FNRM 3431/5431
Timber Harvesting and Road Planning
Spring 2018 Syllabus

Instructor
Charlie Blinn
330B Green Hall
(612) 624-3788
cblinn@umn.edu
Office hours: M/Tu/F 8:00 - 11:00; W 3:00 – 4:00; Th 2:30 - 4:00 or by appointment

Course Description
This class is primarily intended for upper division students in the Forest Ecosystem Management and Conservation track within the Forest and Natural Resource Management curriculum. Course information is also pertinent to anyone interested in timber harvesting, soils, conservation of natural resources, and road or trail building. It provides introductory information for students who enroll in FNRM 4521/5621 (Field Timber Harvesting and Road Planning) during the Advanced Cloquet Session.

Course web site: http://z.umn.edu/3431

Objectives and Approach
The instructor and guest speaker will present introductory material describing the process of planning and conducting timber harvesting and forest road design considering the economic, environmental, and social influences which impact those operations. The intent is to present and discuss those issues in the context of implementing natural resource management plans. As site and stand conditions, landowner objectives, regulations, and other factors vary across the landscape, there are a variety of approaches used to accomplish timber harvesting and road planning. The course will address many of the different methods, presenting more detail for some than others. Examples will generally focus on Minnesota.

By the end of the course, you should be able to:

✓ understand the basic components of timber harvesting and road planning,
✓ connect timber harvesting and road planning to silviculture and sustainable forestry,
✓ describe the relationships between and responsibilities of the landowner, forest manager, and logger in timber harvesting and road planning, and
✓ communicate your role as a forest manager in the process of timber harvesting and road planning.

The class will use a variety of teaching strategies including lecture, PowerPoint slides, videos, homework, assigned readings, a term project, and discussions.

Course Requirements
Students are responsible for all materials presented during lectures and in assigned readings identified within the class schedule, even if the information is not presented during class. While attendance is not required, material presented in the classroom, during the class field trip and through assigned readings will be considered when writing each exam and may be included within in-class assignments. Read the assigned materials before coming to class.
The course includes several in-class and homework assignments, one term project, a road planning exercise, a forest management guideline exercise, and three exams. Students taking FNRM 5431 must develop and present an additional research paper. Each of these activities is described below.

**In-class Assignments**
These assignments are designed to assess your understanding and retention of course concepts, preparation for class having reviewed the assigned readings, ability to solve problems, etc. Unless otherwise noted, all in-class assignments will be graded on the basis of 5 points.

**Homework Assignments**
These assignments are designed to help you become more actively engaged with course material outside of the classroom. Assignments will only be available through the course website. Unless otherwise noted, all homework assignments are individual work and will be graded on the basis of 10 points.

**Term Project**
One way to learn more about loggers and the many factors which impact their business is by directly interviewing a logger and hearing about other loggers. Each student will be assigned a logger that they must contact, write a report summarizing their discussions, and orally present that information to the class. A separate handout providing more information about this project will made available on the course website several weeks before the due date.

**Road planning exercise**
When planning some of the infrastructure for a timber sale, it is helpful to use readily available sources of information (e.g., soil, topography, water, ownership) before going on-site. The purpose of this exercise is to use some of those resources to plan roads and other infrastructure on an assigned parcel. A separate handout providing more information about this exercise will be made available on the course website before the due date.

**Forest management guideline exercise**
When planning a timber sale, it is important to include relevant forest management guidelines. The purpose of this exercise is to provide students with an opportunity to become more familiar with Minnesota’s forest management guidelines. A separate handout providing more information about this exercise will be made available on the course website before the due date.

**Exams**
The course will include three out-of-class exams which will be administered through Canvas. On each exam date, the exam will be available from 8:00 AM until 11:59 PM. Unless you have a letter from Disability Services specifying a different amount of time, you will have 60 minutes to complete the exam once you start it or until 11:59 PM, whichever comes first. Canvas administers the clock during the exam (i.e., identifying the specific moment when you begin the exam, the amount of time you have to take the exam, and the specific moment when it closes the exam to you). While you can take the exam wherever you wish, it is your responsibility to secure a reliable computer and internet connection for the exam. The instructor will not accept any excuses if your computer stops working or if your internet connection is lost during the exam.

Wherever you complete the exams, you are required to work individually on each exam and submit your own work. Any collaboration on or sharing of information about exams will be considered cheating and will subject to the Student Academic Integrity and Scholastic Dishonesty policies included
in this syllabus. As with all other course assignments, written answers need to be in your own words and avoid plagiarism.

Class will still meet on the day of the first and second exam. The final exam will be available on Canvas on the University assigned date for the course final exam. It will have a heavy weighting (at least 50 percent) on material presented after the second exam. Copies of the 2015 exams are available on the course website. Note, the 2015 exam was a written exam administered during class time.

