

Fire Ecology and Management Lecture (G)

FOR 6934 (2 credits) Spring, 2012

Instructors

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Office hours: TBD

Class Hours: Friday, periods 3-4

Objectives: At the end of this course, each student will be able to:

- Explain the ecological aspects of fire and fire management techniques;
- Assess prescribed burning plans for a variety of ecosystems and goals;
- Relate present-day fire policies and use with historical precedents;
- Evaluate critical factors in fire behavior and effects on vegetation and wildlife;
- Describe wildland fire control administration and operations.
- **Continue to work on your Certified Prescribed Burn Manager qualifications**

Required Texts

No required text, but readings will be made available electronically. The FL Division of Forestry website has the readings for the Certified Prescribed Burn Manager training at: http://www.fl-dof.com/wildfire/rx_training.html.

Class Format, Make-up and Attendance Policies

Weekly lecture format with two topics typically covered each week, allowing some time for in-class discussions, group work, and presentations. Enrollment in Lab portion (1 credit) of this class is *strongly* encouraged. Make-up work for legitimate excuses will be evaluated on a case-by-case basis. No make-up exams will be allowed unless arranged prior to the exams.

Evaluation of Student Performance

40% Two unit exams (multiple choice, short answer, problems)
35% Individual Course Project (described below)
25% Detailed burn plan

Grading Scale

90-93.3% A-	93.4-96.6 A	96.7-100 A+
80-83.3% B-	83.4-86.6 B	86.7-89.9 B+
70-73.3% C-	73.4-76.6 C	76.7-79.9 C+
60-63.3% D-	63.4-66.6 D	66.7-69.9 D+
Less than 60%= E (Fail)		

Assignments

- Readings on a weekly basis pertaining to the week's topic will be made available electronically. Students are expected to have completed the readings before class periods and will be called upon to comment on the readings.
- Readings-based assignments (2 reading responses) or In-class assignments TBA
- Short assignments contributing to the final Comprehensive Burn Plan
- A Comprehensive Burn Plan, including: smoke assessments, fire behavior analysis, fire weather prescriptions, contingency reports, monitoring protocols, quantification of risk in the wildland-urban interface, and public announcement and relations planning.
- Course Project assignment

Course Project

- **Part 1.** Choose a topic in fire ecology and/or management that is of particular interest to you. Research 5-10 peer-reviewed original research journal articles, and write a review article summarizing, synthesizing, and critiquing the reports. You should evaluate and compare the articles critically, identifying both agreements and disparities in experimental design, results, and conclusions drawn. . Reviews should be between 10-15 pages in length, double-spaced, and written using an 11-point font minimum. **This is DUE Week 8.**
- **Part 2.** Design a small-scale fire experiment by which you could test a hypothesis developed from the reviewed articles. The experiment must use prescribed fire, and should demonstrate understanding of how the basic scientific method can be used for hypothesis testing, if only on a small scale. Summarize your study using lab report structure and format (see us if you have questions). Please utilize this opportunity to work on your graduate research, if fire-related. This will be **DUE Week 15.**
- **Part 3.** Give a 5-10 minute presentation to the rest of the class describing the review article as background, the hypotheses derived from your review research, and your proposed experimental design for your experiment. This will be presented in **Week 16.**

Schedule of Class Topics (will be updated for 2012)

Week	Date	Subject	Assignment-Undergraduate	Assignment-Graduate
Week 1	Jan. 7	Orientation and Introduction: Fire in the southern US and why we burn (CPBM), Safety (CPBM) <i>LAB: Rx Burning Safety and Tools</i>	Skim CPBM chs. 1-2 Read CPBM ch. 7	Skim CPBM chs. 1-2 Read CPBM ch. 7
Week 2	Jan. 14	Fire Weather (CPBM) <i>LAB: Assessing fire weather and fuel loads</i>	Read CPBM ch. 8	Read CPBM ch. 8 Read handout
Week 3	Jan. 21	Firing Techniques (CPBM) <i>LAB: Firing techniques exercises</i>	Read CPBM chs. 10-13	Read CPBM chs. 10-13 Work on course project questions

