

Forest Management Applications

Course Number: 11:216:477 Spring 2024

Prerequisites or Co-requisites:

- 11:216:471 Silviculture or permission from instructor

Meeting Days and Times: TBD (will include a lab and lecture)

Meeting Location: TBD

CONTACT INFORMATION:

Instructor(s): Dr. Allyson Salisbury

Office Location: ENR 130

Phone: 1-848-932-8242

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Office Hours: TBD

COURSE WEBSITE, RESOURCES AND MATERIALS:

- Course Textbook: *Ecological Forest Management* by Franklin, Johnson, and Johnson 2018 (ISBN 1-4786-3350-6)
- Additional reading materials:
 - New Jersey Forestry Best Management Practices:
https://www.nj.gov/dep/parksandforests/forest/docs/nj_bmp_manual1995.pdf
 - New York State Voluntary Best Management Practices for Water Quality:
https://www.dec.ny.gov/docs/lands_forests_pdf/forestrybmp.pdf
 - New York Strategic Plan for State Forest Management:
<https://www.dec.ny.gov/lands/64567.html>
 - Best Management Practices for Pennsylvania Forests: Best Management Practices for Pennsylvania Forests <https://extension.psu.edu/best-management-practices-for-pennsylvania-forests>
 - Examples of forest management plans will also be posted on Canvas

COURSE DESCRIPTION:

Forests provide many types of values to property owners and communities and consequently there is no single right way to manage forest ecosystems. In this course, students will learn how to assimilate and address different land management philosophies and ethics, forest management policies and the physical forest stand as a site and as a community to produce rational approaches and actionable goals when creating forest management plans. This course will particularly focus on policies and management plan writing practices specific to the Northeast and Mid-Atlantic regions of the U.S.

This course includes both a lecture and a lab component. During lectures we will review and discuss reading materials and hear from guest speakers. Lab will primarily take place in a computer lab where we will work on activities related to the course assignments and projects. We will also take a field trip to the property that we will create management plans for.

ECOLOGY, EVOLUTION, AND NATURAL RESOURCES PROGRAM LEARNING GOALS:

- Goal 3: Create a natural resource management plan demonstrating an understanding of societal values and interests.
- Goal 6: Communicate effectively orally and through written text and graphics.

COURSE LEARNING GOALS:

1. Apply disciplinary knowledge to contemporary social, environmental and biological problems.

2. Describe, discuss, and calculate different potential management and land use objectives for forest ecosystems and their synergies and tradeoffs. Evaluate forest management plans in the context of federal, state, and local policies and regulations.
3. Demonstrate proficiency in oral, written, and digital communication and argument by creating a forest management plan that balances multiple objectives.

ASSIGNMENTS/RESPONSIBILITIES, GRADING & ASSESSMENT:**Weekly Quizzes (20% of total grade)**

There will be 10 in class quizzes over the course of the semester to evaluate student comprehension of course material. These quizzes will assess students' achievement of course learning goals 1 and 2.

Reading Responses (10%)

There will be 5 discussion questions that will be posted on Canvas during the semester. Each question will invite you to think through a challenge or conundrum you may encounter when creating forestry plans. We are not necessarily looking for a right answer, but rather a response with sound reasoning and consideration of multiple sides of an issue. Written responses should be about 150 words. These reading responses will assess students' achievement of course learning goals 1 and 2.

Assignment: Calculating the Value of a Forest (15%)

There are many ways to estimate the economic values of a forest. In this assignment you will be given a data set describing a forest stand and use several methods to estimate the values of timber, carbon storage, and water quality improvement. You will present your results in a one-page report. This assignment will assess students' achievement of course learning goal 2.

Assignment: Compare and Contrast Forest Management Plans (15%)

You will be provided with three forest management plans for very different types of forest properties, with different management objectives, and from different states. Following a set of guiding questions, you will write a short report that compares and contrasts the four plans. This assignment will assess students' achievement of course learning goal 2.

Group Project: Writing a Forest Management Plan (30%)

You will be provided with stand data and background about a large forest property. Each team will be given a different management objective (e.g., one team may focus on using the forest for timber production, while another may focus on its recreation values). Your team will work together to collect additional information about the property and create a set of prescriptions for the next 10 years of management activities in the forest. We will work on the plan one section at a time during lab. As sections are drafted students will peer review each other's work to improve the quality of the plans and to practice providing constructive criticisms. The plans must follow New Jersey State guidelines for forest management plans. This project will assess students' achievement of course learning goals 1, 2 and 3, as well as program learning goals 3 and 6.

Group Final Presentation of Forest Management Plan (10%)

After completing your forest management plan, your group will present your objectives and recommendations to the rest of the class. The presentation should emphasize the rationale behind your recommendations and explain their long-term benefits. This project will assess students' achievement of course learning goals 1, 2 and 3, as well as program learning goals 3 and 6.