**FNRM 5431 Additional Requirement**

Students taking FNRM 5431 are required to 1) write an additional 8 - 10 page research paper (double-spaced, not including the title page, references, tables, figures or appendices) on a topic selected following discussions with the instructor and 2) give a 7 - 10 minute presentation to the class which reports the findings from that paper. The paper and presentation must focus on timber harvesting or road planning issues but could include links to many other topics (e.g., approaches for obliterating forest roads, advantages and disadvantages of the various harvesting systems in northern hardwoods, impact of certification on loggers, timber sale practices, cost of harvesting in riparian areas). Where possible, the student may want to delve deeper into a topic which is directly related to their research. The paper must be new (original) work, not something you have created for another class, your thesis or dissertation, or for any other purpose. At least three-quarters (75%) of both the paper and presentation must be directly related to timber harvesting or road planning issues and not background information or other forestry topics (e.g., silviculture, fire behavior, forest recreation). The paper and presentation cannot be the same material that was presented during lecture by the instructor or guest speaker. A grading rubric will be provided to offer additional criteria. Once you have thought about a topic and explored the literature to make sure there is sufficient information to write an 8 - 10 page double-spaced paper, discuss your potential project with the instructor before proceeding. The presentation must be sent via e-mail to the instructor no later than 1 PM on the due date.

**Course Weighting**

The percentage distribution for each course activity is noted below for FNRM 3431 and FNRM 5431.

<table>
<thead>
<tr>
<th>FNRM 3431</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>In-class assignments</td>
<td>10%</td>
</tr>
<tr>
<td>Homework assignments</td>
<td>21%</td>
</tr>
<tr>
<td>Term project (paper [9%] and presentation [3%]) (due April 25)</td>
<td>12%</td>
</tr>
<tr>
<td>Road planning exercise</td>
<td>8%</td>
</tr>
<tr>
<td>Forest management guideline exercise</td>
<td>8%</td>
</tr>
<tr>
<td>Midterm exam 1 (February 14)</td>
<td>11%</td>
</tr>
<tr>
<td>Midterm exam 2 (April 2)</td>
<td>13%</td>
</tr>
<tr>
<td>Final closed book exam (May 8)</td>
<td>17%</td>
</tr>
</tbody>
</table>
FNRM 5431
In-class assignments 9%
Homework assignments 18%
Term project (paper [8%] and presentation [2%]) (due April 25) 10%
Road planning exercise 8%
Forest management guideline exercise 8%
Research paper (9%) and presentation (2%) (due May 2) 11%
Midterm exam 1 (February 14) 10%
Midterm exam 2 (April 2) 12%
Final closed book exam (May 8) 14%

Grades
Assignment scores will be posted on the course website. It is your responsibility to make sure that the correct scores for assignments and exams have been entered for you on that website. If there is an error, contact the instructor and provide appropriate documentation. The scores entered on the course website will be used when assigning grades at the end of the semester.

Grades in this course will be awarded according to the University of Minnesota’s Uniform Grading and Transcript Policy ([http://policy.umn.edu/Policies/Education/Education/GRADINGTRANSCRIPTS.html](http://policy.umn.edu/Policies/Education/Education/GRADINGTRANSCRIPTS.html)):

- **A**: achievement that is outstanding relative to the level necessary to meet course requirements
- **B**: achievement that is significantly above the level necessary to meet course requirements
- **C**: achievement that meets the course requirements in every respect
- **D**: achievement that is worthy of credit even though it fails to meet fully the course requirements
- **F**: represents failure and signifies that the work was inadequate or incomplete

An Incomplete (I) will only be assigned due to extraordinary circumstances, such as prolonged illness, for a student who has successfully completed a substantial portion of the course's work with a passing grade but was prevented from completing the work of the course on time. Assignment of an Incomplete first requires completion of the CFANS Written Agreement for Completion of Incomplete Work document between the instructor and student. The instructor will complete that Agreement and provide a copy to the student whenever there is an allowed plan to offer an incomplete grade. The form is available at [https://www.cfans.umn.edu/sites/cfans.umn.edu/files/CFANS-Incomplete-Grade-Form.docx](https://www.cfans.umn.edu/sites/cfans.umn.edu/files/CFANS-Incomplete-Grade-Form.docx). In no event will any such written agreement allow a period of time which is longer than six months from the end of the course (the date of the final exam) to complete the course requirements. An “I” grade will automatically lapse to an “F” at the end of the next semester of a student’s registration, unless the instructor submits a change of grade for the student.

Students taking this course using S/N grading must complete all assignments and earn a cumulative grade of C- or better to earn an S (Satisfactory); students earning a D+ or worse will receive a grade of N.