Week 4	Jan. 28	Fire Behavior (CPBM) <i>LAB: Modeling systems for fire behavior prediction</i>	Read CPBM ch. 11	Read CPBM ch. 11 *COURSE PROJECT Q's DUE
Week 5	Feb. 4	Prescribed burn planning and evaluation (CPBM) Holding and contingencies/ Managing the burn (CPBM) <i>LAB: TBA</i>	Read CPBM ch. 6	Read CPBM ch. 6
Week 6	Feb. 11	Smoke Management and ecological effects <i>LAB: Predicting smoke movement and risk</i>	Read CPBM ch. 9 pgs. 3, 5-11 Read handout, write response	Read CPBM ch. 9 pgs. 3, 5-11 Read handout, write response
Week 7	Feb. 18	Fire and vegetation ecology Fire history and dendrochronology <i>LAB: Dendrochronology-unlocking fire history</i>	Read CPBM ch. 9 pgs. 1-3 *Reading response DUE Read handout	Read CPBM ch. 9 pgs. 1-3 *Reading response DUE Read handout
Week 8	Feb. 25	Fire and water resources Wildlife response to fire <i>LAB: Assessing ecological fire effects</i>	Read handout Study for midterm	*PART 1 COURSE PROJECT DUE Read handout Study for midterm
Week 9	Mar. 4 MIDTERM	Fire effects on soil chemistry and biology		
Week 10	Mar. 11	SPRING BREAK <i>UG- Conclave (no class)/ G- course projects</i>	Read CPBM chs. 3-4	Read CPBM chs. 3-4
Week 11	Mar. 18	*LAB on your own: visit NATL for burn planning	work on burn plan	work on burn plan
Week 12	Mar. 25	Legal issues in prescribed burning (CPBM) Public relations (CPBM) <i>LAB: Visit with agency PR officer</i>	Read "Rednecks" handout, write response Visit FIREWISE website	Read "Rednecks" handout, see FIREWISE website
Week 13	Apr. 1	Wildland Urban Interface fire management <i>LAB: Is your home safe?</i>	*Reading response DUE	Read handout, write response
Week 14	Apr. 8	Wildland fire management and suppression - Administrative structures and programs	Read handout	Read handout *Reading response DUE

		LAB: fire suppression		
Week 15	Apr. 15	Climate change and fire feedbacks LAB: TBA		*PART 2 COURSE PROJECT DUE
Week 16	Apr. 22	No Class	*BURN PLANS DUE	*BURN PLAN DUE & PART 3 COURSE PROJECT DUE
	Apr. 27	FINAL EXAM and CPBM EXAM: 12:30 PM		

Additional References

Web Sites: [Fire Effects Information System](#)
[Fire Management Software](#)
[FIREWISE](#)
[Florida Division of Forestry](#) (weather, drought index, etc)
[National Interagency Fire Center](#)
[Tall Timbers Research Center](#)
[USFS – Fire](#)
[USFS – Southern Research Station, Interface South](#)
[USFS –Forest Encyclopedia Network](#)
[University of California Forest Products Lab](#)

Important Literature Sources:

International Journal of Wildland Fire
Fire Ecology (available on-line at <http://www.fireecology.net/pages/13>)
Forest Ecology and Management
Journal of Forestry
Southern, Western, Northern Journals of Applied Forestry
Proceedings of Tall Timbers Fire Ecology Conferences
USDA Forest Service General Technical Reports, Research Notes, and Research Papers

Supplemental Texts

(Appropriate sections will be made available on the website or may be available in the Library):

Agee, J. K. 1993. Fire ecology of Pacific Northwest forests. Island Press, Washington, DC, 493 p.
Biswell, H. H., 1989. Prescribed burning in California wildlands vegetation management. University of California Press, Berkeley, CA. 255 p.
DeBano, L.F., D.G. Neary, P.F. Ffolliott. 1998. *Fire's effects on ecosystems*. J. Wiley, NY.
Pyne, Andrews and Laven. 1996. *Introduction to Wildland Fire (2nd Edition)*, John Wiley and Sons.
Whelan, R. J., 1995. The ecology of fire. Cambridge U. Press, Cambridge, MA. 346 p.
Wright, H.A., Bailey A.W. 1982. Fire ecology; United States and southern Canada. John Wiley & Sons. 501 p.

Academic Honesty: In 1995 the UF student body enacted a new honor code and voluntarily committed itself to the highest standards of honesty and integrity. By enrolling at the University, and in this course, you commit yourself to that standard. The honor code, in part, states “On all work submitted for credit by

students at the university, the following pledge is either required or implied: 'On my honor, I have neither given nor received unauthorized aid in doing this assignment.'" Failure to comply with this commitment may result in disciplinary actions up to and including failing this course and expulsion from the University.

UF Counseling Services:

Students experiencing crisis or personal problems that interfere with their general well being are encouraged to utilize the University's counseling resources. Both the Counseling Center and Student Mental Health provide confidential counseling services at no cost for currently enrolled students. Resources are available on-campus for students having personal problems or lacking clear career and academic goals, which interfere with their academic performance. These resources include:

1. University Counseling Center, 301 Peabody Hall (next to Criser Hall), 392-1575, personal and career counseling; www.counsel.ufl.edu
2. Student Mental Health Services, Student Health Care Center (2nd floor, Student Health Services, Infirmary), 392-1171, personal counseling; <http://shcc.ufl.edu/smhs/>
3. Center for Sexual Assault/Abuse Recovery & Education (CARE), Student Health Care Center, Infirmary Rm 245, 392-1161, ext 4362, sexual assault counseling; and self help information tab at www.counsel.ufl.edu
4. Career Resource Center, Reitz Union, 1st floor, 392-1601; career development assistance, counseling; <http://www.crc.ufl.edu/> .

Students with Disabilities Act:

The Dean of Students Office 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. *Dean of Students Office*, 202 Peabody Hall, 392-8565, www.dso.ufl.edu.

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.