**NR 20- Forest Measurements**

Reedley College-Spring 2012

FEM 7

Lecture Wednesday 8:00-9:50 am.

Lab Wednesday 10:00 to 12:50

 **Instructor:** Ian Stone

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Office Hours: Thurs. 11:00 am to 12:00 noon and 3:00 to 4:00 pm, Mon. 2:00 to 3:00 pm.

 Other time by appointment

**Course Outcomes:**

1. Measure tree, calculate volume, and determine the quantity and quality of wood.
2. Scale logs for the board foot volume.
3. Calculate basic statistical information (e.g., sample size, mean, coefficient of variation, standard deviation, etc.) to describe a sample population.
4. Assess forest inventory by various sampling designs (e.g., strip cruise, 3P sampling, systematic, or stratified sampling designs, etc.) and gather information regarding tree species, height, and diameter to predict stand or forest volume.

**Course Objectives:**

1. Identify the commercial species of logs by bark and wood characteristics, and assess the damage to wood volumes created by insects, physical damage, and diseases.
2. Describe the process for locating sampling plots (i.e., strip cruise, 3P sampling, systematic, or stratified sampling methods).
3. Explain how collected data is used to describe a forest area.
4. Demonstrate the use of forest measurement tools which may include: scaling sticks, Relaskop’s, Biltmore/cruiser’s stick, clinometer, diameter tape, and laser rangefinders.

**Attendance and Drop Policy:**

Class attendance is essential for students to be successful in any course. Therefore, it is essential that students attend all lectures and labs and labs; however, students are not graded on attendance. Due to the limited number of seats in the class, and the high demand, students who miss the first class meeting will be promptly dropped. Students must stay in class for the entire period to be counted as present. Students absent from three or more class meetings (lecture or lab) without a recognized excuse will be dropped from the course.

It is a student’s responsibility to drop the course if they no longer wish to be enrolled in the course. Failure to do so could result in a student receiving a failing grade in the course or being dropped by the instructor for failure to attend.

**Absence Policy**

The only excused absences that will be recognized are personal illness, medical emergency, family emergencies, a death in the immediate family (parent, sibling, grandparent), and professional development (i.e. professional meetings, job interviews). For these excuses to be recognized students must provide appropriate documentation. Personal illness and medical emergencies requires verification by a physician (doctor’s excuse) or the college nurse. Medical issues are private, and if a student wishes he or she can provide documentation of the illness to the college nurse and have the nurse send verification to the instructor to assure medical issues remain private. For family emergency students should provide some documentation from their immediate family detailing the emergency and why the student should be excused. For a death in the immediate family students should provide the instructor with a copy of the obituary. For professional development students must provide documentation that they attended the event (for example a letter from an advisor, e-mail confirming the job interview, etc.) Recognition of the excuse is the decision of the instructor and will be based on the documentation provided. Failure to provide appropriate documentation will result in the absence being considered unexcused.

In the event that a student will be absent for an extended period of time (more than one class meeting) due to illness or similar issues must notify the instructor immediately. An extended absence in compressed schedule courses can severely impact a student’s performance in the course. Students who will have an extended absence should seek guidance from the instructor as to whether they should continue in the course or drop.

**Classroom Policies and Essential Information**

Academic Honesty

Cheating and plagiarism are serious offences and will not be tolerated. Because cheating, plagiarism, and collusion in dishonest activities erode the integrity of the college, each student is expected to exert an entirely honest effort in all academic endeavors. Academic dishonesty in any form is a very serious offense and will incur serious consequences.

**Cheating** is the act or attempted act of taking an examination or performing an assigned, evaluated task in a fraudulent or deceptive manner, such as having improper access to answers, in an attempt to gain an unearned academic advantage. Cheating may include, but is not limited to, copying from another’s work, supplying one’s work to another, giving or receiving copies of examinations without an instructor’s permission, using or displaying notes or devices inappropriate to the conditions of the examination, allowing someone other than the officially enrolled student to represent the student, or failing to disclose research results completely.

**Plagiarism** is a specific form of cheating: the use of another’s words or ideas without identifying them as such or giving credit to the source. Plagiarism may include, but is not limited to, failing to provide complete citations and references for all work that draws on the ideas, words, or work of others, failing to identify the contributors to work done in collaboration, submitting duplicate work to be evaluated in different courses without the knowledge and consent of the instructors involved, or failing to observe computer security systems and software copyrights.

Any student found to have violated academic honesty standards on an assignment, quiz, or exam will **receive immediate sanctions.** Sanction can include a failing grade on the assignment or in the course at the discretion of the instructor. Student violating academic honesty standard may also be turned over to the Vice President of Student Services for further sanctions.

Classroom Conduct

The objective of this course is for students to learn, and accomplishing this requires a structured environment. Students must remain respectful of their fellow students and the instructor at all times. Disruptive behavior of any sort will not be tolerated. Students engaging in disruptive behavior such as loud outbursts, obscene gestures or language, harassment or belittlement of fellow students or the instructor, or any other offensive and disruptive conduct will be told to stop the behavior immediately. If a student persists with the behavior they will be ejected from the class and reported to the Vice President of Student Services.

