

FORESTRY 432 - SILVICULTURE

Syllabus – Fall 2020

Instructors:

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Office Hours:

Via Zoom (note: I will very seldom be in my office; however, I will make a point to be available frequently...either via zoom or in-person outside the building to facilitate social distancing)

Quick Note (right up front): You can use any of the stuff from this class for your own use (I recommend you archive it because you may want the info in a few years); however, NONE of the material from class is to be posted or otherwise electronically published. I feel stupid putting this in the syllabus, but apparently notes from my classes are now on-line. I do not want that.

Learning Outcomes

- Characterize all major silvicultural systems by recognition of when a system is appropriate or inappropriate for a specific site.
- Demonstrate knowledge of regeneration survey by proposing appropriate survey methods for species with various reproductive strategies.
- Demonstrate knowledge of forest stand response to aging, disturbance or stand treatments (forest stand dynamics) by predicting the outcome of management or natural occurrences
- Characterize the response of natural and artificial regeneration to various regeneration conditions and use this knowledge to propose methods for achieving successful regeneration
- Demonstrate knowledge of several methods of density management for forest stands (stocking charts, stand density diagrams and stand density indices) by proposing stand treatments for various species mixes.
- Demonstrate knowledge of the principle of vegetation management (mechanical and chemical vegetation control, fertilization and pesticide use) by proposing vegetation management strategies for various stand and urban forest conditions .
- Combine knowledge of all of the above skills to propose management activities for parcels (private rural, industrial/investment, urban, recreational and others) that meet landowners goals (both commodity and non-commodity uses)

Full Day Marking Camp

I am working on this. I hope to offer it (I have for 13 years so far); however, COVID restrictions may make this impossible. I will get more information on dates when that information becomes available. My opinion is that most forest management in this part of the world starts and ends with a paint gun, I want for you to go out being able to use one with confidence both from background science as well as practical application.

TEXT

No text for this class

GRADING POLICY

Grades will be determined as shown below.

Individual grades

Exam one = 20%

Final exam = 20%

Quizzes, summaries and reflection = 30%

Lab

Management plan (all parts) =30%

Letter Grade Definitions

92.50-100.00 A
 89.50- 92.49 A-
 86.50- 89.49 B+
 etc.

INSTRUCTORS' POLICIES

Exams and Quizzes

- All of the basic stuff will be done in quiz format (i.e. Canvas quizzes)
- The exams will be based on higher level learning (generally they will be essay exams or short answer). I do not care if you discuss your answers with your friends for the exam, but, I will tolerate zero plagiarism on this. You will write it all in your own words and this will be checked using the Turn-it-in software. If I get more than 5% cross-over, I will immediately report it, following academic misconduct policies, and let the powers in charge of that follow it through. I have changed the format of these exams to make them more substantive learning experiences. However, if you do not do your part, and instead cheat, I have no sympathy at all for that crap. If you are not making the world a better place, you are making it a worse place. Be a power for making it better.

OTHER ASSIGNMENTS

- In Canvas, you will find copies articles and papers (refer to the last page of the syllabus to see the assignments and due dates). You are expected to read these articles and prepare a summary of the information found in each. This summary will include the following two things: 1) what were the main topics of each paper (about 5 bulleted summary points), 2) a 2-5 sentence summary of your opinion of what you have just read in each article. This generally will take 1-2 pages per article.
- These assignments can be done individually or in groups of up to 5 people (I encourage you to do this as an outside of class discussion group...zoom is awesome for this... but this is solely at your discretion). If this is done as a group, one of the people turns it into Canvas with everyone's name on it.
- Note: while this is a graded assignment, the main goal of the paper summaries is to get you to read the papers. These have been chosen because they coincide with materials that I am covering in class or lab. Whether you work in groups or not is up to you.
- Grading on these summaries will be as follows:
 - (4/4)- This indicates that you hit all of the main points in the article and obviously thought out an opinion on what you read.
 - (3/4)- This indicates that you read the articles but not quite carefully enough to hit the main points.
 - (2/4)- You basically tried but something was seriously in error.
 - (0/4)- You either turned in nothing or what you turned in seems to be a better summary of the lyrics to Ozzy's "Iron Man" than a summary of the paper.

