

FNR4624C *FIELD OPERATIONS FOR MANAGEMENT OF ECOSYSTEMS*

Fall 2018

Gainesville Section 19460

Milton Section 19461

Instructor: Mr. Scott A. Sager
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Class hours: Gainesville

- M 4-9 (10:40am – 4:55pm) NZ 222
- field days may run longer
- overnight field trip Sunday 18/Monday 19 November

Milton

- recorded lectures to be viewed on students' schedule, but prior to field trips
- field trips scheduled for:
 - o Thursday 18 October (all day)
 - o Thursday 1 November (all day)
 - o Sunday 18/Monday 19 November (afternoon/overnight/all day)
 - o Wednesday 11/Thursday 12 December (half-hour individual presentations)

Office hours: As arranged, or via phone/email

Overview: The axe, match, cow, plow, and gun – Aldo Leopold identified these as the things that destroyed land, but also as the tools that can be used to restore it (*Game Management*, 1933). While Leopold was focused on using these tools to restore game species specifically, the use of these tools to manage land for some combination of economic return, aesthetic/social value, and ecological services/habitat is just as valid. This course covers how these tools are used (minimal time on cows and guns) to reach some combination of these goals.

Major sections of the course include the use of heavy equipment, herbicides, and prescribed fire.

Each tool and/or technique is reviewed for its application (pros and cons), regulations which govern its use, costs and contracting markets, and safety concerns.

This course provides broad exposure to the topic. Examples are primarily taken from the southeastern United States, but principles are more broadly applicable. Students seeking more depth can discuss their interest with the instructor, and potentially take courses such as:

- FOR3214/L *Fire Ecology and Management/Lab*
- PLS4613 *Aquatic Weed Control*
- WIS4427C *Wildlife Habitat Management*
- FAS4305C *Intro to Fishery Science*

Student Learning Objectives:

By the end of this course, the student will be able to:

1. Identify and describe the tools used to meet specific ecosystem management objectives, including:
 - a. the pros and cons relative to the objective;
 - b. regulations governing their use;
 - c. costs and contracting (including ethics);
 - d. and safety issues.
2. Choose an appropriate tool/technique to reach a desired condition, given a stated current condition, and justify their choice.
3. Identify the common regulatory restrictions on operational activities, and resources available to check for new or uncommon regulations.
4. Identify the factors involved in determining prices for contracting of management activities, and discuss ways to distribute risk and avoid conflicts of interest, to produce the “best” contract form.

Pre-Requisites: This course is a senior-level course, intended for students who have already gained a solid understanding of how ecosystems function, as well as a basic understanding of “desired” conditions based on landowner objectives. As such, successful completion of the following coursework is required prior to enrollment:

- FOR3153C *Forest Ecology*, or equivalent (contact instructor to determine sufficiency)
- FNR3410C *Natural Resource Sampling*, WIS4945C *Wildlife Techniques*, FOR3162C *Silviculture* or equivalent (contact instructor to determine sufficiency)

Evaluation of Student Performance: All assignments (except the oral review of the Operations Project) are to be completed in Microsoft Word, and submitted via email.

- 10% Prescribed Fire Prescription – plan for the intentional use of fire to meet a specific objective, on a specific site
- 10% Timber Harvesting Prescription – plan for the removal and merchandizing of trees to meet a specific goal for a specific site
- 10% Regeneration Prescription – plan for the regeneration of desirable species, and control of non-desirable ones, on a specific site
- 40% Weekly Assignments/Exercises (minimum of eight) – provided during class, and based on lectures and field exercise (5% of grade, each)
- 30% Final Project – for a given site and given objectives, develop a set of prescriptions (15%), and defend/justify/answer questions about those prescriptions in an oral review (15%). Typically includes an overstory manipulation prescription, regeneration prescription, and prescribed burn plan.

Grading Scale (points):

		A	90.0-100		
B+	86.7-89.9	B	83.7-86.6	B-	80.0-83.6
C+	76.7-79.9	C	73.7-76.6	C-	70.0-73.6
D+	66.7-69.9	D	63.7-66.6	D-	60.0-63.6
		E	< 60.0		

Further information on UF grading policy can be found at <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

Attendance: To earn points for weekly assignments you must attend the lecture/field trip. Further information on UF attendance policy can be found at <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

Textbook: All required materials will be provided. Any and all materials (including materials you identify on your own) may be used in assignments, prescriptions, and the final project. A copy of the following will be provided each student:

Silviculture Best Management Practices. Florida Department of Agriculture and Consumer Services, 2008.

