



ENR 5340 FOREST ECOSYSTEM MANAGEMENT U G 3

Fall Semester 2022

The concepts and methods of managing forests across broad landscape scales for biodiversity, multiple uses and products, and ecosystem integrity.

Au. Sem., 2 1.3-hr cl. Prereq: Sr. or grad standing; permission of instructor
Tuesday & Thursday, 9:35am – 10:55am Kottman Hall room 245

COURSE DESCRIPTION:

This course covers the concepts and methods of managing forests across broad landscapes for biodiversity, multiple uses, and ecosystem integrity within the context of traditional forest management considerations. The focus of the course is upon the applied biological and ecological concepts in management of forests, both on private and public lands. Policy, although an important consideration which influences how forests are managed, is covered minimally toward the end of the course when discussions on synthesis into plans are held. It is not an objective of this course to discuss at length the policies that shape and influence management decisions, but rather examine the biological/ecological principles and subsequent application to management across broad scales to achieve multiple objectives. This course provides students with primers on basic concepts of silviculture and traditional forest management, and draws upon their basic knowledge of biology, ecology, and economic/management principles.

COURSE OBJECTIVES:

1. To introduce the student to the concepts, definitions, dynamics, and processes of forest ecosystems across landscapes.
2. To develop the understanding of biodiversity in forested landscapes and the ability to synthesize those concepts into resource management at stand and landscape levels.
3. To develop a working knowledge of concepts, methods, and tools to manage forests for biodiversity, habitat, riparian areas, and special areas within the framework of managing forests for traditional products

INSTRUCTOR:

Roger A. Williams, Ph.D.

Associate Professor, Forest Management and Wildland Fire Science
367-C Kottman Hall; Office hours by appointment
Contact: Email: williams.1577@osu.edu; phone: (614) 946 – 5698

TEXTBOOKS:

In lieu of a textbook, assigned readings will be posted on Carmen.

COURSE GRADING and EVALUATION:

Letter Grade Assignment

Letter Grade	Percent	Letter Grade	Percent	Letter Grade	Percent
A	93-100 %	B -	79-82 %	D +	66-68 %
A -	89-92 %	C +	76-78 %	D	60-65 %
B +	86-88 %	C	73-75 %	E	<60 %
B	83-85 %	C -	69-72 %		

Course Evaluation

Undergraduate Students		Graduate Students	
Homework	20%	Homework	15%
Midterm #1	25%	Midterm #1	20%
Midterm #2	25%	Midterm #2	20%
Final Exam	30%	Case Study	20%
TOTAL	100%	Final Exam	25%
		TOTAL	100%

Homework

Homework assignments will be posted on the Carmen course webpage for downloading. Homework assignments will be completed by the due date and time and emailed to Dr. Williams (williams.1577@osu.edu) once completed or handed-in at the end of class.

Homework		
No.	Homework Assignment	Points
1	Disturbance and Succession	20
2	Measuring Biodiversity	20
3	Forest Age Class Management	20
4	Fire Restoration	20
5	Snag and Deadwood Management	20
TOTAL HOMEWORK		100

The total homework grade used to determine course grade (%) will be determined by the following method:

$$(\text{total points achieved}/100 \text{ points}) \times 100$$

Midterm Exams

Midterm exams 1 and 2 consist of 50 multiple choice questions each and will be administered on the Carmen website. Each exam is worth 100 points. The exams will be available on the specific date indicated and will be available from 12:00am – 11:59pm on that date. Be sure you are ready to take the exam prior to beginning because you will have only one opportunity to take the exam once you begin. You also will have a limited time (80 minutes) to take the exam so be sure you allow yourself the appropriate time to take the exam. On the dates of the exams there will be no class meeting. Carmen grades the exam while you take the exam, and you will know your grade once you have completed the exam.

Final Exam

The final exam is a “take home” exam that will be posted for downloading from the Carmen course website. The final exam will be completed by the due date and time and emailed to Dr. Williams (williams.1577@osu.edu) once completed. The exam consists of general management questions and role playing as a forest manager. The final exam will be assigned on December 6, and will be due by Thursday, December 15, 5pm.

Case Study Presentation (*Graduate Students Only*)

Graduate students will conduct two classes at the end of the course covering the Northwest Management Plan that encompasses almost 25 million acres in Washington, Oregon, and northern California. The class presentations will be evaluated based on:

- a. Quality and Accuracy of Content
- b. Quality and Appearance of the Presentation
- c. Responses to Questions/Answers

Graduate students should refer to the “Graduate Student Case Study Project Presentations” posted on Carmen.

Course Grade

The Carmen grading system will not be used to determine final course grades (don’t believe what Carmen tells you is your course grade). This system will only be used to post grades and track grades for your convenience. The final course grade will be determined using the following formulas:

Undergraduate Students:

$$\text{Final Grade} = [(\text{homework grade}) \times (0.2)] + [(\text{midterm \#1 grade}) \times (0.25)] \\ + [(\text{midterm \#2 grade}) \times (0.25)] + [(\text{final exam grade}) \times (0.30)]$$

Graduate Students:

$$\text{Final Grade} = [(\text{homework grade}) \times (0.15)] + [(\text{midterm \#1 grade}) \times (0.2)] \\ + [(\text{midterm \#2 grade}) \times (0.2)] + [(\text{case study grade}) \times (0.2)] \\ + [(\text{final exam grade}) \times (0.30)]$$

