FOR 202 Forest Mensuration

Spring 2020

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Lectures: M, W 10:00-11:00 in Forestry 206
Labs: Section 1 M 3:00-6:00 Stone Hall 106
Section 2 T 1:00-4:00 Stone Hall 106

Prerequisites:
Forest Biometrics (FOR 201) **or** STAT 216 (MATH 241) **or** SOCI 202 (SOC 202) **or** WILD 240 (WBIO 240); and M 121 and M 122 (MATH 111 and MATH 112) **or** M 151 (MATH 121) **or** M 162 (MATH 150) **or** M 171 (MATH 152) **or** M 172 (MATH 153).

Learning Outcomes (you will be able to): 1) Orient yourself in the woods
2) Measure tree and stand characteristics
3) Understand common sampling and statistical strategies used in forest inventory
4) Know how to estimate merchantable timber volumes and board feet in stands
5) Understand principles of tree and stand growth as well as be able to estimate site quality.

Textbook (optional and will be on reserve in the library): Forest Mensuration, 4th ed. By Husch, Beers, and Kershaw

Grading:
There will be 480 points possible in the course. There will be two exams worth 100 points each. There will be 9 lab exercises worth 20 points each. Lastly, there will be a final group project worth 100 points. Letter grades will be based on the percentage of points earned and will follow the standard academic scale: A (>90%); B (80-89%); C (70-79%); D (60-69%); F (<60%)

Exams:
There will be two mid-term exams. You can bring a calculator to the exam. I will provide a list of relevant equations.

Labs:
There will be 9 weekly labs that consist of field work, problem solving, and computing. Some of these will be individual assignments. Some will be group assignments. Labs will be due at the beginning of the following week's lab unless otherwise noted. Late assignments will be penalized 4 points per day. If a student needs to miss a lab, inform the TA ahead of time so arrangements can be made.
Final Project: The final project will synthesize much of the techniques and skills you learn over the period of the course. Groups will design and implement a forest inventory for a stand at Lubrecht Experimental Forest, followed by analysis of that data. The final project will require one Saturday field trip to Lubrecht experimental forest. During the week prior to finals, each group will present their approach, findings, and conclusions in both a written and oral format. Oral and written presentations will be graded based on their thoroughness as well as their technical and professional merits. Of the 100 points awarded, 70 will be for individual performance, while the remainder (30 points) will be for group performance.

Calendar:

Week	Date	Lecture	Lab
1	Jan 13	Introduction/Scales of measurements/ geometry and trigonometry review/Tree attributes	Lab1 Tree measurements
2	Jan 20	**No classes 1/20 MLK day** Tree attributes/tree form	**none**
3	Jan 27	Determining tree volume	Lab 2 Tree taper
4	Feb 3	Determining tree volume and weight	Lab3 Board feet and log rules
5	Feb 10	Sampling and statistical concepts –means and measures of dispersion, frequencies, sample size, error.	Lab 4 Pacing and orientation
6	Feb 17	**2/17 Presidents Day (no classes)** Stand attributes-composition, age, diameter **Mid term exam #1: Wed Feb 19th**	**none**
7	Feb 24	Stand attributes-height, density and stocking, competition	Lab 5 stand tables
8	Mar 2	Stand attributes – site quality, site index, volume	Lab 6 combined stand and stock tables
9	Mar 9	Sampling – random, systematic, stratified random,fixed area plots, stand and stock tables	Lab 7 Simple random sampling with fixed area plots
10	Mar 16	**SPRING BREAK**	**None**
11	Mar 23	Sampling-variable probability sampling, distance based sampling, Timber cruise design	Lab 8. Point sampling
12	Mar 30	Tree and stand growth, growth and yield models **Field trip to Lubrecht: Sat April 4th**	Lab 9. Stand and stock tables.
13	Apr 6	Forest fuels and sampling **Mid term exam #2: Wed April 8th**	**Exam review**
14	Apr 13	Landscapes and measurements	Final project preparation
15	Apr 20	Advanced topics in sample design	**Final project presentations**
16	Apr 27		**Final project presentations**

Students with Disabilities ○ Students with disabilities may request reasonable modifications by contacting me. The University of Montana assures equal access to instruction for students with disabilities in collaboration with instructors and Disability Services for Students, which is located in Lommasson Center 154. The University does not permit fundamental alterations of academic standards or retroactive modifications.

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.

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

Course Withdrawal Deadlines

Important Dates Restricting Opportunities to Drop a Course Spring 2020:

Deadline	Description	Date
To 15th instructional day	Students can drop classes on CyberBear with refund & no "W" on Transcript, last day to change to Audit	February 3, @5 PM
16th to 45th instructional day	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
Beginning 46th instructional day	***Students are only allowed to drop a class under very limited and unusual circumstances***. 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 45th 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, ***leave sufficient time to schedule meetings with each of these individuals*** (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