

FORS 341 Timber Harvesting and Forest Roads

Spring 2015

Instructor Information:

Instructor: **Beth Dodson**
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Class Times: Lecture: MW 8:10-9:00 in FOR 106
Lab: W 12:10-4:00 in LA 303 (Section 2)
M 10:10-2:00 in LA 303 (Section 3)

Required Text:

- Water Quality BMPs (Best Management Practices) for Montana Forests
- Montana Guide to the Streamside Management Zone Law and Rules
- (these will be distributed in class)
- Other readings as assigned (available in class Moodle)

Course Description:

An overview of harvesting system capabilities and selection for multiple resource objectives. Fundamentals of forest road management. Best management practices as they apply to forest operations in Montana and the western US.

Course Learning Objectives:

At the end of this course, students will be able to:

- Identify harvesting systems common in western North America.
- Understand basic safety principles applied to harvesting operations.
- Match stand, terrain, and management goals to appropriate harvesting systems.
- Have a working knowledge of forest road form and function.
- Understand how road management decisions impact the safety, cost effectiveness, and environmental performance of forest road systems.
- Demonstrate improved technical writing skills.

FORS 341 is one of the College of Forestry and Conservation's distributed upper-division writing courses.

- Approved Writing Course Learning Outcomes
- Use writing to learn and synthesize new concepts

- Formulate and express written opinions and ideas that are developed, logical, and organized
- Compose written documents that are appropriate for a given audience or purpose
- Revise written work based on constructive feedback
- Find, evaluate, and use information effectively and ethically
- Begin to use discipline-specific writing conventions
- Demonstrate appropriate English language usage

Upper-division Writing Requirement in the Major Outcomes

- Identify and pursue more sophisticated questions for academic inquiry
- Find, evaluate, analyze, and synthesize information effectively from diverse sources
- Manage multiple perspectives as appropriate
- Recognize the purposes and needs of discipline-specific audiences and adopt the academic voice necessary for the chosen discipline
- Use multiple drafts, revision, and editing in conducting inquiry and preparing written work
- Follow the conventions of citation, documentation, and formal presentation appropriate to that discipline
- Develop competence in information technology and digital literacy

Course Policies:

- All assignments are due at the BEGINNING of class or lab on the assigned date. Unless otherwise specified, all lab assignments are due one week from when they are initially assigned.
- Unless otherwise specified, all assignments are to be submitted electronically through the course Moodle.
- Late assignments will be penalized 20% of the possible points per day.
- All work must be neat, legible and complete.
- In order to be afforded accommodation, all absences from lab activities or exams must be arranged PRIOR to the missed class.
- While you are allowed to work with fellow students on individual assignments, all submitted assignments must represent your own individual work.
- Students with disabilities may request reasonable modifications by contacting me. The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students (DSS). “Reasonable” means the University permits no fundamental alterations of academic standards or retroactive modifications. If you think you may have a disability adversely affecting your academic performance, and you have not already registered with DSS, please contact DSS in Lommason 154 or (406)243-2243.
- 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. The Code is available for review online at: [Student Conduct Code](http://www.umt.edu/vpsa/policies/student_conduct.php) (http://www.umt.edu/vpsa/policies/student_conduct.php).

Important deadlines for changing course options

Date	Description
February 2	Last day for students to add classes via CyberBear without consent of instructor.
February 12	Last day to drop a course without a “W” recorded on your transcript.
March 28	Last day to drop a course. Drops after this date will be allowed only <i>under very limited and unusual circumstances</i> . 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, or deciding you want to change majors are not among those limited and unusual circumstances. If you want to drop a class for these sorts of reasons, make sure you do so before 5 pm on March 28.

Grading:

- Midterm exam I: 25%
- Midterm exam II: 25%
- Lab reports and assignments: 50%

Please note, this class is offered for traditional letter grade only, it is not offered under the credit/no credit option. A standard +/- grading scale will be used. Final grade points will be adjusted down (never up) if necessary; a curve will not be applied to individual exams or assignments.

Schedule of Topics:

Week of:	Monday lecture	Wednesday lecture	Lab
1/25	Course introduction Hand felling	Felling/processing	Active operation – Beavertail
2/1	Felling/processing	Felling/processing safety	Assignment – no lab
2/8	Soil mechanics for in- woods operations	Ground skidding	Active operation - LEF
2/15	No class	Ground skidding safety and BMPs	No lab
2/22	Line logging	Line and helicopter logging	Active operation – TBD
2/29	Line and helicopter safety	Biomass and mastication	Active operation – TBD

Week of:	Monday lecture	Wednesday lecture	Lab
3/7	Logging systems	Review	System selection lab (on campus)
3/14	Exam 1	Loading and hauling	Active operation – TBD
3/21	Road form and function	Soil mechanics for forest roads	Road introduction – Miller Creek
3/28	Road drainage	Road drainage	Road drainage
4/4	Spring break	Spring break	Spring break
4/11	Stream crossings – culverts	Stream crossings – bridges and fords	Stream crossings
4/18	Sizing stream crossings	Crossing selection	Culvert design
4/25	Road management	Road removal	BMP road evaluation
5/2	Road management – other considerations	Review	Active road construction/removal or Ashby Creek relocation
5/9	Final Exam: Tuesday, 5/10, 10:10-12:10	Final Exam: Tuesday, 5/10, 10:10-12:10	

Lab Assignments (20 points each):

Unless otherwise specified, for each field lab during the semester a report of what you saw during the lab will be due by the lab meeting time the following week, submitted via Moodle unless otherwise specified. Four (4) points per day will be subtracted from any late lab report. Absences must be arranged prior to a missed lab.

Each report should be 1-2 pages in length and contain the following information:

- A description of the operation, such as:
 - Landowner and contractor names
 - Equipment used
 - Tasks performed by each piece of equipment or individual
 - Order of operations
- Goal(s) of the operation (i.e. thinning for fuel reduction, salvage logging, road maintenance to reduce environmental impacts, etc.)
- Special considerations and how these considerations are met with the specific operation (i.e. riparian areas, sensitive soils, neighbor concerns, aesthetics, etc.)
- Other observations you deem noteworthy

Lab reports will be graded on both the quality of the writing and the accuracy of the factual information presented. All lab reports may be resubmitted to earn back up to one-half the missed points. Resubmitted reports must be turned in

within one week of when they were returned to the student. Please email all resubmissions directly to the TA.

Moodle Profile Photo (5 points extra credit):

To earn this extra credit, upload a recognizable photo of your face as your profile photo in Moodle by Friday, January 29. This will help me to learn names and accurately record grades.

Foresters' Ball Event Participation (10 points extra credit):

Students are needed to help with Community Forestry Day on Saturday, February 6 from 10am-2pm targeted to families with school-aged children and intended to get them interested in and excited about natural resources, specifically demonstrating the model yarder. A sign-up sheet will be distributed in class on Monday, February 1.

Additionally, students are needed to help with deconstruction of the Foresters' Ball on Sunday, February 7. Sign up for a deconstruction shift by either attending the Forestry Club meeting on 1/27 or emailing forestersball@gmail.com. Written confirmation will be received from either the deconstruction or safety officer of your participation.