Silviculture is a quantitative discipline. This lab is the complement to FNRM 3411/5411 (Managing Forest Ecosystems: Silviculture). During this time, we will explore how quantitative approaches are used to aid in management decisions. Additionally, we will explore growth and yield models and how these models can be used to explore different silvicultural tools.

Course Meeting Location: Skok Hall 35

Days and Meeting Times: Fri. 8:30 – 9:20 a.m.

Credit Hours: 1 credits

Course Prerequisites: Concurrent enrollment in FNRM 3411/5411

Course Instructor: Dr. Marcella Windmuller-Campione
Office: Green Hall 330 G
Telephone: 612-624-3699
Email: mwind@umn.edu
Office Hours: Tues. 2 – 4 p.m. or by appointment

Teaching Assistant: David Carter
Office: 2nd Floor Grad Student Office, Green Hall
Email: david.r.j.carter@gmail.com
Office Hours: Wed 10 – 12 p.m.
or by appointment

Field trips

There are currently three field trips on the schedule that are mandatory. There is a half-day field trip the morning of Saturday, September 17th to Lake Vadnais. The goal of this field trip is to collect data which will be used throughout the class. The second field trip is a day trip to the Audubon Center of the North Woods on October 15th. The third field trip is a day trip to Aitkin County Land Department on December 10th. Please dress appropriately for both field trips.
Course Learning Objectives
- To understand and use quantitative methods to support silvicultural decisions
- To incorporate proper silviculture terminology in assignments, discussions, and reports
- To use your silvicultural toolbox to develop prescriptions for actual forest stands
- To have a working knowledge of Forest Vegetation Simulator (FVS)
- To gain a better understanding of how silvicultural systems are implemented in actual forest stands
- To think critically and use your knowledge to make informed decisions

Course Expectations
- Class preparation: reading, listening to lectures, reviewing materials
- Actively engaging in class exercises
- Be respectful of each other
- Timely completion of assignments
- Mathematical computations

Required Material
- A scientific calculator.

Web enhanced learning
This course uses Moodle as a course management tool. To access our course visit the main U of M Moodle site:

[https://moodle.umn.edu/](https://moodle.umn.edu/)

This site will contain information regarding reading assignments, class videos, class power points, and supplemental information. **You are expected to read and/or watch any lecture before coming to class. Without this information, you will not be prepared to participate in the day’s activity.**

Grading
The course will be graded from A through F (with plusses and minuses). All exams, written assignments, participation, and presentations will be given a numerical grade and multiplied by their respective contribution as a percent of the calculated final grade.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>≥ 93</td>
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<tr>
<td>A-</td>
<td>90</td>
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<tr>
<td>B+</td>
<td>87</td>
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<tr>
<td>B</td>
<td>83</td>
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<td>B-</td>
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<td>C+</td>
<td>77</td>
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<tr>
<td>C</td>
<td>73</td>
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<tr>
<td>C-</td>
<td>70</td>
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<tr>
<td>D+</td>
<td>67</td>
</tr>
<tr>
<td>D</td>
<td>60</td>
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<tr>
<td>F</td>
<td>&lt;60</td>
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A = Outstanding achievement that demonstrates superior mastery of the material and exemplary performance. The distinction between A and B will depend on the student’s ability to understand and articulate explicit and implicit concepts.

B = Achievement that significantly exceeds the level necessary to meet the course requirements.

C = Achievement that meets all course requirements at an average level.

D = Achievement worthy of credit, but which does not fully meet the course requirements.

F = Failure to complete the course requirements, not worthy of credit without pre-arranged agreement between the student and the instructor regarding a grade of incomplete.

**Assignment Points**

1. Lab Report 25 points
2. FVS tutorial 10 points
3. FVS thinning exercise 20 points
4. MAI & PAI in-class assignment 10 points
5. Prescription 1 25 points
6. SDI in-class assignment 10 points
7. FVS Assignment 2 20 points
8. Field trip write-up (2) 20 points
9. Professionalism 10 points

