

FOR435 Advanced Timber Harvesting

Instructor Information:

Instructors: Beth Dodson
Office: FOR 201
Phone: 243-5542
Email: elizabeth.dodson@umontana.edu
Office hours: open-door policy

Class Times: One 1.5-hour lectures (T 8:00-9:20A), FOR 106 unless otherwise arranged
One 9-hour lab (F 8:00A – 4:50P) – Note: we may run long or start early on some days-
advanced notice will be given. Lab will meet approximately 7 times during the semester.

Required Text: (notes)

Pre-requisite:

FORS 341

Course Descriptions:

The purpose of this course is to provide students with advanced knowledge and skills to apply, critically analyze, and evaluate various timber harvesting systems. This course covers the fundamentals of logging feasibility and cost analyses of various timber harvesting systems including the characteristics and performance of ground vehicles, cable and aerial systems; cost factors and cost analysis procedures; safety issues; and environmental impacts of harvesting systems.

The laboratory components of this course will provide students with basic working knowledge to conduct logging feasibility and cost analyses of various timber harvesting systems. Students will also learn how to use some of the major software packages that can be used in analyzing various harvesting systems.

Course Learning Objectives:

Ground-based harvesting system

- Understand cost factors and learn cost analysis procedures
- Understand safety issues on ground-based harvesting operations
- Understand environmental impacts of ground-based harvesting systems
- Understand factors important in the layout and administration of a ground-based harvesting operation

Cable and aerial logging system

- Learn the procedures of payload analysis
- Learn how to use computer software for payload analysis (SkylineXL)
- Understand cost factors and learn cost analysis procedures
- Understand safety issues on cable and aerial logging operations
- Understand environmental impacts of cable logging system
- Understand factors important in the layout and administration of cable and aerial logging systems

Grading:

Please note, this class is offered for traditional letter grade only; it is not offered under the credit/no credit option.

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| • Harvest design project | 20% |
| • Lab exercises and homework | <u>80%</u> |
| Total | 100% |

In order for students to receive graduate credit for the course, a 5-10 page term paper addressing a current management issue, focusing on the use of forest operations to solve a complex natural resource problem, is required. The paper will be of publishable quality, including an introduction, literature review, presentation of the issue, discussion of the significance for management, conclusion, and references to literature cited.

Tentative course schedule

A course schedule will be developed once sufficient enrollment for the course has been obtained and other course conflicts have been addressed. When possible, lecture material will shift to match lab content.

Course topics:

- Skyline payload analysis
- Log scaling
- Equipment and job costing
- Production tracking
- Sale appraisal, RFP, bidding, bid evaluation
- Safety plans, insurance requirements, etc. (MLA)
- Timber sale administration
- Supply chain management (Wood supply game)
- Montana Forest Products Week: October 20-26 (Timber Tour options in Missoula and Kalispell)

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 University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students (DSS). 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. I will work with you and DSS to provide an appropriate modification.