

Print Date: 7/31/14
Course Objectives/Course Outline
Spokane Community College

Course Title: Differential Leveling
Prefix and Course Number: WATER 205

Course Learning Outcomes:

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

- Understand basic principles and techniques used in differential leveling surveys
- Use and maintain leveling instruments
- Interpret and present data collected using common computational techniques, including identifying sources of error and associated corrections
- Apply differential leveling techniques to applications in groundwater and surface water monitoring

Course Outline

- I. Introduction
 - A. Note-form
 - B. Unit conversion and significant figures
 - C. Introduction to differential leveling
- II. Differential leveling:
 - A. Instrument setup, use and maintenance
 - B. Closed loop
 - C. Balancing/corrections
 - D. Intermediate Foresights
- III. Applications
 - A. Establishing a site datum and elevations of measurement reference points
 - B. Cross sectional profiles
 - C. Longitudinal profiles and gradient determination
 - D. Elevation reference point validation at stream gaging stations