Florida Forestry Wildlife Best Management Practices for State Imperiled Species. Florida Department of Agriculture and Consumer Services, 2014.

Field labs: In addition to providing practical familiarity with these operations, field labs provide opportunities to interact with resource management professionals. While every effort will be made to return students to campus by 5pm on days with field labs, students should recognize that this is **only an estimate**, and schedule their activities accordingly. All trips require professional attire – long pants (jeans or slacks; not leggings), appropriate shirt, and closed-toe shoes. Any additional required equipment will be provided.

Assignments: No credit will be given for assignments submitted late. All assignments are submitted via email, in a Word document. “Late” is defined as arriving in my email inbox after the prescribed date/time. All assignments are to be completed individually – reference materials may be used, but not other students.

Final Project: The intent of the final project is to provide an opportunity for the student to demonstrate a

cumulative knowledge of the course material, as applied to meet a specific objective on a specific site. It is also intended to provide students experience defending their approach to the landowner or their supervisor. The written prescription/documentation will describe, in clear terms, the proposed activities and tools/techniques to be used, including contracts, maps, timing, etc. (as necessary). This documentation will be “presented” in a one-on-one meeting with the instructor.

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/honorcodes/honorcode.php>.

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: Students experiencing crisis 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.

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
- Training Programs
- Community Provider Database

Career Resource Center, First Floor JWReitz Union, 352.39231601, www.crc.ufl.edu/

Services for Students with Disabilities: The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes the registration of disabilities, 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.

001 Reid Hall, 352.392.8565, www.dso.ufl.edu/drc/.

FNR4624C FIELD OPERATIONS FOR MANAGEMENT OF ECOSYSTEMS
Fall 2018 Schedule (Gainesville Only, Milton Only, Both Groups)

Detailed Outline

Week	Content	Assignment
27 August	LECTURE – course mechanics, basic principles, regulations, contracting/markets, safety, general applications	Questions due Tuesday 4 September by 5pm
3 September	NO CLASS	
10 September	LECTURE – heavy equipment and herbicides	Questions due Tuesday 18 September by 5pm
17 September	LECTURE – prescribed fire	Prescribed Fire Prescription due Tuesday 25 September by 5pm
24 September	LECTURE – understory management, site preparation, competition control	Questions due Tuesday 2 October by 5pm
	FIELD TRIP – Bielling Site Prep, Providence; Austin Cary Forest, Fairbanks	
1 October	LECTURE – logging equipment	Questions due Tuesday 9 October by 5pm
	FIELD TRIP – Loncala Logging, Newberry	
8 October	LECTURE – wood products and markets	Questions due Tuesday 16 October by 5pm
	FIELD TRIP – Gillman Building Products, Lake Butler	
15 October	LECTURE – timber sale planning and administration, managing access (road construction and maintenance, visitor use, etc.)	Questions due Tuesday 23 October by 5pm
Thursday 18 October	FIELD TRIP – Forest Investment Associates, Blountstown region	Questions due Tuesday 23 October by 5pm
22 October	LECTURE – guest speakers... professional practice, ethics, work experiences; aquatic systems management	Timber Harvesting Prescription due Tuesday 30 October by 5pm
29 October	LECTURE – regeneration methods, stock genetics, density and spacing	Questions due Tuesday 6 November by 5pm
	FIELD TRIP – Operations Project-Austin Cary Forest, Fairbanks	
Thursday 1 November	FIELD TRIP – Rayonier nursery/The Nature Conservancy site/project sites, East Alabama/West Florida	Questions due Tuesday 6 November by 5pm
5 November	FIELD TRIP – Florida Forest Service Nursery, Chiefland	Regeneration Prescription due Tuesday 13 November by 5pm
12 November	NO CLASS	
18-19 November	FIELD TRIP – Southern Forestry Consultants, Quincy	Questions due Tuesday 27 November by 5pm
26 November	FIELD TRIP – Plum Creek, Lake Butler	
3 December	FIELD TRIP – Jennings State Forest, Orange Park	
10, 11, 13, 14 December	Operations Plan – presentations	Written Plan due Monday 10 December by 10am
11, 12 December	Operations Plan – presentations	