COURSE OUTLINE

Date	Lecture	Topic
Aug. 23	1	Introduction to course; Course administration and expectations
Aug. 25	2	What is Forest Ecosystem Management?
Aug. 30	3	The uniqueness of forest ecosystems- why they need managed
Sept. 1	4	Current status of forest ecosystems in the United States
Sept. 6	5	Forest development over time: concepts of forest succession and transitions
Sept. 8	6	The role of forest disturbance and succession; ecosystem stability, resistance and resilience.
Sept. 13	7	Natural disturbances and silvicultural systems
Sept. 15	8	Managing for biodiversity
Sept. 20	9	Invasive species; restoration
Sept. 22	10	Importance of age structure of forests
Sept. 27	11	Role and function of fire as a disturbance in ecosystems

Sept. 29	12	Past fire suppression policy effect on forest ecosystem management
Oct. 4	----	EXAM 1 (on Carmen; No Class Meeting)
Oct. 6	13	Integrating fire management with ecosystem management
Oct. 11	14	Riparian ecosystems in the landscape- functions and management
Oct. 13	----	NO CLASS- Fall Break
Oct. 18	15	Management of coarse woody debris, deadwood and snags
Oct. 20	16	The edge effect and associated ecosystem impacts
Oct. 25	17	Forest fragmentation and effects on wildlife and management
Oct. 27	18	Role of intensive silviculture in forest ecosystem management
Nov. 1	19	Long and extended rotations and structural retention at harvest.
Nov. 3	20	Forestland certification and ecosystem management
Nov. 8	21	Managing forests for carbon in ecosystem management
Nov. 10	22	Synthesis and Implementation: Management Planning–(goals and objectives; task planning; appropriate strategy development); developing cooperation
Nov. 15	23	Coarse filter vs. fine filter approach to management; Adaptive management; Economic and policy considerations
Nov. 17	----	EXAM 2 (on Carmen; No Class Meeting)
Nov. 22	---	NO CLASS- Thanksgiving
Nov. 24	----	NO CLASS- Thanksgiving
ECOSYSTEM MANAGEMENT CASE STUDIES		
Nov. 29	24	Case Study Presentations- Northwest Management Plan
Dec. 1	25	Case Study Presentations- Northwest Management Plan
Dec. 6	26	Course wrap-up; Final Exam Assigned

POLICIES AND RESOURCES

General Class Policies

This class is delivered in a face-to-face venue, and class attendance is required. All recorded lectures, PowerPoint slides and class materials will be available online through the Carmen website. Due to the nature of the course delivery, there will be no opportunities for make-up assignments. The only exceptions will be in extreme cases, as determined by the instructor, and the instructor must be contacted ahead of time regarding the nature of the problem if at all possible. All personal information/situations will be kept extremely confidential. If you experience any problems or have any questions you should contact Dr. Williams at the contact information listed on the first page of this syllabus.

COVID-19 Policies

It is required and expected that all students will adhere to and be compliant with the university's COVID-19 policies that are in place during the course. Non-compliance and non-adherence may result in a student's dismissal from face-to-face meetings until the student comes into compliance with university policies.

Academic Misconduct

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). If any academic conduct is suspected, the student will be contacted initially in confidentiality and presented evidence of said misconduct. The student will have the opportunity to rebut any evidence brought forward. If the case cannot be resolved, the information and evidence will be brought forward to the Committee on Academic Misconduct for appropriate resolution. For additional information, see the Code of Student Conduct at <http://studentconduct.osu.edu>.

As it pertains to this particular course, if it is discovered that there is cheating taking place in regard to exams, any remaining exams will be conducted in class and proper disciplinary action will take place pertaining to the individual(s).

Disabilities Statement

The university strives to make all learning experiences as accessible as possible. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's request process, managed by Student Life Disability Services. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Grievances

According to University Policies, if you have a problem with this class, you should seek to resolve the grievance concerning a grade or academic practice by speaking first with the instructor or professor. Then, if necessary, take your case to the department chairperson, college dean or associate dean, and to the provost, in that order. Specific procedures are outlined in Faculty Rule 3335-7-23. Grievances against graduate, research, and teaching assistants should be submitted first to the supervising instructor, then to the chairperson of the assistant's department.

Counseling Services/Mental Health

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers

services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life Counseling and Consultation Services (CCS) by visiting ccs.osu.edu or calling (614) 292- 5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at (614) 292-5766 and 24 hour emergency help is also available through the 24/7 National Prevention Hotline at 1-(800)-273-TALK or at suicidepreventionlifeline.org.

David Wirt, wirt.9@osu.edu, is the CFAES embedded mental health counselor. He is available for new consultations and to establish routine care. To schedule with David, please call 614-292-5766. Students should mention their affiliation with CFAES when setting up a phone screening.

Creating an Environment Free From Harassment, Discrimination, and Sexual Misconduct

The Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Office of Institutional Equity:

1. Online reporting form at equity.osu.edu,
2. Call 614-247-5838 or TTY 614-688-8605,
3. Or Email equity@osu.edu

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Office of Institutional Equity to ensure the university can take appropriate action:

- All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.
- The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member.

This course adheres to The Principles of Community adopted by the College of Food, Agricultural, and Environmental Sciences. These principles are located on the Carmen site for this course; and can also be found at <https://go.osu.edu/principlesofcommunity>. For additional information on Diversity, Equity, and Inclusion in CFAES, contact the CFAES Office for Diversity, Equity, and Inclusion (<https://equityandinclusion.cfaes.ohio-state.edu/>). If you have been a victim of or a witness to a bias incident, you can report it online and anonymously (if you choose) at <https://studentlife.osu.edu/bias/report-a-bias-incident.aspx>.

