



## ENR 5320 – FOREST MANAGEMENT Spring 2024

**COURSE DESCRIPTION:** Application of biological, economic, and planning principles to address the sustainable management of forest resources with emphasis on the timber resource and associated products.

**COURSE DELIVERY:** This course will be delivered in person. Should in-person classes be canceled due to weather, we will meet virtually via Carmen Zoom during our regularly scheduled time. I will share any updates via Carmen Canvas, email or other mode of communication.

**COURSE OBJECTIVES:** Learn the concepts and methods of managing forests for sustainable timber production in combination with other management goals. This includes the concepts of forest growth and yield, forest regulation, forest finance and economics.

### INSTRUCTOR

Dr. Roger A. Williams  
Email: williams.1577@osu.edu  
Office hours: by appointment

### TEACHING ASSISTANT

Monika Moreu-Vicente  
Email: moreu-vicente.1@osu.edu  
Office hours: by appointment

### CLASS LOCATION

**AND TIME:** Kottman Hall, Room 245, Tuesday and Thursday 12:45 - 2:05pm

**TEXTBOOK:** No textbook is required for this course. All necessary materials will be posted on Carmen.

### COURSE GRADING AND EVALUATION

#### Letter Grade Assignment

<u>Letter Grade</u>	<u>Percent</u>	<u>Letter Grade</u>	<u>Percent</u>	<u>Letter Grade</u>	<u>Percent</u>
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

Course Assignment	Percent of Course Grade	Points
Homework Grade	20%	100
Group Project	10%	50
Midterm Exam #1	20%	100
Midterm Exam #2	20%	100
Final Exam	30%	150
<b>TOTAL</b>	<b>100%</b>	<b>500</b>

### HOMEWORK AND EXAM DELIVERY

**Homework:** Homework exercises will be posted on Carmen for downloading. Once the exercise is completed, it will be placed in the drop box on Carmen for that homework on the due date indicated for each exercise. It can also be emailed as a Word document, PDF file or a JPG file. The instructor will post homeworks on Carmen at the appropriate time and provide the due date at that time.

#### Homework List and Points:

No.	Homework	Points
1	Growth and Yield: CAI, MAI and PAI	10
2	Growth and Yield: CAI, MAI, PAI and annual growth	12
3	Site Quality; Forest Thinning	10
4	Area Regulation-Even-aged	15
5	Area Regulation-Uneven-aged	15
6	Annual Allowable Cut- Austrian Formula	10
7	Forest Growth Models	8
8	Forest Financial Analysis	20

**Exams:** All exams will be posted and completed on Carmen. Exams will be posted in the Assignment tab on Carmen. On the exam date, there will be no class meeting. On the exam date, the exam will be available to the student for a 24-hour period. Once the student begins the exam, there will be a time limit to complete the exam. Midterm exams will have a maximum of 120 minutes to complete and final exam will have a maximum of 180 minutes to complete. All exams will require the use of a calculator. The exam formats will be matching, multiple choice and true/false questions. On questions involving the use of the calculator, the student will work out the problem with the calculator and be provided with a choice of possible correct answers. Study guides will be provided prior to each exam to help students prepare for the exam.

#### Exam Schedule

Exam	Date	Time Length	Location	Topics
Midterm #1	Tuesday, February 13	120 minutes	Carmen	Lectures 1 - 10
Midterm #2	Thursday, March 28	120 minutes	Carmen	Lectures 11 – 20
Final Exam	Thursday, April 25	180 minutes	Carmen	Lectures 1 – 26





## GROUP PROJECT

The class will be broken into teams of equal numbers; the number on each team will be determined by the number of students registered in the course. The teams will be provided with a scenario of forest management, and with the use of a forest growth and yield model, will develop the best management strategy based on expected yields and financial returns. Each team will turn in their best management strategy and present their results in class. More details will be provided in class at a later date.

## HOMEWORK POLICY

All homework assignments will be due on the date indicated by the instructor. A 10% reduction in grade will apply for each day an assignment is late (including weekends). Even though some assignments might be performed as group activities, each individual will be required to turn-in their own assignment.