150 points

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**Schedule**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Assignment</th>
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<tbody>
<tr>
<td>Sept. 9</td>
<td>Introduction</td>
<td></td>
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<tr>
<td>Sept. 16</td>
<td>No Class</td>
<td>Enter data due (9/23)</td>
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<tr>
<td>Sept. 17</td>
<td>Half day field trip to Lake Vadnais</td>
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<tr>
<td>Sept. 23</td>
<td>Review of forestry calculations</td>
<td>Lab report due (10/7)</td>
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<tr>
<td>Sept. 30</td>
<td>Lab &amp; prescription</td>
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<tr>
<td>Oct. 7</td>
<td>Introduction to FVS</td>
<td>FVS tutorial (10/14)</td>
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<tr>
<td>Oct. 14</td>
<td>Stocking Guides</td>
<td>FVS - thinning exercise (10/30)</td>
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<tr>
<td>Oct. 15</td>
<td>Field trip to Audubon Center of the North Woods</td>
<td>Field trip write-up (10/21)</td>
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<tr>
<td>Oct. 21</td>
<td>MAI &amp; PAI</td>
<td>In-class assignment</td>
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<tr>
<td>Oct. 28</td>
<td>Data for prescription development</td>
<td>Prescription 1 due (11/4)</td>
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<tr>
<td>Nov. 4</td>
<td>No Class</td>
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<tr>
<td>Nov. 11</td>
<td>SDI uneven-aged management</td>
<td>In-class assignment</td>
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<tr>
<td>Nov. 18</td>
<td>FVS &amp; bark beetles</td>
<td>FVS assignment 2</td>
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<tr>
<td>Dec. 2</td>
<td>No Class</td>
<td></td>
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<tr>
<td>Dec. 9</td>
<td>Wrap-up, future of forestry discussion</td>
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<tr>
<td>Dec. 10</td>
<td>Field trip to Aitkin County Land Department</td>
<td>Field trip write-up (12/13)</td>
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Course Attendance Policy

Approximately seven percent of your grade will come from professionalism. As you continue to transition to a professional within the natural resource field, you will be expected to be prepared for each workday. I expect the same in this class. If something unexpected or personal happens, please treat this situation like you would a job. In appropriate cases, I will figure out potential make-up assignments.

Important Class and University Policies

Senate student academic workload policy
For undergraduate courses, one credit is defined as equivalent to an average of three hours of learning effort per week (over a full semester) necessary for an average student to achieve an average grade in the course. For example, this is a 1-cr course that meets for one hour a week. You should expect to spend an additional two hours a week on coursework outside the classroom.

Classroom conduct
This course is highly interactive. You are expected to treat each other and the instructors with respect. You are expected to listen to each other and address each other by name. The instructors will follow the same code of classroom conduct – respect, listen, and treat each person as an individual.

Cell Phones and Smart Phones
Out of courtesy and respect for me and your fellow classmates, please make sure your cell phones and smart phones are turned off during class. If you need to be reachable during class time, turn your phone’s ringer tone off and take any calls outside the classroom.

Student academic integrity and scholastic dishonesty
Academic integrity is essential to a positive teaching and learning environment. All students enrolled in University courses are expected to complete coursework responsibilities with fairness and honesty. Failure to do so by seeking unfair advantage over others or misrepresenting someone else’s work as your own, can result in disciplinary action. The University Student Conduct Code defines scholastic dishonesty as follows:

“Scholastic Dishonesty: submission of false records of academic achievement; cheating on assignments or examinations; plagiarizing; altering, forging, or misusing a University academic record; taking, acquiring, or using test materials without faculty permission; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement.”
Within this course, a student responsible for scholastic dishonesty can be assigned a penalty up to and including an "F" or "N" for the course. If you have any questions regarding the expectations for a specific assignment or exam, ask.

**Accommodations for students with disabilities**
The University of Minnesota is committed to providing equitable access to learning opportunities for all students. Disability Resource Center (DRC) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.

- If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact DRC at 612-626-1333 to arrange a confidential discussion regarding equitable access and reasonable accommodations.
- If you are registered with DRC and have a current letter requesting reasonable accommodations, we encourage you to contact your instructor early in the semester to review how the accommodations will be applied in the course.

Additional information is available on the DRC website: [https://diversity.umn.edu/disability/](https://diversity.umn.edu/disability/)

**Sexual harassment**
Sexual harassment by or toward a member of the University community is prohibited. "Sexual harassment" means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature when: (1) submission to such conduct is made either explicitly or implicitly a term or condition of an individual’s employment or academic advancement in any University activity or program; (2) submission to or rejection of such conduct by an individual is used as the basis of employment or academic decisions affecting this individual in any University activity or program; or (3) such conduct has the purpose or effect of unreasonably interfering with an individual’s work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program.

**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 your ability to participate in daily activities. University of Minnesota services are available to assist you with addressing these and other concerns you may be experiencing. You can learn more about the broad range of confidential mental health services available on campus via [http://www.mentalhealth.umn.edu](http://www.mentalhealth.umn.edu)
Resources for student writers:
Student Writing Support (SWS): Center for Writing, 306b Lind Hall and satellite locations (612.625.1893) http://writing.umn.edu/sws/. SWS offers personal writing consultations to all UMN undergraduate and graduate students by appointment (Lind Hall) or walk-ins (satellites). Hours and locations can be found on the above listed website.

Online Writing Center: http://writing.umn.edu/home/mission.htm. Writing consultations via email and online resources for undergraduate and graduate student writers.

Non-Native Speakers: 337 Nolte Center (612.624.4524) http://composition.cla.umn.edu/student_web/

University of Minnesota Counseling Program: 109 Eddy Hall (612.624.3323) http://www.ucs.umn.edu/