Grades will be assigned in terms of a percentage of possible points according to the following standards:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93% and above</td>
</tr>
<tr>
<td>A−</td>
<td>90-92.99%</td>
</tr>
<tr>
<td>B+</td>
<td>87-89.99%</td>
</tr>
<tr>
<td>B</td>
<td>83-86.99%</td>
</tr>
<tr>
<td>B−</td>
<td>80-82.99%</td>
</tr>
<tr>
<td>C+</td>
<td>77-79.99%</td>
</tr>
<tr>
<td>C</td>
<td>73-76.99%</td>
</tr>
<tr>
<td>C−</td>
<td>70-72.99%</td>
</tr>
<tr>
<td>D+</td>
<td>67-69.99%</td>
</tr>
<tr>
<td>D</td>
<td>63-66.99%</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 63%</td>
</tr>
</tbody>
</table>

The instructor may choose to grade more generously, but will not raise the standards above those defined above. If at any time you have concerns about your grade, please do not hesitate to contact the instructor.
Grade Disputes:
Inquiries regarding any changes of grade should be directed to the course instructor; you may wish to contact the Student Conflict Resolution Center (SCRC) in 211 Eddy Hall (624-7272) (http://www.sos.umn.edu) for further assistance. If you wish to dispute the grade assigned to an assignment or a question on an exam, you must **do so IN WRITING to the instructor within one week after the exam or paper has been returned to the class.** You must state what is to be reevaluated and include a specific rationale for why your answer is correct, or why the paper deserves a higher grade. "I think I deserve a better grade" does NOT constitute an acceptable rationale. When considering a grading dispute, the instructor may discover additional grading errors which will be corrected and may review the grading of the entire assignment.

Submitting Assignments
Unless otherwise noted, assignments are due in typed, hard-copy form at the **beginning** of class (1:55 PM) on the due date. An assignment turned in later than 1:55 PM on the due date will be penalized by 25 percent for every 24-hour period it is late, with the late time beginning at 1:56 PM on the due date. While assignments can be e-mailed to the instructor to establish the time of submission, **you must submit a hard (printed) copy for grading.** An assignment which is not typed will be penalized by 50% of the total points possible on the assignment. In the case where an electronic copy has been submitted to establish that the assignment has been completed and a hard (printed) copy is required for grading, printed copies which are not submitted within 48 hours of the due date and time will be penalized by 25% for every 24-hour period the printed assignment is not submitted after the two-day grace period has ended. (For example, if an assignment is due on Monday and it wasn’t possible to provide a printed copy of the work but the student sent an electronic copy to the instructor via e-mail by 1:55 PM on that Monday, the assignment will be penalized by 25 percent for every 24-hour period it is received after 1:55 PM on the Wednesday immediately following the due date.) The instructor will not accept “computer or printer problems” as an excuse for late work.

Extra Credit
**There are no extra credit opportunities in this course.** Students are not permitted to submit extra work in order to raise their grade.

Attendance
Attendance is not required and will not be taken in this course. However, there will be some in-class assignments which can only be completed during the normal class period.

Absences
If you know in advance that you are going to be absent for any exam or assignment due date, let the instructor know. You are responsible for documenting the legitimacy of any absence. Legitimate reasons for absence must be documented and may include:
- illnesses certified by Boynton Health Service or your family physician
- emergencies caused by a death or serious illness in your immediate family
- participation in intercollegiate athletic events or other University activities
- subpoenas, jury duty, military service, and religious observances

If you have a legitimate absence, the instructor will allow you to make up a missed exam or assignment and will also try to accommodate other rare scheduling conflicts you might have, provided that you notify your instructor of these in **advance.** Normally make-up work should be submitted within one week of the original due date. The instructor will work with you to develop a process and timeline for completing make-up work after an absence has been excused. Students who need to miss class to participate in field
trips or other University-sanctioned events accept primary responsibility for subject matter and materials covered in their absence.

**University Policies**

**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 ([http://regents.umn.edu/sites/default/files/policies/Student_Conduct_Code.pdf](http://regents.umn.edu/sites/default/files/policies/Student_Conduct_Code.pdf)):

Scholastic Dishonesty: Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis.

Within this course, scholastic dishonesty can result in the student receiving an "F" or "N" for the course and additional sanctions from the University. If you have any questions regarding the expectations for a specific assignment or exam, ask the instructor.

**Classroom Conduct**

All students at the University have the right to a civil, productive, and stimulating learning environment. In turn, instructors have a responsibility to nurture and maintain such an environment. Students who disrupt the educational process because of discourteous, threatening, harassing, or other aggressive behavior will be removed from class. As a student, you are expected to adhere to the University Student Conduct Code ([http://regents.umn.edu/sites/default/files/policies/Student_Conduct_Code.pdf](http://regents.umn.edu/sites/default/files/policies/Student_Conduct_Code.pdf)).