Example article summary for a fictitious article

Article: The impact of oak reserve trees on natural regeneration on dry, nutrient-poor sites

1. *Maintenance of reserve trees is being promoted in Wisconsin to address goals of land ownership beyond the production of timber*
2. *Generally, oak reserve trees in Wisconsin (particularly northern pin oak) have a higher rate of mortality than in the eastern state where similar research has been conducted*
3. *Oak reserve trees up to 15 square feet of basal area did not reduce advance regeneration success*
4. *Oak reserve trees beyond 15 square feet of basal area had a near linear reduction in advanced regeneration*
5. *Maintenance of moderate levels of oak reserve trees can provide for other landowner goals without impacting the success of regeneration*

My opinion

On sites where timber productivity is not the main goal, primarily small private landownerships, oak reserve trees can potentially serve multiple purposes. Reserve trees can provide mast, shade and structure as well as serve as a source of snags and coarse woody debris as the age. Because up to 15 square feet of basal area there is no significant impact on regeneration suggests that for many landowners, this level of retention or even somewhat higher is appropriate to help in meeting their goals.

LABORATORY EXERCISES

- The Covid restrictions presented the opportunity for me to completely revamp the course. I did just that. The labs are always where I felt the learning happened the best. The lectures, in the past, were built to feed the information needed for the labs. That is amplified now. Please view all videos etc., before the labs. They were put together to prep students for the field work. Just a note, I put a TON of time into rebuilding this class, please, do your part.
- I have designed this lab to assist students in learning this content. Each of the main field activities that I do as a forester are included in this lab:
 - Management planning/Inventory/Prescriptions
 - Timber marking
 - Vegetation management
 - Scaling/grading/merchandizing.
- I, frankly, want you to come out of this class CONFIDENT in your ability to know what a stand needs for the main timber types in Wisconsin. For many of you, this will be your main job during your career and this class is literally the culmination of all of the other classes in forestry that you have had.

CLASS ATTENDANCE

- Due to the nature of this semester, attendance is going to be looked at differently for me. I have a tool in Canvas that allows me to track time invested by students in the course. I also have the quizzes. If you pass the quizzes and have spent time on each module, I will count that as attendance. I expect attendance at the in-person labs; however, for some of you that may not be possible for all labs. I will have a comparable lab activity available for those that miss lab. I will be honest, I feel you are cheating yourself, if you do not participate in the field labs; however, that is your decision, not mine. I do not believe in wasting people's time, I only implement stuff that is worth doing.

CLASS SCHEDULE

- Canvas is your friend for this class. You will use it a lot.

A proposed forester motto

“If I could make a living from walking in the woods, you could bet I'd be sitting pretty good...” Luke Bryan

Alternative proposed forester motto

“Soaking in the rain, baking in the sun, don't quit 'til the job gets done”.... Jason Aldean

Week start	Lecture	Tuesday	Thursday	Friday
2-Sep	Class Introduction (who I am, what is the class) Forest Stand Dynamics/Silviculture Summary/Forestry Equipment Intro	X	Silviculture Field Tour (Lamars Bus)	Silviculture Field Tour (Lamars Bus)
7-Sep	Log grading, merchandizing and scaling	Silviculture Field Tour (Lamars Bus)	Tree Merchandizing Training (Berard Oaks)	Tree Merchandizing Training (Berard Oaks)
14-Sep	Basics of inventory/Regeneration Survey	Tree Merchandizing Training (Berard Oaks)	Timber Inventory Activity (Meet at Picnic Pavillion)	Timber Inventory Activity (Meet at Picnic Pavillion)
21-Sep	Science of thinning	Timber Inventory Activity (Meet at Picnic Pavillion)	Inventory Your Stand (Your Stand)	Inventory Your Stand (Your Stand)
28-Sep	Even age systems-Clearcut/coppice Focus on a species- Aspen, Red Pine, Jack Pine	Inventory Your Stand (Your Stand)	Tree Crown Area and Impacts of Thinning (Visitor Ce	Tree Crown Area and Impacts of Thinning (Visitor Ce
5-Oct	Even age systems- Seed tree and shelterwood Focus on a species- White Pine, Oak, Central Hardwoods	Tree Crown Area and Impacts of Thinning (Visitor Ce	Practice Timber Marking (North Central Schmeeckle)	Practice Timber Marking (North Central Schmeeckle)
12-Oct	Even age systems- Irregular shelterwood Habitat Management- Grouse	Practice Timber Marking (North Central Schmeeckle)	SOP 1: Aspen/Grouse/Woodcock Focus	SOP 1: Aspen/Grouse/Woodcock Focus
19-Oct	Herbicides	SOP 1: Aspen/Grouse/Woodcock Focus	SOP 2: Herbicide Prescriptions Lab	SOP 2: Herbicide Prescriptions Lab
26-Oct	Special Topic- Old Growth Restoration	SOP 2: Herbicide Prescriptions Lab	SOP 3: Old Growth Restoration and Management	SOP 3: Old Growth Restoration and Management
2-Nov		Marking Camp Week, if allowed		
9-Nov	Special Topic- Savannas, Oak Woodlands and Barrens	SOP 3: Old Growth Restoration and Management	SOP 4: Oak savanna and woodland restoration	SOP 4: Oak savanna and woodland restoration
16-Nov	Uneven Age Management Focus on a Species- Northern Hardwoods	SOP 4: Oak savanna and woodland restoration	SOP 5: White Pine and Central Hardwoods	SOP 5: White Pine and Central Hardwoods
23-Nov	Generally Accepted Practices	SOP 5: White Pine and Central Hardwoods	X	X
30-Nov	Special Topic- Agroforestry	X	X	X
7-Dec	Reflection/Prep for Final	X	X	X

