

SYLLABUS - FORESTRY 324
FIRE MANAGEMENT & ECOLOGY
Spring, 2021

GENERAL COURSE INFO.:

Lecture: 8:00 -8:50 Tues., Synchronous, using Zoom. Can access through Canvas.

Lab Sect. 1 12:00-2:50 Wed., Most will be virtual; 3 field trips in April

Lab Sect. 2 2:00-4:50 Thur., Most will be virtual; 3 field trips in April

Instructor: Dr. James Cook (jcook@uwsp.edu)

Virtual Office Hours: Tues, 2-3 pm

*** ZOOM LINKS for the lecture, lab and office hour are at the end of the syllabus. ***

Foundational Understanding: **Biol 130; NR 250 & 251; FOR 224 or FOR 326 (or certified as Wildland Firefighter Type II).** NOTE: This mean that it will be assumed you understand the basics of botany, soil science, fire behavior and fuels.

COURSE OBJECTIVES:

My overall objective is for you to learn the foundations of prescribed burning and fire ecology, primarily fire effects on ecosystems.

Learning Outcomes: the student will 1) learn many of the management uses of fire, 2) acquire the background, tools and understanding to effectively plan a simple prescribed burn, 3) be able to demonstrate a broad understanding of fire effects on vegetation, soils, invertebrates and nutrient cycling in forest ecosystems, and 4) acquire a foundational understanding of the roles that fire plays in terrestrial ecosystems.

To meet Outcomes #2, the student will learn how to 1) inventory fuels, 2) evaluate a community for prescribed burning, 3) write a prescribed burn plan, and 4) assess the advantages and disadvantages of the common ignition patterns.

COURSE PHILOSOPHY & APPROACH:

My philosophy is that learning is a shared experienced; it is not a one-way transfer of information. We must each shoulder our responsibilities for you to be successful.

A. Lecture: Specific '**Learning Objectives**' are provided for each major Unit (there are 7) in CANVAS. If you know, understand, and can analyze the content of all objectives, you will do well on the exams.

B. Lab: For each topic, you will be given a handout that lists the specific objectives for the topic and an outline that lists the major sub-topics.

B1. *Assignments.* There are four assignments associated with the labs. These collectively determine 20% of your grade; THUS, they should be given an appropriate level of attention and thought. **Each person is expected to write his/her own answers.** If two or more people turn in the same answer(s), this is considered academic misconduct. See the Student Rights & Responsibilities section below for more information.

B2. *Burn Plan.* **This is THE most important task and outcome of the course.** It will draw on, and integrate, many of the topics we cover in lecture and lab. You need to start as early as you can, stay on top of the associated content [organization is going to be very important] and plan ahead. Examples from previous years will be provided.

Text: Pyne, S. J., P. L. Andrews and R. D. Laven. 1996. Introduction to wildland fire. 2nd. Edit. Wiley & Sons, New York. 769 pp.

In our pandemic environment, we have to use CANVAS for many aspects of the course. The course site **is organized by week**. For each week there is a **document (“SCHED – Week X”)** that describes what files you need and any activities (e.g., an assignment or field trip). **Thus, there is a Module for each week** and within that module are the powerpoint(s) and outlines used in lecture, outlines and handouts for lab, and all recordings for the week. The numbering of the Modules is based on the week of the semester and corresponds to the week # in the schedule below.

LECTURE/LAB SCHEDULE, TOPICS & READINGS:

Week	Lecture Date	Topic & Reading Assignment	Lab Topic	Lab Assgn.
1	1/26	Scope of fire mngt. Uses of prescr.fire–p.538-40,46-48 [H/O] ¹ ;	<u>Fuel properties</u> , combustion & weather (p. 96-102, 106-21) ²	N
2	2/2	Complete ‘Uses’; Begin fire behavior - p. 63-68, 85-89 [H/O]	BEHAVE+ → Brief meeting; do remainder on your own.	Y
3	2/9	Complete Low intensity behavior; Ignition patterns – p. 550-54 [H/O]	Fuel & smoke mngt. p.405+, 554+	N
4	2/16	Complete: Ignition patterns	Fire prescriptions	Y
5	2/23	Use of ignition patterns in prescribed burning, Begin “Regimes”	Fire Season, PNF & Effects of Fire Exclusion	N
6	3/2	Fire regimes - Components, variation, importance p. 171-80	Fire regimes & fire history of BWCA	Y
7	3/9	Plant response to fire [H/O]; p. 180-187	Adaptations to fire	N
8	3/16	EXAM #1	No lab – need a break!	N
9	3/29	Forest understory response	FEIS, “FOFEM” brief meeting; most on your own	Y
10	4/6	Fire effects- hydrology + soil physical p. 195-96	Recon. For Burn Plan*	N
11	4/13	Fire effects – complete physical; begin chemical effects	Fuel load inventory*	N
12	4/20	Fire effects- soil chemical	Calculate fuel loads	N

13	4/27	Fire effects-complete chem.; begin biological p. 195-96.	Burn evaluation in field *	
14	5/4	Fire effects – invertebrates & microbes [H/O]	Linkages in your Plan - final help	N
15	5/11	Long term effects of fire & role of fire in ecosystems p. 198-203	Prescribed burns gone wild – why?	N

* = these are the days of field trips; all are centered around the Burn Plan

1 'H/O' signifies that a handout is provided in Canvas

2 For lab, page numbers in the text are provided that pertain to the topic in case you want to read them; this is not a reading assignment.