## ATTENDANCE POLICY

Just as with any job, students are expected to attend class regularly. Attendance does not constitute a part of the course grade, but there is a strong correlation between class attendance and class performance. If a student expects to be absent, they should communicate with me regarding their planned absence. Legitimate accepted reasons for an excused absence include, but are not limited to, illness and injury, disability-related concerns, military service, death in the immediate family, religious observance, academic field trips, participation in an approved concert or athletic event, and direct participation in university disciplinary hearings. Attendance will be recorded for each class meeting.

## IMPORTANT DATES

Exam 1: Tuesday, February 13 (Lectures 1 – 10)

Exam 2: Thursday, March 28 (Lectures 11 – 20)

Group presentations: Tuesday, April 18

Final Exam: Thursday, April 27 (Comprehensive, Lecture 1 - 26)

## COURSE OUTLINE

DATE	LECTURE	TOPICS
Jan. 9	1	Introduction to course; Why Manage Forests?; Forest management and sustainability; Key concepts to forest management; Global perspectives; Impacts of ownership; Feasibility
11	2	Current and Historical Forest Conditions; Forest Terms and Definitions in Management; Some harvesting methods
16	3	More definitions and review; Traditional Forest Products; Policy influence on forest management
18	4	Ecological vs. Economic Forestry; Disturbance concept in economic forestry (continued); Forest Prescription Concepts;
23	5	Fundamentals of Structure, Growth, and Development in Stands and Forests; Current, Mean, and Periodic Annual Increment; Forest Growth and Yield Concepts





25	6	Forest population growth; -3/2 power law; Site quality
30	7	Forest density measures; Forest stocking; Forest thinning guides
<b>Feb. 1</b>	8	Forest Regulation: Using area control methods to predict present and future forest yields of even-aged forests
6	9	Forest Regulation: Using area control methods to predict present and future forest yields of uneven-aged forests
8	10	Determining annual allowable cuts using the Austrian formula
<b>13</b>	---	<b>MIDTERM EXAM #1</b>
15	11	Forest Growth and Yield Models: stand models; individual tree models; diameter distribution models
20	12	Forest Economics and Finance
22	13	Forest Economics and Finance
27	14	Forest Economics and Finance
29	15	Timber Sales
<b>Mar. 5</b>	16	Timber Sales
7	17	Forest Protection in Management
<b>12</b>	---	<b>NO CLASS- Spring Break</b>
<b>14</b>	---	<b>NO CLASS- Spring Break</b>
19	18	Forestland Certification: Considerations, costs, implementation
21	19	Forest Carbon Projects
26	20	Fundamentals of forest management; Management and markets; Planning strategies
<b>28</b>	---	<b>MIDTERM EXAM #2</b>
<b>Apr. 2</b>	21	Fundamentals of forest management; Management and markets; Planning strategies
4	22	Christmas Tree Production
9	23	Christmas Tree Production
11	24	Maple Syrup Production
16	25	Student Presentations; Maple Syrup Production
18	26	Course wrap-up; Review
<b>25</b>	---	<b>FINAL EXAM</b>

## OTHER POLICIES AND RESOURCES

### GENERAL CLASS POLICIES

This class is delivered in a face-to-face venue, and class attendance is expected. All 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.

### ACADEMIC MISCONDUCT

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University





and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's Code of Student Conduct, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's Code of Student Conduct and this syllabus may constitute Academic Misconduct.

The Ohio State University's Code of Student Conduct (Section 3335-23-04) defines academic misconduct as: Any activity that tends to compromise the academic integrity of the University, or subvert the educational process. Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's Code of Student Conduct is never considered an excuse for academic misconduct, so I recommend that you review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

### **DISABILITIES STATEMENT**

The university strives to maintain a healthy and accessible environment to support student learning in and out of the classroom. 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.

