

## Course Topics

### General Sampling

Defining Questions and Problem Solving

Using Information Resources

Data Types

Ratio Scale Data

Interval Scale Data

Ordinal Scale Data

Nominal Scale Data

Sample Size Determination

Methods of organizing samples

Random,

Systematic

Stratified

Sampling Probability.

Proportional to Frequency - (PPF) for example fixed area plots.

Proportional to Size - (PPS) for example point sampling.

Proportional to Probability - (PPP)

Sequential Sampling

### General Analysis

Measures of Central Tendency

Arithmetic,

Geometric,

Quadratic mean,

Median,

Mode,

Midrange.

Measures of Dispersion

Variance,

Standard deviation,

Coefficient of variation,

Range,

Mean deviation.

Accuracy and Precision in sampling

Histograms - What are they, how to create one and the effect of bin width.

Confidence intervals for population means

Testing for differences between two samples

Variance test,

Means test.

Analysis of Variance

Simple Linear Regression

Measures of Diversity

Richness, Evenness,

Simpson's Index,

Shannon-Wiener Function.

### Animal Sampling

Mark and Recapture Methods

Peterson,

Schnabel

Jolly-Seber

Test of Equal Catchability.

Line Transect Methods

Hayne Estimator

### Plant Sampling

Herbaceous Quadrats

Fixed area plots - Layout and the concept of expansion factors

Point sampling - Angle gauges, method to calculate expansion factors.

Comparison of the contribution of a single tree in variable point sampling and fixed area plots.

Basal Area -- Concept and estimation from diameter and point sampling counts

Stand Stocking -  
    Gingrich Diagrams,  
    Reineke Diagrams  
    Maximum Stand Density Index  
Tree Volume estimation  
Site Index estimation  
Course Woody Debris estimation

## Writing Topics

Memo writing  
Report writing

## t tables

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