

**FOR 444/544**  
**Applied Forest Restoration and Wood Utilization**  
**Autumn and Spring Semester**  
**3 Credits**

**Instructor:** Edwin J. Burke -- Journalism 105 -- 243-5157 eburke@cfc.umt.edu

**Schedule:** Lecture: 08:30 – 10:00 hrs. Saturday in Stone 105

Laboratory: 10:00 to 17:00 hrs., Saturday at Lubrecht Experimental Forest. Some exercises may require return to Lubrecht on Sunday or other day of week to complete the exercise

**Supplied Texts:** US Forest Service *S-212 Chainsaw Training Course* Textbook

**Course Objectives:**

Students shall:

- Completion of lecture and laboratory that are the equivalent of S212- Fireline Chainsaw Safety Course
- Learn to prepare, maintain and safely operate several types of equipment used in logging, road maintenance and forest restoration activities. Equipment will include:
  - Skid-steer loader
  - Articulated load
  - Backhoe
  - 4 wd Skidding Tractor
  - 10-yard dump truck
  - 1-tone snow plow truck
  - Mobile Dimension sawmill
  - Wood Mizer LT 40-Hydraulic sawmill
  - Stihl and Husqvarna chainsaws
  - Drip torch

**Course Outcomes**

Student will show competence in:

- Timber felling production and efficiency
- Ability to determine proper merchantable lengths for logs manufactured from student-felled timber
- Felled timber skidding production and efficiency
- Ability to maintain and safely operate various pieces of logging, skidding and milling equipment
- Ability to conduct a lumber recovery factor analysis.
- Ability to conduct a lumber quality control analysis
- Ability to prepare slash for burning and plan burning operations
- Understanding limitations of equipment and operators in different logging, milling and restoration situations

<b>TOPIC</b>	
<b>Week #</b>	
<b>1</b>	<b>Introduction; Chainsaw terminology, maintenance and repair. Laboratory: Field techniques in saw maintenance and repair, hand-felling, limbing. Commercial log manufacture. Grapple skidding, hot and cold decking. Training will follow the S-212 Fireline Chainsaw Safety and Operations Course syllabus</b>

<b>2</b>	<b>Introduction to forest operations equipment. Laboratory: Individuals' familiarization with Skid-steer loader, 4wd tractor w. log grapple, articulated loader with log forks and 2 cu. yd bucket. Practice with operation of equipment. Exercise held at School's sawmill at Lubrecht Experimental Forest.</b>
<b>3</b>	<b>Timber felling/ skidding-loading equipment/ sawmill equipment operation training, Week #1. Exercises held at dedicated felling areas and sawmills located at Lubrecht Experimental Forest. 1/3 of class at each activity area.</b>
<b>4</b>	<b>Timber felling/ skidding-loading equipment/ sawmill equipment operation training, Week #2. Exercises held at dedicated felling areas and sawmills located at Lubrecht Experimental Forest. 1/3 of class at each activity area.</b>
<b>5</b>	<b>Timber felling/ skidding-loading equipment/ sawmill equipment operation training, Week #3. Exercises held at dedicated felling areas and sawmills located at Lubrecht Experimental Forest. 1/3 of class at each activity area.</b>
<b>6</b>	<b>Quality control procedures and report production for forest restoration operations. Student teams of 2-3 will work on their first of the three principal activity topics (see 3,4 &amp; 5 above) with evaluation of overall skill, safety and reporting.</b>
<b>7</b>	<b>Quality control procedures and report production for forest restoration operations. Student teams of 2-3 will work on their second of the three principal activity topics (see 3, 4 &amp; 5 above) with evaluation of overall skill, safety and reporting.</b>
<b>8</b>	<b>Quality control procedures and report production for sawmill operations. Student teams of 2-3 will work on their third of the three principal activity topics (see 3, 4 &amp; 5 above) with evaluation of overall skill, safety and reporting.</b>
<b>9</b>	<b>Class project area defined and teams assigned tasks according to each of the three principal activities: Planning/harvest, skidding and deck(s) management, milling/drying/storage.</b>
<b>10</b>	<b>Project work on assigned tasks according to each of the three principal activities: Planning/harvest, skidding and deck(s) management, milling/drying/storage (cont.)</b>
<b>11</b>	<b>Project work on assigned tasks according to each of the three principal activities: Planning/harvest, skidding and deck(s) management, milling/drying/storage (cont.)</b>
<b>12</b>	<b>Logging slash and residuals management. Residues sorting and marketing (bark, green slabs and edgings vs. dry residual values).</b>
<b>13</b>	<b>Logging slash and residuals management (cont.).</b>
<b>14</b>	<b>Burning of slash piles, preparation of roads and mill yards for intersession between Autumn and Spring semesters (Intersession and early Spring semester).</b>
<b>15</b>	<b>Final evaluation of students' skills and project area evaluations by peers and instructor(s). Students' evaluation of instructors, course objectives and outcomes. Discussion of improvements to course.</b>