Students are not to use tobacco products (smoking or smokeless) during class or in the vans while traveling to and from labs. Students using tobacco products during class or in the vans will be told to put the product away and case using it. If students continue to violate this policy they may be ejected from class. Students are not to bring any food items into class during lecture. When working with laptops or in computer labs students are not to consume food or drink to prevent damage to the computers. During field trips students are expected to clean up after themselves in the van and remove all drink and food containers/wrappers from the van.

Students should take care to arrive to class on time. It is distracting and disruptive to other students to arrive late and interrupt the class. Students arriving more than 15 minutes late should wait until a class break before entering the room. If a student is habitually late for class they will be required to meet with the instructor concerning their tardiness. For field trips students must be on time. The bus will not wait for students who are late. Failure to arrive on time may result in the student missing the field lab, and the student will be considered absent. If a student misses a quiz or other assignment due to a tardy they will not be allowed to make up the assignment without a valid excuse.

Electronic Devices

All electronic devices such as cell phones, I Pods, etc. must be turned off during class. Students may use laptops during class to take notes, but the sound must be muted to prevent disturbing class. Students must not use social media, e-mail, or surf the internet. Violation of these policies will result in the student no longer being allowed to use a laptop during class. The use of any electronic devices other than a non-graphing calculator during quizzes or exams is not permitted. Students violating these policies will receive a reminder to turn off devices or silence their laptops.

Academic Accommodation

If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible.

**Textbooks:**

Required - Avery, T.E. and H.E. Burkhart *Forest Measurement,* ed. 5th -, 2002,

Optional- Bell, J.F. and J.R. Dilworth *Log Scaling & Timber Cruising ,* -, 2007

**Required Materials**

Students will need the following materials to perform tasks in class.

A scientific calculator such as a TI 30 series or similar

An engineer’s tri rule

Personal Protective Equipment (PPE) - closed toe boots, heavy shirt, jeans or heavy work pants, eye protection, Hard Hat, etc.

**Grading Policy:**

Grades in this course will are based on a 10 point grading scale.

90-100% A

80-89% B

70-79% C

60-69% D

Final grades will be based on lab assignments, quizzes, exams, and a lab practicum. The weight of each grading component is as follows. Final grades will only be rounded to the higher percentage if they are .5% or higher from the higher grade.

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| --- | --- |
| Item  | Percent of Final Grade |
| Exam 1 | 15% |
| Exam 2 | 15% |
| Final Exam  | 25% |
| Lab Assignments  | 25% |
| Lab Practicum  | 10% |
| Pop Quizzes  | 10% |
| Total  | 100% |

Mid-term Exams:

Exams will cover material from both the lecture and lab. Exams are cumulative and will cover materials from previous exams as well as material presented after the previous exam. No makeup examinations will be given. Students will have the option to replace their lowest exam grade with the grade of their final exam, provided they score higher on the final exam. In the event that a student misses an exam, this will count as the lowest score and the final exam score will take the place of the missed exam. Student with a valid excuse who notifies the instructor of this excuse one week prior to the exam will have the option of taking the exam early. This courtesy does not extend to unexcused absences.

Final Exam

Attendance for the final exam is mandatory. If a student will be absent for the exam they may reschedule the exam time with prior notice (a minimum of 4 business days). Students failing to take the final exam will receive an automatic 0. The final exam is cumulative and will cover any and all topics presented in lectures and labs.

Lab Assignments

Lab assignments will vary from practical skills assessments, computer assignments, and written lab reports. All assignments are due the following class period. Makeup lab assignments will not be allowed without a valid excuse. Students must attend the lab or provide an excuse to complete a lab assignment.

Quizzes

Students will be given unannounced quizzes at random during lectures. Quizzes will cover material and terms presented in the lecture and are designed to test student comprehension.

Late and Make Up Assignments

Late assignments will not be accepted. If a student misses the assignment deadline they will receive a 0. Student with valid excuses can turn in makeup assignments. All makeup assignments are due one week after the student returns to class. Assignments will not be accepted after the one week deadline.

Class Schedule

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| Week | Lecture  | Lab  |
| 1 | Introduction  | Math Practice and Skills Assessment  |
| 2 | Land Measurements and Basic Units  | Pacing and taping for linear distance. |
| 3 | Basic Statistics  | Compass and Clinometer use |
| 4 | Sampling Design  | Statistics Lab  |
| 5 | Standing Timber Measurement  | Cruising Tool Basics and Land Measurement |
| 6 | Exam 1 | Log Measurements  |
| 7 | Log Scaling  | Standing Timber Measurement-Standard Methods |
| 8 | Using the Relaskop | Standing Timber Measurement-Realskop  |
| 9 | Inventory, Volume Tables and Tally Records | Lab TBA |
| 10 | Introduction to Cruising Design  | Standing Timber Measurement-Laser Hypsometer  |
| 11 | Strip Cruising  | Strip Cruise  |
| 12 | Exam 2 | Plot Layout and Measurements |
| 13 | Spring Break |
| 14 | Fixed Plot Cruise Design  | Plot Cruise |
| 15 | Point Sampling  | Point Cruise  |
| 16 | 3p sampling, other measurement designs, nested plots | 3p sampling, downed woody debris, other sampling methods  |
| 17 | Final Review  | Lab Practicum  |
| Final Exam |  |  |