Schedule for Reading/Stand Data Summaries

Due Date

Oct 2 Tree Genetics Topics

Rousseau “What are genetically improved seedlings”
WI DNR Forest Genetics Program “Strategic Plan”

Oct 9 Oak Site Treatments

Demchik et al. “Observations of the Impact of Soil Scarification and Fire...”
McEwan et al. “Multiple interacting ecosystem drivers”

Oct 16 Recovering High-grades and Irregular Shelterwood

Nyland “Rehabilitating Cutover Stands: Some Ideas to Ponder”
Lussier and Meek “Managing Heterogenous Stands Using...”

Nov 20 UEA

Pond et al. “Sustainability of Selection System in Northern Hardwood Forests”

Forestry Anti-harassment Statement

Introduction

In adopting this statement, the forestry discipline within the College of Natural Resources (CNR), at the University of Wisconsin-Stevens Point (UWSP) has expectations for professional behavior of its students, staff, faculty, and other associated parties. Anyone who has a reasonable belief that they, or another student, staff, faculty or guest, have been the victim of harassment, bullying, or discrimination, or any other violation in the statement herein, are encouraged and expected to report the conduct. See reporting options and guidelines at the end of this document.

The forestry discipline within the College of Natural Resources is committed to creating a safe, inclusive, and professional environment. The forestry discipline operates under the UWSP harassment, discrimination, and retaliation prevention guidelines, copied here:

“The University of Wisconsin-Stevens Point (UWSP) is committed to fostering an environment that is safe, respectful, and inclusive to all and to educate all employees on these important issues. In addition, we are obligated, under Regent policy and federal regulations, to ensure our employees are informed on the issues of unlawful discrimination, harassment, and sexual violence.”

Statement

The forestry discipline, following the lead of the Society of American Foresters which accredits the B.S. forestry degree, believes we all have a responsibility in creating a safe, inclusive, professional environment in all forestry-related activities and events. All forms of discrimination, harassment, and bullying are prohibited. This applies to all participants in all settings (online and in-person) and locations (on- and off-campus) where forestry classes and associated activities are conducted, including student organization events and activities, committee meetings, workshops, conferences, and other work and social functions where employees, volunteers, sponsors, vendors, or guests are present.

Discrimination is prejudicial treatment of individuals or groups of people based on their race, color, creed, religion, age, sex, sexual orientation, gender identity or expression, national origin, ethnicity, ancestry, disability, pregnancy, marital or parental status, veteran status, or any other category protected by law.

Sexual harassment is unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature that creates an intimidating, hostile, or offensive environment. Sexual harassment constitutes discrimination and is illegal under federal, state, and local laws.

Bullying is unwelcome, aggressive behavior involving the use of influence, threat, intimidation, ridicule, hazing or coercion to dominate others in the professional environment. Bullying behavior may go beyond characteristics protected by applicable laws, including but not limited to, political views, dress, or other outward physical appearances.

Other types of harassment include any verbal or physical conduct directed at individuals or groups of people because of their race, ethnicity, color, national origin, sex, sexual orientation, gender identity, age, religion, disability, veteran status, or any other characteristic protected by applicable laws, that creates an intimidating, hostile, or offensive environment.

