

MEETING TIME: Tuesday and Thursday 10:10-11:00
LOCATION: 106 Forest Resources Bld
CREDITS: 2
INSTRUCTOR: Dr. Margot Kaye
303 Forest Resources Bldg.
865-4841, mwk12@psu.edu
Office hours: Thursday 9-10 or by appointment

COURSE OVERVIEW

Details: This class is designed to give students an understanding of the basic physical and biological processes of fire and fires' role in the management of forest and non-forest systems. We will begin with the basics of combustion. Next we will learn about wildland fire behavior through the fire fighting training course S190 "Introduction to Wildland Fire Behavior". This training course will be followed by learning how prescribed fire can be used as a management tool and how to plan for a prescribed burn. A second firefighting training course will follow: PA130 "Basic Wildland Firefighter". The final portion of the course will be dedicated to studying the ecological impacts of fire on ecosystems. We will study fire regimes of forests from around the globe and examine the relationship between fire, ecosystems, and climate. The semester will end with a discussion of the potential for fire as a management tool in eastern oak forests.

By the end of the course, students will be able to 1) discuss current issues in fire management for forests in Pennsylvania and areas from around the world 2) continue wildland fire fighter training to become a Firefighter Type 2 in the National Interagency Incident Management System and 3) understand the potential for fire management in a diversity of terrestrial ecosystems.

Angel: Course material such as readings and Power Point presentations will be made available on Angel. Students will be expected to check Angel for new material and assignments. Additionally, Angel will be used to communicate with students outside of class.

Readings: There is no text book for the course. Students will periodically be assigned readings. The readings will be drawn from scientific journals, popular press, and management publications. The S190 and PA130 training courses each follow a handbook, which students will be given and will read as the course material is presented.

Written Assignments: I expect written assignments to be thoughtful, well-prepared, and well-written documents that any lay person could understand. Assignments should be typed (unless indicated otherwise) with your name and an assignment title written at the top of the paper. Take time to write complete sentences and properly organized paragraphs. Points will be deducted from any written assignments that do not follow these instructions.

S190 AND PA130 TRAINING

These courses were developed to recognize and certify fire fighters who meet established minimum criteria for wildland fire fighting. Those individuals who attain a basic level of training and skill will be recognized as certified wildland firefighters in Pennsylvania. PA130 will be taught in this class, which has been modified from the federal course S130 to apply to fire fighting in Pennsylvania.

The S190 course is divided into two units. *Unit I:* Fire behavior factors affecting the start and spread of wildland fire; *Unit II:* Fire weather.

The PA130 course is divided into six classroom units and one field exercise. *Unit I: Organization and Firefighter Preparedness; Unit II: Fireline Tools; Unit III: Suppression; Unit IV: Securing the Line; Unit V: Mop-up/Overhaul; Unit VI: Safety*

Each training course will end with an exam testing students' knowledge of the material. Students must score at least 80% on the exam to become certified. Additionally, PA130 certification requires that students participate in a field training exercise. This exercise will take place one afternoon in April and is mandatory for students who wish to receive a PA130 certificate and for the FOR320 course.

GRADES AND EXPECTATIONS

Grades will be based on a combination of class participation, written assignments, in-class pop quizzes, and exams. Students are expected to attend each class. The majority of material for the course will be delivered in class since there are no required texts. Assignments will be due at class time on the due date, unless otherwise instructed. Grades for assignments that are turned in late will be automatically reduced by half a letter grade, or 5 points, for each 24 hour period until the assignment is turned in.

The final course grade will be weighted as follows:

Class participation	10%
Assignments	15%
PA130 Exam	15%
S190 Exam	15%
Exam I	10%
Exam II	10%
Exam III	15%
Quizzes	10%

ACADEMIC ETHICS

Academic integrity, as defined by University Faculty Senate Policy 49-20, is the pursuit of scholarly activity free from fraud and deception and is an educational objective of this institution. Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabricating of information or citations, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students.

FOR320 SPRING 2013 COURSE SCHEDULE – UPDATED 01/07/13

Class	Content	Readings and assignments due in class
Jan 8 Tues	Course overview and introductions	
Jan 10 Thurs	Combustion	Read: Syllabus
Jan 15 Tues	Wildfire: past and present	Read: Donovan and Brown 2005
Jan 17 Thurs	Fire behavior: S190 Unit 1	Read: Unit 1 S190
Jan 22 Tues	Fire behavior: S190 Unit 2A	Read: Unit 2A S190
Jan 24 Th	Fire behavior: S190 Unit 2B	Read: Unit 2B S190
Jan 29 Tues	Fire behavior: S190 Unit 2C	Read: Unit 2C S190
Jan 31 Thurs	Fire behavior: S190 Unit 3	Read: Unit 3 S190
Feb 5 Tues	S190 Exam & Exam I	
Feb 7 Thurs	Wildland fire statistics	Assignment 1: Wildland fires in the US
Feb 12 Tues	Fighting fire with fire	
Feb 14 Thurs	Planning prescribed fire - Modeling fire behavior	
Feb 19 Tues	Planning prescribed fire - Modeling fire behavior	
Feb 21 Thurs	Planning prescribed fire - prescribed fire plan	Assignment 2: Modeling fire behavior
Feb 29 Tues	Planning prescribed fire - prescribed fire plan	
Feb 28 Thurs	PA130 Unit 1	Assignment 3: Prescribed fire plan
Mar 5 Tues	Spring break	
Mar 7 Thurs	Spring break	
Mar 12 Tues	PA130 Unit 2	Read: Unit 1&2 PA130
Mar 14 Thurs	PA130 Unit 3	Read: Unit 3 PA130
Mar 19 Tues	PA130 Units 4 and 5	Read: Units 4 and 5 PA130
Mar 21 Thurs	PA130 Units 6, discuss Schultz 2005	Read: Unit 6 PA130 & Schultz 2005

Mar 26 Tues	PA130 Exam & Exam II	
Mar 28 Thurs	Fire weather observations	
Apr 2 Tues	Fire ecology - plant adaptations	
Apr 4 Thurs	Fire ecology - plant adaptations	
Apr 9 Tues	Fire regimes - description	
Apr 11 Thurs	Fire regimes - historical	
Apr 16 Tues	Fire regimes - case studies	Assignment 4: Fire regimes
Apr 18 Thurs	Fire impacts on ecosystems	
Apr 23 Tues	Fire and climate	
Apr 25 Thurs	Fire as a management tool	Read: Arthur et al. 2012
Finals week:	Take home exam due by scheduled final exam time	

EXTRA-CREDIT ASSIGNMENT:

IS-100 National Incident Management System: this is an on line course that introduces students to the National Incident Management System. At the end of a 3-hour course, students will take an on-line exam. After successfully passing the exam, students will receive a certificate via email. If you forward this certificate to me, you will receive extra credit for the FOR320 class equal to an A on an assignment. The course can be accessed through the following URL:

<http://training.fema.gov/EMIWeb/IS/is100HE.asp> . I will keep the certificates on file in case a student needs to document in the future that they have completed the course.

CHECKLIST OF TRAINING REQUIREMENTS FOR FIRE FIGHTER TYPE II:

- S-130
- S-190
- IS-100
- Arduous pack test
- PA fire camp