A grading rubric for the assignments will be posted on Canvas.

Scoring

A: 90 and above
B+: 87-89
B: 80-86
C+: 77-79
C: 70-76
D: 60-69
F: 59 and below

ACCOMODATIONS FOR STUDENTS WITH DISABILITIES

The Office of Disability Services works with students with a documented disability to determine the eligibility of reasonable accommodations, facilitates and coordinates those accommodations when applicable, and lastly engages with the Rutgers community at large to provide and connect students to appropriate resources. Please follow the procedures outlined at <https://ods.rutgers.edu/students/getting-registered>. Full policies and procedures are at <https://ods.rutgers.edu/>

ABSENCE POLICY

I expect and encourage you to attend all and labs. This course is designed to be highly interactive and by attending class you will learn not just from me, but from your classmates. Plus we get to learn from you as well. Attending class and lab also give you the opportunity to practice the skills this class is intended to develop in a supervised and collaborative setting. If you expect to miss one or two classes, please use the University absence reporting website <https://sims.rutgers.edu/ssra/> to indicate the date and reason for your absence. An email is automatically sent to me.

COURSE SCHEDULE:

The course schedule may be rearranged to accommodate guest speakers from both government and private consulting depending on their schedules.

Week	Readings/Topic (Lecture)	Assignments Due	Lab Activities
1	Chap 1 - Sustaining forests and their benefits; Chap 6 - Economic, social, and political drivers of forestry		Introduction to project site for Forest Management Plan; planning a site visit; Define management goals for the property
2	Chap 10 - The economic value of forests	Reading Response #1	Field trip to project site
3	Tools for calculating the value of forests (multiple readings on Canvas)	Quiz #1	Begin forest economic valuation project
4	Chap 9 - Capital, income, and sustainability	Quiz #2; Reading Response #2	Continue forest economic valuation project
5	Chap 14 - Conserving and restoring biological diversity	Quiz #3; Calculating Forest Value Assignment	Online resources for gathering info about forest site; Describe and interpret site conditions (e.g., soils, topography)
6	Chap 15 - Climate change, carbon, and forests	Quiz #4; Reading Response #3	Identify and interpret potential and existing threats to forest health

7	Chap 7 - Legal frameworks for forestry	Quiz #5;	Identify water resources on site and choose BMPs for water quality
8	NY, NJ, and PA planning guides + example plans	Quiz #6; Reading Response #4	Identify and interpret endangered species habitat data
9	Chap 17 - Classical forest regulation	Quiz #7	Organize and display stand data
10	Chap 18 - Making decisions: naturalistic and structured approaches	Quiz #8; Compare and Contrast Assignment	Develop stand prescriptions
11	Chap 19 - Forest planning under ecological forestry	Quiz #9; Reading Response #5	Work on assembling Plan
12	Chap 11 - Adaptive management; Chap 16 - Forest certification	Quiz #10	Work on assembling Plan
13	Chap 8 - Resolving forestry conflicts through collaboration	Forest Management Plan Project	Prepare final presentation
14	Final Presentations	Final Presentation of Management Plan	Final Presentations

ACADEMIC INTEGRITY

The university's policy on Academic Integrity is available at

<https://academicintegrity.rutgers.edu/sites/default/files/pdfs/current.pdf>. The principles of academic integrity require that a student:

- properly acknowledge and cite all use of the ideas, results, or words of others.
- properly acknowledge all contributors to a given piece of work.
- make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of impermissible materials or impermissible collaboration.
- obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with his or her interpretation or conclusions.
- treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.
- uphold the canons of the ethical or professional code of the profession for which he or she is preparing.

Adherence to these principles is necessary in order to ensure that

- everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments.
- all student work is fairly evaluated, and no student has an inappropriate advantage over others.
- the academic and ethical development of all students is fostered.
- the reputation of the University for integrity in its teaching, research, and scholarship is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students. Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld.

All work submitted should be your own, unless otherwise explicitly called for. In particular, AI-generated material is not allowed. Submissions from ai-generators like ChatGPT or Google Bard will be considered a violation of the above academic integrity policy. Since a core focus of this course is developing critical thinking skills and practicing the skill of writing a forest management plan and its associated prescriptions, it's important to practice these skills using your own work so that in the future you can be better equipped to evaluate generative AI output and use such tools more effectively.

DEI STATEMENT

I intend for students from all backgrounds, identities, and perspectives to feel respected, included and valued in this course and get the most out of it that they possibly can. I believe that diverse perspectives and experiences are a strength and resource and it is my goal to foster a learning environment that reflects those values. I intend for the materials we encounter and activities we do to respect all aspects of diversity: gender identity, sexuality, disability, age, socioeconomic status, ethnicity, race, nationality, religion, and culture. I am always learning how to be a more effective teacher and I welcome and encourage your suggestions as we move through the semester. You can submit feedback to me directly in-person or via email, or anonymously via Canvas.