The following list, while not exhaustive, includes examples of unacceptable behavior: slurs, jokes, threats, or derogatory comments relating to the characteristics noted above. Examples of inappropriate physical harassment that violate this statement include, but are not limited to: assault, unwanted touching, or impeding or blocking movement. In addition, no individual may be denied admission to, or participation in or the benefits of, any UWSP-associated events. Similarly, the display or circulation of derogatory or demeaning posters, cards, cartoons, emails, texts, videos, and graffiti which relate to characteristics noted above violate this statement.

Reporting

Students, staff, faculty, or guests associated with Forestry-related programming who experience or witness incidents of harassment are strongly encouraged to report the incident. The Forestry discipline strongly urges the prompt reporting of complaints or concerns so that rapid and constructive action can be taken. Reporting can be done online or in person, to a faculty or staff member, and/or the UWSP Dean of Students. Anonymous reporting is available.

The UWSP Title IX Website is the home for all information related to harassment and discrimination, including reporting options, student and employee resources, and information about what happens after a report is submitted:

<https://www.uwsp.edu/titleix/Pages/default.aspx>

University of Wisconsin Stevens Point College of Natural Resources-Principles of Professionalism

The College of Natural Resources at the University of Wisconsin – Stevens Point prepares students for success as professionals in many fields. As a professional, there are expectations of attainment of several personal characteristics. These include:

Integrity

Integrity refers to adherence to consistent moral and ethical principles. A person with integrity is honest and treats others fairly.

Collegiality

Collegiality is a cooperative relationship. By being collegial you are respecting our shared commitment to student education through cooperative interaction. This applies to all involved in the process: students, staff, faculty, administration and involved community members. You take collective responsibility for the work performed together, helping the group attain its goals.

Civility

Civility refers to politeness and courtesy in your interactions with others. Being civil requires that you consider the thoughts and conclusions of others and engage in thoughtful, constructive discussion to express your own thoughts and opinions.

Inclusivity

Inclusivity requires you to be aware that perspective and culture will control how communication is understood by others. While many values are shared, some are quite different. These differences in values should be both considered and respected.

Timeliness

Timeliness is the habit of performance of tasks and activities, planned in a way that allows you to meet deadlines. This increases workplace efficiency and demonstrates respect for others' time.

Respect for Property

Respect for property is the appreciation of the economic or personal value an item maintains. Maintaining this respect can both reduce costs (increase the operable life of supplies and equipment) as well as demonstrate respect for others rights.

Communication

Professional norms in communication require that you demonstrate the value of your colleagues, students, professors or others. The use of appropriate tone and vocabulary is expected across all forms of communication, whether that communication takes place face to face, in writing or electronically.

Commitment to Quality

Quality is the ability to meet or exceed expectations. By having a commitment to quality, we intend to provide a learning environment that is conducive to learning. Intrinsic to this commitment to quality is defining expectation (committed to in a syllabus through learning outcomes), implementation (with quality control in place) and assessment (where meeting of learning outcomes is determined).

Commitment to Learning

Learning is a lifelong process. By being committed to learning you are providing a model for all to follow. This model is not only professor to student but involves all combinations of people within our university and broader community

Adherence to this compact is required of the faculty and staff of the College of Natural Resources and of all students enrolled in College of Natural Resources courses.

Regarding Face Coverings in the Classroom

Face Coverings:

- At all UW-Stevens Point campus locations, the wearing of face coverings is mandatory in all buildings, including classrooms, laboratories, studios, and other instructional spaces. Any student with a condition that impacts their use of a face covering should contact the [Disability and Assistive Technology Center](#) to discuss accommodations in classes. Please note that unless everyone is wearing a face covering, in-person classes cannot take place. This is university policy and not up to the discretion of individual instructors. Failure to adhere to this requirement could result in formal withdrawal from the course.

Other Guidance:

- Please monitor your own health each day using [this screening tool](#). If you are not feeling well or believe you have been exposed to COVID-19, do not come to class; email your instructor and contact Student Health Service (715-346-4646).
 - As with any type of absence, students are expected to communicate their need to be absent and complete the course requirements as outlined in the syllabus.
- Maintain a minimum of 6 feet of physical distance from others whenever possible.
- Do not congregate in groups before or after class; stagger your arrival and departure from the classroom, lab, or meeting room.
- Wash your hands or use appropriate hand sanitizer regularly and avoid touching your face.
- Please maintain these same healthy practices outside the classroom.