule for unexpected issues that inevitably arise.

**Lab Periods:** Unless otherwise noted, lab periods are to be used to collect and analyze data, prepare presentations, and produce reports. That time has been set aside and scheduled by students. No one should use the excuse that they cannot meet during lab periods.

**Field Visits:** If you are prone to irritations or allergies by mosquitoes, fire ants, wasps, chiggers, ticks and poisonous plants, it is strongly recommended that you always use repellents (not supplied by instructor) and take precautions during and after each laboratory session. If you are allergic to insect bites, or if you have other medical conditions for which emergency treatment may be required, it is your responsibility to: (1) inform the instructors about the condition during the first day of class, (2) tell them where you keep your medicine; and (3) how to administer emergency treatment should the situation arise. Lyme disease, which may be contracted through tick bites, is a condition that all natural resource professionals should be knowledgeable of. While not fatal, it can be very painful and even debilitating. Therefore, it is your personal responsibility to wear protective clothing and repellents that will minimize your chances of contracting this disease -- even with these precautions, you should conduct a self-examination for ticks after each field session.

**Attendance:** Attendance is required. You are expected to fully engage all class meetings, stay current with all assigned readings, and actively participate in class. Participation helps synthesize material, improves critical social skills (important regardless of career path), and allows you to draw from other people’s diverse experiences, backgrounds, and insights. Active participation includes sharing thoughts, asking relevant questions, summarizing information in a way that informs discussion, and engaging in a professional manner. Students who are absent from a particular lecture will be assigned a zero for the quiz associated with that lecture. Students who attend all scheduled class meetings will receive a 2% increase in their overall course grade. Because the final project is a group project, and a large portion of the final grade is dependent upon the successful completion of this task, attendance and active student participation will be noted and taken into account with respect to the final grade. Attendance includes showing up for data collection at your property. Students will be asked to assess each other’s contribution towards the final project.
UNIVERSITY OF FLORIDA POLICIES YOU NEED TO KNOW:

This syllabus represents current plans and objectives for this course. As the semester progresses, changes may need to be made to accommodate timing, logistics, or to enhance learning. Such changes, communicated clearly, are not unusual and should be expected.

Late Submissions & Make-up Requests

It is the responsibility of the student to access on-line lectures, readings, quizzes, and exams and to maintain satisfactory progress in the course.

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

Computer or other hardware failures, except failure of the UF e-Learning system, will not excuse students for missing assignments. Any late submissions due to technical issues MUST be accompanied by the ticket number received from the Helpdesk when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request consideration.

For computer, software compatibility, or access problems call the HELP DESK phone number—352-392-HELP = 352-392-4357 (option 2).

Semester Evaluation Process

Student assessment of instruction is an important part of efforts to improve teaching and learning. At approximately the mid-point of the semester, the School of Forest Resources & Conservation will request anonymous feedback on student satisfaction on various aspects of this course. These surveys will be sent out through Canvas and are not required, but encouraged. This is not the UF Faculty Evaluation! At the end of the semester, students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluer.com/ufl/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

Netiquette: Communication Courtesy

All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. Failure to do so may result in loss of participation points and/or referral to the Dean of Students’ Office. http://teach.ufl.edu/docs/NetiquetteGuideforOnlineCourses.pdf

Academic Honesty Policy

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 them 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 or 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.

Inclusive Learning Environment

This course embraces the University of Florida’s Non-Discrimination Policy, which reads,

_The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or_
affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans’ Readjustment Assistance Act.

If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see the instructor or refer to the Office of Multicultural & Diversity Affairs website: http://multicultural.ufl.edu.

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/

Software Use
All faculty, staff and students of the university 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.

Campus Helping Resources
For issues with technical difficulties for e-learning in Canvas, please post your question to the Technical Help Discussion in your course, or contact the UF Help Desk at:

- Learning-support@ufl.edu | (352) 392-HELP - select option 2 | http://elearning.ufl.edu
- Library Help Desk support http://cms.uflib.ufl.edu/ask
- SFRC Academic Hub https://ufl.instructure.com/courses/303721

Student Life, Wellness, and Counseling Help
Students experiencing crises or personal problems that interfere with their general well-being 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.

- Counseling and Wellness resources http://www.counseling.ufl.edu/cwc/
- U Matter, We Care http://www.umatter.ufl.edu/
- Career Connections Center http://career.ufl.edu/
- Other resources are available at http://www.distance.ufl.edu/getting-help for online students.

UF/IFAS Field and Fork Food Pantry, http://pantry.fieldandfork.ufl.edu
The Pantry is a resource on the University of Florida campus committed to eradicate food insecurity. Food insecurity is not having a reliable access to nutritious foods for yourself on a regular basis. If you, or anyone you know is experiencing food insecurity, the Pantry is a resource to visit. We offer non-perishable food, toiletries and fresh vegetables grown at the Field and Fork Gardens to provide a well-balanced diet. Protecting the privacy of its guests and providing food to those in need within our campus community is our priority. Our guests do not need any proof of need to use this resource, all that is needed is a Gator 1 ID to prove you are a current Student, Faculty or Staff at the University of Florida.

Student Complaint Process
The School of Forest Resources & Conservation cares about your experience and we will make every effort to address course concerns. We request that all of our online students complete a course satisfaction survey each semester, which is a time for you to voice your thoughts on how your course is being delivered.

