

FOR 237 : RESOURCE SAMPLING

Transcript title

Resource Sampling

Credits

4

Grade mode

Standard letter grades

Contact hours total

60

Lecture hours

30

Lab hours

30

Recommended preparation

[MTH 102](#) or a course from the foundational requirements math list and [FOR 235](#) and [FOR 236](#).

Description

Includes instruction in log scaling, tree measurement techniques, sampling statistics, tree volume and tree taper equations, sampling and field procedures for equal probability (sample tree and fixed area) and variable probability (3P and point sampling) sampling systems. Final course in the sequence of [FOR 235](#), [FOR 236](#), and [FOR 237](#).

Learning outcomes

1. Utilize basic descriptive statistics including: mean, mode, standard deviation, maximum, minimum, median, coefficient of variation, SEM, confidence intervals, and linear regression.
2. Explain the need for, benefits of, and disadvantages of sampling.
3. Explain the basic vocabulary of timber cruising.
4. Utilize EXCEL and other software programs for basic timber cruising calculations.
5. Produce a stand and stock table.
6. Explain the difference between gross and net volume and the causes and indications of volume loss after harvesting a timber stand.
7. Determine the volume of trees using standard volume tables, local volume tables, form class tables, tariff tables, regression analysis, and volume/basal area ratios.
8. Cruise a stand of timber using random and systematic sampling with fixed and variable plot cruises.
9. Explain the basic concepts of sample tree, strip cruising, and 3P sampling.

Content outline

1. Stats Review: sample statistics, standard error, standard error of the mean, coefficient of variation, correlation coefficient, QMD ...etc!
2. Linear regression: regression equations, R, R²
3. Sampling methods overview: 100% enumeration, sample tree, stratified, 3P

4. Plot types: fixed, variable, line, strip ...etc
5. Basal area and tree count metrics: BA, BAF, VBAR, TPA, SCF, finger calibration.
6. Tables and volume equations: Tree Vol Eqns, Taper/FC, Tariff tables, USFS Vol Eqns, Stand and Stock tables
7. Designing cruise types and plots: Pre-cruise data and sample size determination (SSD)
8. Wildlife and downed woody debris: Cruising for wildlife, DWD/Browns transects (+ SSD review)
9. Dendrochronology: Sampling for historical conditions, fire history
10. 3P sampling, KPI, Cruisers stick review
11. Course wrap-up: Capstone preview, final review, laboratory practical

Required materials

Requires textbooks and the following equipment: • Calculator with statistical functions, or laptop with Excel installed • Rite in the Rain® Transit Notebook (No. 301) • 3H or 4H pencil, • Hard hat • Field boots • Tatum • It is suggested that you procure a Cruiser's Vest

Grading methods

Grades will be determined by weekly homework and quizzes, weekly field labwork, midterm exam, and final exam.