



INTRO AND SETUP OF ELECTRONIC TOTAL STATION AND DATA COLLECTOR OVERVIEW

INTRODUCTION

Welcome to week 4: It's now time to break out the Total Station and measure horizontal and vertical angles along with a distances so we can accurately locate geographic features on the surface of the earth. This is where we apply the math knowledge we practiced in Week 1! Lucky for us, all x, y, & z coordinates and relative measurements will be automatically stored in our Data Collectors but a good Geotech will always record relevant Field notes and sketches as a way to ensure quality control measures for field mapping are being met. As we progress into more advanced technologies and measuring devices, the opportunity for errors increase, therefore, a Geotech should understand how each measuring device, in this case a Total Station, is applying the basic principles of Coordinate Geometry and Trigonometry--this allows troubleshooting for measurement errors to be easier find and correct. First, let's figure out how to Setup the electronic Total Station and Data Collector—or as we like to say in the field, “Let's setup the Gun and Get to Work”.

Topic:

- Introduction and Setup of the Electronic Total Station and Field Notes

Outcomes:

1. Student will demonstrate his/her ability to care, setup, and use the Electronic Total Station to measure horizontal and vertical angles and horizontal distances.
2. Student will demonstrate his/her ability to care, setup, and use the Data Collector to record measured horizontal and vertical angles and distances.
3. Student will demonstrate his/her ability to setup field notes for recordation and quality control of field measurements and sketches for assisting in office mapping.
4. Student will demonstrate his/her ability in applied survey math by calculating the azimuth and bearings between two field points and deflection angles off zero (0) degrees from the backsight.
5. Student will demonstrate his/her ability in applied survey math and coordinate geometry by calculating distance measurements and proper quadrant placement of field points located in the field.

Activities (Required)

In-Class Meeting

1. In-Person Class meeting on Saturday, 6/13 @8am - 12pm. *(Each class attendance and participation will be worth 5 points.)*



Lessons

Work through a Lesson below. Each lesson has several parts with a review quiz after each part. *(Each lesson is worth 10 points.)*

2. Lesson 4.1 Intro & Setup of Electronic Total Station and Data Collector

Assignments

3. Assignment 4.1: Electronic Total Stns & Data Collectors
4. Lab 4: Setup Electronic Total Station & Data Collector
5. Assignment 4.2: Online Research, Electronic Measuring Devices

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