**Sexual harassment**

Sexual harassment by or toward a member of the University community is prohibited by Board of Regents policy. Complaints about sexual harassment should be reported to the University’s Office of Equal Opportunity and Affirmative Action, 419 Morrill Hall. For additional information, please consult the Board of Regents Policy: [https://regents.umn.edu/sites/regents.umn.edu/files/policies/Sexual_Harassment_Sexual_Assault_Stalking_Relationship_Violence.pdf](https://regents.umn.edu/sites/regents.umn.edu/files/policies/Sexual_Harassment_Sexual_Assault_Stalking_Relationship_Violence.pdf)

**Disability Accommodations**

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

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

Additional information is available on the DRC website [http://diversity.umn.edu/disability](http://diversity.umn.edu/disability).
Credits and Workload Expectations
This two-credit course will require, for the average University of Minnesota undergraduate student, six hours of academic work per week, averaged over the term. Since the course meets for two hours a week, you should expect to spend an additional four hours a week on coursework outside the classroom. Most of this extra time should be spent reviewing course materials and the lecture notes, studying for exams, and working on assignments. The University’s Workload Policy is accessible at: http://www.policy.umn.edu/Policies/Education/Education/STUDENTWORK.html. According to that policy, it is expected that the academic work required of Graduate School and professional school students will exceed six hours per week.

Student Mental Health and Stress Management
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/.

How to Format, Submit, and Get Help with Your Assignments

Format
Unless otherwise noted (e.g., the computational part of homework assignments), all homework assignments and papers must be typed, proofread, and spellchecked. The text should be double-spaced with one-inch margins and formatted in Times Roman 12-point font. Your pages must be numbered in the bottom center, and stapled. Your name, the course number, your instructor’s name, and the date must appear at the top left of the first page, and any title should be centered on the next line. Except for your term paper, planning exercise, and FNRM 5431 additional requirement paper (graduate students only), do not include a separate title page.

Citations
Students are urged to be careful that they properly attribute and cite others’ work in their own writing. You must use the style guide developed by the American Chemical Society (ACS Style Guide available at: http://libguides.williams.edu/citing/acso) for all citations. As the link does not include a citation format for images, use the following format.

Author(s) (or Unknown if none is provided). Website title or some other descriptive title if not provided for the image. URL. Date accessed.

Writing Assistance
If you are having a difficult time writing an assignment for this class, please contact the instructor. In addition, the following University resource may be of help to you:

Center for Writing (http://writing.umn.edu/sws) provides face-to-face consultations and online information.

Who to Contact for Assistance and How to Contact the Instructor
The instructor is the only person associated with this course to whom questions about assignments should be directed or to seek help. You are encouraged to initiate discussion and/or ask questions at any time during the class. Except when a guest speaker is present, time will be made available at the beginning of each class period for students to ask questions. Outside of class, you are strongly encouraged to meet with the instructor during office hours, by appointment, or when the instructor’s office door is open outside of office hours. If you encounter difficulty with the course material or format, please ask questions, talk to the instructor, or contact him via e-mail. The instructor’s contact information appears at the top of this syllabus.

The instructor has numerous off-campus responsibilities. He also has meetings scheduled for him by others which may conflict with office hours. As a result, the instructor may not always be available during posted office hours. If you find that the instructor is not in his office during office hours, please contact him to arrange an alternate meeting time.

Course Materials
The following materials will be used in FNRM 3431/5431. The same materials will be used in FNRM 4521/5621 (Field Timber Harvesting and Road Planning) during the Advanced Cloquet Session. Please bring all course materials to Cloquet if you enroll in FNRM 4521/5621.

A. Primary course text – available in a course packet through the University Bookstore.

Course Packet Readings (Printed on blue paper within the course packet)


**B. Other course materials not included within the Course Packet:**

Library reserves (available through “Access course readings (library reserves)” link on course Canvas site. These articles can also be accessed through the University Library online reserves page (https://reserves.lib.umn.edu):


**Harvesting Systems and Equipment in British Columbia,** McDonald, A. J., British Columbia Ministry of Forests (Publisher). ISBN 0-7726-3827-6. (Required text that is available in the bookstore and one copy is on two-hour reserve in the Natural Resources Library located at 375 Hodson Hall) (Available online at: http://www.for.gov.bc.ca/hfd/pubs/docs/sil/sil468.htm)


Timber sale and scaling manual. Minnesota Department of Natural Resources, Division of Forestry. 383 p. (Available on course website)

Additional Resources
A listing of additional course resources is available on the course website.