ITCM 310-001  
Lab 1: Instrument Identification/Recognition

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OBJECTIVE

This lab was given as an introduction to surveying. Its objective was to teach different instruments used in surveying.

EQUIPMENT

* Steel tape
* Tension holder
* Tape clamp
* Plumb bob
* Taping pins
* Dumpy level
* Philadelphia Rod
* Auto level
* Total station
* Prism pole

The steel tape comes in 100 and 200 foot lengths. They are wound on a reel. They are pulled by tape clamps. They also have a tension holder that can pull them to a certain tightness. Plumb bobs are used to get an exact length with a steel tape. They are usually brass and weigh between 6 to 18 ounces. They are attached to a string that is usually at least 6 feet long. Plumb bobs are used to measure a vertical line to a point. Taping pins are used to mark a distance of you are measuring over 100 feet.

The dumpy level is an older level that surveyors used. It is necessary to have the tripod set level to be able to use the dumpy level accurately. The auto-level is a more complex version of the dumpy level that requires less work to get it level. There are knobs under the auto level that make it simple to level. All a surveyor must do is get it in the vicinity of being level and then twist the knobs until the bubble is in the center of the circle. The Philadelphia rod is a long rod that is broken into two sections. It is used to measure vertical elevation differences and can be used for differences of up to 13 feet. Prism poles are used to determine a point when surveying. They help when surveying to a certain point that can be marked. The total station is the most accurate surveying tool. It is used for surveying large sections of land. It comes in handy when designing things like roads, because it uses GPS to pinpoint points.

CONCLUSION

This lab was useful because it introduced the many different pieces of equipment that are used in surveying. It was helpful to learn all of the necessary equipment before we had to actually use that equipment. It helped me gain more information about the surveying field.