

Course Objectives/Course Outline
Spokane Community College

Course Title: Natural Resources Mathematical Applications
Prefix and Course Number: NATRS 112
Last updated: 1/20/2021

Course Learning Outcomes:

By the end of this course, a student should be able to:

- Correctly calculate with fractions and decimals
- Use exponents and roots
- Solve single variable equation
- Use ratio/proportion methods in a variety of applications
- Find values in a table using linear interpolation
- Use data in formulas to derive needed values
- Use a variety of mathematical techniques in typical natural resource and water resource applications.
- Use a scientific calculator.

Course Outline:

- I. Arithmetic operations
 - a. Addition, subtraction, multiplication, division
 - b. Fractions & decimals
- II. Conversions and scaling
 - a. Dimensional analysis
 - b. Proportions
 - c. Map scales
 - d. Applied problem solving
- III. Percent
 - a. Static problems
 - b. Percent change
 - c. Applied problem solving
- IV. Formulas
 - a. Common formulas
 - b. Evaluate
 - c. Rearrange
 - d. Enter in Excel
- V. Interpolation
 - a. Stand tables
 - b. Humidity
 - c. Wind chill
- VI. Applied geometry
 - a. Perimeter, area & volume
 - b. Angles
 - i. Degrees, minutes, seconds
 - ii. Converting
 - iii. Adding and subtracting
 - c. Right triangles
 - i. Sum of angles
 - ii. Pythagorean theorem
 - iii. sin, cos, tan

- d. Applied problem solving
- VII. Data interpretation and management
 - a. Reading graphs
 - b. Creating graphs
 - c. Interpreting summary statistics
 - d. Deriving summary statistics

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