COURSE SYLLABUS

OBJECTIVES: To familiarize the student with: 1) the concepts, principles, and methodologies of forest inventories; 2) equipment usage and technology to accomplish forest inventories; 3) methods of quantifying forest inventory data into meaningful information for management purposes.

Instructor: Daniel Yaussy, Research Forester, Northern Research Station, USDA Forest Service (retired).

Office and Hours: KH 365B Hours by Appointment. Phone / e-mail: 740-972-6255 / yaussy.3@osu.edu

Location and Time: Lec: W,F. 10:20-11:15, KH 245 / Lab: M. 1:00-5:00. KH 460

Units: 3 units


Course Supplies: Warm field clothes; calculator; other equipment will be provided.

Grading:

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<tr>
<th>Grade</th>
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<tr>
<td>100-93</td>
<td>A</td>
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<td>92-90</td>
<td>A-</td>
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<td>89-87</td>
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<td>59-0</td>
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Attendance: Attendance is required and is regarded as a privilege. Attendance will be recorded for each class meeting. Attendance is used in the numerical determination of the course grade, it obviously has a direct influence.

Homework/Lab Policy: All homework and lab report assignments will due on the date indicated by the instructor at 1pm. A 10% reduction in grade will apply for each day an assignment is late (including weekends). Even though some assignments will be performed as group activities, each individual will be required to turn-in their own report/assignment.
Evaluation Policies: Final averages will be rounded upward to the next highest whole number for assigning letter grades, and letter grades are assigned as indicated on the previous page. All concerns about grades must be presented to me in writing within 5 days after you are informed of the grade.

All lab reports must be typewritten, and proofread to correct grammar and spelling errors. Where graphs are to be a part of the report, these should be created with the use of computer software.

Written proof (e.g., doctor’s excuse) must be presented to acquire excused absences, or if known ahead of time, please consult with the instructor concerning your planned absence.

Academic misconduct of any type will not be tolerated, as required by the university policy (Faculty Rule 3335-5-54) on academic misconduct: “Each instructor shall report to the Committee on Academic Misconduct all instances of what he or she believes may be academic misconduct.”

Course Outline (subject to change, these will not be addressed in order):

I. Introduction (Chp. 1)

II. Sampling Designs and Statistical Methods (Chps 2&3)
   A. Mode, mean, median
   B. Measures of variation and confidence
   C. Statistical Computations and applications
   D. Simple random sample
   E. Sample intensity and variability
   F. Systematic and random sampling
   G. Stratified sample
   H. Allocation of field plots

III. Land Measurements (Chp. 4)
   A. Distance measurement
   B. Compass use
   C. Survey systems
   D. Area definitions and determinations
   E. GPS systems and their use

IV. Measuring Standing Trees (Chp. 7)
   A. Tree diameters and basal area
   B. Tree heights
   C. Tree form
   D. Tree crowns
   E. Tree age

V. Cubic Volume, Cord Volume, and Weight Scaling (Chp. 5)
   A. Cubic volume equations and scaling
   B. Measuring cord and pulpwood volume

VI. Log Rules, Scaling Practices, and Other Product Measures (Chp. 6)
   A. Derivation of log rules
   B. Board-foot scaling
   C. Log grading at the mill and on the stump
   D. Weight scaling
   E. Other wood products
VII. Volumes and Weights of Standing Trees (Chp. 8)
   A. Multiple-entry and taper volume tables
   B. Single-entry and tariff tables
   C. Tree weight tables and equations

VIII. Forest Inventory Considerations (Chp 9)
   A. Types of inventory
   B. Summarizing inventory data- stand and stock tables
   C. Timber sales- stumpage, methods, contracts

IX. Strip and Fixed-Plot Sampling (Chp. 10)
   A. Strip-cruise system
   B. Line-plot system
   C. Permanent sample plots
   D. Regeneration surveys

X. Point-sample Inventory (Chp. 11)
   A. Concepts and principles of point sampling
   B. Inventory data calculations
   C. Point sample cruise intensity

XI. Geographic Information Systems (GIS) (Chp. 14)
   A. Concepts
   B. GIS data systems and structure
   C. GIS use and analysis

XII. Concepts of Site, Stocking, and Stand Density (Chp. 15)

XIII. Tree Growth and Stand Table Projections (Chp. 16)

XIV. Growth and Yield Models (Chp. 17)
   A. Whole stand models
   B. Individual tree models
   C. Size-class distribution models

Laboratory Exercises and Topics:
Laboratory exercises will coordinate with weekly lecture topics.

Important Dates:
EXAM #1       Wednesday, February 11
EXAM #2       Friday, March 13
FINAL EXAM   Monday, April 27, 1:00-5:00 pm
Lab Report due dates- one week following completion of the lab, except when noted by instructor.