Students are to have the following equipment and clothing for all class activities:

- All-leather boots of at least 6" height
- All-leather gloves
- Full-brim hardhat (plastic or metal)
- Cotton jeans, shirt and jacket

Chainsaw chaps, hearing and eye protection will be provided for all activities. **APPROPRIATE USE OF PERSONAL PROTECTION EQUIPMENT IS MANDATORY!!!**

Class will meet at 08:30 on Saturday mornings and return to campus between 17:00 and 20:00 hrs., depending on week of semester. Some weeks will require additional periods on Sunday and/or Monday

Grades: Attendance is required at 5 complete class meetings for each credit received), mandatory participation in training and planning process for group, compliance with class safety and equipment operation regulations, completion of exercises (see below) and overall participation and cooperation exhibited during exercises and activities. The following exercises are each worth approximately 20% of the final grade, at least two of which will be completed by each student:

- Timber felling production and efficiency 100 pts Grade based on safe operating practices, tree felling rate, log production rate, log quality all based on instructor(s)' control rates.
- Felled timber skidding production and efficiency 100 pts Grade based on; Average turn time v. Instructor control; Observation of operator approach, hook-up, skid trip, unhooking, log placement and overall safe operations
- Lumber recovery factor analysis. 100 pts Grade based on Average lumber recovery compared to Scribner scale and historic recovery factor for sawmill and log species.
- Lumber quality control exercise 100 pts Grade based on thoroughness, accuracy and final evaluation as compared to instructor's control evaluation.

Students seeking one credit will attend a minimum of 4 class periods and complete two of the four exercises. Students seeking two credits will attend at least 8 class periods and complete three of the four exercises, and students seeking three credits will attend at least 12 class periods and complete three of the four exercises

Course grades will be assigned as follows:

**A=90%+; B=80%+; C=70%+; D=60%+; F< 60%**

### **Student Conduct Code**

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the [Student Conduct Code](http://life.umt.edu/vpsa/student_conduct.php).  
[http://life.umt.edu/vpsa/student\\_conduct.php](http://life.umt.edu/vpsa/student_conduct.php).

## Drops, withdraws, change of grade status

Important Dates Restricting Opportunities to Drop a Course Spring 2020:

Deadline	Description	Date
<b>To 15<sup>th</sup> instructional day</b>	Students can drop classes on CyberBear with refund & no "W" on Transcript, last day to change to Audit	February 3, @5 PM
<b>16<sup>th</sup> to 45<sup>th</sup> instructional day</b>	A class drop requires a form with instructor and advisor signature, a \$10 fee from registrar's office, student will receive a 'W' on transcript, no refund.	February 4 – March 24 @5 PM
<b>Beginning 46<sup>th</sup> instructional day</b>	<u><a href="#">Students are only allowed to drop a class under very limited and unusual circumstances.</a></u> Not doing well in the class, deciding you are concerned about how the class grade might affect your GPA, deciding you did not want to take the class after all, switching majors, and similar reasons are not among those limited and unusual circumstances. If you want to drop the class for these sorts of reasons, make sure you do so by the end of the 45 <sup>th</sup> instructional day of the semester. Requests to drop must be signed by the instructor, advisor, and Associate Dean (in that order) so if you pursue this request, <b>leave sufficient time to schedule meetings with each of these individuals</b> (generally this will take at least 3-5 working days). A \$10 fee applies if approved. Instructors must indicate whether the individual is Passing or Failing the class at the time of request.	March 25 – May 1 @5 PM