If you have a more urgent concern, your first point of contact should be the SFRC Academic Coordinator or the Graduate/Undergraduate Coordinator for the program offering the course. You may also submit a complaint directly to UF administration:

- Students in online courses: http://www.distance.ufl.edu/student-complaint-process
- Students in face-to-face courses: https://scr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/
<table>
<thead>
<tr>
<th>Week</th>
<th>Tuesday Lecture</th>
<th>Wednesday Lecture</th>
<th>Wednesday Lab</th>
<th>Assignment Due *</th>
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</thead>
<tbody>
<tr>
<td>1...</td>
<td>Course overview, group assignments (TM, SS)</td>
<td>Management planning, purpose and intent, structure of a good plan, review of example plans (TM)</td>
<td>Site visits: meeting times to be arranged</td>
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<tr>
<td>2...</td>
<td>Group dynamics: teamwork, collaboration, addressing conflict, how to disagree without being disagreeable (TM)</td>
<td>Presentation primer: developing a narrative, basics of powerpoint, public speaking refresher (SS)</td>
<td>Groups in field</td>
<td></td>
</tr>
<tr>
<td>3...</td>
<td>Continued orientation, catch-up, etc. (TM)</td>
<td><strong>Guest Speaker:</strong> Project Management (Suzanne Kaufman - Jones Edmunds)</td>
<td>Groups in field</td>
<td><strong>Check Point #1</strong> Individual conceptual management plan</td>
</tr>
<tr>
<td>4...</td>
<td><strong>Guest Speaker:</strong> How to Speak Landowner: questions to ask, interpreting answers, and translating them into actions (Dave Conser - Florida Forest Service)</td>
<td>Inventory primer: plot arrangement, plot type, basics of variability and sampling intensity (SS)</td>
<td>Inventory workshop with Dr. Johnson and Dr. Vogel (by group, 40 minute slots, times to be assigned)</td>
<td></td>
</tr>
<tr>
<td>5...</td>
<td><strong>Guest Speaker:</strong> Forest Certification (Laura Bosworth, Florida Forestry Association)</td>
<td>Groups in field</td>
<td>Check Point #2... Group conceptual management plan. Summary of landowner objectives, overview of parcel, consensus conceptual management plan, general inventory plan (20 minute time slots to be assigned)</td>
<td></td>
</tr>
<tr>
<td>6...</td>
<td>Developing Ecosystem Service Markets... Carbon, Wildlife, Water (DA)</td>
<td>Analysis of basic tree inventory data (TPA vs. BAA, mean DBH, mean height), calculating biological rotation age (TM)</td>
<td>Groups in field</td>
<td></td>
</tr>
<tr>
<td>7...</td>
<td><strong>SPEAKER:</strong> Recreation (Taylor Stein - SFRC)</td>
<td>Statistical analysis: measures of central tendency, variability, confidence intervals (SS)</td>
<td>Check Point #3... oral presentation of inventory status and issues, adjustment of plan based on data collected, proposed data analysis</td>
<td></td>
</tr>
<tr>
<td>8...</td>
<td>Predicting biological growth using growth-and-yield models (TM)</td>
<td><strong>SPEAKER:</strong> Determining the market value of timber (Chris Demers, SFRC)</td>
<td>Groups in field or analyzing data</td>
<td></td>
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### Course Schedule (cont.)

<table>
<thead>
<tr>
<th>Week</th>
<th>Tuesday Lecture</th>
<th>Wednesday Lecture</th>
<th>Wednesday Lab</th>
<th>Assignment due</th>
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</thead>
<tbody>
<tr>
<td>9... 3-4 Mar</td>
<td>Spring Break</td>
<td>Spring Break</td>
<td>Spring Break</td>
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<tr>
<td>10... 10-11 Mar</td>
<td><strong>Guest Speaker:</strong> Wetland Mitigation (Jay Vogel and Kari Hurst, Natural Resource Planning Services)</td>
<td>Economic analysis: calculating net present value, internal rate of return, and land expectation value (DA)</td>
<td>Groups in field or analyzing data</td>
<td>Check Point #4 Plan Draft #1</td>
</tr>
<tr>
<td>11... 17-18 Mar</td>
<td><strong>Guest Speaker:</strong> Conservation Easements (Charlie Houder, Alachua County)</td>
<td>Economic analysis: calculating economic rotation age, other topics (DA)</td>
<td>Groups analyzing data or preparing documents</td>
<td></td>
</tr>
<tr>
<td>12... 24-25 Mar</td>
<td><strong>Guest Speaker:</strong> Wildlife Management (John Dooner and Austin Carroll, Southern Forestry Consultants)</td>
<td>Analysis of and planning for risk: identifying risks, quantifying risks, risk tolerance, accounting for risk tolerance in planning (TM)</td>
<td>Groups analyzing data or preparing documents</td>
<td></td>
</tr>
<tr>
<td>13... 31 Mar-1 Apr</td>
<td>TBD</td>
<td>TBD</td>
<td>Groups analyzing data or preparing documents</td>
<td>Check Point #5... Plan Draft #2</td>
</tr>
<tr>
<td>14... 7-8 Apr</td>
<td>Ethics (TBD)</td>
<td>Groups analyzing data or preparing documents</td>
<td>Groups analyzing data or preparing documents</td>
<td></td>
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<tr>
<td>15... 14-15 Apr</td>
<td>Licensing/Registration, Forest Practices Acts (TBD)</td>
<td>TBD</td>
<td>Groups preparing documents</td>
<td>Final Plan</td>
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<tr>
<td>16... 21-22 Apr</td>
<td>Final Plan presentations</td>
<td>Final Plan presentations</td>
<td>Final Plan presentations</td>
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<tr>
<td>Finals week</td>
<td></td>
<td></td>
<td></td>
<td>Individual Reflection Document</td>
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DA=Damian Adams, TM=Tim Martin, SS=Scott Sager

*For exact due dates and times for assignments, confirm on Canvas*