

Course Objectives/Course Outline
Spokane Community College

Course Title: Surveying
Prefix and Course Number: NATRS 205

Course Learning Outcomes:

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

- identify and apply basic surveying principles and techniques used in forest surveying
- use and care of surveying equipment
- interpret the data using current methods of assessing

Course Outline:

Unites 1&2: Introduction and differential leveling.

Weeks:

- I. Introduction
 - A. Lab: fieldnotes; introduction to differential leveling
- II. Differential leveling:
 - A. LAB Differential leveling: closed loop, balancing/corrections
- III. Differential Leveling:
 - A. LAB: Differential leveling traverse #2, intermediate foresights.

Unit 3: Measuring distances:

Weeks:

- IV. Measuring distances:
 - A. LAB: Tapes, lasers and EDM's

Unit 4: Measuring directions, open traverses

- V. Measuring Directions: Intro to compass:
 - A. LAB: Open traverse with tape, clinometers and staff compass, mapping to scale

Unit 5: Closed Traverses

- VI. Closed Traverse:
 - A. Closed traverse with tape, field transit and clinometers, mapping to scale. Area by Graphing.
- VII. Closed traverses:
 - A. LAB Closed traverse with field transit, including offsets; computing precision.
- VIII. Introduction to total stations:
 - A. LAB: Closing the horizon.
Closed Traverses with total station, computer evaluations:
 - A. LAB: Closed Traverse with total station; evaluation by spreadsheet
- X. Mapping by radiation.
 - A. LAB: Radiation techniques with a total station