

## Geo 350 Fact Sheet

### Exercise 2: Topographic Surveying II- Mapping

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The objectives of exercise two included:

- To train students in the collection of, reduction and presentation of three-dimensional topographic data using a theodolite surveying instrument.
- To assess the sources of potential errors in the collection of such data.



First setup the tripod steadily and level; and then place theodolite onto it, securely.



Secondly, level the theodolite's base and its telescope.



Third, Jim is Setting the theodolite to True north, by using a compass.



Andy is taking elevation at each flag with Alex holding the stadia rod and Jason is recording the data collected.



Then using the hip chain, that Steve is holding, we measured the range from our base station to each flag..

In conclusion:

With the data collected, including elevation, azimuth and range, we were able to turn it into a three-dimensional contour map of the location. There also were many errors that needed to be taken into account including, the theodolite needed to be level perfectly which is very hard to do, and when the hip chain's string hits the ground it means it is not perfectly straight.