GRADE DETERMINATION

Exam #1 = 25%

Lab assignments(4) = 20%

Prescr. burn plan = 25% **due 5/14 at 5:00 pm**

Final exam = 30% Scheduled time = 5/20, Thur., 2:45-4:45

I believe in curving individual assignments and exams, if warranted, but not course grades. Grades will be assigned as follows: > 92.4 = A; 89.5-92.4 = A-; 86.5-89.4 = B+; etc. Assignments which are turned in late will be assessed a **late penalty**: 1) <= 1 day late = 5%; 2) > 1 and <= 3 days = 10%; 3) > 3 and <= 6 days = 20%; 4) > 6 and < 14 days = 30%, and 5) > 13 days, 40% reduction. You may turn in assignments on the due date (hard copy) or in Canvas.

ATTENDANCE POLICIES:

I. Attendance will not be taken in lecture and no penalty will be imposed for missing a lecture; HOWEVER, <= 60% of the content comes from your book, so it will greatly improve your performance by attending all lectures. FURTHERMORE, sometimes the schedule has to be adjusted due to unforeseen circumstances and announced in lecture. You are responsible for any changes announced, even if you were not present. Such changes will also be posted in CANVAS within two days.

II. **Attendance in LAB IS STRONGLY ENCOURAGED for all Virtual Meetings. It is REQUIRED for the two visits to the Prescribed Burn Site.** For each unexcused absence, 2.5 points will be subtracted from your laboratory assignment average.

STUDENT RESPONSIBILITY

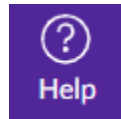
- (1) To adhere to the University Student Rights and Responsibilities. These are fully described in Chapter 14 of U.W. System/UWSP Policies. This document can be found in the Dean's office, the Reserve desk in the LRC, in each residence hall and on line at: www.uwsp.edu/admin/stuaffairs/rights/ Examples of inappropriate conduct include turning work in that was done by someone else and getting an answer on an exam from another person.
- (2) To keep up with the readings, to get ALL notes if you miss a lecture and to turn in your assignments on time. If you have an emergency or are ill, extensions will be provided, but it is your responsibility to inform me, **in writing or by e-mail**, why you missed

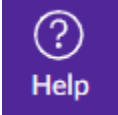
class. Also, if any material is not clear, YOU have to let me know; I will be happy to sit down with you one-on-one and discuss it as much as you need.

UWSP Technology Support

- If you are new to UWSP, or if this is the first semester you are taking classes in a virtual environment, start with the [Student Technology Tutor](#) on the Information Technology page. Look at their page while you are there; it has a lot of resources for students.
- This is a great source of information for most questions: [IT Service Desk](#) (Formerly HELP Desk)
 - IT Service Desk Phone: 715-346-4357 (HELP)
 - IT Service Desk Email: techhelp@uwsp.edu

Canvas Support – there is a lot on the IT web page, and within Canvas. →



Click on the  button in the global (left) navigation menu; this will take you to several ways that you can get help.

Fire Management and Ecology lecture

Time: Jan 26, 2021 08:00 AM, and all subsequent Tuesdays

<https://uwsp.zoom.us/j/99171114328?pwd=MTUwNkdoSS85N1FjWkY4YnJyczVEQT09>

Meeting ID: 991 7111 4328

Passcode: 242231

For 324 OFFICE HOUR:

Time: Jan 26, 2021 02:00 PM and all subsequent Tuesdays

<https://uwsp.zoom.us/j/97038572487?pwd=RU9ycVRJbCtqYnRXeE50NnNDNllodz09>

Meeting ID: 970 3857 2487

Passcode: 067738

LAB ZOOM LINKS

WEDNESDAY:

Topic: Fire Management and Ecology

Time: Jan 27, 2021 12:00 PM

Every week on Wed, until May 12, 2021, 16 occurrence(s)

<https://uwsp.zoom.us/j/92339308802?pwd=QjBFWmw4Wmxud0lVQlpwYWFTQ11KUT09>

Meeting ID: 923 3930 8802
Passcode: 027979

THURSDAY:

Topic: Fire Management and Ecology, Thursday Lab

Time: Jan 28, 2021 02:00 PM

Every week on Thu, until May 13, 2021, 16 occurrence(s)

Join Zoom Meeting

<https://uwsp.zoom.us/j/92569878918?pwd=YW9PZEV6b2N6dGZ1MGdTUTg0WmFtQT09>

Meeting ID: 925 6987 8918
Passcode: 356809