If you are isolating while waiting for a COVID-19 test result, please let me know immediately. Those testing positive for COVID-19 should refer to the Safe and Healthy Buckeyes site for resources. Beyond five days of the required COVID-19 isolation period, I may rely on Student Life Disability Services to establish further reasonable accommodations. You can connect with them at [slds@osu.edu](mailto:slds@osu.edu); 614-292-3307; or [slds.osu.edu](http://slds.osu.edu).

### **GRIEVANCES AND SOLVING PROBLEMS**

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 3335-8-23. Grievances against graduate, research, and teaching assistants should be submitted first to the supervising instructor, then to the chairperson of the assistant's department.

### **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:

Online reporting form at [equity.osu.edu](https://equity.osu.edu),  
Call 614-247-5838 or TTY 614-688-8605,  
Or Email [equity@osu.edu](mailto: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.

## **DIVERSITY**

The Ohio State University affirms the importance and value of diversity of people and ideas. We believe in creating equitable research opportunities for all students and to providing programs and curricula that allow our students to understand critical societal challenges from diverse perspectives and aspire to use research to promote sustainable solutions for all. We are committed to maintaining an inclusive community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among all members; and encourages each individual to strive to reach their own potential. The Ohio State University does not discriminate on the basis of age, ancestry, color, disability, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, race, religion, sex, gender, sexual orientation, pregnancy, protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment.

To learn more about diversity, equity, and inclusion and for opportunities to get involved, please visit:

<https://odi.osu.edu/>  
<https://odi.osu.edu/racial-justice-resources>  
<https://odi.osu.edu/focus-on-racial-justice>  
<http://mcc.osu.edu/>





## **RELIGIOUS ACCOMMODATIONS**

Ohio State has had a longstanding practice of making reasonable academic accommodations for students' religious beliefs and practices in accordance with applicable law. In 2023, Ohio State updated its practice to align with new state legislation. Under this new provision, students must be in early communication with their instructors regarding any known accommodation requests for religious beliefs and practices, providing notice of specific dates for which they request alternative accommodations within 14 days after the first instructional day of the course. Instructors in turn shall not question the sincerity of a student's religious or spiritual belief system in reviewing such requests and shall keep requests for accommodations confidential.

With sufficient notice, instructors will provide students with reasonable alternative accommodations with regard to examinations and other academic requirements with respect to students' sincerely held religious beliefs and practices by allowing up to three absences each semester for the student to attend or participate in religious activities. Examples of religious accommodations can include, but are not limited to, rescheduling an exam, altering the time of a student's presentation, allowing make-up assignments to substitute for missed class work, or flexibility in due dates or research responsibilities. If concerns arise about a requested accommodation, instructors are to consult their tenure initiating unit head for assistance.

A student's request for time off shall be provided if the student's sincerely held religious belief or practice severely affects the student's ability to take an exam or meet an academic requirement **and** the student has notified their instructor, in writing during the first 14 days after the course begins, of the date of each absence. Although students are required to provide notice within the first 14 days after a course begins, instructors are strongly encouraged to work with the student to provide a reasonable accommodation if a request is made outside the notice period. A student may not be penalized for an absence approved under this policy.

If students have questions or disputes related to academic accommodations, they should contact their course instructor, and then their department or college office. For questions or to report discrimination or harassment based on religion, individuals should contact the [Office of Institutional Equity](#).

Policy: [Religious Holidays, Holy Days and Observances](#)

## **COUNSELING SERVICES**

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](http://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 Suicide Prevention Hotline at 1-(800)-273-TALK or at [suicidepreventionlifeline.org](http://suicidepreventionlifeline.org)





**LYFT RIDE SMART  
(PREVIOUSLY SAFE RIDE PROGRAM)**

Lyft Ride at Ohio State offers eligible students discounted rides, inside the university-designated service area (opens in new window) and has expanded service to the Short North area along High Street. Service runs from 7 p.m. to 7 a.m. Prices may be impacted by distance, traffic, time of day, special events and prime time surcharges. More information about the service and the Lyft App, and a link to get started using the Lyft Ride Smart services can be found at: <https://ttm.osu.edu/ride-smart>.

**COPYRIGHTS**

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