### Class Attendance Policies

- The University allows faculty some flexibility in establishing absence policies but they need to be specified in the syllabus. For other University guidelines, be sure to read the relevant section of the [UM Catalog](#) (lots of other text on that page, search for "Class Attendance/Absence Policy").
- See also [Spring 2020 Important Dates and Deadlines](#) calendar (select Spring tab)
  - Students who are registered for a course but do not attend the first two class meetings may be required by the instructor to drop the course. ... Students not allowed to remain must complete a drop form or drop the course through CyberBear to avoid receiving a failing grade. Students who know they will be absent should contact the instructor in advance.
  - Students are expected to attend all class meetings and complete all assignments for courses in which they are enrolled. Instructors are encouraged to notify advisors or the appropriate administrators regarding students with excessive unexcused absences. Instructors **may excuse** brief and occasional absences for reasons of illness, injury, family emergency, religious observance, cultural or ceremonial events, or participation in a University sponsored activity. (University sponsored activities include for example, field trips, ASUM service, music or drama performances, and intercollegiate athletics.)
  - **Cultural or ceremonial leave allows excused absences for cultural, religious, and ceremonial purposes to meet the student's customs and traditions or to participate in related activities.** To receive an authorized absence for a cultural, religious or ceremonial event the student or their advisor (proxy) must submit a formal written request to the instructor. This must include a brief description (with inclusive dates) of the cultural event or ceremony and the importance of the student's attendance or participation. **Authorization for the absence is subject to approval by the instructor. Appeals may be made to the Chair, Dean or Provost.** The excused absence or leave may not exceed five academic calendar days (not including weekends or holidays). Students remain responsible for completion or make-up of assignments as defined in the syllabus, at the discretion of the instructor.

- Instructors **shall excuse** absences for reasons of military service or mandatory public service.
- See the accompanying “Faculty/Instructor Reference and Referral Guide” document for Title IX requirements regarding attendance questions in relation to a pregnancy.
- Instructors may establish absence policies to conform to the educational goals and requirements of their courses with due consideration of the class’s diversity. ***Such policies should be set out in the course syllabus and should include the procedures for giving timely notice of absences, explain how work missed because of an excused absence may be made up, and stipulate any penalty to be assessed for excessive or unexcused absences.***
- The UM Faculty Senate encourages the faculty to accommodate students incurring an excused absence by allowing them to make up missed work when this can be done in a manner consistent with the educational goals of their courses. Students expecting to incur excused absences should consult with their instructors early in the term to be sure that they understand the absence policies for each of their courses.”

## **Students with Disabilities**

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students. If you have a disability that adversely affects your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommasson Center 154 or 406.243.2243. I will work with you and Disability Services to provide an appropriate modification.

## **Grading System/Option Statement**

- Explanation: At UM, [grading options](#) for courses are traditional letter grade only (T); credit/no credit only (CR/NC), student option/preference (O), or audit (AUD). Student option means students can choose to take a course either as traditional letter grade or as credit/no credit. For these latter courses, some students wish to exercise this option at the end of the semester. Some colleges at UM (e.g., H&S) prefer faculty to offer classes as “student preference.” However, most FCFC classes are offered Traditional letter grade only.
  - Faculty can only change the grading option in the first 15 class days of the semester.
- If you offer your class for a letter grade only, you may experience fewer student requests on this issue at the end of the semester if you include the following syllabus statement:
  - Please note, this class is offered for traditional letter grade only, it is not offered under the credit/no credit option.
- If you are uncertain how your class is offered, check with FCFC’s Office of Student Services (Shonna or Wendy).